

University of Warwick institutional repository: <http://go.warwick.ac.uk/wrap>

A Thesis Submitted for the Degree of PhD at the University of Warwick

<http://go.warwick.ac.uk/wrap/49063>

This thesis is made available online and is protected by original copyright.

Please scroll down to view the document itself.

Please refer to the repository record for this item for information to help you to cite it. Our policy information is available from the repository home page.

**Understanding associations between exhibited
aggression and aggression seen on television and in
video games in children with behavioural and
emotional difficulties, attending specialist outpatient
mental health services**

by

Oana Mitrofan MPhil, MSc, MD

A thesis submitted in partial fulfilment of the requirements for the degree of
Doctor of Philosophy

University of Warwick

Health Sciences Research Institute, Warwick Medical School

November 2010

In memory of

Dan Mizrahy, beloved teacher

TABLE OF CONTENTS

	Page
List of Tables	XI
List of Figures	XIII
List of Boxes	XIV
Acknowledgements	XV
Declaration	XVI
Abstract	XVII
Publication	XVIII
List of Abbreviations	XIX
CHAPTER 1 – INTRODUCTION	1
1.1 Context for the thesis	1
1.2 Aim	1
1.3 Objectives and research questions	2
1.3.1 Initial objective and research questions	2
1.3.2 Objectives and research questions for this thesis	5
1.3.2.1 Objectives	5
1.3.2.2 Research questions	6
1.4 Complexity and terminology in existing research on aggression	7
1.4.1 Aggression – definitions and subtypes	7
1.4.2 Educational and health contexts	11
1.4.2.1 Behavioural and emotional difficulties/ disturbances/ disorders	13
1.4.3 CAMHS	14
1.4.4 Incidence and prevalence of aggression	16
1.4.5 Risk factors for aggression	17
1.4.5.1 Electronic media	18
1.4.5.1.2 Systematic review	28
1.5 Mixed methods approach	29
1.6 Scope and limits	32
1.7 Summary	32

	Page
CHAPTER 2 – SYSTEMATIC REVIEW	33
2.1 Introduction	33
2.2 Aim	33
2.3 Objectives	34
2.4 Methodology	34
2.4.1 Inclusion and exclusion criteria	34
2.4.1.1 Type of studies	34
2.4.1.2 Type of participants	35
2.4.2 Search strategy	36
2.4.2.1 Primary search	36
2.4.2.1.1 Databases and gateways	36
2.4.2.1.1.1 PsycINFO	37
2.4.2.1.1.2 MEDLINE	38
2.4.2.1.1.3 ASSIA	38
2.4.2.1.1.4 EMBASE	38
2.4.2.1.1.5 CINAHL	39
2.4.2.1.1.6 Cochrane Library	39
2.4.2.1.1.7 Child Data	40
2.4.2.1.1.8 Google Scholar	40
2.4.2.1.1.9 SOSIG	40
2.4.2.1.1.10 British Library	40
2.4.2.1.2 Organisational publications	41
2.4.2.1.3 Hand searching	41
2.4.2.1.4 Search for unpublished literature	42
2.4.2.1.4.1 Grey literature resources	42
2.4.2.1.4.2 Conference proceedings	43
2.4.2.1.4.3 Theses	43
2.4.2.1.5 Alerting services	43
2.4.2.2 Secondary search	44
2.4.3 Method of selection of studies	44
2.4.4 Data extraction and quality assessment	44
2.5 Results	50
2.5.1 Studies identified	50
2.5.2 Effects of watching of TV on behaviour	50

	Page
2.5.3 Amount and aggressive content of TV and VG use	51
2.5.4 Views of CYP and their carers	52
2.5.5 Quality assessment	53
2.5.5.1 Quantitative studies: general criteria	53
2.5.5.2 Experimental studies	56
2.5.5.3 Case-controlled studies	56
2.5.5.4 Quantitative studies: overall	57
2.5.5.5 Qualitative study	57
2.6 Discussion	59
2.7 Conclusion	61
2.8 Summary	62
 CHAPTER 3 – METHODOLOGY	 63
3.1 Introduction	63
3.2 Mixed methods research. Theoretical paradigm. Pragmatic approach	63
3.3 Qualitative research - Framework approach	69
3.4 Study population	73
3.5 Inclusion and exclusion criteria	74
3.6 Setting	75
3.7 Research governance process	78
3.8 Ethical and legal considerations	79
3.8.1 Research involving children	79
3.8.2 Consent and assent	82
3.8.3 Confidentiality and anonymity	84
3.9 Survey methodology	86
3.9.1 Design	86
3.9.2 Sampling strategy	86
3.9.2.1 Identification and recruitment	86
3.9.2.2 Sample size	90
3.9.3 Data collection	92
3.9.3.1 Measures of aggression	92
3.9.3.1.1 Children’s Aggression Scale-Parent	95
3.9.3.1.2 Measure of Aggression, Violence and Rage in Children	98
3.9.3.2 Strengths and difficulties questionnaire	101

	Page
3.9.3.3 A brief questionnaire	103
3.9.3.4 Research process	104
3.9.4 Analysis	104
3.9.4.1 Dealing with missing, unclear or ambivalent data	106
3.9.4.2 Differences between participants and non-participants	109
3.9.4.3 Assessment of reliability of measures of aggression	109
3.9.4.4 Frequency and characteristics of exhibited aggression	109
3.9.4.5 Socio-demographic differences in aggression levels	110
3.9.4.6 Associations between measures of aggression and between measures of aggression and the SDQ	112
3.10 Qualitative study methodology	113
3.10.1 Design	113
3.10.2 Sampling strategy	114
3.10.2.1 Identification and recruitment	114
3.10.2.2 Purposive sampling	115
3.10.3. Data collection	119
3.10.3.1 Interviews and interview guides	119
3.10.3.2 Research process	124
3.10.4 Analysis	125
3.10.4.1 Framework Analysis Approach	125
3.10.4.1.1 Familiarisation	128
3.10.4.1.2 Identifying a thematic framework	128
3.10.4.1.3 Indexing	130
3.10.4.1.4 Charting	130
3.10.4.1.5 Mapping and interpretation	131
3.10.4.2 Counting analysis	131
3.10.5 Inter-rater reliability	131
3.11 Safety protocol	132
3.12 Summary	132
 CHAPTER 4 – QUANTITATIVE RESULTS	 134
4.1 Introduction	134
4.2 Recruitment	134
4.3 Characteristics of participants	143

	Page
4.4 Assessment of reliability of aggression measures	146
4.5 Frequency and characteristics of exhibited aggression	147
4.6 Socio-demographic differences in aggression levels	148
4.7 Associations between scores on aggression	153
4.8 Associations between scores on aggression measures and the SDQ	156
4.9 Summary	159
 CHAPTER 5 – QUALITATIVE FINDINGS	 160
5.1 Introduction	160
5.2 Characteristics of participants	162
5.3 Thematic charts	165
5.4 Seeing aggression	165
5.4.1 Reported sources	165
5.4.2 Real life	168
5.4.2.1 School and playground	168
5.4.2.2 Home	170
5.4.2.3 The street	171
5.4.2.4 The park	172
5.4.2.5 The neighbours	173
5.4.2.6 At friends	173
5.4.3 The virtual world	173
5.4.3.1 Types of aggression	174
5.4.3.2 Age & content appropriateness	175
5.4.3.3 Against rules	178
5.4.3.4 Sport games	179
5.4.3.5 Preference & obsession	179
5.4.3.6 Reasons for preferences	180
5.4.3.7 Gender divide	184
5.4.3.8 The generation gap	185
5.4.3.9 Difficult to protect children	185
5.5 The association between exhibited aggression and seeing aggression	186
5.5.1 The child model: ‘Others but not me’	187
5.5.1.1 Real vs. virtual	188

	Page
5.5.1.2 Realistic vs. cartoon like	189
5.5.1.3 Seeing blood	191
5.5.1.4 Contributing factors	192
5.5.1.5 Positive effects	195
5.5.2 The carer model: 'nature and nurture'	197
5.5.2.1 Perception of aggression	201
5.5.2.2 Explanations for association	203
5.5.2.3 Age/ developmental stage	206
5.5.3 Terminology: aggression and violence	209
5.6 Summary	209
 CHAPTER 6 – DISCUSSION	 266
6.1 Introduction	266
6.2 Main findings of this study	266
6.2.1 Question 1: What are the type, severity and frequency of reported aggression exhibited by children aged 7-11 years with BED attending Tier 2/3 CAMHS?	267
6.2.2 Question 2: Where do children aged 7-11 years with BED attending Tier 2/3 CAMHS see aggression in their lives?	268
6.2.3 Question 3: What are the views of children aged 7-11 years with BED attending Tier 2/3 CAMHS and their parents/carers on any association between exhibited aggression and viewed aggression?	269
6.3 Comparison with previous research findings	271
6.3.1 Exhibited aggression	271
6.3.2 Seeing aggression	273
6.3.3 The association between aggression seen and exhibited aggression	275
6.4 Critique of this study. Limitations. Arising issues	277
6.4.1 The study population and design	277
6.4.2 The sample: case ascertainment and recruitment	282
6.4.3 Data	285
6.4.4 Generalisability of findings of this study	287
6.4.5 Research with hard to reach populations	289
6.5 Implications for future research	292

	Page
6.5.1 Question 4: What is an appropriate methodology for a larger study to test for any association between aggression exhibited by children aged 7-11 years with BED attending Tier 2/3 CAMHS and their watching aggression on television and in video games?	292
6.5.1.1 Potential third variables	293
6.5.1.2 Recruitment	299
6.5.1.3 Choice of measure of aggression	300
6.5.1.4 Sample size	302
6.5.2 Future directions of research	305
6.6 Main findings of the thesis and their implications for policy and practice	310
6.7 Summary	314
 CHAPTER 7 – CONCLUSIONS	 315
 REFERENCES	 318

APPENDICES

Appendix	1 Full list of search results in PsycInfo, ASSIA, MEDLINE, EMBASE & CINAHL
Appendix	2 Information sheet for CAMHS
Appendix	3 Letter to case managers at CAMHS
Appendix	4 Invitation letter from CAMHS manager
Appendix	5 Invitation letter from researcher
Appendix	6 Information sheet for parents/ carers
Appendix	7 Information sheet for children
Appendix	8 Opting out/ permission to contact form
Appendix	9 Explanatory poster for CAMHS
Appendix	10 Consent form for the parent/ guardian for study phase I (survey)
Appendix	11 Consent form for the main carer for study phase I (survey)
Appendix	12 Consent form for the parent/ guardian for study phase II (qualitative study)
Appendix	13 Consent form for the main carer for study phase II (qualitative study)

Appendix	14 Children's Aggression Scale-Parent (CAS-P)
Appendix	15 Measure of Aggression, Violence and Rage in Children-Child version (MAVRIC-C)
Appendix	16 Measure of Aggression, Violence and Rage in Children-Parent version (MAVRIC-P)
Appendix	17 Strengths and Difficulties Questionnaire parent report version for 4-16-year-olds (SDQ)
Appendix	18 Brief Questionnaire
Appendix	19 Permission to use the Children's Aggression Scale-Parent (CAS-P) – Personal communication
Appendix	20 Permission to use the Measure of Aggression, Violence and Rage in Children (MAVRIC) – Personal communication
Appendix	21 Scoring system for the Children's Aggression Scale-Parent (CAS-P)
Appendix	22 Scoring system for the Measure of Aggression, Violence and Rage in Children (MAVRIC)
Appendix	23 Scoring system for the Strengths and Difficulties Questionnaire parent report version for 4-16-year-olds (SDQ)
Appendix	24 Suggestions on dealing with missing data for the Children's Aggression Scale-Parent (CAS-P) – Personal communication
Appendix	25 Interview guide for children
Appendix	26 Interview guide for carers
Appendix	27 Transcription & Coding Confidentiality Form
Appendix	28 Is Aggression in Children with Behavioural and Emotional Difficulties Associated with Television Viewing and Video Game Playing? A systematic review

List of Tables

	Page
Table 1.1 Subtypes of aggression in children and adolescents	9
Table 1.2 Multi-agency provision for CYP with mental health problems	16
Table 1.3 Previous systematic, quasi-systematic and meta-analytic reviews in the field	27
Table 1.4 Definitions of systematic review, quasi-systematic review and traditional review	28
Table 1.5 Mapping of research questions and study components related to each question	31
Table 1.6 Mapping of study components, research questions related to each component and methodology of each component	31
Table 2.1 Quality assessment criteria	46
Table 2.2 Characteristics of the included studies	47
Table 3.1 Coventry & Warwickshire CAMHS – key characteristics	77
Table 3.2 Key stages in the research governance of the project	78
Table 3.3 Research questions for the survey component	86
Table 3.4 Recruitment rounds	87
Table 3.5 Range of scores for the CAS-P	97
Table 3.6 Studies reporting a clinical cut-off for MAVRIC	101
Table 3.7 SDQ categories	103
Table 3.8 Rule of thumb for internal reliability	109
Table 3.9 Strength of correlation based on correlation coefficient value	110
Table 3.10 Re-categorisation of average family income level categories	112
Table 3.11 Kappa Measure of Agreement	113
Table 3.12 Research questions for the qualitative study component	113
Table 3.13 Purposeful sampling strategies	117
Table 3.14 Purposive sample with regard to intensity of exhibited aggression: selection criteria	118
Table 3.15 Research purpose and interview structures	120
Table 3.16 Pictures used to facilitate the child interviews	123
Table 3.17 Interview transcribers	125
Table 3.18 The qualitative study thematic framework	129
Table 4.1 Participant recruitment by CAMHS, recruitment round and reply to invitation letter	137

	Page
Table 4.2	Differences between study participants, potential participants who opted out and potential participants who were considered opt out 138
Table 4.3	Differences between participating children and carer-only participants 142
Table 4.4.	Socio-demographic characteristics of study participants, main reason for the child's referral to CAMHS and the CAMHS child was referred to 145
Table 4.5	Access to TV, VG, computers, mobile phones and internet 146
Table 4.6	SDQ scores and categories 146
Table 4.7	Internal reliability of aggression measures 147
Table 4.8	MAVRIC and CAS-P scores 148
Table 4.9	Answers to items 15a and 15c of the MAVRIC and item 33 of the CAS-P 148
Table 4.10	Correlations between scores on aggression measures and child's age and household size. Comparison of scores on aggression measures by child's gender and comparison of MAVRIC scores between carers and their sons, and between carers and their daughters. Comparison of scores on aggression measures by average family income level, main carer's highest level of formal education, main carer's employment status, household type (family headed by lone parent or married/ cohabiting couple) 151
Table 4.11	Comparison of scores on aggression measures by CAMHS location 152
Table 4.12	Comparison of scores on aggression measures by child's age and average family income level 152
Table 4.13	Correlations between MAVRIC-C and MAVRIC-P 154
Table 4.14	Correlations between MAVRIC and CAS-P 154
Table 4.15	Correlations between scores on MAVRIC and CAS-P for boys (top diagonal) and girls (bottom diagonal) 155
Table 4.16	Agreement child – carer on items 15a and 15c of MAVRIC 155
Table 4.17	Correlations between MAVRIC, CAS-P and SDQ 158
Table 4.18	Comparison of scores on aggression measures by SDQ categories 158
Table 5.1	Socio-demographic characteristics of qualitative study participants 164
Table 5.2	Thematic charts 210
Table 5.3	Where do children see aggression? 166

List of Figures

	Page
Figure 1.1 Subtypes of direct/ overt, other-directed aggression	11
Figure 3.1 Quantitative and qualitative research process	70
Figure 3.2 The analytic hierarchy	71
Figure 3.3 Identification and recruitment process	91
Figure 4.1 Recruitment flowchart	136
Figure 5.1 Study component samples	163
Figure 5.2 Where do children see aggression in their lives	167
Figure 5.3 Association between aggression seen and exhibited aggression: Child model 'Others but not me'	196
Figure 5.4 Association between aggression seen and exhibited aggression: Carer model 'Nature and nurture'	208

List of Boxes

	Page
Box 3.1	Inclusion and exclusion criteria 75
Box 3.2	Medical Research Council's principles for research involving children 81
Box 3.3	Consent and assent for research: definitions and provision in law for England, Wales and Northern Ireland 83
Box 3.4	Framework Analysis Approach 127
Box 4.1	Reasons for opting out (n) 139
Box 4.2	Issues raised by carers as potential impediments to child's participation (n) 140
Box 4.3	Issues raised by carer-only participants as impediments to child's participation (n) 141
Box 6.1	Algorithm for sample size estimation 304

ACKNOWLEDGEMENTS

I wish to express my deepest gratitude to my supervisors, Dr Moli Paul, Professor Scott Weich and Professor Nick Spencer for their extraordinary support, encouragement and guidance. They gave me the confidence I needed in those difficult moments when I doubted myself.

Many thanks to the following:

- the clinicians, junior doctors and all other members of staff from CAMHS in Coventry and Warwickshire who facilitated this project
- the children, and their parents and carers who took part in the survey and the qualitative study
- Professors Jeffrey Halperin and Geoffrey Goodman, for giving me permission to use the Children's Aggression Scale and the Measure of Aggression, Violence and Rage in Children and also provided me with valuable advice
- Professors Joyce Sprafkin and Kenneth D. Gadow for providing additional data for their studies
- Ms Anca Alba, for analysing the content of two interviews
- Ms Wendy Jennings and Ms Blaithin Hurley, for assisting with interview transcription
- Ms Antje Lindenmeyer, for assisting with translations
- Ms Diane Clay, for helping with the systematic review search strategy

A special thank you to my parents, Ioan and Cecilia Dinca, and to my husband, Catalin Mitrofan, who surrounded me with love and understanding through what has been a challenging journey.

Declaration

I hereby declare that this thesis is my own work and has not been submitted for a degree at another university.

ABSTRACT

The possibility that seeing aggression on television and in video games might cause aggression in children is a public health concern. A systematic review found insufficient, contradictory and methodologically flawed evidence regarding this association in children with behavioural and emotional difficulties. It indicated the complexity of the subject, along with numerous gaps in knowledge. There are few studies based in clinical settings.

This thesis reports a mixed methods pilot study that explored possible associations between aggression seen on television and in video games and reported aggression in children attending specialist outpatient Child and Adolescent Mental Health Services (CAMHS). Forty-seven children aged 7-11 years with behavioural and emotional difficulties, attending CAMHS, and their carers participated in a survey. Twenty children were purposively selected; they and a parent/carer participated in semi-structured interviews, which were analysed using the Framework Analysis Approach.

Quantitative findings indicate that children exhibit various types of aggression, of varying frequency and severity. Qualitative findings reveal that children see aggression in multiple real and virtual settings. Children do not think their own behaviour is influenced by seeing aggression. Carers regard aggression as the result of a combination of inner and environmental factors, amongst which seeing aggression in real life has more impact than television/video games. Verbal aggression is often seen in real and virtual settings, frequently exhibited and strongly associated with poor peer relationships and low prosocial behaviour.

There is currently no definitive proof of any association between seeing aggression on television and in video games and exhibited aggression in such children. This thesis makes suggestions for the undertaking of and methodology for future research, tackling the challenges of researching this field and hard to reach population. Carers, professional organisations and policy makers should consider the role of aggression, particularly verbal, that children see in both real and virtual environments.

Publication

Mitrofan O., Paul M, Spencer NJ. (2009). 'Is Aggression in Children with Behavioural and Emotional Difficulties Associated with Television Viewing and Video Game Playing? A systematic review'. *Child: Care, Health And Development* 35(1), 5-15.

This publication is in Appendix 28.

LIST OF ABBREVIATIONS

American Academy of Pediatrics	AAP
American Psychiatric Association	APA
Anti-Social Behaviour Order	ASBO
Attention deficit hyperactivity disorder	ADHD
Behavioural and emotional difficulties/disturbances/disorders	BED
Child and Adolescent Mental Health Services	CAMHS
Children and young people	CYP
Children's Aggression Scale-Parent version	CAS-P
Children's Aggression Scale-Teacher version	CAS-T
Conduct disorder	CD
Confidence intervals	CI
Department for Education and Skills	DfES
Department of Health	DoH
Diagnostic and Statistical Manual of Mental Disorders	DSM
Digital Versatile Disk	DVD
Educational context	EC
Effect size estimate	d
Electronic media	EM
Emotional disturbance/disorder	ED
General Medical Council	GMC
Health context	HC
Intelligence quotient	IQ
Internal reliability/ consistency (Cronbach's Alpha)	α
International Classification of Diseases	ICD
Measure of Aggression, Violence and Rage in Children-Child Version	MAVRIC-C
Measure of Aggression, Violence and Rage in Children-Parent Version	MAVRIC-P
Medical Research Council	MRC
Medical Subject Heading	MeSH
Mood disorder	MD
National Health Service	NHS

National Research Ethics Service	NRES
Number in sample or sample size	n
Obsessive compulsive disorder	OCD
Office for National Statistics	ONS
Oppositional defiant disorder	ODD
Parental responsibility	PR
Pearson correlation coefficient	r
Pervasive developmental disorder	PDD
Playstation	PSP
probability of type I error, level of	$p\alpha$
probability of type II error, level of	$p\beta$
Randomised controlled trial	RCT
Research and Development	R&D
Research Ethics Committee	REC
Research and Development	R&D
socio-economic	SE
Spearman correlation coefficient	rho
standard deviation	SD
statistical significance, level of	p
Strengths and Difficulties Questionnaire	SDQ
Television	TV
United Kingdom	UK
United States	US
video game(s)	VG
World Health Organisation	WHO

CHAPTER 1: INTRODUCTION

1.1 CONTEXT FOR THE THESIS

Mental health professionals, including the author of this thesis, working at Child and Adolescent Mental Health Services (CAMHS) are often called on to give their opinion about managing aggression in children and young people. Most children and young people with aggressive behaviour are usually brought to CAMHS by their parents/caregivers, who are looking for advice on how to manage their children's aggression better. One significant aspect of such advice is psycho-education about environmental factors that may contribute to high levels of aggressive behaviour in children and young people. This is why this study was conducted in a clinical population of children attending CAMHS and not in the general population.

1.2 AIM

This thesis aims to provide an understanding of any association between aggression in children attending specialist outpatient CAMHS and their seeing aggression in television programmes and video games, to enable mental health professionals to give evidence-based advice on such association to the carers of these children.

1.3 OBJECTIVES AND RESEARCH QUESTIONS

1.3.1 INITIAL OBJECTIVE AND RESEARCH QUESTION

Aggression is a complex phenomenon which is defined, categorised and discussed in a variety of ways according to different disciplines. When present in childhood, aggression is highly predictive of antisocial behaviour and delinquency in later life. Aggressive behaviour is a common problem in children and young people up to the age of 18 years (CYP) identified by special education services as having behavioural and emotional difficulties/disturbances/disorders.

Aggression is a common sign seen in the presentation of many psychiatric disorders such as conduct and emotional disorders, but it is not equivalent to a psychiatric diagnosis. Behavioural problems including aggression are among the most frequent reasons for the referral of CYP to mental health services. Specialist outpatient CAMHS are part of the multi-agency provision for CYP with mental health problems in the United Kingdom (UK).

CYP with aggressive behaviour tend to be referred to health, social care, juvenile justice related or special education services depending on the child's age. CYP presenting to CAMHS with behavioural problems are more likely to be in the primary school age category. There are worldwide reports of an alarmingly increasing rate of aggressive behaviours among CYP, but data on the incidence and prevalence of aggression in preschool- and primary school-aged children appears to be limited.

The development of aggression is currently regarded as a complex interaction of a multitude of individual, social, and environmental factors. Among these

contributing factors, the seeing aggression within television programmes and video games has been increasingly studied yet its role remains a debatable issue. An impressive body of scientific literature has been dedicated to the question of whether seeing aggression within television programmes and video games increases the likelihood of aggressive behaviour.

A detailed discussion of the aforementioned aspects of the phenomenon of aggression, particular factors involved in the development of aggression and the results of a broad search of the literature related to the aim of this thesis will follow in this chapter. A complete summary of the literature on aggression is beyond the scope of this thesis.

The initial research question was:

- Is there an association between exposure to aggression, when watching television programmes and playing video games, and exhibited aggression in CYP attending mental health services who have behavioural and emotional difficulties/disturbances/disorders?

This research question relates to a clinical population of children attending mental health services and not to the population at large. The initial objective was to identify any existing evidence in relation to such an association. A systematic review was therefore conducted (Mitrofan et al., 2009), the details of which are presented in Chapter 2. This systematic review found insufficient, contradictory and methodologically flawed evidence on the association between seeing aggression in television (TV) programmes and video games (VG) and exhibited aggression in CYP with behavioural and emotional

difficulties/disturbances/disorders (BED). It was able to identify several gaps in the literature:

- There are few studies on aggression in clinical populations, i.e. CYP attending mental health services who have BED
- The focus of previous research on this association in clinical populations was on psychiatric diagnosis, not aggression per se
- There are no regularly used, valid and reliable measures of seeing aggression in TV programmes and VG in CYP with BED
- There is little research on the views of children with BED and their carers on any relationship between TV and VG use and aggressive behaviour
- There is less research on VG use compared to watching TV
- There is a paucity of studies carried out in European settings. Most studies have been carried out in North America.

The systematic review and the gaps in knowledge identified by this review indicated the need for a new study to investigate the association between watching aggression in TV programmes and VG and exhibited aggression in children attending mental health services who have BED. Unfortunately, this area of research is very complex. For example, there are numerous unknown issues, such as the level of exhibited aggression and the level of use of TV and VG in this population. Valid and reliable measures of seeing aggression in TV programmes and VG in this population are lacking. The lack of relevant and good quality research made it impossible to calculate an appropriate sample size for such study. There are also other factors, such as where else children see aggression in their lives, that may account for or explain any relationship between

seeing aggression in TV programmes and VG and children's exhibited aggression (the so-called third variables).

For the above reasons, it became clear that a pilot study needed to be undertaken before a larger scale study to test for the above association could be planned. Chapter 3 and the following chapters will therefore present a mixed methods study, using both quantitative and qualitative research methods, designed to provide a more in-depth understanding of any association between reported exhibited aggression in children attending specialist outpatient CAMHS who have BED and their seeing aggression in TV programmes and VG. This study was conducted in a clinical population of children attending mental health services, and not in the general population. This study acts as pilot study to inform the methodology of a future, larger study that will specifically test for any such association in this clinical population. The amended objectives and research questions for this pilot study are presented below.

1.3.2 OBJECTIVES AND RESEARCH QUESTIONS FOR THIS THESIS

1.3.2.1 OBJECTIVES

In children with behavioural and emotional difficulties, aged 7 to 11, who are attending specialist outpatient CAMHS

1. To identify the type, severity and frequency of reported aggression exhibited by these children
2. To identify the sources of their seeing aggression
3. To ascertain the views of these children and their carers on any association between exhibited aggression and viewed aggression

4. To inform the methodology of a future study to test for any association between aggression exhibited by these children and their watching of aggression in television programmes and video games. This will include:
 - a. Identifying feasible sampling strategies and sample size
 - b. Identifying and describing potential third variables and sources of bias

1.3.2.2 RESEARCH QUESTIONS

In children with behavioural and emotional difficulties, aged 7 to 11, who are attending specialist outpatient CAMHS

1. What are the type, severity and frequency of reported aggression exhibited by these children?
2. Where do these children see aggression in their lives?
3. What are the views of these children and their parents/carers on any association between exhibited aggression and viewed aggression?
4. What is an appropriate methodology for a future study to test for any association between aggression exhibited by these children and their watching of aggression in television programmes and video games?
 - a. What is an appropriate sampling strategy for such a study?
 - b. What is an appropriate sample size for such a study?
 - c. What are the potential third variables and sources of bias in such a study?

1.4 COMPLEXITY AND TERMINOLOGY IN EXISTING RESEARCH ON AGGRESSION

1.4.1 AGGRESSION – DEFINITIONS AND SUBTYPES

Aggression is a broad, complex phenomenon and it is defined and discussed in a variety of ways. Different services, academic and clinical disciplines (e.g. mental health, justice, education, psychology, sociology, psychiatry) tend to have different theoretical orientations and use differing terminology to describe aggressive individuals (e.g. 'aggressive', 'violent', 'delinquent', 'antisocial', 'conduct disorder', 'oppositional', 'hostile'). The concepts of 'aggression', 'violence', 'delinquency', 'antisocial behaviour', 'hostility', 'conduct disorder' and 'oppositional defiant disorder' share some common features, but each has its own definition or operational criteria (Connor, 2002). Aggression has been defined by psychologists as an action or behaviour that is intended to harm another living being (Crick and Grotpeter, 1995) and that it is to be kept separate from aggressive thinking (including beliefs and attitudes that promote aggression) and aggressive emotions (such as anger) (Anderson et al., 2003). There seems to be no clear cut separation between aggression and violence. According to some views, all violence is aggression, but not all aggression is violence; violence is generally used to refer to extreme forms of aggression, such as physical assault and murder, that pose a significant risk of injuring or killing another person (Anderson et al., 2003; Anderson and Bushman, 2001). Others make a distinction between aggression and violence based on their view that aggression requires a living agent (animal or human), while violence can be caused by either animate or inanimate agents (e.g. a storm) (Connor, 2002).

Aggressive behaviour is among the most stable of all early detectable personality characteristics. When present in childhood, it is highly predictive of later antisocial behaviour and delinquency (Cyrulnik et al., 2003).

Aggression is a heterogeneous phenomenon and attempts have been made to identify more homogenous categories, or subtypes, in order to facilitate a better understanding of these behaviours and the development of more specific prevention and intervention strategies. There are a number of dichotomies such as:

- appropriate/adaptive vs. inappropriate/maladaptive aggression, i.e. occurring in the service of environmental adaptation vs. due to individual psychopathology (Connor, 2002)
- overt vs. covert aggression, i.e. an openly confrontational act of aggression such as physical fighting, using weapons in hostile acts or open defiance of rules vs. a hidden act of aggression such as stealing, fire setting, truancy or running away from home (Connor, 2002)
- direct/overt vs. indirect/relational aggression (Coyne et al., 2004; Lagerspetz et al., 1988; Buss, 1961)
- proactive/predatory/instrumental/controlled vs. reactive/affective/hostile/impulsive aggression, i.e. unprovoked, goal-directed, deliberate and controlled vs. defensively responding to a threat/frustration/provocation, impetuous, thought to stem from a provoked negative internal state and poorly controlled (Felthous and Barratt, 2003; Connor, 2002)

- offensive vs. defensive aggression, i.e. unprovoked vs. provoked attack in response to a threat (Blanchard and Blanchard, 1984)
- self- vs. other-directed aggression
- physical vs. non-physical aggression

A summary of the research on many of these subtypes is presented in Table 1.1. The subtyping overt – covert aggression has the most empirical research evidence to support its internal and external validity (Connor, 2002).

Table 1.1 Subtypes of aggression in children and adolescents

Subtypes	Subjects studied	Internal validation ^a	External validation ^a
Overt - Covert	>35,000 children and adolescents aged 2 to 18 yrs, clinic-referred and community, boys > girls	++++	+++
Reactive - Proactive	>4,000 children and adolescents aged 6 to 15 yrs, community >> clinic-referred, boys >> girls	++++	+++
Instrumental - Hostile	>300 children and adolescents aged 3 to 14 yrs, community >> clinic-referred, boys >> girls	++	++
Predatory - Affective	84 children and adolescents aged 9 to 18 yrs, all referred, boys >> girls	+	+
Offensive - Defensive	196 boys, 173 girls, aged 8 yrs, all community/no clinic-referred	–	–
Relational or Indirect	>1,000 children and adolescents aged 8 to 14 yrs, all community/no clinic-referred, girls > boys	+++	++

Source: Connor (2002) (page 25)

Note: a. Evidence: +++++, very strong; +++, strong; ++, moderate; +, weak; –, none.

Overt, or direct, other-directed aggression has two categories of physical and non-physical aggression. Non-physical aggression encompasses verbal (e.g. saying hurtful things to another individual; verbally threatening to hurt another

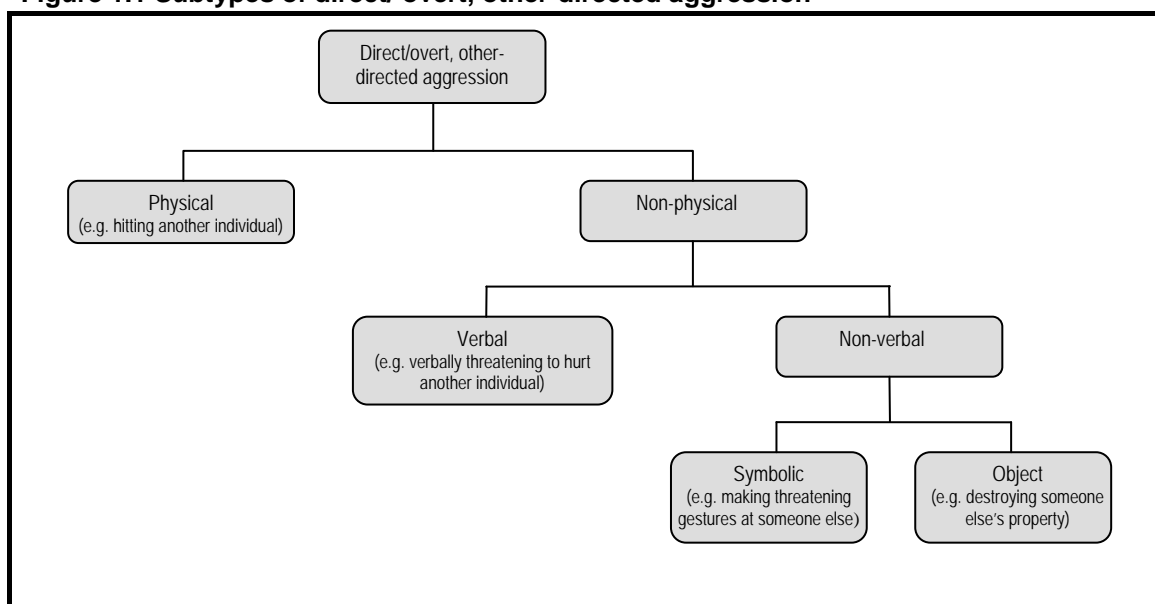
individual), symbolic (i.e. attempting to hurt an individual in a non-verbal manner e.g. making threatening gestures, chasing) and object (e.g. damaging an object by hitting, throwing on the floor) aggression (Anderson et al., 2003; Bensley and van Eenwyk, 2001) (see Figure 1.1). Indirect aggression refers to behaviour that is intended to harm an individual but is enacted outside the target individual's view. In CYP, indirect aggression becomes more prevalent between the ages of 8 and 14 years and may more specifically pertain to girls. It overlaps to a great extent with relational aggression (where the emphasis is on harm to relationships and which can be either indirect or direct) and social aggression (which encompasses the majority of both indirect and relational aggression behaviours and adds potentially harmful nonverbal behaviours (e.g. giving dirty looks). Generally, indirect aggression includes: physical aggression (e.g. destroying property behind one's back), verbal aggression (e.g. spreading rumours/gossiping), forms of relational aggression (e.g. becoming friends with someone else to make another jealous, or threatening to dissolve a friendship for personal gain) and forms of social aggression (nonverbal behaviours e.g. rolling eyes, giving dirty looks) (Coyne et al., 2004; Archer, 2001; Galen and Underwood, 1997; Crick and Grotpeter, 1995; Cairns et al., 1989; Lagerspetz et al., 1988; Buss, 1961).

The aggressive behaviours of greatest concern usually involve direct/overt physical aggression, which may range in severity from pushing, hitting or kicking to more severe physical assaults that carry a significant risk of physical injury. As previously stated, there seems to be no clear delineation separating violence from physical aggression, violence generally referring to extreme forms of

aggression (Anderson et al., 2003; Anderson and Bushman, 2001). Aggression among CYP is sometimes discussed under the concept of bullying, which is the intentional, unprovoked abuse of power by one or more children to inflict pain or cause distress to another child on repeated occasions (Salmon et al., 2000).

This thesis focuses on direct or overt, other-directed aggression (in its aforementioned sub-categories) because of its potentially significant life consequences and its high internal and external validity.

Figure 1.1 Subtypes of direct/ overt, other-directed aggression



1.4.2 EDUCATIONAL AND HEALTH CONTEXTS

When reviewing the literature on aggression in CYP, one can observe the existence of two contexts: an educational context (EC) and a health context (HC). Within the EC (school and educational research), aggressive behaviour is a common problem in CYP identified by educational services as having BED

(Teachernet, 2006; Bennathan, 2004; Department for Education and Skills (DfES), 2001; Gadow and Sprafkin, 1993).

Within the HC (health care and health research), types of aggression (e.g. direct or overt aggression) are generally regarded as one of the diagnostic criteria of some psychiatric diagnoses such as conduct disorder (CD) and oppositional defiant disorder (ODD) (Diagnostic and Statistical Manual-IV (American Psychiatric Association (APA), 2000); International Classification of Diseases-10 (World Health Organisation (WHO), 1992)). Aggression is a common sign seen in the presentation of a wide variety of psychiatric disorders including attention deficit hyperactivity disorder (ADHD), mood disorders (MD), pervasive developmental disorders (PDD), mental retardation, specific developmental delays, some personality disorders, and substance- and alcohol-related disorders. The majority of these psychiatric diagnoses are syndromes, aggression being one of the problems contributing to such syndromes. CYP with some psychiatric disorders such as depression and anxiety may show aggressive behaviour (Connor and McLaughlin, 2006; Knox et al., 2000) even if this is not a criterion for the diagnosis they are given. Although commonly associated, aggression is not equivalent to, and not specific for a diagnosis of conduct disorder or oppositional defiant disorder (Connor and McLaughlin, 2006).

Aggression is, however, a specific behaviour that can be objectively measured, both overall and in its subtypes, and targeted for intervention, regardless of any associated diagnoses (Connor and McLaughlin, 2006; Collett et al., 2003).

Behavioural problems including aggression are among the most frequent reasons

for the referral of CYP to mental health services (Barnes et al., 2004; Rice et al., 2002; O'Donnell, 1985 cited in Knox et al., 2000; Steiner, 1997). Aggression is more frequent in psychiatrically referred compared to non-referred 9- to 16-year-olds (Connor and McLaughlin, 2006). Aggressive behaviours are also common among CYP who are using mental health inpatient services and pose serious therapeutic and management problems (Recklitis and Noam, 2004; Knox et al., 2000; Vivona et al., 1995; Grosz et al., 1994; Davis, 1991). In such health settings, aggressive behaviour is often referred to as challenging behaviour.

1.4.2.1 BEHAVIOURAL AND EMOTIONAL DIFFICULTIES/ DISTURBANCES/ DISORDERS

The two major classification systems of psychiatric disorders currently used within health settings (clinical and research), the International Classification of Diseases of the WHO and the Diagnostic and Statistical Manual of the APA, employ the terms behavioural and emotional disorders and disruptive behaviour disorders, respectively, to describe presentations that include aggression. There are similarities and differences between the two classification systems. The ICD-10 (WHO, 1992) group of 'behavioural and emotional disorders with onset usually occurring in childhood and adolescence' comprise a number of diagnoses, each having specific diagnostic criteria (hyperkinetic disorders, conduct disorders, mixed disorders of conduct and emotions, emotional disorders with onset specific to childhood, disorders of social functioning with onset specific to childhood and adolescence, tic disorders and other behavioural and emotional disorders with onset usually occurring in childhood and adolescence). The DSM-IV-R (APA, 2000) group of 'attention-deficit and disruptive behaviour disorders' comprise four

diagnostic categories (attention deficit/hyperactivity disorder, conduct disorder, oppositional defiant disorder and disruptive behaviour disorder not otherwise specified). Aggression is one of the diagnostic criteria for conduct and oppositional disorders, mixed disorders of conduct and emotions and hyperkinetic conduct disorder. It is also a commonly associated sign but not a diagnostic criterion for other behavioural and emotional disorders (Connor and McLaughlin, 2006; Knox et al., 2000). Research also indicates that aggression is a significant problem in residential care institutions for CYP with behavioural and emotional disorders (Vander Laenen, 2009; D'Oosterlinck et al., 2006).

Within educational settings (school and research) the terms emotional and behavioural difficulties/disturbances/disorders are frequently used to describe the presentation of children who have special educational needs because of behaviours and emotions that include aggression (DfES, 2001). There is no absolute definition of emotional and behavioural difficulties and levels of associated aggression may fall across a wide spectrum (Teachernet, 2006; Bennathan, 2004). Pupils with such difficulties may be aggressive, disruptive, self-injurious, hyperactive, withdrawn or depressed (Teachernet, 2006; DfES, 2001; Cole et al., 1998; Sprafkin and Gadow, 1987).

1.4.3 CAMHS

CAMHS is a term used in National Health Service (NHS) documentation (NHS Health Advisory Service, 1995) and in most publications on mental health services for CYP in the UK. Specialist outpatient (Tier 2 and 3) CAMHS form part of the 4-Tier, multi-agency provision for CYP with mental health problems (see

Table 1.2). Most CAMHS see CYP (usually aged up to and including 17 years of age), who have behavioural or emotional problems. Referral is through professionals such as general practitioners and educational psychologists. Generally, CAMHS are multidisciplinary but the staffing, location and services offered vary from one service to another (Barnes et al., 2004). Child psychologists, child psychiatrists, nurses, social workers, primary mental health workers, a range of child psychotherapists (e.g. psychodynamic and family psychotherapists) and experiential therapists (e.g. art therapists) can work in such services.

As mentioned above, CYP are often referred to CAMHS because of their aggressive behaviour but assessment of CYP referred for other reasons indicates that many of them also exhibit aggressive behaviour. CYP assessed at CAMHS often have co-morbid behavioural and emotional disorders (Barnes et al., 2004).

CYP who exhibit aggressive behaviour cause great concern to many services such as social services (in relation to care and control issues), juvenile justice services (in terms of delinquency), education services (for the management of aggressive behaviour and helping CYP with special educational needs) as well as health services (for the diagnosis and treatment of specific disorders). CYP with aggressive behaviour tend to be referred to different services depending on age: children under 5 years of age tend to be sent to child health (e.g. paediatric) services; primary school-aged CYP tend to be sent to specialist education services and multi-agency, including specialist, CAMHS; secondary school-aged CYP tend to be sent to specialist education, social and juvenile justice services.

CYP presenting to CAMHS are therefore more likely to be in the primary school age category (Barnes et al, 2004; NHS Health Advisory Service, 1995).

Table 1.2 Multi-agency provision for CYP with mental health problems

TIER 1	General practitioners, health visitors, residential social workers, school nurses, teachers, juvenile justice workers
TIER 2	CAMHS professionals, educational psychologists, community paediatricians
TIER 3	Multidisciplinary CAMHS team
TIER 4	Tertiary services such as day units, highly specialised outpatient teams and inpatient units for severely mentally ill children and young people or those at very high risk of suicide

Source: NHS Health Advisory Service (1995)

1.4.4 INCIDENCE AND PREVALENCE OF AGGRESSION

It is difficult to find general data on the incidence and prevalence of aggression. Related statistics tend to be kept on crime, bullying and clinical disorders associated with aggression. There appears to be limited data on the incidence and prevalence of aggression in preschool- and primary school-aged as compared to older children.

Worldwide, there are reports of an alarmingly increasing rate of aggressive behaviours and acts of violence among CYP, e.g. WHO (2002) reported that a daily average of 565 youngsters aged 10-29 died as a result of interpersonal violence worldwide. The UK's 1998/99 Youth Lifestyles Survey found that 8% of 12- to 30-year-olds were classified as serious and/or persistent offenders because they had either committed at least three offences during the past year or else had committed one or more serious offences such as violent offences (Flood-Page et al., 2000).

A study of school-aged children in 27 countries found that the majority of 13-year-olds in most of the countries surveyed had engaged in bullying at least some of the time (WHO, 2002). Within the 2001/2 Health Behaviour in School-aged Children (HBSC) survey, 34% of UK students (year 7 to 11) stated that they had been bullied in the past couple of months, with one in twenty having experienced bullying several times a day (Morgan et al., 2006).

A report on the mental health of children and adolescents in the UK found that 10% of children aged 5–15 years had a mental disorder, among whom 5% had clinically significant conduct disorders (Meltzer et al., 2003). In 2004, the most common primary presenting disorders to CAMHS were emotional disorder followed by conduct disorder and hyperkinetic disorder (Barnes et al, 2004).

1.4.5 RISK FACTORS FOR AGGRESSION

The study of risk factors associated with aggression is not coherent and is spread across many disciplines including Psychology, Sociology, Child and Adolescent Psychiatry, Forensic Psychiatry and Criminology. Generally, current evidence points towards the existence of multiple risk factors for aggression and violence. Individual risk factors include a history of early impulsiveness and aggressive behaviour, social problem-solving skills deficits, low intelligence and low educational achievement and experiencing physical abuse. There are genetic and environmental family factors which include aggressive and criminal behaviour in parents, problems with attachment to parents/caregivers, poor supervision of children, punitive parental discipline, domestic violence, disrupted families and low socio-economic status. Peer-related factors comprise of peer rejection and

social networks with antisocial peers. Community factors include low levels of social cohesion within the community, high delinquency-rate schools, exposure to community violence, high concentrations of poor residents, income inequality and access to firearms (Farrington, 2005; World Health Organization, 2002; Dahlberg, 1998; Loeber and Hay, 1997).

1.4.5.1 ELECTRONIC MEDIA

Within the process of character development and learning about life during childhood, watching and experiencing the world plays a substantial role. The last five decades have seen an explosive increase in CYP's access to a rapidly mounting, progressively sophisticated and frequently inappropriate (to age, developmental stage and mental health) variety of electronic media (i.e. media that uses electronics or electromechanical energy for the user to access the content, the various equipment used including television, radio, telephone, desktop computer, game console and handheld device, EM). During the last two decades, the literature on aggression has therefore focused on a relatively new risk factor - exposure to EM especially TV and, more recently, VG - and particularly seeing aggression within such media. VG (also called electronic or computer games) cover a spectrum of products, played on different platforms such as game consoles (e.g. Playstation, X-Box), handheld devices (e.g. Gameboy, Nintendo), computers, the Internet and mobile phones.

The American Academy of Pediatrics (AAP) has drawn attention to the fact that seeing violence in TV, movies, music and VG may lead to increases in aggressive attitudes, values and behaviour in children, particularly in the case of

exposure at a younger age (AAP, 2000a). AAP recommended no more than one to two hours of quality TV and videos a day for older children and no screen time for children under the age of 2, until more research would be done about the effects of TV on young children (AAP, 2000b). This section summarises the results of a broad literature search on aggression in CYP and exposure to EM.

There is evidence on CYP's increased exposure to EM. Several comprehensive national surveys conducted in 12 European countries including the UK during 1997/8 with a total of 15,000 young people aged 6-17 found that almost all children in these countries have access at home to TV, telephone, books, audio media, magazines and videos (Livingstone and Bovill, 2001). TV was the most used medium, occupying over two hours per day on average, exceeding the time spent on all other media combined. British children spent much more time watching TV (on average five hours per day) and much less time reading or playing outdoors than their European counterparts. New, interactive forms of EM (VG, computer use and the Internet) were found to rather supplement than replace more familiar media.

There is evidence of violent content in EM specifically targeted at children. A study of violence on children's TV programmes in the UK, which content analysed more than 4,700 hours of a total of 943 programmes broadcasted on eight TV channels, found that 39% of these programmes contained violence (Gunter and Harrison, 1997). More than 4,000 violent acts and 7.2 hours of violence occurred in these programmes. More than half of the violence occurred in general

children's programmes, with somewhat under half being found in children's cartoons.

Theoretical explanations of a link between exposure to media violence and aggression have been based on the social learning theory (observation of aggressive models would generate imitation and reinforce aggressive behaviour) (Bandura, 1994; Bandura, 1977), the arousal theory (media exposure would produce arousal and subsequent aggression increase in the presence of pre-existing anger or aggressive disposition) (Tannenbaum, 1975), the cognitive neo-association model and the social information-processing model of aggression (media violence might activate existing cognitive structures and subsequent incoming information would more likely be processed in an 'aggression' framework) (Dodge, 1990; Berkowitz, 1984). According to a more recently proposed general aggression model (Anderson, 2002), short-term aggressive behavioural responses to violent media are established by an interaction between cognition, affect and arousal. Long-term effects would result through changes in aggression-related knowledge structures following repeated exposure to violent media.

An impressive amount of scientific literature, mainly North American, has been dedicated to the highly debated question of whether there is a link between seeing violence in EM and aggressive, antisocial or delinquent behaviour in CYP. Two meta-analyses (Paik and Comstock, 1994; Wood et al., 1991) and one quasi-systematic review (Savage, 2004) assessed the evidence on the effects of

seeing violence in TV programmes and films (passive media) on viewers' aggressive and criminal behaviour. Other three meta-analyses (Anderson, 2004; Anderson and Bushman, 2001; Sherry, 2001) and another quasi-systematic review (Bensley and van Eenwyk, 2001) evaluated the research on the effects of playing VG (newer, interactive media) on players' aggressive behaviour (Table 1.3). These meta-analyses have shown that, although not all studies showed an effect, where findings were combined in the meta-analysis, there were significant, small to moderate associations between exposure to violence in TV and film (effect sizes ranging from $d = 0.27$ to $d = 0.65$, $r = 0.31$) and VG (effect sizes ranging from $d = 0.30$, $r = 0.15$ to $r = 0.27$) and aggression in CYP and adults. Bensley and van Eenwyk (2001) concluded there is an association between playing VG and aggression in young children (aged 4 to 8 years), in the short-term: playing an aggressive game caused increased aggression immediately after playing.

A recently published review summarised the evidence, published between 1998 and 2004, on the effects of violent media on CYP from a public-health perspective (Browne and Hamilton-Giachritsis, 2005). The authors of this review argued that there is consistent evidence linking passive viewing of and interacting with violent images in TV, film and VG with aggressive behaviour, but only in relation to young children and mainly in the short-term. This review had a systematic search strategy that included a primary search using electronic resources and a secondary search using the reference lists of the articles identified through the primary search. The authors, however, did not clearly specify the criteria for the inclusion or exclusion of studies in the review (e.g. type

of study design, forms of media), or whether they conducted any search for unpublished literature. More importantly, this review did not undertake a critical appraisal of the methodology of the studies it included. So, whilst this was a paper based on a systematic search, it was not a systematic review (see Table 1.4 for definitions of systematic, quasi-systematic and traditional reviews).

Some authors have raised concerns about the methodological quality of the existing body of research in this field. Ferguson and Kilburn (2009) reviewed experimental, correlational and longitudinal studies published between 1998 and 2008 that examined the impact of exposure to violence in the media (TV, VG and films) on aggressive behaviour in CYP as well as adults (Table 1.3). This most recent meta-analytic review has drawn attention to the methodological problems of the studies in this field such as the use of non-standardised measures of aggression that were not tested for validity or reliability. The authors argued against the significance of media violence exposure as a public health concern based on their calculated very low overall effect for exposure to media violence on aggressive behaviour ($r = 0.08$). It is worth noting that this meta-analysis found slightly larger effects for children than for adults ($r = 0.08$ compared to $r = 0.03$).

Some authors have argued that other factors, such as gender, aggressive predisposition or aggressive traits, exposure to family violence may account for or explain any observed relationship between exposure to violence in the media and aggression. These authors argue that individuals, particularly males, with aggressive predisposition or those exposed to violence within their families may have a high risk of displaying aggressive behaviour, while being also high

consumers of media violence. Controlling for these so-called third variables reduces or eliminates the observed relationship between the latter two (Ferguson et al., 2010; Ferguson and Kilburn, 2009).

As previously stated, an individual's predisposition for aggressive behaviour may be determined by many factors: genetic factors, personality, mental health and developmental disorders, family, social and environmental factors. The relative contribution of media violence is difficult to assess as family and social factors, such as the family's media use habits, attitudes to violence, socio-economic status and cultural background and experience of real-life violence in the family and community may confound the effects of media violence to some extent. Current views support a multifactorial approach to the development of aggressive behaviour, where individual, social and media influences operate in a complex interaction (Browne and Hamilton-Giachritsis, 2005).

Most relevant research made the assumption that the effects of exposure to violence in the media would be the same for all children. Little emphasis has been placed on individual differences between children (Browne and Hamilton-Giachritsis, 2005) but some CYP may be more susceptible to media influence than others. In a recent, non-systematic review, Byron (Department for Children, Schools and Families and Department for Culture, Media and Sport, 2008), pointing to the inconclusive nature of research on associations between the violent content of VG and children's aggressive behaviour, advised researchers to consider 'at risk' groups of children.

Susceptibility to media violence could be mediated by several factors such as gender, personality factors (e.g. aggressive traits), mental health problems and alcohol or drugs use (Browne and Hamilton-Giachritsis, 2005). Findings from some early research suggest the correlation between seeing TV violence and aggression may be stronger for those CYP who are behaving more aggressively than their peers (Dorr and Kovaric, 1980; Leyens et al., 1975; Hartmann, 1969). These individuals are likely to have multiple risk factors predisposing them toward aggressive behaviour. One of these risk factors may be a lower threshold for a media-violence-induced activation of aggressive behaviour (Anderson et al., 2003). Highly aggressive individuals were found to have greater effects (on aggressive behaviour, cognition, emotion and beliefs and physiological arousal) from exposure to violent TV, film, and VG than their relatively less aggressive counterparts (Anderson and Dill, 2000; Bushman, 1995; Bushman and Geen, 1990; Josephson, 1987; Friedrich and Stein, 1973). They may perceive the violence as more normative and may identify more with the violent characters (Anderson et al., 2003). CYP who exhibit aggressive behaviour, who have peer relationships difficulties, who are oppositional to parents and CYP with low academic achievements may be at risk of viewing large amounts of media and may be particularly attracted to, and reactive to, the seeing of violence in TV programmes and films (Huesmann et al., 2003; Slater et al., 2003; Bushman, 1995; O'Neal and Taylor, 1989; Huesmann et al., 1984; Gunter, 1983; Eron, 1982; Dorr and Kovaric, 1980; Fenigstein, 1979; Chafee and McLeod, 1972; Schramm et al., 1961; Himmelweit et al., 1958). Early research also suggested that both aggressive content (Huesmann et al., 1984; Dorr and Kovaric, 1980; Leyens et al.,

1975) and amount of violent material watched (Gadow and Sprafkin, 1993) were of relevance.

The majority of systematic reviews and meta-analyses have only considered age and gender as possible mediating variables. The existing evidence points towards a link between exposure to violence in TV, film and VG and aggressive behaviour in young children, especially boys. Bensley and van Eenwyk's (2001) quasi-systematic review of the aspect of individual level of aggression differentiated between subjects with high vs. low aggression, impulsiveness or irritability but found little research on its association with playing VG. Savage's (2004) quasi-systematic review drew attention to the possible role of individual aggressive tendencies or 'traits' in the relationship between violence seen in EM and criminal behaviour. It included two experimental studies examining the impact of TV on emotionally disturbed and learning disabled children but drew no specific conclusions. Only Wood et al.'s (1991) meta-analysis considered the type of subjects as a moderator of the effects of violence seen in EM on viewers' aggressive behaviour. They noted the smaller effects yielded by five field experiments examining the impact of watching aggressive cartoons on TV on the behaviour of emotionally disturbed children compared to studies conducted in a general population. The authors thought this finding could be explained by the characteristics of the setting or media presentation in these studies rather than the type of subjects.

Reviewers have acknowledged the paucity of relevant research with individuals with mental health problems (Browne and Hamilton-Giachritsis, 2005) although

some suggest that such individuals might believe the images they see and transpose representations of violent behaviour onto themselves, affecting their view of self and others around them (Browne and Hamilton-Giachritsis, 2005; Philo, 1996). A few published traditional reviews focused on CYP with BED (identified by schools as having BED primarily based on behavioural difficulties such as aggressive behaviour, hyperactivity and oppositional behaviour) as they were thought to be more susceptible (Gadow and Sprafkin, 1993; Sprafkin, Gadow and Abelman, 1992; Sprafkin, Gadow and Grayson, 1984). Gadow and Sprafkin (1993) have found such children to watch more violent material than their non-BED peers but they did not find them to behave more aggressively after seeing aggressive as opposed to non-aggressive content TV programmes. No systematic reviews or meta-analyses have focused on CYP with BED.

Table 1.3 Previous systematic, quasi-systematic and meta-analytic reviews in the field

Review authors	Published	Study type	Any search for unpublished studies	Any search for non-English studies	Included studies		
					Study type	Media type	Study population
Wood et al.	1991	Meta-analytic review	Yes	Unclear	Experimental	Television and film	CYP – general population, emotionally disturbed, learning disabled, juvenile offenders
Paik & Comstock	1994	Meta-analytic review	Yes	Unclear	Experimental, time series, survey	Television and film	CYP and adults – general population
Anderson & Bushman	2001	Meta-analytic review	Unclear	Unclear	Experimental, non-experimental	Video games	CYP and adults – general population
Bensley & van Eenwyk	2001	Quasi-systematic review	Yes	Unclear	Experimental, quasi-experimental, correlational, descriptive	Video games	CYP and adults – general population
Sherry	2001	Meta-analytic review	Yes	Unclear	Survey, experimental	Video games	CYP and adults – general population
Anderson	2004	Meta-analytic review	Unclear	Unclear	Experimental, non-experimental	Video games	CYP and adults – general population
Savage	2004	Quasi-systematic review	No	No	Cross-sectional, longitudinal, experimental, quasi-experimental, correlational, prospective longitudinal	Television and film	CYP and adults – general population, emotionally disturbed, learning disabled, juvenile offenders
Ferguson	2009	Meta-analytic review	No	Unclear	Experimental, correlational and longitudinal studies	Television, video games and film	CYP and adults – general population

Table 1.4 Definitions of systematic review, quasi-systematic review and traditional review

Systematic review	A review that has an explicit and reproducible methodology that entails a systematic and comprehensive search in order to locate the evidence relevant to a clearly formulated question, clearly defined inclusion and exclusion criteria, an assessment of methodological quality of included studies and an optional statistical synthesis (meta-analysis) of evidence. The search strategy is as comprehensive as possible, including thorough and exhaustive searches through all relevant local and international sources for both published and unpublished literature. Systematic reviews are increasingly used to inform decision making and establish policy in health care, and plan agendas in health care research.
Quasi-systematic review	A review that partially fulfils the criteria for a systematic review e.g. the search for evidence is not as comprehensive as in a full systematic review
Traditional review	A review of the literature on a research topic that does not fulfil the criteria for a systematic review e.g. the search for evidence is neither systematic nor comprehensive, the methodological quality of reviewed studies is not assessed.

Based on Moyer (2000), Ajetunmbi (2002) and The Cochrane Collaboration (2005).

1.4.5.1.2 Systematic review

Based on the above literature, the initial research question for the thesis was formulated: Is there an association between exposure to aggression, when watching TV programmes and playing VG, and exhibited aggression in CYP attending CAMHS who have BED? In order to identify any existing evidence in relation to such an association, a systematic literature review was conducted.

This systematic review aimed to collate and determine the quality of the existing evidence on any association between the amount and aggressive content of watching TV and playing VG and exhibited aggression in CYP with BED. To the authors' knowledge, this is the first systematic review conducted on this topic that focuses on CYP with BED. Details of the methodology and findings of this systematic review are presented in Chapter 2.

1.5 MIXED METHODS APPROACH

In order to answer the eventual research questions, this PhD project used a mixed methods research design, involving both a quantitative and a qualitative component, and combining quantitative and qualitative research methods.

A mixed methods research design/approach (Creswell, 2003; Tashakkori and Teddlie, 2003), also called multi-method or multi-strategy approach (Dixon-Woods et al., 2004; Bryman, 2001), at its simplest level involves mixing both qualitative and quantitative methods of data collection and analysis in a single study in order to provide a comprehensive understanding of the research problem. Over the last two decades mixed methods research has grown to become one of the major approaches in social sciences and increasingly in healthcare research, as it is often seen as a way of addressing complex research questions (Brannen, 2005; Dixon-Woods et al., 2004; Creswell, 2003). Although a challenging approach, because of the need for extensive data collection and the time-consuming nature of dual analysis, mixed methods design captures the best of both quantitative and qualitative approaches and diminishes the limitations of each (Tashakkori and Teddlie, 2003; Bryman, 2001).

The reason behind the selection of such an approach was a need to explore the research topic in both breadth and depth, gathering and converging quantitative (numbers, frequencies) and qualitative (detailed views of children and their parents/carers) findings, in order to inform the methodology of a future larger study.

Due to the complexity of the research topic, the study reported in this thesis involves two components: a survey (quantitative) and a qualitative study. Each research question is related to specific study components (see Table 1.5) and each study component is related to specific research questions (see Table 1.6). The methodology and a detailed discussion on the rationale behind the choice of a mixed methods approach are described in Chapter 3.

Table 1.5 Mapping of research questions and study components related to each question

Research question	Study component
Q1 – What are the type, severity and frequency of reported aggression exhibited by children aged 7-11 yrs with BED attending Tier 2/3 CAMHS?	Survey component
Q2 – Where do children aged 7-11 yrs with BED attending Tier 2/3 CAMHS see aggression in their lives?	Qualitative component
Q3 – What are the views of children aged 7-11 yrs with BED attending Tier 2/3 CAMHS and their parents/carers on any association between exhibited aggression and viewed aggression?	Qualitative component
Q4 – What is an appropriate methodology for a future study to test for any association between aggression exhibited by these children and their seeing aggression in television programmes and video games?	Survey and qualitative components
Q4a – What is an appropriate sampling strategy for such a study?	Survey component
Q4b –What is an appropriate sample size for such a study?	Survey component
Q4c – What are the potential third variables and sources of bias in such a study?	Survey and qualitative components

Table 1.6 Mapping of study components, research questions related to each component and methodology of each component

Study component	Research question	Methodology			
		Study design	Measures	Sampling strategy	Analysis
Survey component	Q1, Q4a, Q4b, Q4c	Cross-sectional survey of reported exhibited aggression	MAVRIC, CAS-P, SDQ, Brief questionnaire	Use of data management systems for CAMHS and approaching case managers to identify children who fulfil inclusion criteria	Descriptive statistics
Qualitative component	Q2, Q3, Q4c	Qualitative study of views of children and their parents/carers on any association between exhibited aggression and viewed aggression	Semi-structured interview schedule	Child and carer participants in survey sample invited to be interviewed. Purposively selected 20 interviews for analysis	Qualitative data analysis using the Framework analysis approach

1.6 SCOPE AND LIMITS

It is beyond the scope of this thesis to examine the issue of aggression in its entire complexity. This study focuses on exhibited aggression and sources of seeing aggression as they are reported by children and their carers. Aggression and sources of seeing aggression can be evaluated by other methods such as direct observations of behaviour, content analysis of TV programmes (sometimes called 'objective' methods), but these will not be employed in this PhD project.

1.7 SUMMARY

This introductory chapter

- identified the context for this thesis
- established the aim of the thesis
- explained the stages of this research project from the identification of the initial research question and objective to establishing the ultimate research questions and objectives of this thesis
- indicated the complexity of the study of aggression, especially in relation to children and young people with behavioural and emotional difficulties/disturbances/disorders
- described the background in relation to existing research, clarifying the need for the systematic review presented in the next chapter
- introduced the mixed-method approach that will be applied to the study presented in subsequent chapters (methodology in Chapter 3, results in Chapters 4 and 5)
- briefly stated the scope and limits of the thesis.

CHAPTER 2: SYSTEMATIC REVIEW

2.1 INTRODUCTION

The initial research question for the thesis asked whether there is an association between exposure to aggression, when watching TV programmes and playing VG, and exhibited aggression in CYP attending CAMHS who have BED. In order to identify any existing evidence in relation to such an association, a systematic literature review was conducted (Mitrofan et al., 2009) in relation to both aggressive content and the amount of TV viewing and VG playing.

This chapter specifies the aims and objectives of this systematic review, presents the methodology, the results and a discussion of the results of the review. The chapter ends with the conclusion of the review and several recommendations, including implications for further research in this field.

2.2 AIM

This systematic review aimed to collate and determine the quality of research on any association between the amount and aggressive content of watching TV and playing VG and exhibited aggression in CYP with BED.

2.3 OBJECTIVES

This systematic review had the following objectives:

1. To evaluate any association between the amount of TV and VG use and exhibited aggression in CYP with BED
2. To evaluate any association between the aggressive content of TV and VG use and exhibited aggression in CYP with BED
3. To compare the amount and aggressive content of TV and VG use among CYP with BED with that of CYP without BED
4. To evaluate the views of CYP with BED and their carers on any association between TV and VG use and exhibited aggression
5. To identify the gaps in the literature (specific points that need further research) in relation to TV and VG use and exhibited aggression in CYP with BED

2.4 METHODOLOGY

2.4.1 INCLUSION AND EXCLUSION CRITERIA

2.4.1.1 TYPE OF STUDIES

Studies that examined an association between the amount and aggressive content of watching TV and playing VG and aggression in CYP with BED were included. Aggression is used here as a synonym for a variety of terms including violence, behavioural problems, challenging behaviour, antisocial behaviour and social, emotional and behavioural problems.

Quantitative and qualitative research studies were to be reviewed. Quantitative research studies to be included were observational and experimental studies.

Observational studies were considered eligible if they investigated the amount and/or aggressive content of TV and VG use among CYP with BED as compared to those among CYP without BED, the association between dependent and independent variables, where these variables included measures of the amount and aggressive content of TV and VG use among CYP with BED and measures of exhibited aggression of CYP with BED. Experimental studies were considered eligible if they assessed the effects of TV and VG use on the behaviour of CYP with BED. Qualitative research studies to be reviewed were those that examined the views of CYP with BED and their carers on any association between TV and VG use and exhibited aggression in CYP with BED. Studies examining aggression-related phenomena (e.g. thoughts, feelings or mood) were excluded as the focus of this review was on exhibited aggressive behaviour.

2.4.1.2 TYPE OF PARTICIPANTS

The review included studies characterised by having CYP with BED and their carers. BED include conditions that fulfil psychiatric diagnostic criteria for behavioural and emotional disorders or disruptive behaviour disorders (DSM-IV, APA, 2000; ICD-10, WHO, 1992) and national, legal or organizational criteria for children and young people with social, emotional and behavioural special educational needs (see Chapter 1). Studies that included CYP with other conditions, such as psychoses, mental retardation/learning disability, pervasive developmental, eating and substance use disorders, were included in the review only if these conditions were associated with BED.

2.4.2 SEARCH STRATEGY

2.4.2.1 PRIMARY SEARCH

A primary search was conducted that included searches through computerized health and social science databases and gateways of published literature up to 06 May 2006, publications from governmental and non-governmental organisations, hand searching of key journals and a search for unpublished literature. Alerting services i.e. ZETOC were also used. The search was conducted between November 2005 and May 2006.

2.4.2.1.1 Databases and gateways

The following databases and gateways were searched: PsycInfo, MEDLINE, ASSIA, EMBASE, CINAHL, Cochrane Library, Child Data, Google Scholar, SOSIG and British Library. The databases and gateways were accessed via the electronic resources of the Universities of Warwick and Leicester.

The search terms used were related to: TV and VG (e.g. 'media', 'television', 'electronic game*', 'video game*', 'computer game*', 'virtual reality'); CYP (e.g. 'child*', 'adolesc*', 'young people'); aggression and behavioural and emotional difficulties (e.g. 'aggress*', 'behav*', 'emotion*', 'antisocial', 'violence', 'conduct', 'hyperkinetic', 'attent*', 'oppositional defiant', 'mental health', 'development*', 'psych*', 'delinquen*'). Combinations of these search terms using the Boolean operator 'AND' were used in order to refine the search. The search terms were modified according to the requirements of each individual database, i.e. differences in fields and syntax were adjusted. Truncation symbols were used such as the symbols '*', '#', and '\$' according to the specific requirements of each

database in order to retrieve a particular word stem with any of a number of possible endings. For example, 'aggress*' retrieves 'aggression', 'aggressive' and 'aggressiveness'. When the database allowed, National Library of Medicine's Medical Subject Heading (MeSH) terms were used. No language restrictions were applied.

For fully listed results of searches using PsycINFO, MEDLINE, ASSIA, EMBASE and CINAHL see Appendix 1. The search using SOSIG was of limited usefulness, therefore a full list of search results is not included. Searching through the Cochrane Library, Child Data, Google Scholar and the British Library yielded no additional results. The following subsections describe the main search engines and databases used.

2.4.2.1.1.1 PsycINFO

PsycINFO is an electronic database published by the American Psychological Association. It contains citations and summaries of journal articles, book chapters, books and technical reports and citations to dissertations in the field of psychology and related disciplines such as psychiatry, sociology, education, anthropology, business and law. PsycINFO contains more than 2 million records spanning from between 1806 and the present day. Journal coverage comprises material selected from approximately 2,000 periodicals. The chapter and book coverage comprises English-language material published worldwide from 1987 to the present day. An approximate number of 8,100,000 references are added annually through weekly updates (About PsycINFO, 2005).

2.4.2.1.1.2 MEDLINE

MEDLINE is an electronic database, published by the United States National Library of Medicine. It encompasses information from Index Medicus, Index to Dental Literature and International Nursing and other sources in the field of biology and health care. MEDLINE comprises citations and abstracts from more than 4,600 journals, from monographs of congresses and symposia from 1966 to the present day. It uses MeSH indexing (Warwick Library: Database Descriptions: Medline, 2006).

2.4.2.1.1.3 ASSIA

The Applied Social Sciences Index and Abstracts (ASSIA) is an electronic database that encompasses health, social services, sociology, psychology, education, politics and economics. It includes material published between 1987 and the present day, from over 500 journals published in sixteen different countries (CSA Illumina: Databases and Collections, 2006).

2.4.2.1.1.4 EMBASE

EMBASE is part of the EMBASE family that consists of three different databases: the Excerpta Medica Database (EMBASE), EMBASE Drugs and Pharmacology (EMDP) and EMBASE Psychiatry (EMPS). EMBASE is an important biomedical and pharmaceutical database that covers over 3,500 journals in the fields of pharmacology, toxicology, clinical and experimental medicine, public and occupational health and health policy and management published from 1980 to the present day. It is frequently updated, with approximately 375,000 records being added every year (Ovid Technologies Field Guide: EMBASE, 2006).

2.4.2.1.1.5 CINAHL

The Cumulative Index to Nursing & Allied Health (CINAHL) is an electronic database providing coverage of literature related to nursing and allied health. It comprises publications spanning from between 1982 and the present day such as publications of the American Nurses Association and the National League for Nursing. The CINAHL Subject Headings are used to describe the content of an article, many being adopted from MeSH and supplemented with terms specifically designed for nursing and allied health (Ovid Technologies Field Guide: CINAHL, 2006).

2.4.2.1.1.6 Cochrane Library

The Cochrane Library is a collection of seven separate databases, five of which providing coverage of evidence-based medicine and the other two providing information on research methodology. The databases are: the Cochrane Database of Systematic Reviews (CDSR) that comprises complete reviews and protocols; the Database of Abstracts of Reviews of Effects (DARE); the Cochrane Central Register of Controlled Trials (CENTRAL); the Cochrane Database of Methodology Reviews (CDMR); the Cochrane Methodology Register (CM); the Health Technology Assessment Database (HTA); and the NHS Economic evaluation database (NHS EED). The Cochrane Library is updated four times a year. The CDSR, DARE, CENTRAL, HTA and EED use MeSH index terms (Warwick Library: Database Descriptions: Cochrane Library, 2006; The Cochrane Library, 2006).

2.4.2.1.1.7 Child Data

Child Data is provided by the UK National Children's Bureau and encompasses five databases on the health, education and welfare of CYP. It covers material published between 1990 and the present day (Warwick Library: Database Descriptions: Child Data, 2006).

2.4.2.1.1.8 Google Scholar

Google Scholar is a search engine, freely available on the Internet that indexes scholarly literature across a wide range of disciplines and sources such as peer-reviewed articles, theses and books from academic publishers, universities and professional organisations. It covers most peer-reviewed online journals, except for journals published by Elsevier (About Google Scholar; Wikipedia: Google Scholar).

2.4.2.1.1.9 SOSIG

The Social Science Information Gateway (SOSIG) provides access to various resources for education and social sciences research. SOSIG has been incorporated into Intute: Social Sciences, together with Altis (About Intute: social sciences, 2006).

2.4.2.1.1.10 British Library

The British Library, the national library of the UK, provides access to a collection of approximately 150 million items, in different languages. About three million new items are incorporated each year, including copies of all publications produced in the UK and Ireland (The British Library: Some facts and figures).

2.4.2.1.2 Organisational publications

Computer-assisted searches through publications of the following governmental and non-governmental organisations were conducted: the American Academy of Child and Adolescent Psychiatry, the International Association of Child and Adolescent Psychiatry and Allied Disciplines, the European Society of Child and Adolescent Psychiatry, the Association for Child and Adolescent Mental Health, the American Psychological Association, the British Psychological Society, the British Sociological Association, the National Association for Special Education Needs and the National Foundation for Educational Research. This search yielded no additional results.

2.4.2.1.3 Hand searching

A hand search was conducted through the available volumes (via the University of Warwick Library) of the following key journals (identified through the search of databases and gateways and identification of specialist health, education and communication journals): *Journal of Child Psychology and Psychiatry and Allied Disciplines* (vol. 1-47(5) minus vol.35 and 44(8)), *Emotional and Behavioural Difficulties* (vol.1-11(1)), *Journal of Special Education* (vol.14-25), *Special Education* (vol.53-62), *Special Education – Forward Trends* (vol.1-11), *British Journal of Special Education* (vol.12-33(1) minus vol.21, 22 and 25), *Communication Research* (vol.1-8 and vol.21), *Critical Studies in Mass Communication* (vol.12-16), *Critical Studies in Media Communication* (vol.17-22). No additional potentially relevant articles were identified.

2.4.2.1.4 Search for unpublished literature

Computer-assisted searches (using the above listed search terms) of the following resources for grey (or gray) literature (i.e. literature that is not conventionally published, therefore rather difficult to locate) were conducted: Grey Net, International Journal on Grey Literature, Research Findings Electronic Register and the National Electronic Library for Health. Also, searches through conference proceedings using Conference Paper Index and Sociological Abstracts and searches through theses using Index to Theses and Dissertation Abstracts within the University of Warwick Library were undertaken. The search for unpublished literature was of limited usefulness, therefore a full list of search results is not included.

2.4.2.1.4.1 Grey literature resources

The Grey Literature Network Service (Grey Net) is a Web-based service that indexes grey research literature and contains useful links to resources including the GreySource Index, from which the Biomedical Digital Libraries and the University of New Mexico Health Sciences Library and Informatics Center were used for this search. Within the latter, the New York Academy of Medicine Gray Literature Report, the Health Research Projects in Progress and the National Research Register (a database of ongoing and recently completed research projects funded by or of interest to the NHS) were used. Among the resources available through the GreySource Index, PsycEXTRA (a grey literature database of the American Psychological Association) could not be accessed (the University of Warwick did not subscribe to this resource). The Research Findings Electronic

Register is a database of the findings of research studies funded by the Department of Health (DoH).

2.4.2.1.4.2 Conference proceedings

Conference Papers Index provides citations to papers and poster sessions that have been presented at major scientific meetings worldwide from 1982 to the present day. It draws information from programs, abstracts booklets, published proceedings and questionnaire responses.

Sociological Abstracts covers citations and abstracts for articles in over 1,500 journals from 1952, and 1974 respectively to the present day. It derives information from an international journals, serials, conference papers, dissertations and books.

2.4.2.1.4.3 Theses

Index to Theses covers UK theses between 1716 and the present day.

Dissertation Abstracts comprises the work of authors from more than 1,000 graduate schools and universities. This database includes citations for materials starting with the first US dissertation (1861) and approximately 47,000 new dissertations and 12,000 new theses are added annually.

2.4.2.1.5 Alerting services

ZETOC provides access to the British Library's Electronic Table of Contents of approximately 20,000 journals and 16,000 conference proceedings published per year. The database covers resources from 1993 to the present day. It provides an

email alerting service useful for signalling any new articles of interest being published (ZETOC: Welcome to ZETOC).

2.4.2.2 SECONDARY SEARCH

A secondary search involved scanning reference lists and corresponding (by e-mail) with authors of the articles (primary as well as secondary research reports) identified through the primary search.

2.4.3 METHOD OF SELECTION OF STUDIES

The titles and abstracts of the studies identified through the primary and secondary searches were screened to find potentially relevant studies. The studies for which full versions could be retrieved (using the Universities of Warwick and Leicester Library resources and by contacting authors) were scrutinised to see if they fulfilled the inclusion criteria. In case of any doubt, decisions on inclusion were made following a discussion among all three reviewers (Oana Mitrofan, the author of this thesis, Moli Paul and Nicholas Spencer, supervisors).

2.4.4 DATA EXTRACTION AND QUALITY ASSESSMENT

A structured proforma was developed for extracting relevant data and assessing the methodological quality of quantitative and qualitative studies based on general and specific guidelines (Alderson et al., 2005; Côté and Turgeon, 2005; Critical Appraisal Skills Programme, 2005; Dixon-Woods et al., 2004; Harden et al., 2004; Horsburgh, 2003; Jones et al., 2003; Ajetunmobi, 2002). The proforma for quantitative studies included common quality criteria for quantitative studies

and specific criteria for assessing validity in experimental studies, case-control studies, cohort studies and cross-sectional surveys (Table 2.1).

Two reviewers independently reviewed all studies. Results were compared and discrepancies resolved by the third reviewer. Following recommendations for systematic reviews (Alderson et al., 2005), it was decided not to use a numerical quality scoring system but to investigate any influence of methodological quality on study findings.

Table 2.1 Quality assessment criteria

Common quality criteria for quantitative studies Appropriate study design for research question/study aim Adequate sample size (i.e. sufficiently powered (between 80% and 90%) at a conventional level of significance ($p \leq 0.05$ or ≤ 0.01)) Clearly described characteristics of participants (demographic characteristics, condition/diagnostic) Valid outcome/variable measures Reliable outcome/variable measures Appropriate statistical methods Additional sources of bias identified Additional sources of bias addressed
Additional specific quality criteria for experimental studies Clearly defined inclusion criteria (e.g. diagnostic criteria) Clearly defined exclusion criteria Random allocation Blinding (of outcome evaluators) Dropouts clearly described Dropouts accounted for
Additional specific quality criteria for observational, case-control studies Cases representative of chosen population Reliable system for selecting all cases Matched groups Similar measures in cases and controls
Additional specific quality criteria for observational, cohort studies Cohort representative of chosen population Adequate follow-up period
Additional specific quality criteria for observational, cross-sectional surveys Appropriate type of survey No systematic differences between respondents and non-respondents Efforts made to ensure better response
Quality criteria for qualitative research Appropriate study design to research question Appropriate selection of participants and setting to research question Appropriate data collection to research question Relationship between researcher and participants including researcher's own views and roles adequately considered Appropriate data analysis to research question Attempts made to establish validity of findings Attempts made to establish reliability of findings Sufficient original data included to mediate between evidence and interpretation Sources of bias identified Sources of bias addressed

Table 2.2 Characteristics of the included studies

Study ID and type	Study participants: number; age; gender; ethnicity; IQ; main condition (criteria, number); associated conditions (criteria, number). Setting	TV/VG intervention/ variable (number)	Behaviour outcome/ variable	Participants views
Experimental studies (field)				
Gadow, Sprafkin, Ficarrotto, 1987 (study A)	9; 3.2-5.1 years; 8 boys, 1 girl; all white; mean IQ=115.1; ED (US Federal Register). Public school for ED children	Experimental: watching high-aggression cartoons* in classroom (9) Control: watching low-aggression cartoons* in classroom (9)	Observed behaviours**, 2 classroom settings (structured activity, free play) - measured by the Code for Observing Social Activity	
Gadow, Sprafkin, Ficarrotto, 1987 (study B)	14; 2.6-5.5 years; 12 boys, 2 girls; all white; mean IQ=111.2; ED (US Federal Register). Public school for ED children	Experimental: watching high-aggression cartoons* in classroom (14) Control: watching low-aggression cartoons* in classroom (14)	Observed behaviours**, 1 classroom setting (free play) - measured by the Code for Observing Social Activity	
Gadow, Sprafkin, 1987 (study A)	11; 8.6-12.1 years; 5 boys, 6 girls; 10 white, 1 black; mean IQ=94.4; ED (US Federal Register). Public school for ED children	Experimental: watching high-aggression cartoons* in classroom (11) Control: watching low-aggression cartoons* in classroom (11)	Observed behaviours**, 2 school settings (lunchroom, recess) - measured by the Code for Observing Social Activity	
Gadow, Sprafkin, 1987 (study B)	9; 5.7-8.3 years; 7 boys, 2 girls; all white; mean IQ=93.6; ED (US Federal Register); infantile autism (DSM III; 1). Public school for ED children	Experimental: watching high-aggression cartoons* in classroom (9) Control: watching low-aggression cartoons* in classroom (9)	Observed behaviours**, 2 school settings (lunchroom, recess) - measured by the Code for Observing Social Activity	
Sprafkin, Gadow, Grayson, 1988	26; 6-9 years; 20 boys, 6 girls; white: black: Hispanic= 70%:20%:10%; mean IQ=89.5; ED (US Federal Register). Public school for ED children	Experimental: watching high-aggression cartoons* in classroom (26) Control: watching low-aggression cartoons* in classroom (26)	Observed behaviours**, 2 school settings (lunchroom, recess) - measured by the Code for Observing Social Activity	
Experimental studies (laboratory-based)				
Sprafkin, Gadow, 1988	15; 5-10 years; 14 boys, 1 girl; white: black: Hispanic= 92%:5%:3% (aggregated data for ED and learning disabled); mean IQ=97; ED (US Federal Register). University research site; participants recruited from public school for ED (and learning disabled) children	Experimental: watching high-aggression cartoons* in experimentally constructed viewing room (no number specified) Control: watching low-aggression cartoons* in experimentally constructed viewing room (no number specified)	Aggression - measured by the Help-Hurt Game (number of seconds of pressing the Help or the Hurt button meaning helping to win a game or hurting a fictitious, but believed to be real, child) in experimentally constructed game room	
Walters, 1968	24; 7 years 4 months -11 years 10 months; all boys; no data for ethnicity; IQ=82-136; ED (character disorder, behaviour disorder, personality disorder as reported in hospital records). University research site; participants recruited from short-term residential treatment centre 24; 7 years 4 months -11 years 10 months; all boys; no data for ethnicity and IQ; non-ED (school principal's identification). University research site; participants recruited from public school 12; 7 years 4 months-11 years 10 months; all boys; no data for ethnicity and IQ; non-ED (school principal's identification). University research site; participants recruited from public school	Experimental 1: watching in experimentally constructed viewing room a film depicting an adult female model acting aggressively in relation to play materials in experimental room (24) Experimental 2: watching in experimentally constructed viewing room a film depicting an adult female model acting non-aggressively in relation to play materials in experimental room (24) Control: watching in experimentally constructed viewing room a film depicting no model (12)	Aggressive and non-aggressive behaviours in relation to play materials in experimental room - measured by direct observation	

Study ID and type	Study participants: number; age; gender; ethnicity; IQ; main condition (criteria, number); associated conditions (criteria, number). Setting	TV/VG intervention/ variable (number)	Behaviour outcome/ variable	Participants views
Case-control studies				
Sprafkin, 1986	42; 7.5-13 years; all boys; no data for ethnicity; mean IQ=89.9; ED (US Federal Register). Public school for ED children 42; 7.5-13 years; all boys; no data for ethnicity; mean IQ=111.82; non-ED. Regular school	Amount (number of hours per week) and content (programme type) of watching TV - measured by the Television Diary (child-report): children selected the TV programmes watched during 2 time blocks (evening (8.00-11.00pm) every day of the week and after school (3.00-7.00pm) Monday-Friday) from the programmes listed on the Diary (6 types of programmes (crime drama, non-crime drama, situation comedy, cartoon, soap opera and news/documentary) based on programme description in TV Guide). Estimates of watching TV derived by summing the duration of the selected programmes.	School type attendance	
Kronenberg, 2005	27; 13-17 years; 21 boys, 6 girls; 11 white, 13 African American, 3 mixed; mean IQ=96.7; DBD-AF (DSM-IV); CD (23), ODD (4); ADHD (DSM-IV; 15); DD (DSM-IV; 6); AD (DSM-IV; 6), SD (DSM-IV; 5), EaD (DSM-IV; 2). University research site; participants recruited from schools, clinics, community organizations 27; 13-17 years; 21 boys, 6 girls; 11 white, 14 African American, 2 mixed; mean IQ=98.8; no DSM-IV diagnosis, no contact with a mental health professional for treatment of a behavioural/emotional problem within the past 3 years. University research site; participants recruited from schools, clinics, community organizations	Amount (number of minutes/hours per day/week) and violent content (defined as injury (i.e. depiction of a person being injured) and graphic injury (i.e. depiction of an injury showing blood, loss of body parts or similar graphic physical damage)) of watching TV and playing VG - measured by the Media Exposure Measure (adolescent- and parent-report). Estimates of exposure to violence derived from: number of minutes of viewing injury and graphic injury in TV programmes/VG viewed/played each day of the past week; number of hours per week over past year of TV watching/VG playing multiplied by proportion of viewing injury and graphic injury in TV programmes/VG watched/played over past year.	Diagnostic category - measured by diagnostic instruments (Kiddie-SADS and Adolescent Symptom Inventory-4))	
Cross-sectional surveys				
Möller-Nehring, 1998	235; mean age=11.4 years; no data for gender, ethnicity and IQ; CD, Hyperkinetic CD, MDCE (ICD-10) 324; mean age=9.5 years; no data for gender, ethnicity and IQ; no psychiatric diagnosis (ICD-10) 517; mean age=11.7 years; no data for gender, ethnicity and IQ; other psychiatric diagnosis (ICD-10). Child psychiatry outpatient/inpatient clinic	Amount (number of hours per day) of watching TV - measured by parental interview	Diagnostic category - measured by clinical assessment, diagnostic instruments	
Hässler, 1993	25; 5-19 years; no data for gender, ethnicity and IQ; CD, HD, MDCE (ICD-10) 34; 5-19 years; no data for gender, ethnicity and IQ; other psychiatric diagnosis (ICD-10). Child psychiatry and neurology inpatient clinic	Amount (number of hours per day) of watching TV - measured by child and parent questionnaires	Diagnostic category - measured by diagnostic instruments	Views of behavioural effects of watching TV - data collected through child and parent questionnaires

Study ID and type	Study participants: number; age; gender; ethnicity; IQ; main condition (criteria, number); associated conditions (criteria, number). Setting	TV/VG intervention/ variable (number)	Behaviour outcome/ variable	Participants views
Qualitative studies				
Lowdermilk, 2004	6; primary school-aged; no data for gender, ethnicity and IQ; ED (US Individuals with Disabilities Education Act Amendments of 1997, verification of diagnosis by the school campus administrator); MPD (no specified criteria; 1). Special education school	TV consumption - data collected through face-to-face interviews TV characters' behaviour - data collected through viewing and coding of TV programmes	Observed behaviours, school settings - data collected through direct observation	Views of influence of TV consumption on students' behaviour - data collected through face-to-face interviews with students and teachers

*The cartoon programmes were content analysed for the presence of physical aggression (e.g. hitting, pushing, fighting), non-physical aggression (i.e. verbal (e.g. verbal threats, name-calling), object (e.g. damaging an object) and symbolic (e.g. making threatening gestures)), immature behaviour (e.g. sulking, showing off), altruism (i.e. specific acts of helping, sharing or cooperating), appropriate social interaction and activity level.

**Classroom behaviours: negative (i.e. protested by playmate) physical aggression (e.g. hitting, pushing, fighting), playful (i.e. received approvingly by playmate) physical aggression, non-physical aggression (i.e. verbal (e.g. verbal threats, name-calling), object (e.g. damaging an object) and symbolic (e.g. making threatening gestures)), non-compliance (e.g. failure to comply with adult request, breaking a rule), immature behaviour (e.g. sulking, showing off) and socially appropriate behaviour (e.g. cooperative play, helping another child). TV=Television; VG=Video Game; IQ=Intelligence Quotient; ED=Emotional Disturbance/Disorder; ICD=International Classification of Diseases; DSM=Diagnostic and Statistical Manual of Mental Disorders; DBD-AF=Disruptive Behavior Disorder with Aggressive Features; CD=Conduct Disorder; ODD=Oppositional Defiant Disorder; ADHD=Attention-Deficit/Hyperactivity Disorder; DD=Dysthymic Disorder; AD=Anxiety Disorder; SD=Somatization Disorder; EaD=Eating Disorder; HD=Hyperkinetic Disorder; MDCE=Mixed Disorder of Conduct and Emotions; MPD=Multiple Personality Disorder

2.5 RESULTS

2.5.1 STUDIES IDENTIFIED

Of the 50 identified abstracts, 48 full papers were obtained. Twelve studies met the inclusion criteria (Table 2.2). The main reasons for exclusion were that studies did not examine aggression per se (i.e. investigated cognitive, emotional, physiological or neurological responses to, or perceptions of the reality of, viewed material) or that study samples inextricably mixed CYP with BED and those with other conditions. Where papers reported studies on multiple but separable samples, the sections related to participants with BED (Sprafkin and Gadow, 1988) were appraised. Three papers reported two separate studies each (Gadow and Sprafkin, 1987; Gadow et al., 1987; Sprafkin and Gadow, 1986). All studies were conducted in the US except two in Germany (Möller-Nehring et al., 1998; Hässler et al., 1993).

2.5.2 EFFECTS OF WATCHING OF TV ON BEHAVIOUR

Seven experimental studies investigated the immediate effects of watching aggressive as opposed to low- or non-aggressive TV programmes on the behaviour of CYP with BED. They were conducted in school settings (field experiments) (Sprafkin et al., 1988; Gadow et al., 1987; Gadow and Sprafkin, 1987) or experimentally constructed settings (laboratory-based experiments) (Sprafkin and Gadow, 1988; Walters and Willows, 1968).

In relation to pre-school children with BED, one study found that watching cartoons, regardless of their content, increased non-physical aggression but discouraged playful physical aggression and non-compliance (Gadow et al., 1987).

study B). Another similar study, however, found no such effects (Gadow et al., 1987 study A).

In relation to primary school children with BED, some studies found that watching aggressive cartoons increased physical aggression and appropriate social interaction (Gadow and Sprafkin, 1987 study A) and non-compliance (Gadow and Sprafkin 1987, study B) post-viewing and induced more non-compliance than low-aggression cartoons (Gadow and Sprafkin, 1987 study B). Watching low-aggression cartoons, however, decreased physical aggression post-viewing and induced lower levels of physical and non-physical aggression than watching aggressive cartoons (Gadow and Sprafkin, 1987 study B). Contrastingly, Sprafkin and colleagues (1988) found that watching low-aggression cartoons increased physical and non-physical aggression post-viewing and induced more physical aggression than watching aggressive cartoons. Sprafkin and Gadow (1988) indicated that viewing aggressive, as opposed to low-aggression cartoons made children more willing to inflict harm against another child in situations in which there were no deterrents for such behaviour and no opportunities for peer retaliation. Walters and Willows (1968) found that primary school-aged children with BED were not more likely to imitate an aggressive TV character than their peers without BED.

2.5.3 AMOUNT AND AGGRESSIVE CONTENT OF TV AND VG USE

Compared with their peers without BED, primary school-aged children with BED, completing a child-report measure in a case-control study, reported watching more hours of TV on average per week (25.18 cf. 21.25, $p < 0.01$) and more

hours of programmes with aggressive content (cartoons (6.13 cf. 5.00, $p < 0.05$) and crime dramas (10.24 cf. 6.93, $p < 0.001$)) (Sprafkin and Gadow, 1986).

Children with BED named significantly more crime dramas as favourites and maintained their preference for cartoons, unlike their peers without BED.

In another case-control study, the scores of young people with BED indicated higher exposure to violence in TV programmes (parent-report) and VG (young person- and parent-report) compared with peers without BED (Kronenberger et al., 2005). Young people with BED exposed to more TV violence were also likely to be exposed to more video game violence. The amount of TV watched by young people with BED (young person- and parent-report) did not differ significantly from that watched by their peers without BED (average of 2-3 hours per day over a year). Young people with BED reported more minutes of video game playing per day, over a year, than their peers without BED (30-60 cf. 10-15, $p < 0.02$).

A parent survey indicated that CYP with BED watched TV for more hours a day, on average, than those with other or no psychiatric diagnoses (3.4 cf. 2.2 cf. 1.8, $p < 0.00005$) (Möller-Nehring et al., 1998). A parent and child survey (primary and secondary school-aged CYP) in the same context, however, found no such difference (Hässler et al., 1993).

2.5.4 VIEWS OF CYP AND THEIR CARERS

Hässler and colleagues (1993) found that parents of CYP with BED thought symptoms such as aggression and anxiety were caused by watching TV. Their

children did not believe this and also did not perceive themselves as aggressive. Children with or without BED, especially those who watched mainly action films, thrillers and horror films, associated watching TV with insomnia, nightmares, restlessness and headaches.

Lowdermilk's (2004) qualitative study found a difference between the antisocial classroom behaviours of primary school children with BED on one hand and the content, and children's interpretation of the content, of their favourite TV programmes on the other. These children stated they preferred TV programmes rated as positive and family-friendly and did not perceive their classroom behaviours, which were assessed as predominantly physically and verbally aggressive, as the result of imitating TV characters. In contrast, their teachers believed that watching TV negatively affected students' behaviour, although they were unable to give examples of this influence.

2.5.5 QUALITY ASSESSMENT

2.5.5.1 QUANTITATIVE STUDIES: GENERAL CRITERIA

The power of a study refers to the number of participants (i.e. sample size) required to avoid type I or a type II errors. A type I error is said to occur when researchers reject the null hypothesis incorrectly when it is, in fact, true (i.e. reporting a difference between study groups receiving two different treatment interventions when, in fact, there is no difference). Conventionally, a probability of getting a type I error of < 0.05 is chosen (that is, the chances of finding a difference would occur on less than 5% of occasions). A type II error is said to occur when researchers accept the null hypothesis incorrectly when it is, in fact,

false (i.e. reporting that there is no difference between groups when, in fact, there is a difference). A probability of getting a type II error of 0.8-0.9 is commonly accepted (that is, if a difference truly exists between interventions then researchers will find it on 80%-90% of occasions) (Jones, et al., 2003).

All reviewed quantitative studies except one (Möller-Nehring et al., 1998) had relatively small sample sizes (between 9 and 84, mean = 34.1). No power calculations or confidence intervals (i.e. the probability distribution, that is where the true population value lies) for study findings were specified, therefore, it was not possible to exclude type II errors in any of these studies.

The validity of outcome/variable measures (i.e. whether they are actually measuring what they are intended to measure) was unclear in all studies. Only two studies (Sprafkin and Gadow, 1986; Walters and Willows, 1968) provided data on the reliability of outcome and/or variable measures (i.e. whether they would measure the same way each time when used under the same condition with the same subjects, that is whether the results are replicable).

The results of a quantitative study may indicate the existence of a statistical association when one does not exist due to the effects of chance (random error), bias or confounding. Bias may be defined as any systematic error that results in an incorrect estimate of the association between exposure and outcome under study. Common types of bias are selection bias (i.e. there are differences between those who are selected for a study and those who are not selected) and information (e.g. observer, follow-up and recall) bias. A confounder is defined as

a factor that may cause bias in the estimate of the association between the exposure under study and the outcome of interest because it is associated with both exposure and outcome, and its relation to the outcome is independent of its relation to the exposure. Confounding can be controlled for in the study design e.g. through randomisation (ensuring that potential confounders, known or unknown, are evenly distributed among the study groups) and matching (equal representation of subjects with certain confounders among study groups) (Hennekens and Buring, 1987).

Most studies identified in this review did not use random sampling, creating possible selection bias. Participants generally attended a particular school, class (Sprafkin et al., 1988; Sprafkin and Gadow, 1986, 1988; Gadow and Sprafkin, 1987; Gadow et al., 1987) or hospital ward (Walters and Willows, 1968) or were self-selected (Kronenberger et al., 2005). In studies conducted in educational contexts (Sprafkin et al., 1988; Sprafkin and Gadow, 1986, 1988; Gadow and Sprafkin, 1987; Gadow et al., 1987) children within each school may have been studied more than once, using similar methods (part of same research programme).

Possible biasing factors taken into account, but not found to be significant, were different levels of attention paid to aggressive and control cartoons (Sprafkin et al., 1988; Gadow et al., 1987 study B), the behavioural state of participants prior to viewing cartoons (Sprafkin et al., 1988; Gadow and Sprafkin, 1987 study B) and the order of presentation of aggressive and control cartoons (Gadow and Sprafkin, 1987 study B). Attempts to limit recall bias in the observational studies

included using multiple ways of measuring exposure to TV and video game violence (e.g. over the previous week and past year) (Kronenberger et al., 2005) and multiple respondents (CYP and parents) (Kronenberger et al., 2005; Hässler et al., 1993).

2.5.5.2 EXPERIMENTAL STUDIES

All experimental studies defined their inclusion criteria, except for one (Walters and Willows, 1968) that failed to adequately describe criteria for 'emotional disturbance'. None defined exclusion criteria (Sprafkin and Gadow, 1988; Sprafkin et al., 1988; Gadow and Sprafkin, 1987; Gadow et al., 1987; Walters and Willows, 1968).

In all experiments, outcome evaluators were 'blind' to the programme viewed, but in one study (Walters and Willows, 1968) it was unclear whether they were 'blind' to the participants' condition (i.e. with or without BED) and this may have introduced observer bias. Authors did not clearly describe attrition or measures to counteract attrition (difficult to assess the possibility of follow-up bias). The laboratory-based experiments randomly allocated participants to groups matched by gender, age and IQ but the exact randomisation procedure was not described (Sprafkin and Gadow, 1988; Walters and Willows, 1968).

2.5.5.3 CASE-CONTROLLED STUDIES

The case-control study groups were matched by age, gender and IQ (Kronenberger et al., 2005) or age and gender alone (Sprafkin and Gadow, 1986), however, it was unclear whether cases were representative of the target

population and whether valid sampling strategies were used in both these studies. It was unclear whether there were systematic differences between respondents and non-respondents in the cross-sectional surveys and whether efforts were made to maximise response rates (Möller-Nehring et al., 1998; Hässler et al., 1993).

2.5.5.4 QUANTITATIVE STUDIES: OVERALL

In summary, methodological problems with the quantitative studies included them being possibly underpowered, using non-validated measures, whose reliability was not reported, and inadequately addressing possible biasing variables. Findings of studies conducted within so specific an educational context (Sprafkin et al., 1988; Sprafkin and Gadow, 1986, 1988; Gadow and Sprafkin, 1987; Gadow et al., 1987), specific health contexts (Kronenberger et al., 2005; Möller-Nehring et al., 1998; Hässler et al., 1993; Walters and Willows, 1968) and laboratory-based experiments (Sprafkin and Gadow, 1988; Walters and Willows, 1968) may have limited generalisability to CYP with BED seen in mental health services worldwide.

2.5.5.5 QUALITATIVE STUDY

Lowdermilk (2004) used convenience sampling and the sample size was not justified. Convenience sampling has been criticised as a qualitative sampling strategy with a poor rationale and the likelihood of yielding information-poor cases (Patton, 1990).

Validity and reliability, two concepts that are commonly used in quantitative research, have been redefined for use in qualitative research. The difference in the use of these notions lies in the different epistemological and ontological assumptions underlying quantitative and qualitative research. Quantitative research uses a positivist perspective and it is concerned with whether means of measurement are accurate and whether they are actually measuring what they are intended to measure (validity) and whether results are replicable (reliability). Qualitative research uses a naturalistic approach, seeking to understand phenomena in context-specific settings. Validity and reliability are here inseparable and conceptualized as trustworthiness, rigor and quality; they reflect the credibility of a qualitative research study, which depends on the ability and effort of the researcher (Golafshani, 2003). Qualitative researchers should critically examine their own role, potential bias and influence during the formulation of research question and data collection (CASP, 2004).

In the reviewed study, potential bias related to the researcher's views and roles were not critically examined. No attempts were made to establish the validity or reliability of findings such as through triangulation (e.g. more than one data collection method, more than one researcher to collect and analyse the data) or respondent validation. Insufficient original data was included to allow differences between evidence and interpretation to be distinguished.

2.6 DISCUSSION

This systematic review focused on collating and determining the quality of existing evidence on any association between the aggressive content and amount of watching TV and playing VG and aggression in CYP with BED. 12 studies were identified, none of which were randomised controlled trials. Critical appraisal indicated that all studies had significant flaws and thus, overall, the quality of evidence is poor.

Summarising findings, in relation to playing VG, only one case control study of 27 self-selected, non-randomly recruited aggressive 13-17-year olds (Kronenberger et al., 2005) was identified. This study found that young people with BED watched statistically significantly more minutes of violence than non-aggressive peers, matched by age, gender and IQ, however the study measure was not validated and this limits the quality of this evidence.

When considering whether CYP with BED watched more TV than those with other psychiatric disorders or no disorder, studies from health and educational contexts were found. The evidence is equivocal (Kronenberger et al., 2005; Möller-Nehring et al., 1998; Hässler et al., 1993; Sprafkin and Gadow, 1986).

The evidence on any association between watching aggressive content in TV programmes is contradictory. Two observational studies found statistically significant evidence that CYP with BED watched more hours of programmes with aggressive content, as reported by children (Sprafkin 1986) and parents (Kronenberger et al., 2005), but neither study measure was validated.

Contrastingly, the views of CYP with BED did not indicate a preference for aggressive TV content and did not support an association between watching TV and aggression (Lowdermilk, 2004; Hässler et al., 1993), although parental views did (Hässler et al., 1993). It is also important to note that the number of TV channels and programme content have changed significantly since the majority of these studies were undertaken, limiting their current generalisability.

Our findings cohere with the last (non-systematic) review focussing on CYP with BED (Gadow and Sprafkin, 1993), i.e. that there is insufficient and contradictory research evidence in relation to any association between aggression seen on TV and subsequent aggressive behaviour. These findings contrast with meta-analyses of research on the general population (CYP and adults) which have found such an association (Paik and Comstock, 1994; Wood et al., 1991).

As previously noted by Jordan (2006), this review found no existing standard measure of watching TV/ playing VG. Many measures used in the reviewed studies were not tested for validity or reliability. Both issues undermine the quality and comparability of existing evidence.

This systematic review had some limitations. Access to PsycEXTRA (an electronic resource of unpublished literature) was lacking. Hand searching was limited to available local library issues. Full data for one unpublished study (Kelly, E., Sprafkin, J. and Gadow, D. unpublished manuscript) could not be obtained (confirmed by authors).

2.7 CONCLUSION

This systematic review found insufficient, contradictory and methodologically flawed evidence on the association between seeing aggression in TV programmes and VG and exhibited aggression in CYP with BED. There are no randomised, controlled trials on any association between the aggressive content and amount of TV watched or VG played and aggression in CYP with BED. There is little research on aggression in clinical populations (CYP attending mental health services who have BED) and no such research focused on aggression per se. There is little research on the views of children with BED and their carers on any association between TV and VG use and aggressive behaviour. There is a paucity of studies carried out in European settings (most studies were carried out in North America) and less research on VG use compared to watching TV.

The quality and findings of the 12 studies identified by this systematic review do not enable the giving of evidence-based advice about the effects of watching aggression on TV or in VG on the behaviour of CYP with BED. Undertaking research in this area is complex and difficult, especially as there are no valid and reliable measures of seeing aggression on TV and in VG. Good quality quantitative and qualitative research needs to be completed in order to have an evidence-base that justifies telling parents of CYP with BED that their children should watch less aggression on TV or in the VG they play.

The initial research question of this thesis was: Is there an association between watching of aggression in TV programmes and VG and exhibited aggression in CYP attending CAMHS who have BED? This systematic review and the gaps in

knowledge it identified indicated the need for a new study to investigate any such association. Furthermore, it indicated the need for a pilot study to be undertaken prior to the planning of a larger study to test for such association. The reasons behind this need are the complexity of and the numerous unknown issues in this area: the unknown levels of exhibited aggression and use of TV and VG in this population; the lack of valid and reliable measures of seeing aggression in TV programmes and VG; and the lack of relevant and good quality data on which to calculate an appropriate sample size for such study. There are also many potential third variables, especially in relation to where else children see aggression.

The following chapters will therefore present a mixed methods study, using both quantitative and qualitative research methods, designed to provide a more in-depth understanding of any association between reported exhibited aggression in children with BED attending specialist outpatient CAMHS and their seeing aggression on TV and in VG. This study acts as pilot study to inform the methodology of a future larger study that will specifically test for any such association.

2.8 SUMMARY

This chapter detailed the methodology and findings of the systematic review that informed the mixed methods study reported in the following chapters of this thesis. The methodology of this study is presented in the next chapter.

CHAPTER 3: METHODOLOGY

3.1 INTRODUCTION

This PhD project is a pilot study for a future, larger-scale study to test for any association between reported exhibited aggression in children attending outpatient CAMHS who have BED and their watching of aggression in TV programmes and VG. This study has a mixed methods research design, involving both a quantitative (survey) and a qualitative component. This study was conducted in a clinical population of children attending mental health services and not in the general population.

The first section of this chapter sets out the theoretical paradigm and research approach I used to guide the design of my research. The following sections specify the research population and setting, ethical and legal considerations, and the detailed methods of the quantitative and qualitative components.

3.2 MIXED METHODS RESEARCH. THEORETICAL PARADIGM.

PRAGMATIC APPROACH

Over the last two decades there has been an increased interest in mixed methods research, which has grown to become one of the major approaches used in social science and increasingly in healthcare research. It is often used to address complex research questions (Brannen, 2005; Dixon-Woods et al., 2004; Creswell, 2003) and in the study of complex phenomena requiring data from

multiple perspectives (Clarke and Yaros, 1988 cited in Sale et al., 2002). A mixed methods research design or approach (Creswell, 2003; Tashakkori and Teddlie, 2003), also called a multi-method or multi-strategy approach (Dixon-Woods et al., 2004; Bryman, 2001), at its simplest level, involves mixing both qualitative and quantitative methods of data collection and analysis in a single study, in order to provide a comprehensive understanding of the research problem. It involves the planned mixing of qualitative and quantitative methods at a predetermined stage of the research process – during the initial study planning, during the process of data collection or at the data analysis or data reporting stage (Halcomb, Andrew and Brannen in Andrew and Halcomb, 2009). Although a challenging approach (need for extensive data collection, the time-consuming nature of analysing both numeric and verbatim text), the mixed methods design aims to capture the best of both quantitative and qualitative approaches and diminish the limitations of each (Tashakkori and Teddlie, 2003; Bryman, 2001).

Over the last few decades there has been an ongoing debate in social sciences research over the choice of using quantitative or qualitative research methods and mixed methods approaches. Authors have previously criticised the use of mixed methods as it combines methods founded on different theoretical paradigms i.e. different epistemological and ontological assumptions (Tashakkori and Teddlie, 2003; Blaikie, 1991). The quantitative paradigm is based on positivism, while the qualitative paradigm is based on interpretivism and constructivism. According to the quantitative paradigm, an objective reality exists independently of, and can be studied by the investigator without any influence between the investigator and the investigated phenomenon. Within the qualitative

paradigm, the reality is based on one's construction of it; the investigator and the investigated phenomenon are actively interconnected. Other authors have argued towards the combination of quantitative and qualitative research methods in a single study for complementary purposes. The two research methods can be specifically employed, simultaneously or sequentially, to study different phenomena within the same study (Sale et al., 2002). Pragmatists prioritise practical issues over theoretical issues; fundamental to the pragmatic approach to methodology is the belief that the choice of research design should be informed by the research question and not by a paradigm (Halcomb, Andrew and Brannen in Andrew and Halcomb, 2009). Researchers have previously based mixed methods health research studies on pragmatic principles (Cawley, unpublished thesis; Robertson, unpublished thesis).

This study was based on pragmatic principles: the impetus for choosing the research design was not a paradigm but the research question (Halcomb, Andrew and Brannen in Andrew and Halcomb, 2009). The mixed methodology was not theoretically or philosophically driven as 'one cannot be both a positivist and an interpretivist or constructivist' (Sale et al., 2002, page 47).

A mixed methods approach was selected in order to explore the research topic in both breadth and depth, gathering and converging quantitative (numbers, frequencies) and qualitative (detailed views of children and their parents/carers) findings, in order to inform the methodology of a future larger-scale study. Quantitative data on the type, severity and frequency of reported exhibited aggression enabled relationships between variables to be investigated.

Qualitative data on sources of watching aggression and participants' views shed a different light on any such associations. Both components provided data that enabled the identification of potential third variables and feasible sampling strategies for the future study.

According to Tashakkori and Teddlie (2003) a mixed methods study involves 'the collection or analysis of both quantitative and/or qualitative data in a single study in which the data are collected concurrently or sequentially, are given a priority, and involve the integration of the data at one or more stages in the process of research'. Different strategies/procedures/models/designs have been developed within the mixed methods approach and authors have yet to reach consensus on their types, names and characteristics. In helping to distinguish between the various designs, two fundamental issues have been identified:

- Whether the sequence of collecting quantitative and qualitative data is concurrent (i.e. data gathered at the same time) or sequential (i.e. data gathered in phases).
- Whether either quantitative or qualitative data is given priority or whether they are weighted equally (Tashakkori and Teddlie, 2003).

In this mixed methods study a concurrent strategy of data collection was adopted (Creswell, 2003; Tashakkori and Teddlie, 2003) in order to overcome challenges, previously reported by others researching a similar population, e.g. in participant recruitment (National CAMHS Support Service and YoungMinds, 2005; Laws, 1998) and data collection (Ford, Tingay and Wolpert, 2006; Johnston and Gowers, 2005).

This study adopted a facilitation approach to mixed methods research, in which one research method facilitates the other (Hammersley, 1996 in Bryman, 2001).

The data analysis was sequential: the quantitative data analysis preceded the qualitative data analysis. The quantitative findings were used

- To purposively select the qualitative research sample with regard to intensity of exhibited aggression and in order to produce maximum variation in terms of age, gender, ethnicity and family income level.
- To facilitate the qualitative data analysis (through provision of attribute data such as age, gender, ethnicity, family income level and intensity of exhibited aggression).

Following this, a further quantitative data analysis was conducted based on issues that arose from the qualitative findings.

In this project I aimed to give equal priority to the quantitative and qualitative research methods as they were used to address particular research questions. Each research question is related to specific study component(s) (see repetition of Table 1.5 below) and each study component is related to specific research question(s) (see repetition of Table 1.6 below).

Table 1.5 Mapping of research questions and study components related to each question

Research question	Study component
Q1 – What are the type, severity and frequency of reported aggression exhibited by children aged 7-11 years with BED attending Tier 2/3 CAMHS?	Survey component
Q2 – Where do children aged 7-11 years with BED attending Tier 2/3 CAMHS see aggression in their lives?	Qualitative component
Q3 – What are the views of children aged 7-11 years with BED attending Tier 2/3 CAMHS and their parents/carers on any association between exhibited aggression and viewed aggression?	Qualitative component
Q4 – What is an appropriate methodology for a future study to test for any association between aggression exhibited by these children and their seeing aggression in television programmes and video games?	Survey and qualitative components
Q4a – What is an appropriate sampling strategy for such a study?	Survey component
Q4b –What is an appropriate sample size for such a study?	Survey component
Q4c – What are the potential third variables and sources of bias in such a study?	Survey and qualitative components

Table 1.6 Mapping of study components, research questions related to each component and methodology of each component

Study component	Research question	Methodology			
		Study design	Measures	Sampling strategy	Analysis
Survey component	Q1, Q4a, Q4b, Q4c	Cross-sectional survey of reported exhibited aggression	MAVRIC, CAS-P, SDQ, Brief questionnaire	Use of data management systems for CAMHS and approaching case managers to identify children who fulfil inclusion criteria	Descriptive statistics
Qualitative component	Q2, Q3, Q4c	Qualitative study of views of children and their parents/carers on any association between exhibited aggression and viewed aggression	Semi-structured interview schedule	Child and carer participants in survey sample invited to be interviewed. Purposively selected 20 interviews for analysis	Qualitative data analysis using the Framework analysis approach

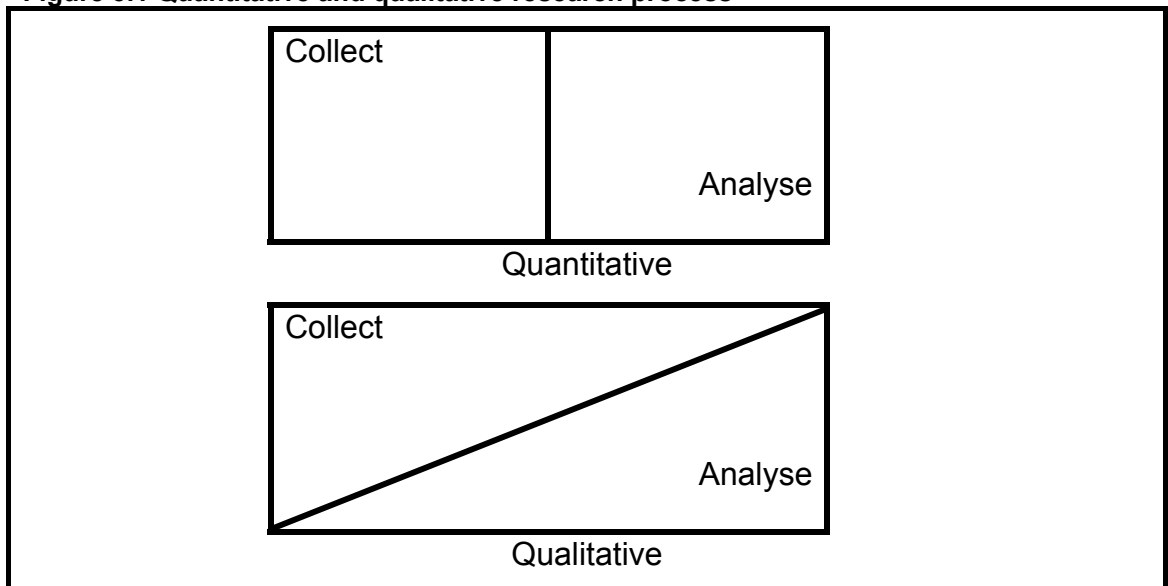
3.3 QUALITATIVE RESEARCH – FRAMEWORK APPROACH

When it comes to qualitative research, there is no single, universally accepted definition or methodology. Qualitative research has been generally defined as an interpretative approach concerned with understanding the meanings people attach to phenomena (e.g. beliefs, actions) within their social worlds; the way people understand and interpret their social reality is key. All qualitative methodology does not follow the same strict rules, but reflects a mix of philosophy, research objectives, characteristics of research participants, funders of and audiences for the research, and the perspective, and environment of the researchers. Key aspects include flexibility in research design, analysis and interpretation and the richness of qualitative data (Snape and Spencer, 2003).

Qualitative research typically focuses on smaller numbers of participants than quantitative research, however, it tends to generate vast amounts of data such as many pages of interview transcripts. When it comes to qualitative data analysis, again, there are no clearly agreed procedures. The approach is influenced by theoretical and methodological perspectives and relates to the research objectives (Patton, 1990). In most qualitative research the data collection, analysis and interpretation do not represent a linear process. The analytical process begins during data collection as data are gathered and analysed and this feeds into the ongoing data collection. Interview questions are continuously refined, based on data already collected, allowing the researcher to pursue emerging areas of enquiry in further depth (Figure 3.1) (Pope et al., 2006).

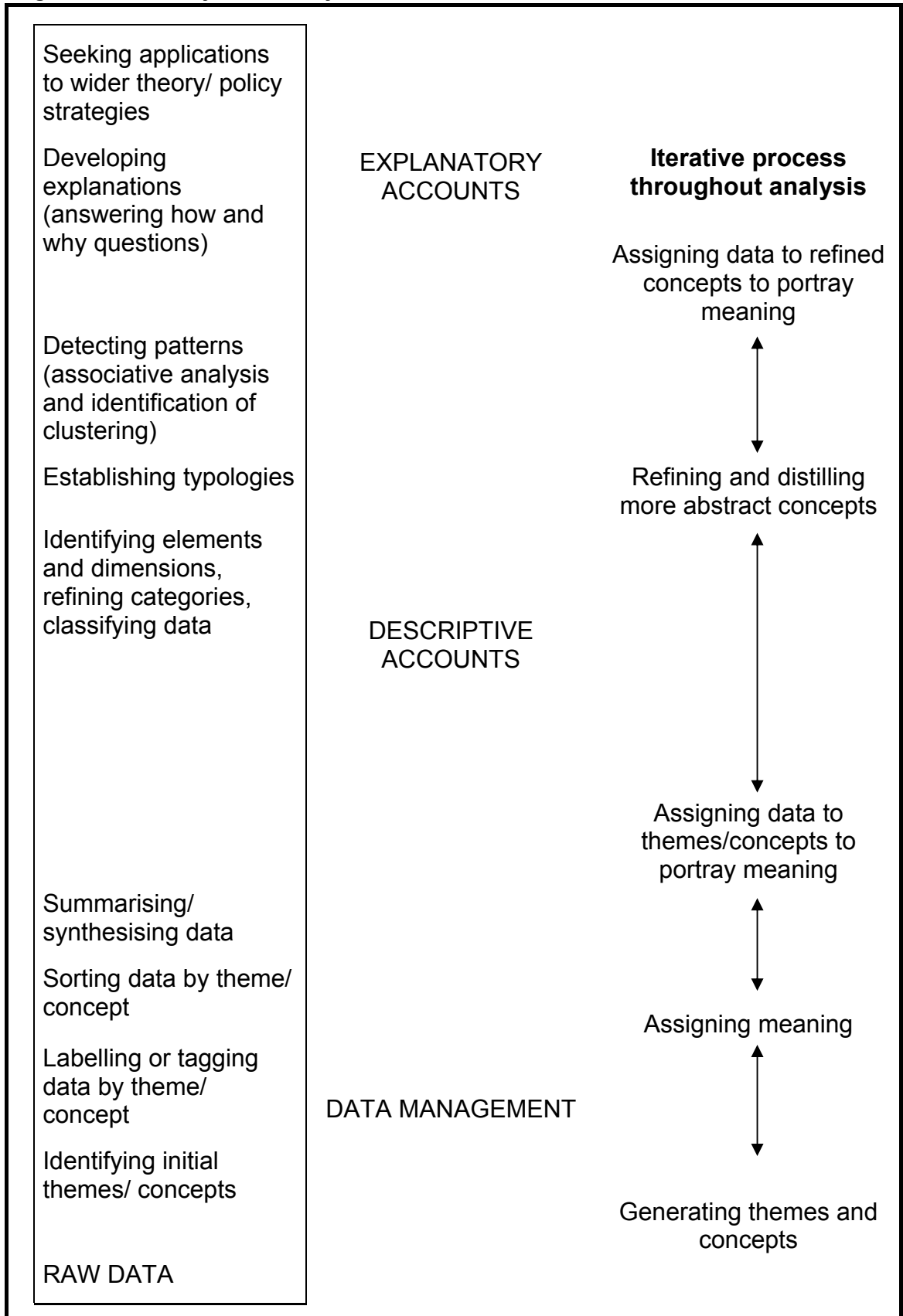
The analytical process is developed by moving forwards and backwards between the original data and emerging interpretations, the structure underlying this process being similar to scaffolding. The 'analytic hierarchy' consists of a series of stages: from 'raw' data, through descriptive to more abstract interpretations (Figure 3.2). The depth of analysis depends on the research objectives (Pope et al., 2006; Spencer et al., 2003).

Figure 3.1 Quantitative and qualitative research process



Source: Pope et al. (2006) (page 65)

Figure 3.2 The analytic hierarchy



Source: Spencer et al. (2003) (page 212)

Three broad approaches to qualitative data analysis in health care research have been described: Thematic Analysis, Grounded Theory, and the Framework Approach (Pope et al., 2006). All approaches share a systematic search of the data for recurring themes and noteworthy items that are interpreted to generate analytical categories and theoretical explanations.

Thematic Analysis is the most commonly used in health care research. The data is grouped into themes that are anticipated (e.g. from relevant literature) and/or emerge during fieldwork. Grounded Theory is more inductive: hypotheses are developed from the 'ground' of the research field rather than defining them in advance; the process is cyclical and iterative: the analysis feeds into subsequent sampling, further data collection and testing of emerging theories.

The Framework Analysis Approach is a more deductive form of analysis. It was developed by the National Centre for Social Research in the UK and it has been used in healthcare, including mental health, qualitative and mixed methods research (Bhui et al., 2008; Irvine et al., 2006; Cawley, unpublished thesis; Robertson, unpublished thesis). The Framework Analysis Approach facilitates the linking of qualitative data analysis with quantitative findings. It combines deductive and inductive approaches: it starts deductively from the pre-set aims and objectives of the study whilst still being heavily based in the original accounts of study participants. Similar to thematic analysis, the researcher groups the data into themes - by examining all the study cases and making sure that all the manifestations of each theme have been accounted for – and then attempts to identify relationships between themes. Predefined themes, drawn from the

research questions and the interview topic guide, are used to direct the systematic search of all data for recurring/common themes as well as noteworthy/contradictory items of interest. The Framework Approach is designed to facilitate consistent and transparent data management and analysis (Pope et al., 2006).

For these reasons i.e. the linking of qualitative data analysis with quantitative findings, the use of predefined themes and its consistent and transparent nature, the Framework Approach was chosen for this study (see Section 3.10.4.1). The analytical process was informed by reasoning about the possible link between watching aggression and exhibited aggression in the study population.

3.4 STUDY POPULATION

This PhD project aimed to improve the evidence base on any association between aggression in children attending specialist outpatient CAMHS who have behavioural and emotional difficulties/disturbances/disorders and their watching of aggression in TV programmes and VG, in order to enable mental health professionals to give evidence-based advice on this relationship to the carers of these children (see Chapter 1, Sections 1.1-1.3). This project was therefore conducted within a health context in a clinical population of children referred for behavioural problems/ emotional problems/ aggressive behaviour/ challenging behaviours/ antisocial behaviour to Tier 2/3 CAMHS.

3.5 INCLUSION AND EXCLUSION CRITERIA

The inclusion and exclusion criteria are summarised in Box 3.1. The study was conducted in a population of children aged 7 to 11 years for two reasons. First, there appears to be only limited data on the incidence and prevalence of aggression in preschool- and primary school-aged children. Second, CYP presenting to CAMHS are more likely to be in the primary school age category (see Chapter 1, Sections 1.4.3-1.4.4). Children, and their main carers, from any social or ethnic group were included on condition that they were English speakers. The reason for this is that children and main carers with insufficient command of English would have found it difficult to complete the survey measures and be interviewed.

Children with pervasive developmental disorders, psychoses, mental retardation, eating disorders and substance-related disorders were excluded as, although aggression is a common sign in such conditions, it may have different associations from aggression in CYP without such conditions. Children with significant impairments, such as sensory impairments, were excluded as this may prevent them from common TV or VG use.

Box 3.1 Inclusion and exclusion criteria**Inclusion**

- Children who had been referred for behavioural problems/ emotional problems/ aggressive behaviour/ challenging behaviours/ antisocial behaviour to Tier 2/3 CAMHS in Coventry & Warwickshire over a time period of eighteen months, who were
 - aged 7 to 11 years at the time of their referral
 - open-cases at the time of the study
 - living with a parent/ guardian/ carer

Exclusion

- Children with pervasive developmental disorders, psychoses, mental retardation, eating disorders and substance-related disorders
- Children who were subject to current Child Protection investigations or any Court proceedings or being on the Child Protection Register
- Children with significant impairments, such as sensory impairments, that may prevent them from common TV or VG use
- Children who are not in mainstream school
- Children, and their parents/ guardians/ carers who did not speak English

3.6 SETTING

Tier 2/3 CAMHS in Coventry & Warwickshire were chosen as the study setting for three reasons. First, Coventry & Warwickshire CAMHS are in close proximity to the University of Warwick to conduct the research. Second, Coventry & Warwickshire combine urban and rural areas and the population is broadly representative of the general UK population (ONS, 2007). Third, Coventry & Warwickshire Tier 2/3 CAMHS were willing to accommodate the study.

Tier 2/3 CAMHS form part of the 4-Tier multi-agency provision for CYP with mental health problems in the UK (see Chapter 1, Section 1.4.3). Coventry & Warwickshire Tier 2/3 CAMHS are part of the Coventry & Warwickshire Partnership NHS Trust and include Coventry, Warwickshire North and Warwickshire South locality teams. These are multi-disciplinary CAMHS teams

serving local catchment areas. The Coventry team is based in Coventry city centre at Gulson Clinic; the North Warwickshire team is based at Whitestone Clinic in Nuneaton; the South Warwickshire team is based at Orchard House in Leamington Spa (Warwick district) and Stratford Healthcare in Stratford-on-Avon (Stratford district). Table 3.1 shows a summary of key characteristics of Coventry & Warwickshire CAMHS.

Participants were recruited at all four Tier 2/3 CAMHS in Coventry & Warwickshire. For confidentiality reasons, the participating CAMHS will be denoted from this point onwards in this thesis as CAMHS 1, 2, 3 and 4.

Table 3.1 Coventry & Warwickshire CAMHS – key characteristics

		Coventry	Warwickshire
Sample* caseload		725	1009
Age & Gender	Male, aged 0-4	18	29
	Male, aged 5-14	341	501
	Male, aged 15-18	89	105
	Female, aged 0-4	5	10
	Female, aged 5-14	150	217
	Female, aged 15-18	122	147
Ethnicity	White: British	569	910
	White: Irish	6	5
	White: Any other white background	4	19
	Mixed: Mixed white and black Caribbean	26	12
	Mixed: Mixed white and black African	3	7
	Mixed: Mixed white and Asian	27	3
	Mixed: Any other mixed background	3	11
	Asian or Asian British: Indian	19	9
	Asian or Asian British: Pakistani	5	2
	Asian or Asian British: Bangladeshi	-	1
	Asian or Asian British: Any other Asian background	4	4
	Black or Black British: Caribbean	3	2
	Black or Black British: African	5	1
	Black or Black British: Any other black background	1	1
	Other Ethnic Groups: Chinese	1	1
	Other Ethnic Groups: Any other ethnic group	1	2
	Not stated	48	19
Primary presentation	Hyperkinetic disorders/ problems	133	174
	Emotional disorders/ problems	217	527
	Conduct disorders/ problems	64	125
	Eating disorders/ problems	47	51
	Psychotic disorders/ problems	15	12
	Deliberate self-harm	67	81
	Substance abuse	6	10
	Habit disorders/ problems	18	74
	Autistic spectrum disorders/ problems	259	199
	Developmental disorders/ problems	34	109
	Other	63	86
Length of wait for new cases**	New cases in sample period***	248	246
	≤ 4 weeks	185	53
	> 4 weeks but ≤ 13 weeks	42	115
	> 13 weeks but ≤ 18 weeks	19	21
	> 18 weeks but ≤ 26 weeks	2	21
	> 26 weeks	-	36
Length of treatment	≤ 4 weeks	174	213
	≤ 13 weeks	175	176
	≤ 26 weeks	128	146
	≤ 52 weeks	95	169
	> 52 weeks	153	305

*Sample period: the calendar month of November for Tier 2 and 3 teams. **Length of wait between the receipt of referral request and the time the case is first seen. ***The number of cases that were new (seen for first time) to the CAMHS team caseload in the sample period. Source: CAMHS Mapping Reports 2008/2009 (<http://www.childrensmapping.org.uk>)

3.7 RESEARCH GOVERNANCE PROCESS

Ethical approval from Coventry Research Ethics Committee (REC reference 07/Q2802/78) and Research and Development Approval from Coventry & Warwickshire Partnership NHS Trust R&D Office (R&D reference PAR060907) were sought and gained. An honorary research contract for a non-clinical researcher with Coventry & Warwickshire Partnership NHS Trust was approved. The whole process took almost a year and key stages and timings are summarized in Table 3.2.

Table 3.2 Key stages in the research governance of the project

	Dates
Ethical Approval from Coventry Research Ethics Committee – REC reference 07/Q2802/78 <ul style="list-style-type: none"> • Application submitted • Provisional Ethical Opinion requiring further clarifications received • Application resubmitted • Ethical Approval granted • Substantial Amendment to research protocol concerning recruitment process submitted • Ethical Approval of Substantial Amendment granted • Non-substantial Amendment to extend recruitment period with 6 months submitted • Confirmation of Non-substantial Amendment received 	22 May 2007 25 June 2007 06 July 2007 12 July 2007 26 October 2007 20 November 2007 16 April 2008 24 April 2008
Research and Development Approval from Coventry & Warwickshire Partnership NHS Trust R&D Office (R&D reference PAR060907) <ul style="list-style-type: none"> • Application submitted • Letter received from R&D Manager, C/O Warwickshire PCT, stating an approximately 3 weeks delay in reviewing the application • Letter received from R&D Manager, C/O Warwickshire PCT, stating further delay in reviewing the application until mid October 2007 due to local NHS R&D restructuring • R&D review with recommendations for adjustments to recruitment process received • Substantial Amendment to research protocol concerning recruitment process submitted • R&D Approval granted Honorary Research Contract for Non-Clinical Researchers with Coventry & Warwickshire Partnership NHS Trust approved	26 July 2007 16 August 2007 10 September 2007 09 October 2007. 26 October 2007 21 November 2007 01 November 2007

3.8 ETHICAL AND LEGAL CONSIDERATIONS

This research study involved children attending CAMHS and their carers. In addition to the general legal and ethical issues that arise in any medical research involving human subjects, it therefore raised particular issues related to involving children with mental health problems. The study was on a doubly vulnerable population.

When designing the study I followed the existing legal and ethical guidance concerning research conducted at the University of Warwick (The University of Warwick, 2006a) and the NHS (National Research Ethics Service (NRES), 2007; General Medical Council (GMC), 2002) that involves children (GMC, 2007; Medical Research Council (MRC), 2004). The ethical and legal issues described below are intimately associated with the participant identification and recruitment process detailed in Section 3.9.2.1. Copies of all documents i.e. invitation letters, information sheets, explanatory poster and consent forms can be found in Appendices 2-13.

3.8.1 RESEARCH INVOLVING CHILDREN

Research involving CYP has been recognised as important in promoting their health and wellbeing, however, they may be vulnerable and require special protection as they are less likely than adults to be able to recognise their best interests, express their needs, protect themselves from harm, or make informed choices about the potential risks and benefits of research (GMC, 2007; GMC, 2002).

The MRC identified a number of key ethical principles relating to research involving children (see Box 3.2) and their guidance indicates that research should only include children where the relevant knowledge cannot be obtained through research with adults. Children's participation in this study was highly important as their views and experiences, relating to their behaviour and their watching aggression on TV & VG, may greatly differ from that of their parents.

Particular issues arise in relation to non-therapeutic research, which does not involve the testing of an intervention. Such research involving questioning, observing and measuring children, without any direct benefit to the individual participant, should be of minimal (the least possible) risk (defined as a potential harm). Research of minimal risk should not result in more than a very slight and temporary negative impact on participant's health, provided that procedures are carried out in a sensitive way, respecting the child's autonomy, and with appropriate consent (MRC, 2004).

In this non-therapeutic study, the overall aim was linked to improving public health rather than the health of individual participants. The participants would therefore benefit, not as individuals but would hopefully benefit as part of a group, i.e. children with behavioural and emotional problems. Occasionally, discussions and filling in the questionnaires may create some distress, as both mental health and aggression may be considered sensitive areas for enquiry, however, this was not expected to exceed the above-defined minimal risk. These issues were made explicit in the information sheets.

Box 3.2 Medical Research Council's principles for research involving children**General ethical principles:**

- Participants' interests must prevail over those of science and society, where there is conflict
- The research must have potential to generate scientific understanding that may be a basis for improvements in human health and wellbeing
- There must be an acceptable balance of risk and benefit for participants
- Researchers can only proceed if they have obtained voluntary informed consent from the participant to participate in research
- An appropriate independent research ethics committee must review and approve the research proposal

Key ethical principles relating to research involving children:

- Research should only include children where the relevant knowledge cannot be obtained by research in adults
- The purpose of the research is to obtain knowledge relevant to the health, wellbeing or healthcare needs of children
- Researchers can only involve competent children if they have obtained their informed consent beforehand
- A child's refusal to participate or continue in research should always be respected
- If a child becomes upset by a procedure, researchers must accept this as a valid refusal
- Researchers should involve parents/guardians in the decision to participate wherever possible, and in all cases where the child is not yet competent
- Researchers should attempt to avoid any pressures that might lead the child to volunteer for research or that might lead parents to volunteer their children, in the expectation of direct benefit (whether therapeutic or financial)
- Research involves partnership with the child and/or family, who should be kept informed and consent to separate stages of the project. Obtaining consent is a continuing process, rather than a one-off occurrence
- Researchers must take account of the cumulative medical, emotional, social and psychological consequences of the child being involved in research. It is advisable to consider the risks of a particular research procedure in the context of the child's overall involvement in projects by different researchers.

Source: MRC (2004) (pages 5-6)

3.8.2 CONSENT AND ASSENT

Research with children must normally be undertaken with the consent of the person with parental responsibility and/or child depending on the competence of the child (Box 3.3). Competence does not depend primarily on age but rather on the child's ability to understand and weigh up options when information is presented in an appropriate way and they are supported through the decision-making process. Parental involvement is advisable, particularly for younger children. For children who are unable to consent to participation in research, consent must be obtained from a person with Parental Responsibility (PR), who is the child's legally authorised representative. Although usually the case, not all parents have PR and not all those with PR are parents (see GMC, 2007), hence care needs to be taken when seeking appropriate consent. In addition, if the child is able to give his/her assent, this must be sought and the child's wish should be respected (GMC, 2007; MRC, 2004; GMC, 2002).

In this study, the child participant, at this developmental stage, is likely not to have the capacity to consent. A child does however have participatory rights and rights to have their views and decisions taken into account. I formally requested the consent of the person with PR for the child's participation. I also sought the verbal assent of the child for his/her own participation. The person with PR may not have been the child's main carer. I formally requested the written consent of the main carer for his/her own participation. I followed the MRC (2004) and NRES (2007) guidance in designing the participant information sheets and consent forms for the child, the person with PR and main carer. The detailed information sheets provided information about the study, the rights of participants and the

responsibilities of the researcher. There were also explanatory posters in the waiting rooms at all host CAHMS (see Appendix 9).

Box 3.3 Consent and assent for research: definitions and provision in law for England, Wales and Northern Ireland

Consent:

- The voluntary agreement of an adult or competent child, based on adequate knowledge and understanding of relevant information, to participate in research.
- Consent is legally valid and professionally acceptable only where the participants (or their parental guardian) are competent to give consent, have been properly informed, and have agreed without coercion.
- For those over 16 years of age, competence is defined as the ability of a person, given the necessary information, to understand the nature and the consequences of the proposed procedure or treatment, and to use that information to make a valid choice in accordance with their own fundamental values.
- For those under 16 years of age, where a young person has sufficient understanding and intelligence to understand fully what is proposed, and use and weigh this information in reaching a decision, he/she can give consent; consent from parents is not legally necessary, although parental involvement is advisable. The term 'Gillick competent' is used to describe a young person's ability to make a decision regarding consent.
- If a child is deemed incompetent to consent to participate in research, the researcher must obtain consent from a person with parental responsibility who may legally consent on the child's behalf. If the child is able to give his/her assent, the researcher must obtain that assent in addition to the consent of the legally authorised representative. If the child does not assent, this should be respected.
- Parental Responsibility means the rights and responsibilities that parents have in law for their child, including the right to consent to medical treatment for them, up to the age of 18 years.

Assent

- A child's affirmative agreement to participate. Failure to object should not be construed as assent.

Source: MRC (2004) (pages 21-29) and GMC (2007) (pages 13-17 and 35)

3.8.3 CONFIDENTIALITY AND ANONIMITY

Researchers have a duty of confidentiality to all participants, including children, regardless of their competence. However, researchers have also responsibilities in relation to child protection. Where researchers have reasonable cause to suspect that a child is suffering or likely to suffer significant harm, they have a responsibility to liaise urgently with those responsible for the child's clinical care (MRC, 2004; GMC, 2002).

In this study, the data management systems for CAMHS were used to identify children who fulfilled the inclusion criteria. All information on study participants gathered prior to their consent/ assent remained on the premises of the host CAMHS.

An opt out approach was used, in line with the survey of mental health of CYP in Great Britain (Office for National Statistics (ONS), 2005). The invitation to participate included an opting out/ permission to contact form (see Section 3.9.2.1). For those who did not opt out, there was a stringent consent/ assent seeking process. This two-step process both aids recruitment in epidemiological research and protects the rights of prospective participants.

If the opting out/permission to contact form was not returned within three weeks, the person with PR was contacted by telephone by a CAMHS team member who was involved in the care of the child to ask about their willingness to participate and/or to consent to the participation of their child and to check their permission to be contacted by myself. Although it involved more input from the CAMHS

teams, this process was a specific requirement of the NHS R&D Office. The rationale behind it was that potential participants/ consent-givers should not be contacted first by telephone by a person who does not routinely have access to patient contact details and to whom patients have not provided their details, in line with the principles of data protection (GMC, 2002). This represented a Substantial Amendment to the initial research protocol and received Ethical and R&D Approvals (see Section 3.7).

Data were anonymised to protect confidentiality: participants were allocated a study number, known only by myself and my supervisors, which was applied to all questionnaire and interview data. The identifying study numbers were kept separate from the data. No information was to be shared with anyone outside the research team unless required by law under the terms of the Children Act 1989, Part V 'Protection of Children' (Department for Education and Skills). This refers to any information about risk to a child that is brought to the attention of a researcher. In this event the relevant data was to be shared with the case managers at the host CAMHS. This exception was made clear to all participants during the consent/ assent seeking process. The study details were communicated to all host CAMHS, and therefore the relevant clinicians were also aware of this exception.

All electronic data were stored securely in a password protected electronic format. All hard copy is stored in a locked filing cabinet at Warwick University.

3.9 SURVEY METHODOLOGY

3.9.1 DESIGN

The quantitative component of this pilot study is a cross-sectional survey of reported exhibited aggression in children aged 7-11 years with BED attending Tier 2/3 CAMHS. It aims to answer particular research questions as detailed in Table 3.3.

Table 3.3 Research questions for the survey component

Q1 – What are the type, severity and frequency of reported aggression exhibited by children aged 7-11 years with BED attending Tier 2/3 CAMHS?
Q4 – What is an appropriate methodology for a future study to test for any association between aggression exhibited by these children and their watching of aggression in television programmes and video games?
Q4a – What is an appropriate sampling strategy for such a study?
Q4b – What is an appropriate sample size for such a study?
Q4c – What are the potential third variables and sources of bias in such a study?

3.9.2 SAMPLING STRATEGY

3.9.2.1 IDENTIFICATION AND RECRUITMENT

The target participants were all children who had been referred for behavioural problems/ emotional problems/ aggressive behaviour/ challenging behaviours/ antisocial behaviour to Tier 2/3 CAMHS in Coventry & Warwickshire over a time period of eighteen months, who were aged 7 to 11 years at the time of their referral and who were open cases at the time of the study, and their main carers.

The identification (case ascertainment) and recruitment of study participants started in November 2007. I initially recruited children referred to CAMHS over a

twelve-month period but later extended this by six-month period due to poor case ascertainment and recruitment rates (see below) (Table 3.4).

Table 3.4 Recruitment rounds

Recruitment round	Recruiting children referred to CAMHS between
Recruitment round I	01 November 2006 – 01 November 2007
Recruitment round II	02 November 2007 – 01 May 2008

The data management systems for CAMHS were used in liaison with the CAMHS manager to identify children who fulfilled the inclusion criteria (see Section 3.5 and Figure 3.3). The case manager was approached in order to check:

- whether the child fulfilled inclusion or exclusion criteria
- who was the person with PR

A covering letter from the CAMHS manager enclosing an invitation to participate from myself, detailed information sheets for the child and his/her parent/ guardian/ carer, an opting out/ permission to contact form and a stamped addressed envelope were posted to the person with PR for each target child participant. The invitation to participate explained the nature of the research and specified the consent/ assent-seeking process. The invitation letter to the person with PR requested that, in situations where he/she was not the main carer, the information sheet was to be passed on to the main carer. There were explanatory posters in the waiting rooms at all CAHMS where the participants were recruited. The opting out/permission to contact form gave the person with PR two options, i.e. either to opt out or to express their wish to discuss participation in the study with the researcher, in which case the person with PR was asked to specify their preferred contact number and preferred time to be contacted by telephone. The

person with PR was asked to return the opting out/permission to contact form within two weeks.

If an opt-out response was received within three weeks, the family was not approached any further. If the person with PR expressed their wish to discuss their participation in the study by selecting this option on the opting out/permission to contact form, I contacted them by telephone at their preferred contact number at their preferred time to answer any questions they had about the study and to ask about their willingness to participate and/or to consent to the participation of their child. Any questions the main carer or the child had about the study were also answered at this stage. If the person with PR refused to participate and/or to consent to the participation of their child, the family was not approached any further. Otherwise, they were asked where and when it was convenient to meet.

If the opting out/permission to contact form was not returned within three weeks, the person with PR was contacted by telephone by a member of the CAMHS team who was involved in the care of the child (the case manager or another CAMHS team member appointed by the case manager) to ask about their willingness to participate and/or to consent to the participation of their child and to check their permission to be contacted by myself. As part of this 'chasing up' process the CAMHS team member made up to two attempts over a two-week period to contact the person with PR. If the person with PR refused to participate and/or to consent to the participation of their child and/or denied their permission to be contacted, the family was not approached any further. Otherwise, I

contacted the person with PR by telephone to ask where and when it was convenient to meet. Any questions the person with PR, the main carer or the child had about the study were answered at this stage. Where the person with PR informed the CAMHS team member that no invitation to participate had been received, I sent a second invitation and awaited their reply for a maximum of three weeks. Where the person with PR could not be contacted by the CAMHS team member, as both attempts were unsuccessful (e.g. no answer, incorrect telephone number and/or no telephone number available), the family was not approached any further.

The participant recruitment in the study ended when all the above listed stages (identification of potential participants, sending of invitation to participate, waiting for reply for a maximum of three weeks, telephone contact by CAMHS team member and contact by researcher) were undertaken for all children who fulfilled the inclusion criteria.

By April 2008, out of 150 children invited to participate and their main carers, only 17 had agreed to participate, 42 had expressly opted out, 32 were considered to have opted out, because no further contact could be made, and 59 replies were still awaited. In an attempt to enhance recruitment and increase sample size, the recruitment period was extended by six-months (Table 3.4). Ethical approval for this Non-substantial Amendment to the research protocol was gained (see Section 3.7). Again to boost recruitment, where there was only an objection to the child's participation, the main carers were included as study participants, without

the child's participation (henceforth referred to as 'carer-only' participants).

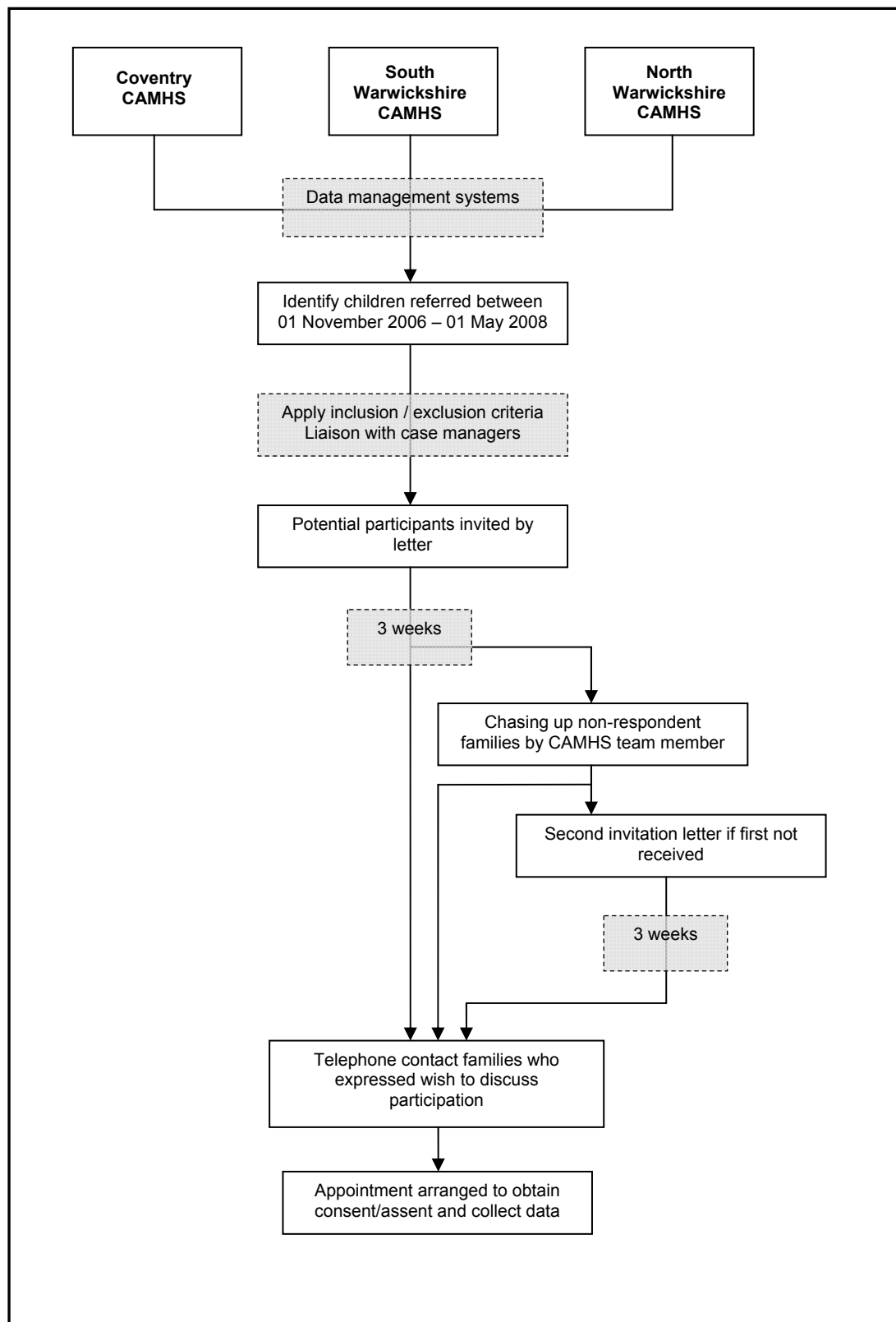
Recruitment ended in February 2009.

I met the person with PR, the child's main carer (if not the aforementioned) and the child either at CAMHS or at the child's home, according to their preference. At the beginning of the meeting, the person with PR, the child and his/her main carer were given the chance to discuss any additional questions they had about the study. The consent of the person with PR, the participating carer (if not the aforementioned) and the assent of the child were formally requested. The person with PR was asked to sign the consent form for the child's participation and to document the child's verbal assent. The main carer was asked to sign his/her own consent form. Afterwards, the child and his/her main carer were asked to complete the survey measures. Copies of all documents i.e. invitation letters, information sheets, opting out/ permission to contact form, explanatory poster, consent forms and telephone scripts can be found in Appendices 2-13.

3.9.2.2 SAMPLE SIZE

This study was designed as a pilot study. The existing advice on the design of pilot studies concerns pilot studies for randomized controlled trials (RCTs). For such pilots, a generally accepted sample size is 30 participants or greater (Lancaster, 2004). In the absence of clear recommendations for pilot studies for epidemiological research, this minimum sample target of 30 participants was adopted.

Figure 3.3 Identification and recruitment process



3.9.3 DATA COLLECTION

The following measures were used:

- The Children's Aggression Scale – Parent (CAS-P)
- The Measure of Aggression, Violence and Rage in Children (MAVRIC): the child (MAVRIC-C) and parent (MAVRIC-P) versions
- The Strengths and Difficulties Questionnaire (SDQ): the P4-16-SDQ and impact supplement
- A brief questionnaire concerning the following: socio-demographic characteristics; contact with other statutory services because of the child's antisocial behaviour (e.g. Social Services, the Police); the child's access to TV and VG.

Copies of the survey measures can be found in Appendices 14-18.

3.9.3.1 MEASURES OF AGGRESSION

Aggression is a broad, heterogeneous phenomenon and many ways to evaluate aggression in its various subtypes have been proposed (see Chapter 1 for a discussion on definitions and subtypes of aggression). There is no 'gold standard' measure of aggression in CYP and all existing measures have advantages and limitations. A complete summary of the methods of evaluation of aggression is beyond the scope of this thesis. This study was conducted within a health context and focused on exhibited aggression in children referred to specialist outpatient CAMHS as reported by children and their carers.

A broad search of the literature on aggression (see Chapter 1) and a systematic review on the association between amount and/or aggressive content of TV watching and VG playing and exhibited aggression in CYP with BED (see Chapter 2 and Mitrofan et al, 2009) identified several measures of aggression in CYP in a health context. In health care and health research contexts, the evaluation of aggression has been related to measures of various behavioural problems e.g. disruptive, oppositional, or antisocial behaviour and psychiatric diagnosis e.g. CD or ODD, which, although often associated with, are not equivalent to aggression. There are measures of general behaviour in CYP that include aggression, however these measures do not make a clear distinction between aggression, disruptive or oppositional behaviour, or mood changes (Cyrułnik et al., 2003; Halperin et al., 2002), e.g. the Child Behaviour Checklist (CBCL) (Achenbach, 1991a, b), the Inattention/Overactivity With Aggression (IOWA) Conners Scale (Pelham et al., 1989; Loney and Milich, 1982). Many measures do not distinguish between types of aggression, such as verbal and physical aggression and many measure frequency, but not severity, of reported aggression.

Some specific measures of aggression that were developed for adults have been used in CYP such as the Overt Aggression Scale (OAS) (Yudofsky et al., 1986), the Modified Overt Aggression Scale (MOAS) (Sorgi et al., 1991) and the Buss-Durkee Hostility Inventory (BDHI) (Buss and Durkee, 1957). The OAS, a prospective measure of frequency, severity and type of aggression and its retrospective version, the MOAS, were developed to assess aggressive behaviour changes for an individual patient in response to an intervention in

inpatient psychiatric settings. Their primary use for inpatient settings may render these measures less appropriate for outpatient settings (not able to discriminate among less severe manifestations of aggression) (Cyrulnik et al., 2003). The appropriateness of the use of BDHI in children is questionable (Collett et al., 2003). The Vitiello Predatory-Affective Aggression Questionnaire (VAQ) (Vitiello et al., 1990) was designed to capture the distinction between predatory and affective aggression in older CYP (aged 10 to 18 years) in inpatient settings.

The Children's Aggression Scale, Parent (CAS-P) and Teacher (CAS-T) versions (Halperin et al., 2003; Halperin et al., 2002) were modelled on the OAS and the BDHI but they were intended for use in children aged 7 to 11 years in outpatient (within and outside home) settings. It addresses several shortcomings of other measures: it is developmentally appropriate for use with children; it distinguishes between aggression and oppositional behaviour; it measures both frequency and severity of aggression; it provides the opportunity to measure different types of aggression e.g. verbal and physical; it is appropriate for outpatient settings. For these reasons, the CAS-P was used in this study as a measure of aggression in children as reported by their carers. I obtained permission to use the CAS-P from Professor Jeffrey Halperin (see Appendix 19).

The importance of having reports of aggression from multiple informants, across settings e.g. at home and school, has been recognised (Cyrulnik et al., 2003) and several measures provide both parent- and teacher-reports of aggression. However, most measures do not provide a child's own perspective on his/her aggression, although its importance has been highlighted in the literature

(Goodman et al., 2006; Knox et al., 2000). The Measure of Aggression, Violence, and Rage in Children (MAVRIC) was specifically developed to provide both child's and parent/carer's perspectives on the child's exhibited aggression in CYP aged 5 to 18 years (Goodman et al., 2006). It is developmentally appropriate for use in children, and it measures both frequency and severity of aggression. One disadvantage is that it does not provide a measure of different types of aggression. The MAVRIC was used in this study as it provided the opportunity to measure both children's reports of their own aggression and their carers' reports. Permission to use MAVRIC was obtained from Dr Geoffrey Goodman (see Appendix 20).

3.9.3.1.1 Children's Aggression Scale-Parent

The CAS-P was specifically designed to measure the frequency and severity of aggression in psychiatrically referred children aged 7-11 years, in different outpatient settings (e.g. home and school) over the previous year (Halperin et al., 2002).

CAS-P is designed to capture five different subtypes of aggression:

- Verbal Aggression (items 1-12). This subscale was designed to evaluate the frequency with which a child engages in relatively mild forms (e.g. snapping or yelling at others) as well as more severe forms (e.g. threatening to harm others) of verbal aggression.
- Aggression against Objects and Animals (items 13-16). This subscale was designed to evaluate the frequency with which a child engages in aggression against inanimate objects (e.g. slamming doors, breaking

objects when angry) including destroying property and cruelty towards animals.

- Provoked Physical Aggression (items 17-22) and Initiated (or unprovoked) Physical Aggression (items 23-28). These subscales were created to accommodate the distinction between proactive/instrumental and reactive/hostile aggression. A child is said to have been provoked into a fight when he/she begins fighting only after an adversary has made the first physical contact. A child is said to have initiated a fight when he/she has made the first physical contact.
- Use of Weapons (items 29-33). This subscale was designed to evaluate the use of weapons (e.g. used a knife or a gun in a fight).

CAS-P has a total of 33 items. Most items are rated on a 5-point Likert scale to evaluate the frequency of an act (i.e. 'never', 'once/month or less', 'once/week or less', '2-3 times/week', or 'most days'). For the items that occur infrequently (e.g. causing serious physical injury to others) respondents are asked to indicate the number of times the act occurred in the past year (i.e. 'never', 'once/twice', '3-5 times', '5-10 times' or 'more than 10 times'). The final dichotomous yes-no item (33) asks the respondent whether the child's weapon use occurred within the context of gang membership (this item is not scored).

Items within each subscale were developed on the basis of face validity to reflect a continuum from mild to severe acts of aggression. For instance, regarding physical aggression, severity is evaluated on the basis of the frequency with which physical altercations resulted in mild (e.g. bumps and bruises) or serious

(e.g. stitches, broken bones) physical injury. As an additional means of evaluating severity, items are included to distinguish between aggression directed towards other children and that directed towards adults, and between aggression directed towards persons who live in the home and those who do not.

Scoring is accomplished by multiplying the frequency of behaviour by the severity weight for each item, then summing the scores for all items of each subscale (see Appendix 21). A whole-number value is assigned to each rating on the Likert scale i.e. 'never' = 0, 'once/month or less' = 1, 'once/week or less' = 2, '2-3 times/week' = 3, or 'most days' = 4, that is multiplied by the severity weight value for each item. For example, a child who was reported by his/her carer to fight with peers/friends when provoked 'once/week or less' would receive a score of $2 \times 0.50 = 1.00$ for that item. Elevated scores indicate greater aggression (see Table 3.5 for range of scores). The Provoked and Initiated Physical Aggression subscale scores can be summed into a unitary measure of Physical Aggression.

Table 3.5 Range of scores for the CAS-P

Subscale	Score range
Verbal Aggression	0.00 - 26.16
Aggression against Objects and Animals	0.00 - 11.80
Provoked Physical Aggression	0.00 - 15.84
Initiated Physical Aggression	0.00 - 17.84
Use of Weapons	0.00 - 12.16
Total	0.00 - 83.80

The CAS was examined with a predominately male sample (66 boys and 7 girls) 7 to 11 years old, who were referred to a research program for disruptive

behaviour disorders (Halperin et al., 2002). Reliability analyses identified acceptable to excellent internal consistency for the CAS-P, overall and most subscales ($\alpha = 0.93$ for the entire CAS-P; $\alpha = 0.90$ for Verbal Aggression; $\alpha = 0.72$ for Aggression against Objects and Animals; $\alpha = 0.62$ for Provoked Physical Aggression, $\alpha = 0.67$ for Initiated Physical Aggression and $\alpha = 0.82$ for Provoked and Initiated items combined as a unitary measure of Physical Aggression; $\alpha = 0.79$ for Use of Weapons). Test-retest reliability and inter-rater reliability have not been reported. CAS ratings of aggression were significantly correlated with ratings of aggression on the IOWA and the CBCL (r ranging from 0.33 to 0.69, p either < 0.001 or < 0.01) except for the Use of Weapons subscale (weapon use was rarely reported). The differences between the various subgroups of children were generally in the predicted direction: children without a disruptive behavior disorder scored the lowest on all subscales, followed by children with ADHD, children with ODD ($p \leq 0.05$), and then children with CD ($p \leq 0.05$), who scored the highest. To the author of this thesis's knowledge, CAS-P had not been previously used in a UK population.

3.9.3.1.2 Measure of Aggression, Violence and Rage in Children

The MAVRIC targets the identification and severity of reactive/affective/hostile/impulsive aggression (for definition see Chapter 1, Section 1.4.1) in CYP aged 5 to 18 years (Goodman et al., 2006). This measure covers verbal aggression, physical aggression and aggression against objects. The 19 items on the MAVRIC-C (the child version) directly parallel those on the MAVRIC-P (the parent version). Each item contains between one and eight yes-

no questions totalling 57 on the MAVRIC-C and 56 on the MAVRIC-P. Four aspects of reactive/impulsive aggression are assessed:

- spontaneity of aggressive outbursts (items 1, 3)
- subtype of aggression, i.e. verbal aggression, physical aggression and aggression against objects (items 4-10)
- frequency, severity, and duration of aggressive outbursts (items 2, 8-10, 14, 16)
- states of the child's mind during an aggressive outburst, e.g. feeling of invincibility during an aggressive outburst, feeling of remorse after an aggressive outburst (items 11-13, 18, 19).

Two items, one concerning the child's thoughts about, and attempts to, kill him/herself or others (15), and one concerning overall frequency of aggressive acts (17) are not scored because the internal consistency and cross informant reliability of these items were poor (Goodman et al., 2006).

Some questions are organized hierarchically so that 'yes' answers to later questions within an item are assigned higher point values than 'yes' answers to earlier questions. Higher point values are assigned to longer history and duration of aggressive outbursts, and to greater severity of potential harm to other children and adults (including authority figures e.g. police officers).

The MAVRIC-C and MAVRIC-P were not designed to yield subscales of aggression. Items are summed to yield a total score, which ranges on both instruments from 0 to 30. Based on the scoring system (see Appendix 22), a child

who hits a teacher or who tries to scare others with a knife would receive a higher score than a child who never hits others, or who tries to scare others with words.

The MAVRIC was recently examined with a sample of 28 children admitted to a psychiatric inpatient unit and 54 non-patients, predominantly male (over 70%), aged between 5 and 12 years (Goodman et al., 2006). Reliability analyses identified good internal consistency for the MAVRIC-C ($\alpha = 0.84$) and MAVRIC-P ($\alpha = 0.89$). Test-retest reliability had not been reported. An inter-rater reliability of 0.88 was reported (Inventory of Aggression Assessment for Children and Adolescents, 2006). There was moderate support for cross-informant reliability between child and parent ($r = 0.62$, $p < 0.001$ for the entire sample; $r = 0.41$, $p < 0.05$ for inpatients; $r = 0.39$, $p < 0.01$ for non-patients), with greater agreement on the behavioural items (i.e. items 1-10, 14, 16; $r = 0.63$) than on the items concerning the child's internal state of mind (i.e. items 11-13, 18, 19; $r = 0.39$). Convergent validity has been shown with the Aggressive Behavior subscale of the CBCL for the MAVRIC-C ($r = 0.62$, $p < 0.001$) and MAVRIC-P ($r = 0.74$, $p < 0.001$). The inpatient children scored significantly higher than non-patients on both MAVRIC-C and MAVRIC-P ($p < 0.001$). To the author of this thesis's knowledge, MAVRIC had not been previously used in a UK population.

A clinical cut-off of 10 was suggested by the authors of the MAVRIC (Bass et al., 1993a, b cited in Goodman et al., 2006). Three earlier studies that were part of the developmental phase of the MAVRIC (Bass et al., 1993a, b and Zakaria, 1996 cited in Goodman et al., 2006) and two later studies (Knox et al., 2000; Pfeffer et al., 1997) conducted among psychiatric inpatient as well as outpatient

CYP reported a clinical cut-off of 10 for the MAVRIC-C and MAVRIC-P, with scores ≥ 10 suggesting clinically significant aggression (Table 3.6). Goodman and colleagues (2006) re-evaluated the clinical cut-off in a study conducted within an inpatient population and determined that a score > 15 would constitute the 'most optimal, clinically valid' cut-off score. They stated that the difference between theirs and the Zakaria's (1996) cut-off 'probably reflects not only the smaller range of indices of aggression used to assess convergent validity in that pilot study but also the reduced variability in that earlier sample (outpatients and nonpatients)' (Goodman et al., 2006, page 21). In this study the cut-off of 10, originally suggested by the authors of MAVRIC, was used because it has been most frequently used in studies conducted with outpatient CYP.

Table 3.6 Studies reporting a clinical cut-off for MAVRIC

Study	Sample	MAVRIC cut-off
Zakaria, 1996 (unpublished thesis cited in Goodman et al., 2006)	Psychiatric outpatients, age=6-12 years, n=31 Non-patients, age & race-matched, n=24	10
Pfeffer et al., 1997	Psychiatric inpatients, age=8.0 +/-1.8 years, n=25	10
Knox et al., 2000	Psychiatric inpatients & outpatients, age=13-17 years, n=74	10
Goodman et al., 2006	Psychiatric inpatients, age=5-12 years, n=28 Non-patients, age=5-12 years, n=54	15

3.9.3.2 STRENGTHS AND DIFFICULTIES QUESTIONNAIRE

The SDQ (<http://www.sdqinfo.com>) is a brief behavioural screening questionnaire that can be completed by parents or teachers of 3-16 year olds and by 11-16 year olds themselves (Goodman et al., 1998; Goodman, 1997). It is widely used worldwide, well standardised and quick to complete.

The SDQ exists in several versions; the P4-16-SDQ is the version to be completed by parents/carers of children aged 4-16 years. All versions have 25 items, covering both positive and negative behaviours. These items are divided between five scales of five items each, generating scores for Emotional Symptoms, Conduct Problems, Hyperactivity, Peer Problems, and Prosocial Behaviour; all but the last are summed to generate a Total Difficulties score. Extended versions also include a brief Impact Supplement that asks whether the respondent thinks that the child has a problem, and if so, inquires further about overall distress, social impairment, burden, and chronicity (Goodman, 1999).

The respondents are asked to indicate how far each item applies to the target child using a 3-point Likert scale (i.e. 'not true', 'somewhat true', and 'certainly true'). 'Somewhat true' is always scored as 1; the scoring of 'not true' and 'certainly true' varies with the item. For each of the five scales the score can range from 0 to 10 if all five items were completed. The Total Difficulties score ranges from 0 to 40 (see Appendix 23 for the scoring system).

The items on overall distress and social impairment of the Impact Supplement can be summed to generate an impact score that ranges from 0 to 10 for the P4-16-SDQ. Responses to the chronicity and burden to others are not included in the impact score. SDQ scores can be used as continuous variables or they can be classified into 'normal', 'borderline' or 'abnormal' categories (Table 3.7).

Table 3.7 SDQ categories

SDQ subscale score	Normal	Borderline	Abnormal
Total Difficulties	0 - 13	14 - 16	17 - 40
Emotional Symptoms	0 - 3	4	5 - 10
Conduct Problems	0 - 2	3	4 - 10
Hyperactivity	0 - 5	6	7 - 10
Peer Problems	0 - 2	3	4 - 10
Prosocial Behaviour	6 - 10	5	0 - 4
Impact	0	1	≥ 2

The SDQ is a well validated questionnaire and has shown satisfactory levels of internal consistency (mean $\alpha = 0.73$), inter-rater reliability and retest stability in a large British sample of CYP (Goodman, 2001).

In this study, the P4-16-SDQ and Impact Supplement (the British English version) was used (referred to as SDQ in this thesis) to facilitate the identification of potential third variables. The self-report version was not used as it is not suitable for children below the age of 11 years.

3.9.3.3 A BRIEF QUESTIONNAIRE

A brief questionnaire, based on questions from the General Household Survey 2006 (ONS, 2006), was used to obtain data on:

- socio-demographic characteristics (e.g. child's age, gender and ethnicity, average family income level, main carer's highest level of formal education and paid employment)
- any contact with other statutory services because of the child's antisocial behaviour (e.g. Social Services, the Police)
- the child's access to TV and VG

3.9.3.4 RESEARCH PROCESS

Following the consent/ assent seeking process (see Section 3.9.2.1) the child's main carer was asked to complete the paper versions of the CAS-P, MAVRIC-P, SDQ and the brief questionnaire themselves. I orally administered the MAVRIC-C to the child. The completion of the survey measures took place either at CAMHS or at the child's home and it required 5-10 minutes on average per measure.

When there was parental consent to talk to the child alone, the child was asked if he/she wished to talk alone or in the presence of his/her main carer. Otherwise, I administered the MAVRIC-C to the child in the presence of his/her main carer.

During the completion of the MAVRIC-C with the child alone, his/her main carer was asked to be present at an agreed place nearby (e.g. CAMHS waiting area, another room in their house).

I entered all data into SPSS version 17.0 for Windows, a computer software package for statistical analysis (SPSS Inc., 2008).

3.9.4 ANALYSIS

The quantitative data analysis aimed to: 1. Test for any differences between participants and non-participants with regard to socio-demographic, family, service and clinical variables from the brief questionnaire; 2. Describe the socio-demographic characteristics of the sample; 3. Assess reliability of the aggression measures; 4. Describe the frequency and characteristics of exhibited aggression in the study population; 5. Identify possible third variables for a future larger study to test for any association between exhibited aggression and aggression seen in TV programmes and VG. In relation to the last aim, correlation and group

comparison analyses were conducted to identify associations between measures of aggression, socio-demographic variables and the SDQ.

Analysis was performed using SPSS 17.0 for Windows and findings are presented in Chapter 4. Descriptive statistics (means and standard deviations and percentages) were computed to report the socio-demographic characteristics of the sample (e.g. age, gender, ethnicity, average family income level).

In order to decide on the type of statistical techniques to be used for correlation and group comparison analyses i.e. either parametric or non-parametric statistics, preliminary analyses were conducted to assess the distribution of scores on the measures of aggression. The preliminary analyses showed violation of the assumption of normality on these measures. It was therefore decided to use non-parametric tests for all correlation analyses. Although having the disadvantage of less statistical power, non-parametric tests are the most appropriate when data do not meet the assumptions of parametric techniques (e.g. the assumption of normal distribution of scores) and when the study sample is very small (Pallant, 2007).

The levels of statistical significance reported in this study are the following: no statistically significant association when $p > 0.10$, weak association at $p \leq 0.10$ and association at $p \leq 0.05$. The reason behind reporting findings at $p \leq 0.10$ was that this was a pilot study with the research objective of identifying possible third variables for a future larger study.

3.9.4.1 DEALING WITH MISSING, UNCLEAR OR AMBIVALENT DATA

Participating main carers sometimes left questionnaire items unanswered. When answers to one or more items on the CAS-P were missing I followed Professor Jeffrey Halperin's suggestions on how to deal with missing data (personal communication, see Appendix 24):

- If one, two or three items were missing on a subscale I imputed these using the rounded mean response for that subscale for that child.
- If more than three items were missing on a subscale I considered the subscale score as 'missing'. The Total CAS-P score for that child was considered 'missing' as well.
- The exception to the above rules concerned the Aggression Against Objects and Animals and Use of Weapons subscales. These subscales have only four items each. If one item was missing, I imputed this using the rounded mean response for the subscale for that child. If more than one item was missing I considered the subscale score as 'missing'. The Total CAS-P score for that child was considered 'missing' as well.

For consistency, the same rules were applied to the MAVRIC-P data. If one, two or three items were missing I imputed these using the rounded mean response for the MAVRIC-P for that child. If more than three items were missing I considered the MAVRIC-P score for that child as 'missing'.

Main carers sometimes left questionnaire items unanswered but they made written comments next to the items. The comments were taken into account and the logical option was considered when calculating the scores:

- Some carers wrote 'Not applicable', 'Don't think so', 'Don't know', or 'Not sure'. In such cases, the items were considered 'No' or 'Never' because the main carer had no knowledge of that behaviour (e.g. snapped or yelled at peers/friends) being exhibited by the child.
- One carer wrote 'Sometimes' next to the question whether the child has trouble remembering what happened during an aggressive outburst afterwards. This item asks the carer to circle/tick either the 'Yes' or 'No' option. The answer to this item was considered 'Yes' as this was the logical option based on the carer's comment.
- One carer wrote 'Sometimes' next to the question whether the child threatens or try to scare people with words. This item asks the carer to circle/tick either the 'Yes' or 'No' option. The answer to this item was considered 'Yes'.
- One carer wrote 'Tried' next to the question on how often the child used a weapon in a fight during the past year (item 31 on CAS-P). This item asks the carer to circle/tick one of five options: 'never', 'once/twice', '3-5 times', '5-10 times' or 'more than 10 times'. The carer answered 'once/twice' to the adjacent, related items (i.e. items 30 and 32). Therefore, the answer to item 31 was considered 'once/twice', which scores the lowest of the four possible options in this case.

For the SDQ data I followed the above mentioned scoring system, according to which a subscale score can be prorated if at least three items were completed. The Total Difficulties score was counted as 'missing' if one subscale score was missing. Main carers sometimes left items on the SDQ unanswered but they

made written comments next to the item such as 'sometimes' or 'only when...'. In such cases, the items were considered 'somewhat true' as this was the logical option out of the three options of 'not true', 'somewhat true' or 'certainly true'.

Main carers sometimes answered a questionnaire item by circling/ ticking an option, but they also made written comments next to the item. The comments were sometimes contradictory to the circled/ ticked option. In such cases the comments were taken into account and the logical option was considered when calculating the score. For example, one carer answered 'Yes' to the question whether the child has ever suddenly become angry or had an outburst for absolutely no reason at all. However, the carer wrote 'But always for a reason'. Therefore, the answer was considered 'No'.

Main carers sometimes answered a questionnaire item by circling/ ticking two options. In such cases the highest scoring option was considered when calculating the score as the logical option. Any written comments were taken into account. For example, one carer circled the options 'never' and 'once/month or less' to the question on how often the child started a physical fight with peers/friends, and commented 'between'. The answer was considered 'once/month or less'.

3.9.4.2 DIFFERENCES BETWEEN PARTICIPANTS AND NON-PARTICIPANTS

I used the Chi-square test for independence to investigate the following:

- Any differences between study participants and potential participants who opted out or were considered to have opted out with regard to socio-demographic, service and clinical variables
- Any differences between child and carer participant cases and the carer-only participant cases with regard to socio-demographic, family, service and clinical variables from the brief questionnaire

I used Fisher's Exact Probability test if less than 80% of cells had frequencies of 5 or more (Pallant, 2007).

3.9.4.3 ASSESSMENT OF RELIABILITY OF MEASURES OF AGGRESSION

I assessed the internal reliability for the MAVRIC-C, MAVRIC-P, and for the overall and each subscale of the CAS-P using Cronbach's Alpha (α). I followed George and Mallery (2003)'s rule of thumb for internal reliability (Table 3.8).

Table 3.8 Rule of thumb for internal reliability

α value	Internal reliability
≥ 0.9	Excellent
≥ 0.8	Good
≥ 0.7	Acceptable
≥ 0.6	Questionable
≥ 0.5	Poor
< 0.5	Unacceptable

3.9.4.4 FREQUENCY AND CHARACTERISTICS OF EXHIBITED AGGRESSION

The subscale and overall scores on the CAS-P, the MAVRIC-C and MAVRIC-P were calculated according to the scoring system for each measure as described

above. Descriptive statistics (i.e. means and standard deviations) for the MAVRIC-C, MAVRIC-P and CAS-P (overall and subscale) scores were computed to assess the frequency and severity of exhibited aggression, overall and its subtypes (verbal aggression, aggression against objects and animals, provoked physical aggression, initiated physical aggression and use of weapons). Answers to items 15a and 15c of the MAVRIC and item 33 of the CAS-P (non-scoring items) were analysed using percentages in order to provide additional information concerning some severe forms of exhibited aggression (i.e. attempt to kill a person and use of weapons (knife or gun) in the context of a gang).

3.9.4.5 SOCIO-DEMOGRAPHIC DIFFERENCES IN AGGRESSION LEVELS

Correlations were computed to examine the associations between scores on the measures of aggression and child's age and household size (i.e. number of people living in the home including the child and his/ her main carer) using Spearman correlation (the non-parametric alternative to Pearson correlation).

A negative sign in front of the correlation coefficient value means there is a negative correlation between the variables (i.e. high scores on one are associated with low scores on the other). I followed Cohen's guidelines (Cohen, 1988 cited in Pallant, 2007) on determining the strength of the relationship based on the value of the correlation coefficient (Table 3.9).

Table 3.9 Strength of correlation based on correlation coefficient value

rho = 0.10 to 0.29	small
rho = 0.30 to 0.49	moderate
rho = 0.50 to 1.00	high

Mann-Whitney U test (the non-parametric alternative to Independent-samples t-test) and Kruskal-Wallis test (the non-parametric alternative to One-way between-groups ANOVA) were used to examine socio-demographic differences. Where significant results from Kruskal-Wallis test were found, follow-up Mann-Whitney U tests between pairs of groups were conducted to identify which groups are statistically different from one another. Wilcoxon Signed Rank test for matched samples (the non-parametric alternative to Paired-samples t-test) was used to explore differences in child- and carer-reported aggression on the MAVRIC.

A further quantitative data analysis was conducted based on issues that arouse from the qualitative findings to explore the possible link between child's age and family income and exhibited aggression.

There was a slight difference between child's age at time of referral to CAMHS and age at time of study because of the time lapse between referral and participation in the study. I used the age at time of referral in the statistical analyses of this study because I used the child's age at time of referral as a sampling criterion.

The five average family income level categories were re-categorised into two main categories of below or above the national average family income of £34,382 (ONS, 2010) (Table 3.10).

Table 3.10 Re-categorisation of average family income level categories

Initial categories	New categories
£20,000 or less £20,000-£30,000	Below national average family income
£30,000-£40,000 £40,000-£50,000 above £50,000	Above national average family income

3.9.4.6 ASSOCIATIONS BETWEEN MEASURES OF AGGRESSION AND

BETWEEN MEASURES OF AGGRESSION AND THE SDQ

Following Goodman and colleagues (2006)' suggestions, I summed the behavioural items (i.e. items 1-10, 14, 16) and the state of mind items (i.e. items 11-13, 18, 19) on the MAVRIC-C and MAVRIC-P. I followed the above mentioned scoring system to calculate the subscale, Total Difficulties and Impact scores on the SDQ.

Correlations were computed to examine the associations between scores on the measures of aggression, and between scores on the measures of aggression and scores on the SDQ using Spearman correlation.

I explored the level of agreement between the child and carer answers to items 15a and 15c of the MAVRIC using the Kappa measure of agreement. Kappa is used to estimate agreement after taking account of the proportion of times respondents would agree by chance alone. Table 3.11 shows the levels of agreement based on the Kappa value (Peat, 2001 cited in Pallant, 2007):

Table 3.11 Kappa Measure of Agreement

Kappa ≥ 0.5	moderate agreement
Kappa > 0.7	good agreement
Kappa > 0.8	very good agreement

I followed the above mentioned instructions to classify participants according to the scores on the SDQ into 'normal', 'borderline' and 'abnormal' categories. I compared the group categorised as 'abnormal' to the group defined by the other two categories combined i.e. 'normal + borderline' in order to compare the 'high-risk' group as defined by the SDQ scores (i.e. with the highest scores on all subscales except for the Prosocial Behaviour where the 'high-risk' is represented by the lowest scores) to the rest of the sample. I used non-parametric tests for the group comparison analyses.

3.10 QUALITATIVE STUDY METHODOLOGY

3.10.1 DESIGN

A qualitative study of the views of children aged 7-11 years with BED attending Tier 2/3 CAMHS and their carers on any association between exhibited aggression and viewed aggression, using semi-structured interview schedules, was designed to answer particular research questions as detailed in Table 3.12.

Table 3.12 Research questions for the qualitative study component

Q2 – Where do children aged 7-11 years with BED attending Tier 2/3 CAMHS see aggression in their lives?
Q3 – What are the views of children aged 7-11 years with BED attending Tier 2/3 CAMHS and their parents/carers on any association between exhibited aggression and viewed aggression?
Q4 – What is an appropriate methodology for a future study to test for any association between aggression exhibited by these children and their watching of aggression in television programmes and video games?
Q4c – What are the potential third variables and sources of bias in such a study?

3.10.2 SAMPLING STRATEGY

3.10.2.1 IDENTIFICATION AND RECRUITMENT

Qualitative study sample size depends on several factors such as the research purpose and questions, the heterogeneity of study population, number of selection criteria, type of data, data collection methods and available time and resources. Sampling until no new evidence e.g. no further themes or analytical insights are identified, i.e. until the point of 'saturation' (Pope et al., 2006) is often recommended. As a general rule of thumb, the sample of a qualitative study involving individual interviews only often lies under 50 (Ritchie, Lewis and Elam, 2003). Samples where saturation of themes was reached at a point between 15 and 24 interviewed participants have been reported (Marshall, 1996). For these reasons, a sample of 20 children, and their main carers was targeted in this study.

I initially planned to use purposive sampling. The quantitative and qualitative data were to be gathered in two consecutive phases. Following the quantitative data collection and analysis, the findings were to be used to purposively select the qualitative study participants. But the major difficulties I encountered in recruiting first participants in the survey prompted me to adopt a convenience sampling and to collect the qualitative data in the same time as the survey data. The purpose of this early amendment of methodology was to minimise the likelihood of failing to recruit/organise a second appointment to the qualitative study. I therefore invited all children, and their main carers, who participated in the survey to be interviewed.

Following the completion of the survey measures, the child and his/her main carer were asked if they were willing to participate in the qualitative study (see Section 3.9.2.1). Any questions they had about the qualitative study were discussed at this stage. Willing participants were asked where and when it would be convenient to be interviewed i.e. either at CAMHS or at the child's home. Carers had the additional option to be interviewed by telephone. The consent of the person with PR, the participating carer (if not the aforementioned) and the assent of the child were formally requested. The person with PR was asked to sign the consent form for the child's participation and to document the child's verbal assent. The main carer was asked to sign his/her own consent form.

All of the children and most of the carers consented to be interviewed. I was eventually able to use purposive sampling and select from completed interviews with the cost of not using the rest. 20 of the children, who had participated in the survey, and their main carers, i.e. a total of 40 interviews, were purposively selected for qualitative data analysis.

3.10.2.2 PURPOSIVE SAMPLING

Qualitative research typically focuses on relatively small samples, selected purposefully, the rationale being the selection of information-rich cases for study in depth, in order to fulfil the research objectives (hence the term purposeful or purposive sampling). Different, but not mutually exclusive, purposive sampling strategies have been described; all have one principle in common: the selection of information-rich cases (Table 3.13). The selection of one or a combination of

strategies relates to the research questions and purpose, resources available and constraints (e.g. time) the research is facing (Patton, 1990).

In this study, a combination of maximum variation, criterion and random purposeful sampling was used. Sampling was purposive with regard to intensity of exhibited aggression, age, gender, ethnicity and income level (data provided by the quantitative study findings). The use of TV and VG, although initially considered, was not employed as a selection criterion as the majority of participating children watched TV and played VG on a console like Playstation or X-Box or handheld games like Gameboy or Nintendo (see Section 4.3, Chapter 4).

Table 3.13 Purposeful sampling strategies

Type	Purpose
1. Extreme or deviant case sampling	Learning from highly unusual manifestations of the phenomenon of interest e.g. outstanding successes, unexpected dropouts.
2. Intensity sampling	Information-rich cases that manifest the phenomenon intensely, but not extremely e.g. above average/below average.
3. Heterogeneous/ Maximum variation sampling	Aims at capturing the central themes or principal outcomes that cut across a great deal of participant variation. Researcher starts by identifying the criteria for constructing the sample. Data will yield: 1. detailed descriptions of each case that are used to document uniqueness; 2. common patterns that cut across cases, therefore important as they emerged out of heterogeneity.
4. Homogeneous sampling	Focuses, reduces variations, simplifies analysis, and facilitates group interviewing.
5. Typical case sampling	Illustrates what is typical/ normal/ average.
6. Stratified purposeful sampling	Illustrates characteristics of particular subgroups of interest e.g. above average/ average/ below average cases. Each of the strata would constitute a fairly homogenous sample. Facilitates comparison.
7. Critical case sampling	Permits logical generalisation and maximum application of information to other cases because if it's true of this one case it's likely to be true of all other cases.
8. Snowball or chain sampling	Identifies cases of interest from people who know people who know people who know what cases are information-rich, that is, good examples for study, good interview subjects.
9. Criterion sampling	Picking all cases that meet some predetermined criterion of importance e.g. all children abused in a treatment facility. Can also be applied to identify cases from quantitative questionnaires for in-depth follow-up.
10. Theory-based or operational construct sampling	Finding manifestations of a theoretical construct of interest so as to elaborate and examine the construct.
11. Confirming or disconfirming cases	Elaborating and deepening initial analysis, seeking exceptions, testing variation.
12. Opportunistic sampling	Following new leads during fieldwork, taking advantage of the unexpected, flexibility.
13. Random purposeful sampling	Adds credibility to sample when potential purposeful sample is larger than one can handle. A random procedure is set up for selecting cases to be recorded in depth. Reduces judgement within a purposeful category. (Does not permit statistical generalisations or statistical representativeness)
14. Sampling politically important cases	Attracts attention to the study (or avoids attracting undesired attention) by purposefully eliminating politically sensitive cases from the sample.
15. Convenience sampling	Most common and least desirable strategy. Saves time, money and effort. Poorest rationale. Lowest credibility. Yields information-poor cases.
16. Combination or mixed purposeful sampling	Research often serves multiple purposes – more than one sampling strategy may be necessary. Triangulation, flexibility, meets multiple interests and needs. For example, a maximum variation approach may yield an initial potential sample that is larger than the study can handle; the final selection may be made randomly.

Source: Patton (1990) (pages 169-183)

The following steps and criteria of selection were employed in order to reach a purposive sample:

1. Step 1. In order to have a purposive sample with regard to intensity of exhibited aggression, child participants who scored as follows on the CAS-P, MAVRIC-C and MAVRIC-P were selected (Table 3.14)

Table 3.14 Purposive sample with regard to intensity of exhibited aggression: selection criteria

	Selection
CAS-P total score	2 highest scores*
	2 lowest scores*
MAVRIC-C score	2 highest scores*
	2 lowest scores*
MAVRIC-P score	2 highest scores*
	2 lowest scores*
Difference between MAVRIC-C and MAVRIC-P scores	2 with the greatest difference between MAVRIC-C and MAVRIC-P scores**
	2 with the least difference between MAVRIC-C and MAVRIC-P scores**

*when 2 or more participants with same score, see step 2

**when 2 or more participants with same difference between scores, see step 2

2. Step 2. Where there were more than 2 participants at each subcategory identified at Step 1, i.e. there were participants with same value of a score* or same difference between MAVRIC-C and MAVRIC-P scores**, a selection was necessary. This selection was made to produce maximum variation in terms of age, gender, ethnicity and income level. Random selection was applied where necessary.
3. Step 3. Additional interviews were selected from the rest of the survey sample to identify child participants with non-extreme scores on the measures of aggression and to reach the targeted number of 20. This selection was made to produce maximum variation in terms of age, gender,

ethnicity and income level e.g. random selection among the interviewed girls in order to produce maximum variation in terms of gender.

4. Step 4. Sometimes children answered most questions with 'Yes', 'No' or 'I don't know'. In such cases, the interview was considered to provide poor data at the stage of data analysis and it was replaced with another, equivalent interview, e.g. if a child with high CAS-P score provided poor interview data, he/she was replaced with another CAS-P high scorer.

3.10.3 DATA COLLECTION

3.10.3.1 INTERVIEWS AND INTERVIEW GUIDES

I collected the data through semistructured interviews with the participating children and their main carers. Interviews are the most commonly used qualitative technique in health care settings and three main types have been described: structured, semistructured and unstructured (or in-depth) interviews (Table 3.15). A semistructured interview is loosely structured around an interview guide that contains key, open-ended questions that define the area to be explored, from which the interviewer or interviewee may diverge to pursue an idea or response in more detail. It is thus partly interviewer-led and partly informant-led. This type of interview was chosen because it allows for a focused yet flexible interview that can be less intrusive than a structured interview in relation to discussing sensitive issues (Young Person's Advisory Service, 2007; Britten, 2006; Arksey and Knight, 1999).

Table 3.15 Research purpose and interview structures

Research approach and purpose	Survey: purpose is to see to what extent a hypothesis or view can be sustained.	Qualitative: aim is to find out about people's perspectives, beliefs, attitudes etc.
Interview structure		
<i>Structured</i> – questions all agreed in advance; interviewers must stick rigidly to a script	Surveys are usually structured to provide for the most robust test of the hypothesis	Used only for collecting standard information about informants
<i>Semistructured</i> – main questions and script are fixed, but interviewers are able to improvise follow-up questions and to explore meanings and areas of interest that emerge	Commonest in qualitative work, where there is a desire to hear what informants have to say on the topics and areas identified by the researcher. However, survey interviews may sometimes also have room for the interviewer to improvise questions to clarify or extend answers	
<i>Unstructured</i> – the interviewer may have a list of broad topics or themes to explore, or may even have none; the direction is largely set by the informant	Unusual. However, the interviewer may be allowed the discretion to ask questions at the end of the interview to explore things that come to be of interest	Although this approach may seem to be the epitome of qualitative approaches, it is most often used early in a study with the intention of generating a script for subsequent, semistructured enquiries

Source: Arksey and Knight (1999) (page 7)

The interviews were exploratory, allowing children and their carers to express their views in their own words. The interviews were guided by two interview guides, one for the carer and one developmentally appropriate for the child, both using open-ended questions (Appendices 25 and 26). The interview guides were designed following existing recommendations (Arthur and Nazroo, 2003; Arksey and Knight, 1999; Patton, 1990).

The interviews aimed to explore the child's and carer's views on four main aspects: 1. What is aggression or aggressive behaviour; 2. Where do the participating children see aggression in their lives; 3. How the participating children feel when they see aggression e.g. feeling scared, angry, excited or sad;

4. Any association between watching of aggression and exhibited aggression and any factors that may influence such an association.

First, children were asked about the TV programmes and VG they liked or they did not like to watch or play (e.g. what was happening in their favourite TV programme or VG, what the 'goodies' and the 'baddies' did in that programme or game, whether there were things in TV programmes and VG that scared them, whether there were TV programme or VG they were not allowed to watch or play). Children were shown a set of pictures illustrating aggression and for each picture they were asked to describe, in their own words what is happening in the picture, whether and where they saw such things happening and how they felt when seeing such things, and whether children, including themselves do such things after seeing them.

Carers were asked similar questions i.e. about the TV programmes and VG the child liked or did not like to watch or play, any rules about the child's watching TV or playing VG, whether the child watched aggression on TV or in VG and any other parts of the child's life where he/she saw aggression, and how the child felt when seeing aggression. Carers were asked about the things they would think of as aggression and about their opinion on possible causes of aggressive behaviour in children in general, and with particular regard to the participating child.

The importance of asking for children's opinions on their social worlds has been well recognised, however researchers face methodological difficulties when

interviewing children because of differences between children and adults, such as cognitive and language development (young children being more concrete and less abstract in their thinking), attention span, what is meaningful and hence remembered. Several techniques are recommended to facilitate communication with children such as the use of plain language, age-appropriate questions, pictures, sentence completion e.g. when the topic is difficult to talk about (giving children partially completed sentences and asking them to complete the rest) (Arksey and Knight, 1999). These techniques were used in this study, however, challenges remain. As a result, where children answered the open-ended questions with 'Yes' or 'No' only, in order to explore their views in more depth, what could be regarded as more 'leading' questions were sometimes used.

In order to facilitate the interviews with children a set of pictures (cartoons) was used (Table 3.16). The source of each picture (including copyright ownership) was printed visibly under the picture.

The majority of the pictures illustrating aggression were taken from the Violence Exposure Scale-Revised (VEX-R), a measure of children's exposure to violence (Fox and Leavitt, 1995). The VEX-R is cartoon-based (artwork by Samuel Goldstein) and it has been used in studies of preschool and primary school aged children (Raviv et al., 2001; Shahinfar et al., 2000). Permission to use VEX-R was obtained from the authors (Nathan Fox and Ariana Shahinfar). Copies of the interview guides and the pictures used can be found in Appendices 26 and 27.

Table 3.16 Pictures used to facilitate the child interviews

<p>1. Pictures illustrating aggression</p> <p>a. Verbal aggression – picture showing</p> <p>i. someone shouting at someone else</p> <p>b. Physical aggression picture set consisting of pictures showing</p> <p>i. someone throwing something at someone else</p> <p>ii. someone hitting someone else</p> <p>iii. someone stabbing someone else</p> <p>iv. someone shooting someone else</p> <p>c. Symbolic aggression picture set consisting of pictures showing</p> <p>i. someone chasing someone else</p> <p>ii. someone pointing a knife at someone else</p> <p>d. Animal and object aggression picture set consisting of pictures showing</p> <p>i. someone smashing a computer</p> <p>ii. someone being cruel to a dog</p>	<p>Taken from the Violence Exposure Scale-Revised (VEX-R) (Fox and Leavitt, 1995), artwork by Samuel Goldstein</p> <p>Retrieved 13.04.2007 from http://www.cs.princeton.edu/~chazelle/pics/smash.jpg</p> <p>Retrieved 16.02.2007 from http://www.bbc.co.uk/cbbc/cartoons/tv/watchmychops/index.shtml</p>
<p>2. Pictures illustrating children's TV programmes: The Simpsons (ITV London), Scooby-Doo (Cartoon Network), Spider-Man (Jetix), Watch my chops (CBBC), The Amazing Andrenalini Brothers (CITV), Astro Boy (CBBC), Teenage Mutant Ninja Turtles (CITV), Dennis the Menace (CBBC), Kim possible (Disney Channel), The Powerpuff Girls (Cartoon Network)</p>	<p>Retrieved 22.04.2007 from:</p> <p>http://www.tvblanket.com/image/simpsons_tv_show.jpg</p> <p>http://upload.wikimedia.org/wikipedia/en/9/9a/Scooby-gang-1969.jpg</p> <p>http://www.jetix.co.uk</p> <p>http://www.bbc.co.uk/cbbc/cartoons/tv/watchmychops/index.shtml</p> <p>http://www.citv.co.uk/page.asp?partid=137</p> <p>http://www.bbc.co.uk/cbbc/cartoons/tv/astro/index.shtml</p> <p>http://www.citv.co.uk/page.asp?partid=7</p> <p>http://www.bbc.co.uk/cbbc/cartoons/tv/dennis/index.shtml</p> <p>http://tv.disney.go.com/disneychannel/kimpossible/downloads/index.html</p> <p>http://www.internationalhero.co.uk/p/powpuff1.jpg</p>
<p>3. Pictures showing video game screenshots/game logos/game covers: Sonic Rivals for Playstation (age 7+), Ratchet and Clank 2 for Playstation2 (age 3+), Super Mario Bros. for Nintendo DS (age 3+), Lego Star Wars 2 for PlayStation 2 (age 3+), Pokémon Ranger for Nintendo DS (age 3+)</p>	
<p>4. Pictures illustrating children's movies i.e. copies of DVD covers: Spider-Man (PG), Toy Story (PG), Monsters, Inc. (U), Flushed Away (U), Batman: The legend begins (U), Pirates of the Caribbean: The curse of the black pearl (PG), Teenage Mutant Ninja Turtles: The movie (PG)</p>	

Note: According to the British Board of Film Classification: PG = Parental Guidance – general viewing, unaccompanied children of any age may watch; it should not disturb a child aged around eight or older, however parents advised to consider whether the content may upset younger or more sensitive children; U = Universal – Suitable for all – it should be suitable for audiences aged four years and over (<http://www.bbfc.co.uk/classification/guidelines>).

3.10.3.2 RESEARCH PROCESS

The interview with the child had a maximum duration of 30 minutes. The interview with the main carer had a maximum duration of 60 minutes. The interviews were audio tape-recorded with the permission of the interviewees.

When there was parental consent to interview the child alone, the child was asked if he/she wished to be interviewed alone or in the presence of his/her main carer. Otherwise, the child was interviewed in the presence of his/her main carer who had a facilitating role only (i.e. helping the child understand the questions asked, when necessary). The main carer, if facilitating the interview with the child, was asked not to answer the questions or express his/her own views on the research topic during the child's interview as he/she would be able to express his/her views when interviewed separately by the researcher. During the interviews with the child participants, various activities such as playing or drawing were used as facilitators only. Such activities assisted the communication with the child and approaching the research topic, but they were not used as instruments of data collection (only the verbal contents of the interviews were regarded as data and subsequently analysed). During the interview with the child alone, his/her main carer was asked to be present at an agreed place nearby. Respondent validation for researcher interpretation was sought within the interview process.

I conducted all interviews with the participating children, and their main carers. The tape recordings of the interviews were transcribed. Thirty interviews were transcribed by two professional transcribers who both signed a Transcription &

Coding Confidentiality Form (Appendix 27). I checked all transcripts for accuracy (Table 3.17).

Table 3.17 Interview transcribers

Transcribers	Child interviews	Carer interviews
Oana Mitrofan (study researcher and author of this thesis)	6	4
Wendy Jennings (paid professional transcriber)	11	9
Blaithin Hurley (paid professional transcriber)	3	7

I uploaded all transcripts into NVivo version 8, a computer assisted qualitative data analysis software (developed by QSR International Pty. Ltd.).

3.10.4 ANALYSIS

3.10.4.1 FRAMEWORK ANALYSIS APPROACH

The contents of the interviews (transcribed tape recordings) were analysed using the Framework Analysis Approach (see Section 3.3). The Framework Analysis Approach is a development of the matrix-based methods of analysis previously described by Miles and Huberman (1984 cited in Pope et al., 2006). All five stages of the Framework Approach are to be systematically conducted and allow the analyst to move back and forth between different levels of abstraction without losing sight of the original data (Box 3.4). The central component of this approach is the 'thematic framework' – a series of thematic headings sorted hierarchically into main and sub-themes - which the analyst generates from the list of anticipated and emerging themes and then systematically applies to the whole data set. Thus the views and experiences of all respondents are explored within a common analytical framework. The thematic charts allow for the full

range of views and experiences to be compared and contrasted both across and within respondents and patterns can be therefore identified and explored further. The final stage of mapping and interpretation allows the researcher to identify and confirm patterns and to consider questions and hypotheses posed by the findings (Pope et al., 2006; Ritchie et al., 2003). The data analysis using the Framework Approach can be carried out manually (e.g. using large sheets of paper to create the charts) or electronically, using a data-management software.

In this study the thematic framework was developed based on the questions of the semi-structured interview guides as well as key issues that emerged during the initial familiarisation with the data. I used NVivo8 to assist the data management. I created the charts using Microsoft Excel software. The qualitative data analysis followed the five stages of the Framework Approach.

Box 3.4 Framework Analysis Approach

- **Familiarisation:** An immersion in the raw data (or a pragmatic selection from the data) by listening to tapes, reading transcripts, studying notes in order to list key ideas and recurrent themes
- **Identifying a thematic framework:** The identification of the key issues, concepts and themes by which the data can be examined and referenced. This is carried out by drawing on *a priori* issues and questions derived from the aims and objectives of the study as well as issues raised by the respondents themselves and views or experiences that recur in the data. The end product is a detailed index of the data, which labels the data into manageable chunks for subsequent retrieval and exploration. The initial framework and index terms are likely to be refined as the analysis progresses. Numbers are sometimes assigned to the index headings; the alternative is to use textual terms to capture the essence of the theme or sub-theme
- **Indexing:** The systematic application of the thematic framework or index to all the data in textual form by annotating/ labelling the transcripts. When applying the index, it shows which theme is being referred to within a particular section of the data, in much the same way that a subject index at the back of a book works. One passage of text may encompass one or more different themes (multi-indexed), each of which is to be recorded (usually in the margin of the transcript)
- **Charting:** The rearrangement of the data according to the appropriate part of the thematic framework to which they relate and the creation of charts in a matrix format e.g. a chart for each key theme displaying sub-themes across the columns and each case as a separate row. The charts contain distilled summaries of views and experiences (not verbatim text but paraphrase; abbreviations or acronyms for common words or phrases are used as a type of analytical shorthand), thus involving abstraction and synthesis; key terms, phrases and expressions used by respondents should be retained as much as possible; interpretation should be kept to a minimum.
- **Mapping and interpretation:** The use of the charts to define concepts, map the range and nature of phenomena and find associations between themes with a view to provide explanations for the findings. This process is influenced by the research objectives as well as by the themes that emerged from the data

Source: Pope et al. (2006) (pages 72-74)

3.10.4.1.1 Familiarisation

At the Familiarisation stage I reviewed a pragmatic selection of child and carer interviews (the first and the last five interviews) by repeatedly listening to the tape recording and reading the transcript. This process helped to identify recurrent themes or ideas.

3.10.4.1.2 Identifying a thematic framework

The anticipated themes (derived from the objectives of the study and informed by *a priori* reasoning about the possible link between the watching of aggression and exhibited aggression in the study population) and the recurrent themes that emerged from the data (identified at the Familiarisation stage) were sorted and grouped under main, broader themes and placed within a thematic framework. The initial thematic framework was refined during the analytical process as any new categories that emerged from the data were grouped according to the relevant themes. The thematic framework created in this study is presented in Table 3.18.

Textual terms assigned to the index headings were used in order to capture the essence of the theme or sub-theme. These terms were used to label or index all transcripts electronically with the help of NVivo. In this way the context of each piece of information is retained so that it is possible to return to the transcript.

Table 3.18 The qualitative study thematic framework

1. Where children see aggression <ul style="list-style-type: none"> 1.1 'For real': home 1.2 'For real': school & playground 1.3 'For real': street 1.4 Television (TV) 1.5 Video games (VG) 1.6 Films (DVDs & other) 1.7 Internet 1.8 Books & magazines 1.7 Other
2. Feelings/views about seeing aggression <ul style="list-style-type: none"> 2.1 Feelings/views about seeing aggression 'for real' 2.2 Feelings/views about seeing aggression in TV programmes & VG & films & internet 2.3 Difference real – not real 2.4 Difference realistic – non realistic 2.5 Feelings/views about seeing blood in TV programmes & VG & films & internet 2.6 What is aggression/what is violence 2.7 Why children like TV programmes & VG & films that include aggression 2.8 Other issues
3. Views about what causes/ does not cause aggression <ul style="list-style-type: none"> 3.1 Seeing aggression – cause of aggressive behaviour in some children 3.2 Seeing aggression does not make some children aggressive 3.3 Nature/ Predisposition/ Tendency 3.4 Family/ Upbringing 3.5 Peers/ Community/ Society 3.6 Other issues

3.10.4.1.3 Indexing

The thematic framework was systematically applied to all interview transcripts using NVivo. This process involved indexing each transcript using the terms previously assigned to the index headings of the thematic framework, a process also called 'coding' by NVivo users (Bazeley, 2007). A single passage of text in a transcript was usually indexed under more than one theme.

3.10.4.1.4 Charting

Once all data was indexed, the original data was summarised and then used to create the charts. All data was rearranged according to the appropriate theme and sub-theme to which it related and it was charted in a spreadsheet format. The Microsoft Excel software was used to facilitate this process. The chart had a matrix format: the themes and sub-themes were displayed across the columns and each case (i.e. each participating child) is allocated a separate row. In order to compare and contrast child and carer's views more easily, themes related to child and carer data were displayed across separate columns. For each case, data such as age, gender, ethnicity, family income level, scores on the aggression measures were recorded under 'case attributes' (term used in NVivo to denominate data known about each case that is recorded separately from the text generated by that case). In this study, the attribute data were provided by the findings of the quantitative study component.

Researcher's comments and interpretative observations were noted on a separate column in order to facilitate later interpretation. A chart was created for each of the three main themes of the study thematic framework.

3.10.4.1.5 Mapping and interpretation

The charts were used to find associations between themes and to identify patterns within the data as well as questions and explanations for the findings. Attribute data (provided by the quantitative study findings) such as age, gender, family income level and intensity of exhibited aggression were used to facilitate the identification of patterns in the qualitative data.

3.10.4.2 COUNTING ANALYSIS

Qualitative research does not generally seek to quantify data because the qualitative study sample is not selected to be numerically representative of the population and interviewees are not asked the same questions in the same manner as in the case of a survey. However simple counts proved useful in some qualitative studies (Pope and Mays, 2006).

This study used simple counts (numbers) in order to provide a clear account of the reported sources of watching of aggression of participating children (e.g. how many children reported seeing aggression in TV programmes). Although not numerically representative of the target population, these accounts, together with the related themes that emerged from the data, contributed to answering the research questions of where children see aggression in their lives and what are the possible third variables for a future larger study.

3.10.5 INTER-RATER RELIABILITY

A researcher outside the research team (Anca Alba, Research Fellow at the University of Warwick Medical School) also analysed the content of two

participant interviews – one child interview and the corresponding carer interview in order to check the inter-rater reliability. The child interview was selected from the qualitative study sample based on the ‘most frequent for the sample’ criterion with regard to age, gender, ethnicity and income level and where the Indexing stage of qualitative data analysis had already been applied to the interview transcript by the author of this thesis at the time of selecting the interview for inter-rater reliability check. There was agreement on eighty percent of the themes identified by the author of this thesis and the above-mentioned researcher.

3.11 SAFETY PROTOCOL

Approved safety measures for the researcher were followed in the case of meetings taking place at the participant’s home in accordance with the University of Warwick’s policy on safety in fieldwork (The University of Warwick, 2006b) and the Social Research Association’s Code of Practice for the Safety of Social Researchers (The Social Research Association, 2001). The researcher checked in and out prior to and following meetings with an appointed person at CAMHS or Warwick Medical School. The researcher carried a mobile phone, always switched on.

3.12 SUMMARY

This chapter set out an overview of this mixed methods study and how each of the study components was set up to answer the research questions of this thesis. It described the research population and setting, specified inclusion/exclusion criteria, discussed ethical considerations and provided detailed descriptions of the

methodology of each of the study components, including study design, sampling strategy, measures and analysis.

The quantitative and qualitative study results are presented separately in the following two chapters. The results of each study and their contribution to answer the research questions will be collated within the Discussion chapter of this thesis.

CHAPTER 4: QUANTITATIVE RESULTS

4.1 INTRODUCTION

The quantitative component of this pilot study is a cross-sectional survey of reported exhibited aggression in children aged 7-11 years with BED attending Tier 2/3 CAMHS. The following two sections of this chapter detail the study recruitment and the characteristics of the participants. Section 4 describes the findings of this survey that contribute to answering the research question of what are the type, severity and frequency of reported aggression exhibited by children aged 7-11 years with BED attending Tier 2/3 CAMHS. Sections 5 to 8 describe the findings that contribute to answer the research question of what is an appropriate methodology for a future study to test for any association between aggression exhibited by these children and their watching of aggression in TV programmes and VG with regard to sampling, measures of exhibited aggression and possible third variables and sources of bias.

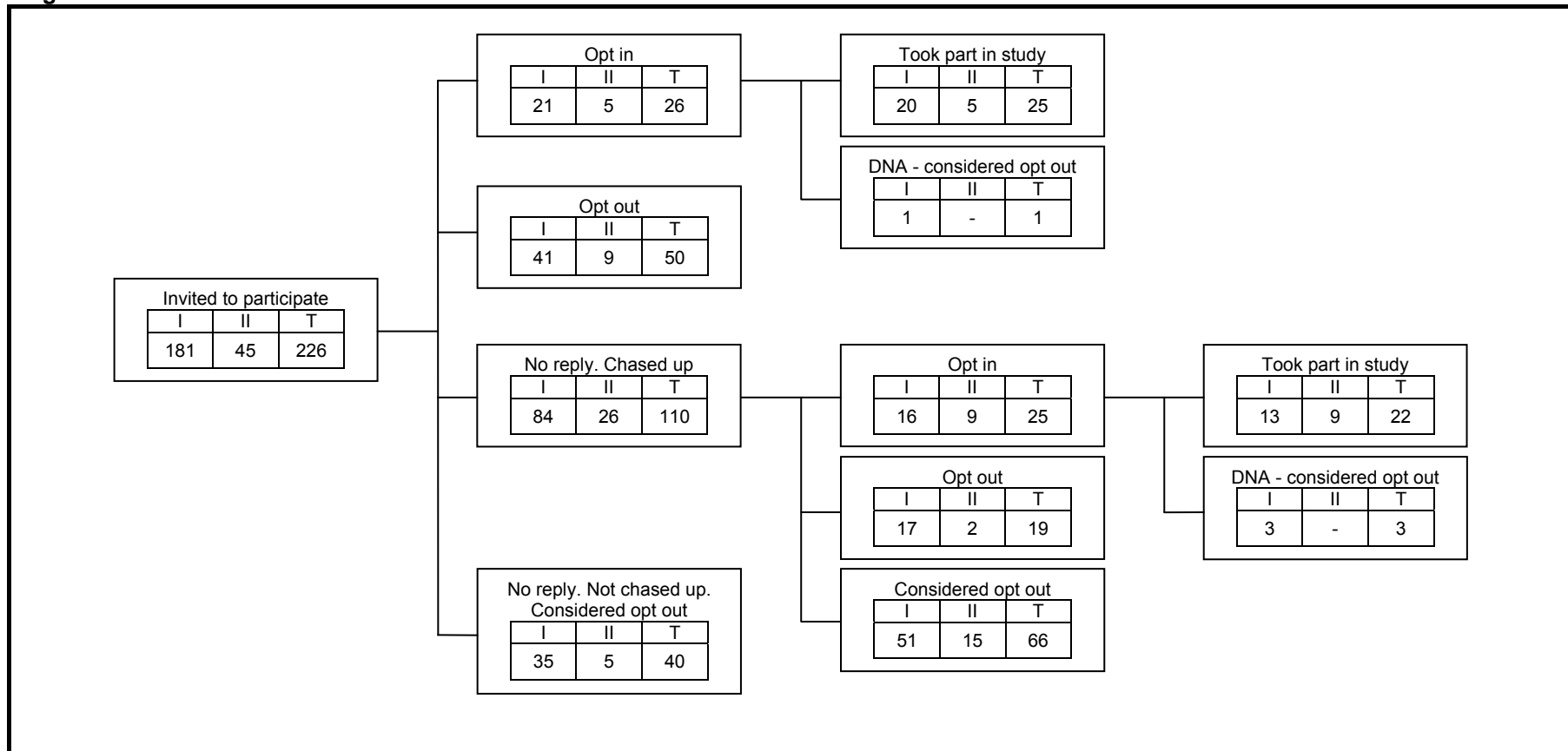
4.2 RECRUITMENT

The recruitment of study participants started in November 2007. In the first round of recruitment 181 children and their main carers were invited to take part, followed by 45 children and their main carers in the second recruitment round. By the end of recruitment in February 2009, out of 226 potential participants, only 47 (20.8%) agreed to participate; 69 (30.5%) opted out; 110 (48.7%) were considered opt out because no further contact could be made (Flowchart 4.1 and

Table 4.1). Of those considered opt out, one potential participant agreed to participate, however the child and main carer did not attend their appointment and all attempts at phone contact were unsuccessful. Of the 110 considered opt out, 69 (30.5%), who did not respond to the invitation letter were 'chased up' by telephone by a CAMHS team member. For most (66) the attempted phone contact was unsuccessful (i.e. no answer, wrong number); three agreed to participate, however they did not attend their appointment and all attempts at phone contact were unsuccessful; in one case the child's carers refused any further contact with CAMHS. Forty (17.7%) who did not respond to the invitation letter could not be 'chased up', mainly because CAMHS team members did not have the time to make phone contact.

There were no statistically significant differences between study participants, potential participants who opted out and potential participants who were considered opt out with regard to the child's age at the time of referral to CAMHS, gender, main reason for referral to CAMHS and status at CAMHS at time of study (i.e. whether the family had been seen by a CAMHS professional (for assessment or treatment) or been on a waiting list for assessment and/or treatment). There was a statistically significant difference between participants and those who either opted out or were considered opt out with regard to CAMHS locality team ($p \leq 0.001$) (Table 4.2).

Figure 4.1 Recruitment flowchart



Note: I = Round I of recruitment; II = Round II of recruitment; T = Total; chased up = contacted by telephone by a CAMHS team member to ask carers about their willingness to participate and/or to consent to the participation of their child and to check their permission to be contacted by telephone by the researcher; DNA = did not attend appointment with researcher; considered opt out = no further contact possible.

Table 4.1 Participant recruitment by CAMHS, recruitment round and reply to invitation letter

Recruitment round		CAMHS 1	CAMHS 2	CAMHS 3	CAMHS 4	Total
I	Took part in study	3	12	8	10	33
	Opt out	14	15	14	15	58
	Considered opt out	27	39	13	11	90
	Total invited to participate	44	66	35	36	181
II	Took part in study	0	0	4	10	14
	Opt out	0	0	6	5	11
	Considered opt out	2	2	11	5	20
	Total invited to participate	2	2	21	20	45
Total	Took part in study	3	12	12	20	47
	Opt out	14	15	20	20	69
	Considered opt out	29	41	24	16	110
	Total invited to participate	46	68	56	56	226

Any reply to invitation letter?						
Yes	Took part in study	3	12	4	6	25
	Opt out	11	14	11	14	50
	DNA - Considered opt out	0	0	1	0	1
	Total	14	26	16	20	76
No	Took part in study	0	0	8	14	22
	Opt out	3	1	9	6	19
	Chased up DNA - Considered opt out	1	0	0	2	3
	Considered opt out	26	10	22	8	66
	Total	30	11	39	30	110
	Not chased up Considered opt out	2	31	1	6	40
Total		32	42	40	36	150
Total invited to participate		46	68	56	56	226

Note: Chased up = contacted by telephone by a CAMHS team member to ask carers about their willingness to participate and/or to consent to the participation of their child and to check their permission to be contacted by telephone by the researcher; DNA = did not attend appointment with researcher; considered opt out = no further contact possible.

Table 4.2 Differences between study participants, potential participants who opted out and potential participants who were considered opt out

			Potential participants			Total
			In study	Opt out	Considered opt out	
Child's age (at time of referral to CAMHS (years))	7	n % within Child's age	6 16.2%	14 37.8%	17 45.9%	37 100.0%
	8	n % within Child's age	15 25.4%	15 25.4%	29 49.2%	59 100.0%
	9	n % within Child's age	7 17.5%	14 35.0%	19 47.5%	40 100.0%
	10	n % within Child's age	9 19.6%	14 30.4%	23 50.0%	46 100.0%
	11	n % within Child's age	10 22.7%	12 27.3%	22 50.0%	44 100.0%
Pearson Chi-Square = 2.97						
Child's gender	Girl	n % within Child's gender	12 18.5%	25 38.5%	28 43.1%	65 100.0%
	Boy	n % within Child's gender	35 21.7%	44 27.3%	82 50.9%	161 100.0%
Pearson Chi-Square = 2.71						
Main reason for referral to CAMHS	Behavioural	n % within Main reason for referral	10 19.6%	11 21.6%	30 58.8%	51 100.0%
	Conduct	n % within Main reason for referral	7 36.8%	5 26.3%	7 36.8%	19 100.0%
	Emotional	n % within Main reason for referral	22 19.3%	39 34.2%	53 46.5%	114 100.0%
	Hyperkinetic	n % within Main reason for referral	8 21.6%	11 29.7%	18 48.6%	37 100.0%
Pearson Chi-Square = 6.15						
Status at CAMHS (at time of invitation in study)	WL	n % within Status at CAMHS	11 20.0%	18 32.7%	26 41.3%	55 100%
	Seen	Count % within Status at CAMHS	36 21.1%	51 29.8%	84 49.1%	171 100%
Pearson Chi-Square = 0.17						
CAMHS location	CAMHS 1	n % within CAMHS location	3 6.5%	14 30.4%	29 63.0%	46 100.0%
	CAMHS 2	n % within CAMHS location	12 17.6%	15 22.1%	41 60.3%	68 100.0%
	CAMHS 3	n % within CAMHS location	12 21.4%	20 35.7%	24 42.9%	56 100.0%
	CAMHS 4	n % within CAMHS location	20 35.7%	20 35.7%	16 28.6%	56 100.0%
Pearson Chi-Square = 22.30*						

Note: WL = on waiting list for assessment/ treatment intervention; seen = seen by CAMHS professional for treatment intervention.

* $p \leq 0.001$

A few carers commented on their reasons for opting out, either in writing (on the opting out/permission to contact form) or verbally (when phoned by a CAMHS team member or by myself). Most issues were around carer's concern for the child's mental health, practicalities such as time, and carers considering their children as 'not appropriate' for the study, e.g. saying the child did not watch TV or play VG, or was 'not affected by TV' (Box 4.1).

Box 4.1 Reasons for opting out (n)

<p>Concern for child's mental wellbeing (5)</p> <ul style="list-style-type: none"> • <i>My son is adopted and has witnessed and been part of an aggressive past. It will be too much for him.</i> • <i>We have not seen CAMHS yet and want them to assess first. Also difficult time of work and distressing [our child] further.</i> • <i>Too concerned about [child]'s mental health at the moment.</i> • <i>[Child] is not in a position to be interviewed. (carer seemed upset to be contacted)</i> • <i>[Child]'s father was not happy for the child to be assessed.</i>
<p>Practicalities - time (4)</p> <ul style="list-style-type: none"> • <i>Presently mother and child have enough appointments to attend and therefore would not have the time to accommodate you with this study.</i> • <i>No time, too much going on.</i> • <i>Too busy, lack of time.</i> • <i>Too busy.</i>
<p>Belief of child being unsuitable for the study (3)</p> <ul style="list-style-type: none"> • <i>We are very careful with what we allow our children to watch and play. I don't allow them to watch programmes like EastEnders, Coronation Street etc. They are allowed to watch Tracy Beaker and have noticed that they copy her attitude.</i> • <i>My daughter does not watch TV after 5.30pm or play computer games, therefore would not be an appropriate candidate for your study.</i> • <i>Why only kids associated with CAMHS? [Child] is not hyperactive nor particularly affected by TV. Why not mainstream year 5's?</i>
<p>Carer's health (1)</p> <ul style="list-style-type: none"> • <i>Mother quite ill, too much at the moment.</i>
<p>No interest in the study (2)</p> <ul style="list-style-type: none"> • <i>Just not interested</i> • <i>[Child] not happy to participate and [carer] not interested in taking part.</i>
<p>Carer did not want any further contact with CAMHS (1)</p>

Some carers raised similar issues prior to agreeing to participate but concerns were resolved upon discussion, e.g. that the child's participation was 'not appropriate' as his/ her behaviour was less 'problematic' at the time of the study or the child was 'not aggressive' (Box 4.2).

Box 4.2 Issues raised by carers as potential impediments to child's participation (n)

Concern for child's wellbeing (1) <ul style="list-style-type: none"> <i>Too many problems with child at school</i>
Practicalities – location, time (1) <ul style="list-style-type: none"> <i>Thinking of practicalities, too difficult to meet: they are living far from CAMHS and because of school hours, don't want child to miss school</i>
Belief that the child was unsuitable for the study (3) <ul style="list-style-type: none"> <i>Unsure whether they are appropriate for the study as they have no issues with [child] being aggressive.</i> <i>I don't think we still need to be seen at CAMHS as [child] is better now so we don't need to do this, his behaviour is not as problematic as it was before.</i> <i>[Child] is much better, he had some very good weeks and there are too many things going on at the moment.</i>

Eight children did not participate in the study, but their main carers did (carer-only participants) therefore questionnaire and interview data were provided by main carers only. In these cases, either the child (5) or the carer (3) objected to the child's participation. A few of them commented on their reasons for opting out, mainly around concerns about the child's mental wellbeing (Box 4.3).

Box 4.3 Issues raised by carer-only participants as impediments to child's participation (n)**Concern for child's mental wellbeing (2)**

- *I don't want to involve [child] in a survey as there are too many things going on right now...too many problems...she would not understand what's going on...I don't want to put her through this.*
- *[Child] is not well...his behaviour is challenging...he has been seen at CAMHS but you won't be able to get anything out of him. He is reluctant to talk especially to strangers...the moment you knocked at the door he went upstairs. I don't want to make him come and talk to you because he is in a bad mood and it will be worse afterwards, angry and difficult...too difficult at the moment.*

Child refused to participate (2)

- *I don't like questions. I don't answer any questions from anybody. I don't like that - being questioned.*
- *[Child] doesn't want to do it; he's not been seen in CAMHS yet and he's reluctant to go there as well.*

There were no statistically significant differences ($p > 0.05$) between participating children (39) and the eight carer-only participants with regard to child's age, gender, main reason for referral to CAMHS, status at CAMHS at time of study, CAMHS locality team or the average family income level (Table 4.3).

Table 4.3 Differences between participating children and carer-only participants

			Participants	
			Child & Carer	Carer-only
Child's age (at time of referral to CAMHS (years))	7	n % within Child's age	6 100%	0 0.0%
	8	n % within Child's age	13 86.7%	2 13.3%
	9	n % within Child's age	5 71.4%	2 28.6%
	10	n % within Child's age	6 66.7%	3 33.3%
	11	n % within Child's age	9 90.0%	1 10.0%
Pearson Chi-Square = 4.08				
Child's gender	Girl	n % within Child's gender	10 83.3%	2 16.7%
	Boy	n % within Child's gender	29 82.9%	6 17.1%
Pearson Chi-Square = 0.00				
Main reason for referral to CAMHS	Behavioural	n % within Main reason for referral	9 90.0%	1 10.0%
	Conduct	n % within Main reason for referral	6 85.7%	1 14.3%
	Emotional	n % within Main reason for referral	17 77.3%	5 22.7%
	Hyperkinetic	n % within Main reason for referral	7 87.5%	1 12.5%
Pearson Chi-Square = 1.01				
Status at CAMHS (at time of invitation in study)	WL	n % within Status at CAMHS	9 81.8%	2 18.2%
	Seen	n % within Status at CAMHS	30 83.3%	6 16.7%
Pearson Chi-Square = 0.00				
CAMHS location	CAMHS 1	n % within CAMHS location	2 66.7%	1 33.3%
	CAMHS 2	n % within CAMHS location	12 100%	0 0.0%
	CAMHS 3	n % within CAMHS location	11 91.7%	1 8.3%
	CAMHS 4	n % within CAMHS location	14 70.0%	6 30.0%
Pearson Chi-Square = 6.05				
Average family income level	Below national average	n % within Average income level	26 86.7%	4 13.3%
	Above national average	n % within Average income level	10 71.4%	4 28.6%
Pearson Chi-Square = 0.64				

Note: WL = on waiting list for assessment/ treatment intervention. Seen = seen by CAMHS professional for treatment intervention.

4.3 CHARACTERISTICS OF PARTICIPANTS

The study sample was drawn from children who were referred for behavioural problems/ emotional problems/ aggressive behaviour/ challenging behaviours/ antisocial behaviour to Tier 2/3 CAMHS in Coventry & Warwickshire over a time period of eighteen months, who were aged 7 to 11 years at the time of their referral and who were open-cases at the time of the study. Thirty-nine children and forty-seven main carers agreed to participate in the study, eight being carer-only participants (see above).

Main carers provided the socio-demographic characteristics of study participants (see Table 4.4). The age range of the children was 7 to 11 years at time of referral to CAMHS, with a mean age of 9.04 years ($SD = 1.38$). The age range at time of study was 8 to 12 years, with a mean age of 10.15 years ($SD = 1.40$). Almost three quarters of the children were boys (35 (74.5%)). All children were of White British ethnicity, except for one child of Any Other White background.

More than forty percent of the sample had an average family income level of £20,000 or less (19, 43.2%). Over seventy percent of main carers were employed (28, 73.7%). The main carer's highest level of formal education was represented by secondary school for more than forty percent of the sample (18, 41.9%). The families of more than three quarters of the children were headed by a married or cohabiting couple (34, 77.3%). The main carer was the child's mother (44, 93.6%) except in four cases when the main carer was the child's father (two boys), grandmother (one boy) or grandfather (one girl).

Most children were recruited from those referred to CAMHS 3 and 4 (32, 68.1%), while three children only (6.4%) were recruited from CAMHS 1. The main reason for referral to CAMHS was 'emotional problems' (22, 46.8%), followed by 'behavioural problems' (10, 21.3%), 'hyperkinetic' (8, 17%) and 'conduct problems' (7, 14.9%). A small number of children had a psychiatric diagnosis: three boys with ADHD, two girls with OCD and one boy with dyslexia and dyspraxia. Information on contact with other agencies was only provided about 46 children, of whom three (6.5%) had been in contact with the Police for anti-social behaviour (one for 'climbing a fence' and one for 'behaviour'). None had received an Anti-Social Behaviour Order (ASBO) or had been placed in secure accommodation because of anti-social behaviour.

The majority of children watched TV and played VG on a console e.g. Playstation or X-Box or handheld games e.g. Nintendo. Table 4.5 shows the number of children who were watching TV or playing VG, using desktop computers or laptops, mobile phones and internet according to their main carers.

On the SDQ, over 70% of children scored in the abnormal band on the Conduct Problems subscale (33, 71.7%) and the Hyperactivity subscale (33, 71.7%). More than half of the sample scored in the abnormal band on the Emotional Symptoms subscale (26, 56.5%) and Peer Problems subscale (29, 63.0%). Means and standard deviations of the overall and subscale scores of the SDQ are reported in Table 4.6.

Table 4.4. Socio-demographic characteristics of study participants, main reason for the child's referral to CAMHS and the CAMHS child was referred to

Children (n)						47
Age at time of referral to CAMHS (years)		Mean (SD)				9.04 (1.38)
		Range				7-11
Age at time of study (years)		Mean (SD)				10.15 (1.40)
		Range				8 - 12
Gender		Boys				35 (74.5%)
		Girls				12 (25.5%)
Ethnicity		White British				45 (97.8%)
		Any other White background				1 (2.2%)
Main reason for referral to CAMHS		Emotional				22 (46.8%)
		Behavioural				10 (21.3%)
		Hyperkinetic				8 (17.0%)
		Conduct				7 (14.9%)
CAMHS child was referred to		CAMHS 1				3 (6.4%)
		CAMHS 2				12 (25.5%)
		CAMHS 3				12 (25.5%)
		CAMHS 4				20 (42.6%)
		CAMHS 1	CAMHS 2	CAMHS 3	CAMHS 4	
Average family income level (£ per year)	£20,000 or less	2	6	0	11	19 (43.2%)
	£20,000-£30,000	0	5	4	2	11 (25.0%)
	£30,000-£40,000	0	1	2	3	6 (13.6%)
	£40,000-£50,000	0	0	1	1	2 (4.5%)
	above £50,000	1	0	3	2	6 (13.6%)
Main carer's highest level of formal education	Secondary school	0	7	4	7	18 (41.9%)
	Sixth Form/College	1	0	1	2	4 (9.3%)
	Further education	0	2	2	8	12 (27.9%)
	University	1	2	3	3	9 (20.9%)
Main carer's employment status	Employed	2	6	8	12	28 (73.7%)
	Not employed	1	5	1	2	9 (23.7%)
	Retired	0	0	0	1	1 (2.6%)
Household size	Mean (SD)	4.67 (1.53)	5.00 (1.48)	4.80 (1.63)	4.35 (1.98)	4.64 (1.58)
	Range	3-6	2-7	4-6	2-9	2-9
Family headed by	Couple (married/cohabiting)	3	8	10	13	34 (77.3%)
	Lone parent	0	4	0	6	10 (22.7%)
Main carer's age (years)		Mean (SD)				40.36 (7.45)
		Range				29-64
Main carer's gender		Males				3 (6.4%)
		Females				44 (93.6%)

Note: Household size = number of people living in the child's home (including the child and his/ her main carer)

Table 4.5 Access to TV, VG, computers, mobile phones and internet

Does he or she ever watch TV?	yes	46 (100.0%)
	no	0 (0.0%)
Does he or she play games on a console like Playstation or X-Box?	yes	42 (91.3%)
	no	4 (8.7%)
Does he or she play handheld games like Gameboy or Nintendo?	yes	38 (82.6%)
	no	8 (17.4%)
Does he or she use a desktop computer or laptop?	yes	40 (88.9%)
	no	5 (11.1%)
Does he or she use a mobile phone?	yes	34 (73.9%)
	no	12 (26.1%)
Does he or she use the internet?	yes	38 (84.4%)
	no	7 (15.6%)

Table 4.6 SDQ scores and categories

	Emotional Symptoms	Conduct Problems	Hyperactivity	Peer Problems	Total Difficulties	Impact of Child's Difficulties	Prosocial Behaviour
Mean (SD)	5.26 (2.65)	4.85 (2.25)	6.98 (2.62)	3.96 (2.41)	21.04 (6.75)	4.40 (2.89)	6.22 (2.41)
95% CI for Mean	4.47 - 6.05	4.18 - 5.52	6.20 - 7.76	3.24 - 4.67	19.04-23.05	3.53 - 5.27	5.50 - 6.93
Median	5.00	5.00	7.00	4.00	20.50	4.00	6.00
Normal	13 (28.3%)	6 (13.0%)	10 (21.7%)	13 (28.3%)	4 (8.7%)	5 (11.1%)	29 (63.0%)
Borderline	7 (15.2%)	7 (15.2%)	3 (6.5%)	4 (8.7%)	8 (17.4%)	3 (6.7%)	11 (23.9%)
Abnormal	26 (56.5%)	33 (71.7%)	33 (71.7%)	29 (63.0%)	34 (73.9%)	37 (82.2%)	6 (13.0%)

Note: SDQ = Strengths and Difficulties Questionnaire; SD= standard deviation; CI = confidence intervals.

4.4 ASSESSMENT OF RELIABILITY OF AGGRESSION

MEASURES

In the present study, the internal reliability was acceptable for the MAVRIC-C, MAVRIC-P and for all subscales of CAS-P except for Aggression against Objects and Animals and Initiated Physical Aggression (Table 4.7). The α coefficient increased to 0.82 (i.e. good internal reliability) when Provoked and Initiated Physical Aggression items were combined as a unitary measure of physical aggression. Overall, CAS-P had excellent internal reliability (α = 0.93).

Table 4.7 Internal reliability of aggression measures

	MAVRIC-C	MAVRIC-P	CAS-P Verbal	CAS-P Objects and Animals	CAS-P Provoked Physical	CAS-P Initiated Physical	CAS-P Physical	CAS-P Weapons	CAS-P Total
α	0.76	0.79	0.88	0.59	0.72	0.62	0.82	0.80	0.93

Note: MAVRIC-C = Measure of Aggression, Violence and Rage in Children – Child version; MAVRIC-P = Measure of Aggression, Violence and Rage in Children – Parent version; CAS-P = Children's Aggression Scale – Parent; Verbal = Verbal Aggression; Objects and Animals = Aggression against Objects and Animals; Provoked Physical = Provoked Physical Aggression; Initiated Physical = Initiated Physical; Weapons = Use of Weapons.

4.5 FREQUENCY AND CHARACTERISTICS OF EXHIBITED AGGRESSION

Means and standard deviations of scores on the MAVRIC and of the overall and subscale scores on the CAS-P are reported in Table 4.8.

The mean scores on the MAVRIC, i.e. 14.59 on child report and 14.65 on carer report versions were above the cut-off score of 10.00, thus indicating clinically significant aggressive behaviour. According to self-reports (39), 71.8% and, according to carer reports (46), 78.3 % children fell above the cut-off for MAVRIC.

Table 4.9 shows the participants' reports related to some severe forms of exhibited aggression. Seventeen carers (37.0%) reported their child having thoughts of killing other people when angry, while three (6.5%) reported their child's attempt to kill a person. Similarly, more children reported having thoughts of killing other people when angry (11, 28.2%) than having tried do so (3, 7.7%). Only two carers (5.7%) reported the child's use of weapons (i.e. a knife or a gun) in the context of a gang.

Table 4.8 MAVRIC and CAS-P scores

	MAVRIC-C	MAVRIC-P	CAS-P Verbal	CAS-P Objects and Animals	CAS-P Provoked Physical	CAS-P Initiated Physical	CAS-P Weapons	CAS-P Total
Mean (SD)	14.59 (5.34)	14.65 (5.53)	8.83 (5.33)	2.36 (1.80)	2.99 (2.49)	2.32 (2.23)	0.43 (1.29)	17.06 (11.16)
95% CI for Mean	12.86-16.32	13.0-16.29	7.25-10.42	1.82-2.89	2.25-3.73	1.66-2.98	0.04-0.82	13.70-20.42
Median	16.00	15.00	7.32	1.84	2.70	1.68	0.00	15.44

Note: MAVRIC-C = Measure of Aggression, Violence and Rage in Children – Child version; MAVRIC-P = Measure of Aggression, Violence and Rage in Children – Parent version; CAS-P = Children's Aggression Scale – Parent; Verbal = Verbal Aggression; Objects and Animals = Aggression against Objects and Animals; Provoked Physical = Provoked Physical Aggression; Initiated Physical = Initiated Physical; Weapons = Use of Weapons; SD= standard deviation; CI = confidence intervals.

Table 4.9 Answers to items 15a and 15c of the MAVRIC and item 33 of the CAS-P

	Child	Main carer
Items 15 a & c of MAVRIC-C and MAVRIC-P		
Have you been so angry that you thought about killing other people? Has your child been so angry that he or she thought about killing other people?	11 (28.2%)	17 (37.0%)
Have you been so angry that you tried to kill someone else? Has your child been so angry that he or she tried to kill someone else?	3 (7.7%)	3 (6.5%)
Item 33 of CAS-P		
Did this behaviour (carried a weapon/threatened another with a weapon/used a weapon in a fight/injured another with a weapon) occur within the context of a gang?	N/A	2 (5.7%)

Note: MAVRIC-C = Measure of Aggression, Violence and Rage in Children – Child version; MAVRIC-P = Measure of Aggression, Violence and Rage in Children – Parent version; CAS-P = Children's Aggression Scale – Parent.

4.6 SOCIO-DEMOGRAPHIC DIFFERENCES IN AGGRESSION LEVELS

Correlations between scores on the aggression measures and child's age and household size, as well as comparisons of scores by other socio-demographic variables are reported in Tables 4.10 and 4.11. There were no statistically significant differences in scores on the aggression measures between boys and girls. There were no statistically significant differences in MAVRIC scores when comparing carers and their sons, and comparing carers and their daughters. There were no statistically significant correlations between scores on the aggression measures and child's age.

There were moderate correlations between high scores on overall CAS-P, Verbal Aggression ($p \leq 0.05$), Initiated Physical Aggression ($p \leq 0.01$) and larger household size. Children in the below national average family income level group scored significantly higher than children in the above national average family income level group on all aggression measures ($p \leq 0.05$) except for MAVRIC-C and Initiated Physical Aggression.

There were weak associations ($p \leq 0.10$) between scores on aggression measures and the following socio-demographic variables: main carer's highest level of formal education and household type (i.e. family headed by lone parent or married/ cohabiting couple). There was a significant difference at the 0.10 level in Initiated Physical Aggression scores between the four groups defined according to carer's highest level of education. Children whose carers' highest level of education was secondary school scored significantly higher at the 0.10 level than children whose carers' highest level of education was university on Use of Weapons. Compared to children living in a family headed by a couple, those living in a family headed by a lone parent scored significantly lower on Initiated Physical Aggression, and significantly higher on Use of Weapons at the 0.10 level.

There were no statistically significant differences between groups defined by main carer's employment status and CAMHS location.

The results of the analyses that were conducted based on issues raised by the qualitative findings are presented in Table 4.12. The qualitative finding of the potential role of age within any association between viewed aggression and exhibited aggression (see Chapter 5, section 5.5.2.3) was used to inform a further analysis in which the age of 9 years was used as a cut-off. Children aged 9 years or younger scored significantly higher than children aged 10-11 years on Aggression against Objects and Animals ($p \leq 0.05$); there was a weak similar difference in Initiated Physical Aggression scores ($p \leq 0.10$).

The qualitative finding of a possible link between a low family income level and children's seeing more aggression in real life (see Chapter 5, section 5.4.2.5) informed a further analysis to explore the possible link between income and exhibited aggression by comparing children in the lowest income group to the rest of the sample. Children with a family income of £20,000 or less scored significantly higher than children in the 'above £20,000' group on Use of Weapons ($p \leq 0.005$).

Table 4.10 Correlations between scores on aggression measures and child's age and household size. Comparison of scores on aggression measures by child's gender and comparison of MAVRIC scores between carers and their sons, and between carers and their daughters. Comparison of scores on aggression measures by average family income level, main carer's highest level of formal education, main carer's employment status, household type (family headed by lone parent or married/ cohabiting couple)

		MAVRIC-C	MAVRIC-P	CAS-P Verbal	CAS-P Objects and Animals	CAS-P Provoked Physical	CAS-P Initiated Physical	CAS-P Weapons	CAS-P Total
Child's age		0.24	-0.14	-0.12	-0.28	-0.07	-0.21	-0.14	-0.21
Household size		-0.04	0.19	0.33*	0.25	0.19	0.40**	-0.09	0.32*
Boys	M (SD)	15.07 (5.63)	15.31 (4.90)	8.76 (5.18)	2.35 (1.75)	3.07 (2.58)	2.50 (2.25)	0.49 (1.43)	17.36 (11.39)
	Median	17.00	15.00	7.24	1.84	2.77	1.79	0.00	14.24
Girls	M (SD)	13.20 (4.37)	12.55 (7.03)	9.06 (6.08)	2.39 (2.06)	2.74 (2.29)	1.71 (2.12)	0.22 (0.72)	16.13 (10.91)
	Median	13.00	16.00	8.78	1.84	2.70	1.07	0.00	17.20
p value		0.18	0.39	0.95	0.89	0.70	0.16	0.27	0.79
Below national average income	M (SD)	14.88 (5.80)	16.00 (5.23)	10.13 (5.83)	2.84 (1.99)	3.61 (2.67)	2.55 (2.45)	0.64 (1.54)	19.79 (12.11)
	Median	17.00	16.50	9.03	2.43	2.90	1.71	0.00	17.63
Above national average income	M (SD)	14.90 (3.90)	11.93 (5.66)	6.28 (3.38)	1.48 (0.93)	1.83 (1.72)	2.00 (1.82)	0.00 (0.00)	11.60 (6.60)
	Median	15.50	12.50	5.63	1.42	1.20	1.58	0.00	8.99
p value		0.71	0.03*	0.04*	0.04*	0.02*	0.61	0.02*	0.02*
Secondary school	M (SD)	14.69 (5.83)	15.17 (5.32)	9.28 (5.65)	2.60 (1.95)	2.89 (2.33)	2.14 (2.03)	0.54 (0.97)	17.45 (11.08)
	Median	17.00	16.50	7.77	2.09	2.65	1.64	0.00	13.28
Sixth Form/ College	M (SD)	14.00 (4.00)	14.75 (6.50)	8.27 (4.18)	2.09 (1.89)	3.30 (1.94)	3.13 (1.56)	0.00 (0.00)	16.79 (8.06)
	Median	14.00	16.00	8.38	1.92	3.01	3.32	0.00	17.78
Further education	M (SD)	14.30 (4.95)	13.00 (6.55)	7.93 (4.52)	1.78 (1.39)	2.21 (1.40)	1.05 (0.89)	0.68 (2.21)	13.66 (9.03)
	Median	16.00	12.00	6.51	1.59	2.76	1.11	0.00	10.78
University	M (SD)	16.17 (5.23)	14.22 (3.70)	7.07 (4.45)	2.21 (1.64)	2.47 (1.46)	2.85 (2.06)	0.00 (0.00)	14.60 (7.61)
	Median	17.00	13.00	6.58	1.84	2.20	2.63	0.00	13.05
p value		0.86	0.44	0.74	0.75	0.86	0.07***	0.15	0.71
Employed	M (SD)	14.80 (5.32)	14.75 (5.87)	8.73 (5.19)	2.36 (1.69)	3.00 (2.82)	2.38 (2.33)	0.21 (0.52)	16.68 (11.10)
	Median	16.00	15.50	7.00	2.09	2.43	1.64	0.00	12.46
Not employed or retired	M (SD)	15.29 (4.35)	14.60 (5.42)	10.44 (6.12)	2.78 (2.48)	3.34 (2.15)	2.70 (2.49)	0.58 (1.10)	19.83 (11.91)
	Median	14.00	14.50	12.95	1.84	2.83	2.42	0.00	22.59
p value		0.95	0.83	0.45	0.99	0.47	0.70	0.48	0.41
Couple	M (SD)	15.39 (4.66)	14.62 (5.74)	8.91 (5.39)	2.45 (1.82)	3.13 (2.76)	2.75 (2.39)	0.17 (0.47)	17.42 (11.40)
	Median	16.50	15.00	7.71	1.92	2.74	2.00	0.00	15.56
Lone parent	M (SD)	13.56 (6.84)	15.30 (5.50)	9.39 (5.50)	2.36 (1.86)	2.72 (1.61)	1.27 (0.98)	1.34 (2.47)	17.08 (10.74)
	Median	17.00	15.50	7.87	2.09	2.76	1.11	0.00	13.44
p value		0.55	0.89	0.78	0.83	0.92	0.06***	0.09***	1.00

Note: Household size = number of people living in the child's home (including the child and his/ her main carer); MAVRIC-C = Measure of Aggression, Violence and Rage in Children – Child version; MAVRIC-P = Measure of Aggression, Violence and Rage in Children – Parent version; CAS-P = Children's Aggression Scale – Parent; Verbal = Verbal Aggression; Objects and Animals = Aggression against Objects and Animals; Provoked Physical = Provoked Physical Aggression; Initiated Physical = Initiated Physical; Weapons = Use of Weapons; M = mean; SD = standard deviation.

* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.10$

Table 4.11 Comparison of scores on aggression measures by CAMHS location

		MAVRIC-C	MAVRIC-P	CAS-P Verbal	CAS-P Objects and Animals	CAS-P Provoked Physical	CAS-P Initiated Physical	CAS-P Weapons	CAS-P Total
CAMHS 1	M (SD)	16.50 (9.19)	18.33 (5.51)	9.90 (8.38)	3.18 (2.32)	4.69 (5.68)	4.06 (3.21)	0.17 (0.29)	21.99 (18.95)
	Median	16.50	18.00	8.01	4.52	1.65	2.28	0.00	16.46
CAMHS 2	M (SD)	15.58 (5.02)	16.25 (3.84)	10.95 (6.07)	3.03 (2.52)	3.79 (2.76)	2.98 (2.85)	0.76 (1.12)	21.52 (13.10)
	Median	17.00	16.50	11.86	2.43	2.77	1.71	0.00	21.18
CAMHS 3	M (SD)	13.73 (4.36)	15.18 (5.76)	8.89 (4.72)	2.33 (1.36)	3.03 (2.41)	2.46 (1.83)	0.05 (0.16)	17.38 (9.17)
	Median	14.00	15.00	7.24	2.34	3.13	1.86	0.00	17.43
CAMHS 4	M (SD)	14.14 (6.21)	12.85 (5.99)	7.37 (4.67)	1.85 (1.35)	2.23 (1.52)	1.58 (1.69)	0.46 (1.72)	13.49 (9.04)
	Median	16.50	13.00	6.65	1.59	1.87	1.11	0.00	10.67
p value		0.81	0.18	0.43	0.54	0.47	0.16	0.21	0.19

Note: MAVRIC-C = Measure of Aggression, Violence and Rage in Children – Child version; MAVRIC-P = Measure of Aggression, Violence and Rage in Children – Parent version; CAS-P = Children's Aggression Scale – Parent; Verbal = Verbal Aggression; Objects and Animals = Aggression against Objects and Animals; Provoked Physical = Provoked Physical Aggression; Initiated Physical = Initiated Physical; Weapons = Use of Weapons; M = mean; SD = standard deviation.

Table 4.12 Comparison of scores on aggression measures by child's age and average family income level

		MAVRIC-C	MAVRIC-P	CAS-P Verbal	CAS-P Objects and Animals	CAS-P Provoked Physical	CAS-P Initiated Physical	CAS-P Weapons	CAS-P Total
Age group 7-9 yrs	M (SD)	13.63 (5.76)	15.79 (5.20)	9.29 (4.96)	2.72 (1.69)	3.12 (2.38)	2.68 (2.16)	0.62 (1.63)	18.70 (10.31)
	Median	14.50	15.50	8.76	2.43	2.70	1.83	0.00	19.08
Age group 10-11 yrs	M (SD)	16.13 (4.32)	12.89 (5.72)	8.13 (5.95)	1.79 (1.87)	2.78 (2.71)	1.76 (2.28)	0.14 (.033)	14.60 (12.22)
	Median	17.00	14.50	5.94	1.34	2.31	1.35	0.00	9.78
p value		0.18	0.15	0.31	0.04**	0.44	0.06***	0.42	0.10

£20,000 or less	M (SD)	14.94 (6.16)	16.00 (5.83)	10.45 (6.42)	2.70 (2.08)	3.51 (2.94)	2.32 (2.50)	0.96 (1.88)	19.95 (13.44)
	Median	17.00	16.00	9.24	2.34	2.77	1.56	0.00	17.20
Above £20,000	M (SD)	14.85 (5.29)	13.72 (5.41)	7.73 (4.36)	2.19 (1.62)	2.69 (2.17)	2.43 (2.10)	0.04 (0.14)	15.08 (9.01)
	Median	16.50	13.00	6.72	1.84	2.20	1.79	0.00	11.12
p value		0.75	0.18	0.20	0.59	0.49	0.64	0.00*	0.34

Note: MAVRIC MAVRIC-C = Measure of Aggression, Violence and Rage in Children – Child version; MAVRIC-P = Measure of Aggression, Violence and Rage in Children – Parent version; CAS-P = Children's Aggression Scale – Parent; Verbal = Verbal Aggression; Objects and Animals = Aggression against Objects and Animals; Provoked Physical = Provoked Physical Aggression; Initiated Physical = Initiated Physical; Weapons = Use of Weapons; M = mean; SD = standard deviation.

* p ≤ 0.005 ** p ≤ 0.05 ***p ≤ 0.10

4.7 ASSOCIATIONS BETWEEN SCORES ON AGGRESSION

MEASURES

There were very small and not statistically significant correlations between high scores on MAVRIC-C and high scores on MAVRIC-P, subscale and overall scores on the CAS-P (Tables 4.13 and 4.14). There was a higher association between child and carer reports on the behavioural items compared to the state of mind items of MAVRIC.

There were high, positive correlations between the carer-reports of exhibited aggression: high scores on MAVRIC-P were significantly associated with high subscale and overall scores on the CAS-P ($p \leq 0.01$). Concerning types of aggression, the highest correlations between carer reports were noted for Physical (Provoked and Initiated) and Verbal Aggression (Table 4.14).

Correlations among scores on the aggression measures for boys and girls are reported in Table 4.15. With regard to types of aggression, for boys, the highest correlations between carers and their sons' reports, as well as between carer-reports were for Verbal Aggression. While for girls, the highest correlations between carers and their daughters' reports, as well as between carer reports were for Physical Aggression: Provoked and Initiated, respectively. Except for Provoked Physical Aggression, all correlations between girls' self-report scores (MAVRIC-C) and their carers' CAS scores were negative (i.e. high scores on one were associated with low scores on the other). Some correlations seem higher for boys than for girls (e.g. between carers and their sons' MAVRIC scores, between carer-reports for Verbal, Provoked Physical Aggression and Weapon use), while

other correlations seem higher for girls than for boys (e.g. between carers and their daughters' reports for Provoked Physical Aggression, and between carer-reports for Aggression against Objects and Animals, Initiated Physical Aggression). The statistical significance of the difference between the correlation coefficients could not be tested, however, because of the small number of girls (9).

There was a low agreement between child- and carer reports concerning thoughts of killing other people when angry and a very low agreement regarding child's attempt to kill a person (Table 4.16). The children's reports of attempts to kill someone else were not confirmed by their carers.

Table 4.13 Correlations between MAVRIC-C and MAVRIC-P

	MAVRIC-P	MAVRIC-P Behavioural items	MAVRIC-P State of mind items
MAVRIC-C	0.18	-	-
MAVRIC-C Behavioural items	-	0.25	-
MAVRIC-C State of mind items	-	-	0.05

Note: MAVRIC-C = Measure of Aggression, Violence and Rage in Children – Child version; MAVRIC-P = Measure of Aggression, Violence and Rage in Children – Parent version.

Table 4.14 Correlations between MAVRIC and CAS-P

	CAS-P Verbal	CAS-P Objects and Animals	CAS-P Provoked Physical	CAS-P Initiated Physical	CAS-P Weapons	CAS-P Total
MAVRIC-P	0.62*	0.52*	0.59*	0.64*	0.54*	0.72*
MAVRIC-C	0.12	0.06	0.21	0.08	0.16	0.09

Note: MAVRIC-C = Measure of Aggression, Violence and Rage in Children – Child version; MAVRIC-P = Measure of Aggression, Violence and Rage in Children – Parent version; CAS-P = Children's Aggression Scale – Parent; Verbal = Verbal Aggression; Objects and Animals = Aggression against Objects and Animals; Provoked Physical = Provoked Physical Aggression; Initiated Physical = Initiated Physical; Weapons = Use of Weapons.

* $p \leq 0.01$

Table 4.15 Correlations between scores on MAVRIC and CAS-P for boys (top diagonal) and girls (bottom diagonal)

	1	2	3	4	5	6	7	8
1. MAVRIC-C	---	0.14	0.32	0.17	0.16	0.15	0.19	0.20
2. MAVRIC-P	0.03	---	0.69^{**}	0.49^{**}	0.63^{**}	0.56^{**}	0.63^{**}	0.74^{**}
3. CAS-P Verbal	-0.28	0.57	---	---	---	---	---	---
4. CAS-P Objects and Animals	-0.17	0.65[*]	---	---	---	---	---	---
5. CAS-P Provoked Physical	0.43	0.40	---	---	---	---	---	---
6. CAS-P Initiated Physical	-0.35	0.83^{**}	---	---	---	---	---	---
7. CAS-P Weapons	-0.20	0.15	---	---	---	---	---	---
8. CAS-P Total	-0.24	0.79^{**}	---	---	---	---	---	---

Note: MAVRIC-C = Measure of Aggression, Violence and Rage in Children – Child version; MAVRIC-P = Measure of Aggression, Violence and Rage in Children – Parent version; CAS-P = Children's Aggression Scale – Parent; Verbal = Verbal Aggression; Objects and Animals = Aggression against Objects and Animals; Provoked Physical = Provoked Physical Aggression; Initiated Physical = Initiated Physical; Weapons = Use of Weapons.

* $p \leq 0.05$ ** $p \leq 0.01$

Table 4.16 Agreement child – carer on items 15a and 15c of MAVRIC

			MAVRIC-P 15a: Has your child been so angry that he or she thought about killing other people?	
			No	Yes
MAVRIC-C 15a: Have you been so angry that you thought about killing other people?	No	% within MAVRIC-C 15a	75.0%	25.0%
	Yes	% within MAVRIC-C 15a	20.0%	80.0%
Kappa = 0.47[*]				

			MAVRIC-P 15c: Has your child been so angry that he or she tried to kill someone else?	
			No	Yes
MAVRIC-C 15c: Have you been so angry that you tried to kill someone else?	No	% within MAVRIC-C 15c	94.3%	5.7%
	Yes	% within MAVRIC-C 15c	100.0%	0.0%
Kappa = - 0.07				

Note: MAVRIC-C = Measure of Aggression, Violence and Rage in Children – Child version; MAVRIC-P = Measure of Aggression, Violence and Rage in Children – Parent version.

* $p \leq 0.005$

4.8 ASSOCIATIONS BETWEEN SCORES ON AGGRESSION

MEASURES AND THE SDQ

Correlations between scores on the aggression measures and scores on the SDQ are reported in Table 4.17. High child reports of aggression were moderately correlated with high Peer Problems SDQ scores only ($p \leq 0.01$). There was a high correlation between high scores on Verbal Aggression and high Conduct Problems SDQ scores ($p \leq 0.01$). The Physical Aggression subscales were low and not significantly correlated with either Conduct or Peer Problems SDQ scores. High scores on Aggression against Objects and Animals and overall CAS-P were moderately correlated with high Conduct Problems SDQ scores ($p \leq 0.01$). There were moderate correlations between high overall scores ($p \leq 0.01$ for MAVRIC-P, $p \leq 0.05$ for CAS-P Total), Verbal Aggression, Aggression against Objects and Animals ($p \leq 0.05$) and Use of Weapons ($p \leq 0.01$) scores and high Peer Problems SDQ scores. High scores on all carer-reports of aggression were moderately to highly correlated with low scores on the SDQ Prosocial Behaviour subscale ($p \leq 0.05$ for Physical Aggression subscales, $p \leq 0.01$ for all other measures). There was a high correlation between high scores on Verbal Aggression and high Impact of Child Difficulties SDQ scores ($p \leq 0.01$). The correlations with SDQ scores on Conduct and Peer Problems, Prosocial Behaviour and Impact of Child Difficulties subscales were stronger for Verbal Aggression compared to Physical Aggression and Aggression against Objects and Animals.

The comparison between groups defined according to SDQ scores is presented in Table 4.18. Children in the 'abnormal' group for SDQ Conduct Problems and Prosocial Behaviour scored significantly higher than children in the 'normal + borderline' group on Verbal Aggression ($p \leq 0.05$). There were weak similar differences between children in the 'abnormal' and the 'normal + borderline' groups for Conduct Problems in Aggression against Objects and Animals and overall CAS-P scores ($p \leq 0.10$), and between children in the 'abnormal' and the 'normal + borderline' groups for Prosocial Behaviour in MAVRIC-C, Aggression against Objects and Animals, Initiated Physical Aggression, Use of Weapons and overall CAS-P scores ($p \leq 0.10$).

Children in the 'abnormal' group for SDQ Peer Problems scored significantly higher than children in the 'normal + borderline' group on MAVRIC-C ($p \leq 0.05$) and Use of Weapons ($p \leq 0.01$). There were weak similar differences between children in the 'abnormal' and the 'normal + borderline' groups for Peer Problems in MAVRIC-P, Verbal Aggression and Aggression against Objects and Animals scores ($p \leq 0.10$).

Table 4.17 Correlations between MAVRIC, CAS-P and SDQ

	SDQ Conduct Problems	SDQ Peer Problems	SDQ Impact of Child's Difficulties	SDQ Prosocial Behaviour
MAVRIC-C	0.30	0.42**	0.21	-0.21
MAVRIC-P	0.23	0.38**	0.40**	-0.48**
CAS-P Verbal	0.53**	0.36*	0.58**	-0.60**
CAS-P Objects and Animals	0.40**	0.32*	0.45**	-0.57**
CAS-P Provoked Physical	0.20	0.24	0.33*	-0.37*
CAS-P Initiated Physical	0.23	0.16	0.44**	-0.36*
CAS-P Weapons	0.23	0.43**	0.17	-0.53**
CAS-P Total	0.47**	0.31*	0.56**	-0.60**

Note: MAVRIC-C = Measure of Aggression, Violence and Rage in Children – Child version; MAVRIC-P = Measure of Aggression, Violence and Rage in Children – Parent version; CAS-P = Children's Aggression Scale – Parent; Verbal = Verbal Aggression; Objects and Animals = Aggression against Objects and Animals; Provoked Physical = Provoked Physical Aggression; Initiated Physical = Initiated Physical; Weapons = Use of Weapons; SDQ = Strengths and Difficulties Questionnaire.

* $p \leq 0.05$ ** $p \leq 0.01$

Table 4.18 Comparison of scores on aggression measures by SDQ categories

		MAVRIC-C	MAVRIC-P	CAS-P Verbal	CAS-P Objects and Animals	CAS-P Provoked Physical	CAS-P Initiated Physical	CAS-P Weapons	CAS-P Total
SDQ Conduct Problems categories									
normal + borderline	M (SD)	12.67 (5.27)	13.77 (5.62)	5.96 (3.30)	1.62 (1.59)	2.57 (1.96)	2.25 (2.23)	0.08 (0.19)	12.48 (8.45)
	Median	15.00	15.00	4.84	1.34	1.77	1.36	0.00	9.19
abnormal	M (SD)	15.48 (5.11)	15.00 (5.55)	9.97 (5.59)	2.65 (1.82)	3.15 (2.68)	2.35 (2.26)	0.57 (1.50)	18.92 (11.70)
	Median	17.00	15.00	8.82	2.34	2.77	1.71	0.00	16.83
p value		0.11	0.56	0.02*	0.07***	0.51	0.94	0.37	0.06***
SDQ Peer Problems categories									
normal + borderline	M (SD)	12.15 (5.29)	12.65 (5.24)	6.66 (2.96)	1.77 (1.55)	2.39 (1.80)	2.19 (2.13)	0.00 (0.00)	13.18 (7.46)
	Median	10.00	13.00	6.72	1.34	1.79	1.36	0.00	10.99
abnormal	M (SD)	16.20 (4.71)	15.83 (5.44)	10.10 (6.02)	2.70 (1.88)	3.34 (2.78)	2.39 (2.32)	0.67 (1.57)	19.20 (12.35)
	Median	17.00	16.00	9.24	2.34	2.96	1.86	0.00	17.20
p value		0.02*	0.06***	0.08***	0.09***	0.25	0.81	0.01**	0.16
SDQ Prosocial Behaviour categories									
normal + borderline	M (SD)	14.25 (5.39)	14.40 (5.73)	8.23 (5.10)	2.13 (1.63)	2.79 (2.28)	2.04 (1.99)	0.38 (1.32)	15.70 (10.25)
	Median	15.00	15.00	6.92	1.84	2.65	1.56	0.00	11.87
abnormal	M (SD)	17.83 (2.86)	16.33 (3.88)	12.83 (5.55)	3.82 (2.33)	4.36 (3.57)	4.16 (3.04)	0.73 (1.13)	25.90 (13.77)
	Median	18.00	15.00	13.05	3.93	3.93	3.87	0.25	24.10
p value		0.08***	0.47	0.05*	0.07***	0.20	0.06***	0.08***	0.06***

Note: MAVRIC-C = Measure of Aggression, Violence and Rage in Children – Child version; MAVRIC-P = Measure of Aggression, Violence and Rage in Children – Parent version; CAS-P = Children's Aggression Scale – Parent; CAS-P Verbal = Verbal Aggression subscale of CAS-P; CAS-P Objects and Animals = Aggression against Objects and Animals subscale of CAS-P; CAS-P Provoked Physical = Provoked Physical Aggression subscale of CAS-P; CAS-P Initiated Physical = Initiated Physical Aggression subscale of CAS-P; CAS-P Weapons = Use of Weapons subscale of CAS-P; SDQ = Strengths and Difficulties Questionnaire; M = mean; SD = standard deviation.

* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.10$

4.9 SUMMARY

This chapter described the study recruitment, the characteristics of participants and the findings of the quantitative study component. It detailed the frequency and characteristics of aggression exhibited by the participating children, the findings of the correlational and group comparison analyses, and the findings of the reliability assessment of the measures of aggression. A detailed discussion regarding the contribution of this study component to answering the research questions follows in the Discussion chapter. The next chapter presents the results of the qualitative study component.

CHAPTER 5: QUALITATIVE RESULTS

5.1 INTRODUCTION

The qualitative component of this pilot study is a qualitative study of the views of children aged 7-11 years with BED attending Tier 2/3 CAMHS, and their carers on any association between exhibited aggression and seeing aggression. The following two sections of this chapter describe the socio-demographic characteristics of the qualitative study participants and the thematic charts that were created following the Framework Analysis Approach. Sections 4 and 5 present the qualitative study findings that aimed to answer the research questions of where do children aged 7-11 yrs with BED attending Tier 2/3 CAMHS see aggression in their lives, what are the views of these children and their carers on any association between exhibited aggression and seeing aggression, and what are the possible third variables and sources of bias for a future study to test for any association between aggression exhibited by these children and their seeing aggression on TV and in VG.

The qualitative data analysis followed the five stages of the Framework Analysis Approach: Familiarisation, Identifying a thematic framework, Indexing, Charting and Mapping and Interpretation (see Chapter 3, Section 3.10.4.1). Sections 3 to 5 of this chapter present the results of the last two stages of analysis: the thematic charts created at the Charting stage and the findings; and my interpretation of the findings of the Mapping and Interpretation stage. The first three stages of analysis

are not detailed in this chapter as they are reflected in the results of the last two stages. Results of the counting analysis that aimed to identify the sources of seeing aggression in children's lives, as reported by children and their carers (see Chapter 3, Section 3.10.4.2), are presented in Section 4.

In sections 4 and 5 quotes are given to illustrate the themes identified in the data. The interviewees are denoted by the study number. For each participating carer the same study number as the participating child was used, e.g. carer 02 is the carer of child 02. This numbering highlights similarities as well as differences between child and carer views. For each interviewee, the child's age at time of participation in the study and the child's gender were specified to highlight any role played by age and gender within any association between children's exhibited aggression and their seeing aggression on TV or in VG.

Verbatim quotes are given in this chapter. Within a quote, three dots will be used to denote omissions (i.e. text that was not relevant to the particular theme the quote was used to illustrate). To aid the reader, indentation of paragraphs and different fonts will be used for verbatim quotes from the child (i.e. *Comic Sans MS Italic*) and carer interviews (i.e. *Bookman Old Style Italic*). Outside a quote, any of the interviewees' words or expressions that were used in the text were italicised, e.g. *fun*. Throughout the chapter, text in single quotation marks represents my interpretation of an issue, e.g. the 'virtual world'.

5.2 CHARACTERISTICS OF PARTICIPANTS

Twenty of the children, who had participated in the survey, and their main carers, i.e. a total of 40 interviews, were purposively selected for qualitative data analysis (Figure 5.1) (see Chapter 3, Section 3.10.2 and Chapter 4, Section 4.2 for details on recruitment and purposive sampling).

Table 5.1 shows the socio-demographic characteristics of study participants.

The study participants were fifteen boys and five girls, and their main carers, all of White British origin, except one boy of Any Other White ethnicity. They were aged between 8 and 12 years at the time of participation (7 to 11 years at the time of referral to CAMHS). Participants came from families with a range of family income levels (ranging from a level of £20,000 or less to above £50,000).

Participants had been purposively sampled for varying levels of exhibited aggression (including the highest and the lowest scores on CAS-P, MAVRIC-C, MAVRIC-P, and the most and least different scores on MAVRIC-C and MAVRIC-P). The socio-demographic data were provided by the main carers, all mothers.

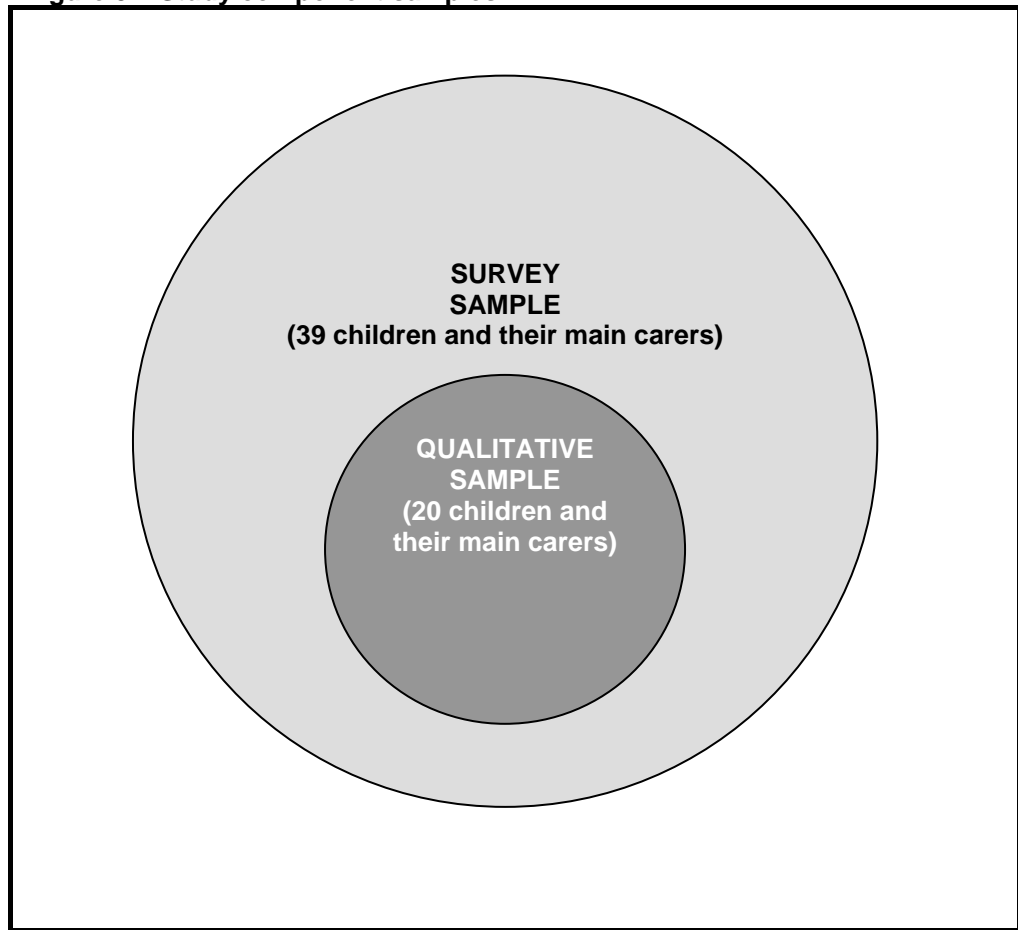
Figure 5.1 Study component samples

Table 5.1 Socio-demographic characteristics of qualitative study participants

Std no.	Age at ref ¹ / in std ²	Gen	Ethn	Income ³	Carer empl. ⁴	Carer educ. ⁵	Area ⁶	Referral reason ⁷	Child interviewed	Aggression measures scores		
										CAS-P	MAVRIC-C	MAVRIC-P
02	8/9	Boy	WB	£20,000 or less	yes	Sixth Form/College	CAMHS 1	behavioural	Carer present	16.46	10	18
05	7/8	Boy	WB	£20,000 or less	yes	missing	CAMHS 1	hyperkinetic	Carer present	43.09	23	24
07	9/9	Boy	WB	£20,000-£30,000	yes	Secondary school	CAMHS 3	emotional	Carer present	10.97	18	18
09	8/9	Girl	WB	£40,000-£50,000	yes	University	CAMHS 3	emotional	Alone	19.37	10	22
11	11/12	Boy	WB	£30,000-£40,000	yes	Secondary school	CAMHS 4	conduct	Carer present	9.46	17	16
17	9/10	Boy	WB	£20,000-£30,000	no	University	CAMHS 2	behavioural	Alone	28.52	18	12
18	8/9	Girl	WB	£20,000 or less	no	Secondary school	CAMHS 2	emotional	Alone	29.91	12	17
21	8/10	Boy	WB	£20,000 or less	-	Further education	CAMHS 4	emotional	Carer present	8.93	3	10
22	11/12	Boy	WB	£20,000-£30,000	no	Secondary school	CAMHS 2	behavioural	Carer present	19.68	18	16
25	11/12	Girl	WB	£30,000-£40,000	yes	Further education	CAMHS 4	emotional	Alone & carer present	5.81	10	3
26	10/11	Boy	WB	£20,000 or less	yes	missing	CAMHS 2	behavioural	Carer present	48.19	13	22
29	7/9	Boy	WB	£20,000 or less	yes	Secondary school	CAMHS 2	behavioural	Carer present	22.68	17	18
34	11/12	Girl	WB	£20,000-£30,000	yes	Secondary school	CAMHS 3	emotional	Alone	37.45	14	18
35	11/12	Boy	WB	-	yes	Further education	CAMHS 4	emotional	Alone	11.87	17	15
38	11/11	Boy	WB	£20,000 or less	-	Further education	CAMHS 4	hyperkinetic	Alone	7.96	18	14
43	7/8	Boy	WB	above £50,000	yes	University	CAMHS 3	hyperkinetic	Carer present	19.48	10	13
47	8/9	Boy	WB	£20,000-£30,000	yes	Further education	CAMHS 3	emotional	Carer present	19.19	15	23
50	11/12	Boy	WB	£20,000 or less	yes	Secondary school	CAMHS 4	hyperkinetic	Carer present	29.76	22	21
52	8/9	Boy	AOW	above £50,000	yes	University	CAMHS 4	emotional	Carer present	13.05	21	9
53	10/12	Girl	WB	£20,000-£30,000	yes	University	CAMHS 2	behavioural	Carer present	9.88	22	17

Note: 1. Age at time of referral to CAMHS (years). 2. Age at time of study (years). 3. Average family income level (£ per year). 4. Whether main carer was under paid employment or not. 5. Main carer's highest level of formal education. 6. Area is defined according to the CAMHS child was referred to. 7. Main reason for referral to CAMHS. Gen = Gender; Ethn = Ethnicity; WB = White British. AOW = Any other White background; educ = education (highest level); Cov = Coventry; Warks = Warwickshire; Stratf = Stratford; CAS-P = Children's Aggression Scale – Parent; MAVRIC-C = Measure of Aggression, Violence and Rage in Children – Child version; MAVRIC-P = Measure of Aggression, Violence and Rage in Children – Parent version.

5.3 THEMATIC CHARTS

Following the Framework Analysis Approach, all raw data was indexed, summarised and rearranged according to the appropriate theme and sub-theme of the study thematic framework to which it related and was charted in a matrix formatted chart. A chart was created for each of the three main themes of the study thematic framework (see Chapter 3, Section 3.10.4.1). Table 5.2 at the end of this chapter presents the thematic charts.

5.4 SEEING AGGRESSION

This section first presents the results of the counting analysis that aimed to identify where children see aggression in their lives, as reported by the participating children and their carers. The related themes and the patterns identified in the data through the Framework Analysis Approach are then presented in detail.

5.4.1 REPORTED SOURCES

The reported sources of seeing aggression are, in decreasing order: VG and TV programmes followed by school and/or playground, films, the child's home, the street, books and/or magazines, the internet, the park, at friends and in the neighbourhood (Table 5.3).

In a typical case, a child sees aggression in more than one part of his/her life.

There seem to be two different 'worlds' in children's lives: the 'not real' or 'virtual world', mainly represented by TV programmes and VG, and 'real life', which

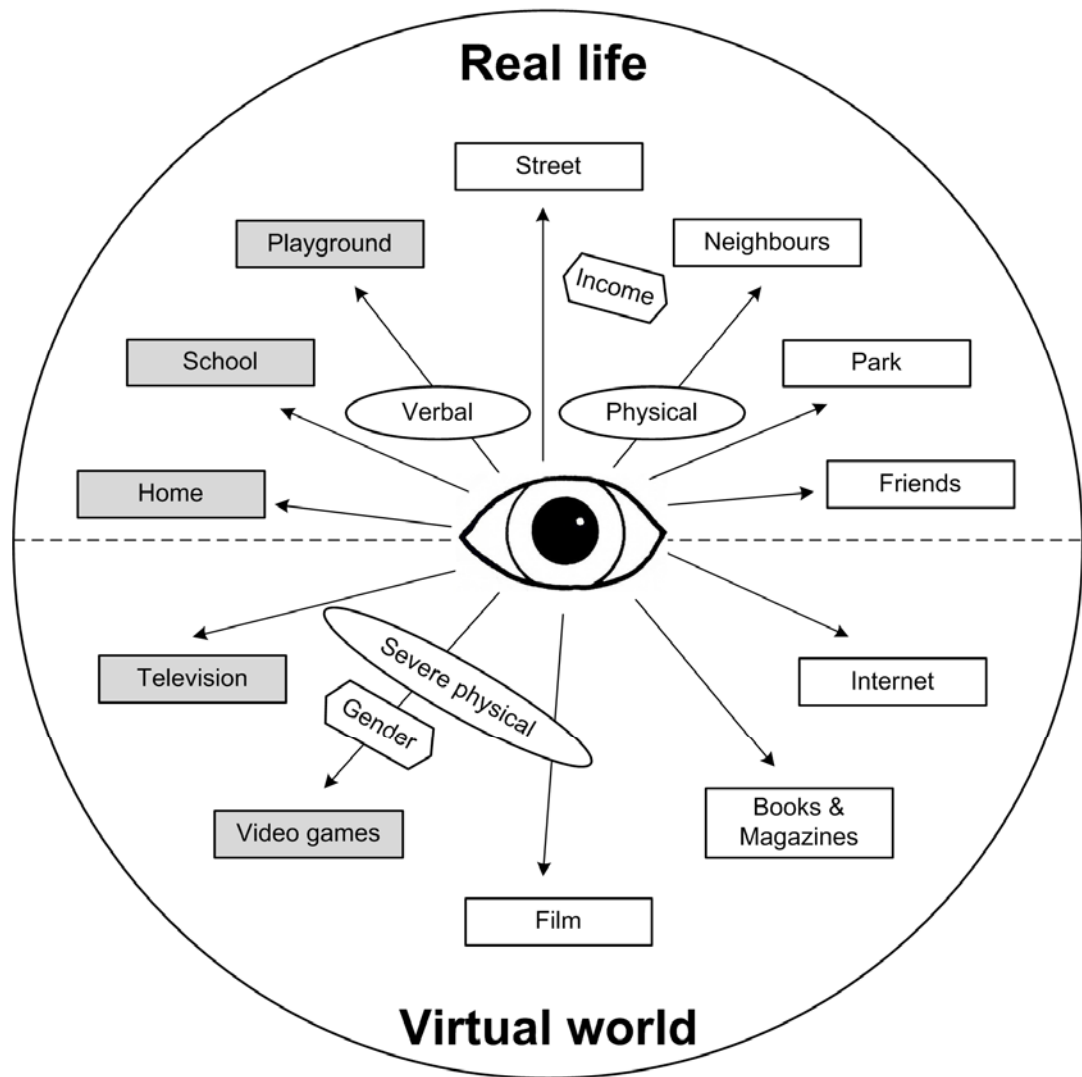
mainly includes those places where children spend most of their time: school, places where they play and home.

When it comes to types of aggression, the ‘virtual’ and ‘real’ worlds contain elements of verbal, physical, object and animal, and symbolic aggression, but there is a tendency for the ‘virtual world’ to involve more severe forms of physical aggression, including use of weapons. Figure 5.2 provides a pictorial representation of the themes and patterns identified in the data about where children see aggression in their lives.

Table 5.3 Where do children see aggression?

Source of seeing aggression	Child reports (n)	Carer reports (n)
VG	18	18
TV programmes	17	18
School and/or playground	15	14
Film (DVDs, at cinema)	9	12
Home	6	8
Street	5	2
Books and/or Magazines	1	5
Internet	2	3
Park	3	1
At friends	1	2
The neighbours	1	1

Figure 5.2 Where do children see aggression in their lives



5.4.2 REAL LIFE

5.4.2.1 SCHOOL AND PLAYGROUND

Boys as well as girls, from various areas and socio-economic (SE) backgrounds (i.e. ethnic group, family income level, main carer's employment status and level of education) see aggression at school or in the playground. Sometimes, this is where they see aggression most often. A certain amount of verbal and physical aggression – shouting, swearing, pushing, hitting, punching, fighting, bullying – take place at school and in the playground on a daily basis

***Child 11:** There's loads of fights at school and sometimes my friends are involved but not willingly. Like yesterday my friend didn't want to fight and this kid just went in and punched him in the face, so he had the fight and I tried to break that up and then all the Year 9 boys just see a fight so then they were all holding me back because I wanted to break it up and it wasn't very nice. There is quite a lot and in my year they just fight and fight and everyone fights. They're just mad and there was another fight – not me, but in our year group there is like a fight every day and that's a lot sort of thing. (Boy aged 12)*

***Child 17:** It's bullying, shout, punching, start fights on the playground which I suppose it happens more 'cause it's longer time, so I'd say school time first where most violence happens. (Boy aged 10)*

Carers, whether present or not during child interviews, tend to confirm that some types of aggression often happen at school and in the playground. They tend to see these types of aggression as characteristic behaviour for the children's developmental stage and gender, particularly for boys

***Carer 07:** He does see some aggression at school as school kids do. Boys fight and he has been aggressive to children himself in the past, but I think more out of frustration than direct wilful violence. (Mother of boy aged 9)*

***Carer 11:** I'd say school really [where he sees aggression most]. You know, they're not serious. Well, some of them, they're not nice, you know, children fighting amongst themselves and it's normally a*

scuffle or whatever. There are no weapons or anything involved but I would say he sees that side of it in school. I think it goes on in all the schools. I think there's a certain amount of aggression between boys in the sort of pecking order to see who is the toughest. ... It goes on in school an awful lot I think. (Mother of boy aged 12)

Carer 18: *I think the general bickering because girls can be very bickery, can't they, and they fall out quite often, so between her and her little friends we've had a few incidents where they've fallen out on the playground and she's come home saying 'I hate her! ... That general kind of playground mismatch, that's girls squabbling and falling out with each other and can't be friends with each other. They can only have the one friend and somebody has taken their friend off them. I see a lot of that between the girls. (Mother of girl aged 9)*

There were a few exceptions where carers seemed unaware of their child seeing aggression at school or in the playground. One mother was *really surprised* to hear her 12 year old daughter, who was interviewed in her presence, saying

Child 53: *I've seen that at school with fighting. ... There are always fights on the playground. (Girl aged 12)*

In a few cases children had seen more severe forms of physical aggression, including weapon use, at school

Child 34: *I'm in Year 8 now and in Year 9, 10, 11 and 12 they normally fight there and they normally shout around the classroom. I just think that's just wrong, really wrong. ... When there's like fights at school I just leave and go somewhere else because I don't want to get into trouble. ... I got chased before, I was in primary school, and I was in Year 4 And I got strangled as well and I got tied up to a post. So I had to go to the medical room because I had like burn marks and trouble breathing and things like that. (Girl aged 12)*

Child 38: *I've seen people shouting and people throwing things at people ... for real because in my old school people used to hit each other all of the time. ... I saw it [looking at picture of stabbing] in school the other day. A kid took a knife into the school and threatened to knife somebody with it. (Boy aged 11)*

5.4.2.2 HOME

Boys as well as girls, from various areas and SE backgrounds had seen aggression at home, mostly verbal, between their parents

Child 02: *It's just arguing like mum and dad do. [Looking at his mum] You do! ... In our house there's always arguing between parents.* (Boy aged 9).

Child 34: *In this drawing there's a person shouting at another and they're in an argument. I think I've seen that before with my mum and my dad.* (Girl aged 12)

Two girls and a boy had witnessed more severe forms of domestic violence

Child 34: *I saw my dad hit my mum and the police came over a few times. He used to live in [Town]. I hid when he came. When they started arguing I was upset and crying so I just hid. My dad punched a hole in the wall through. And he beat up this guy, he was just outside the pub and he left him there, to die really.* (Girl aged 12)

Carer 34: *She does remember that when we broke up that her dad became nasty, and she remembers hiding behind the sofa when the Police came, and the Police lady lifting her up. It's only little things, but it stayed in her head that her dad threw a bottle at me and he went to hit me and it made a hole in the wardrobe door. She remembers all those things and she was only three. But she remembers what room it happened in, she remembers everything.* (Mother of girl aged 12)

Carer 09: *She lived with violence for eight years, so it was everywhere. ... [Her father] was violent.* (Mother of girl aged 9)

Carer reports of aggression at home tended to parallel the child reports, whether the child was interviewed alone or in carer's presence. There were a few exceptions, where only carers mentioned verbal aggression in the family, either when parents argue and shout when angry at each other or when the child's behaviour is difficult to *control*. One mother was concerned that her son, now

aged 12, had witnessed his parents being angry and shouting at each other when he was *at the wrong age*, i.e. aged 7

Carer 22: *I suppose home [where he sees aggression most]. It sounds terrible, doesn't it, but I suppose we're not a very calm house. I mean we don't hit each other and it's not like that. His dad's not great with them. He's very impatient with them. It's a terrible thing to say, isn't it? I feel quite ashamed of myself saying that. There's a lot of impatience and anger from us about the machines [video games]. We don't sort of hit out and scream and swear. We do get angry with him because he's a bit impossible. And I know that's not the way to deal with him but you despair of how to deal with him. No, I wouldn't say the main violence but really, where is he seeing it? I think a lot is from the divorce business [of carer's sister]. He learnt to see us angry. And it wasn't hitting and that kind of violence. It was anger at how they were treating the girls ... the conversations got quite heated. ... He did see that at the wrong age. There's no doubt about it. ... I think we're angry with them a lot because they're impossible. We can't seem to get a control of them. ... I wish I hadn't said that he sees all this aggression at home but I suppose it's true, if I'm honest. (Mother of boy aged 12)*

In one case, a boy aged 12, interviewed in his mother's presence, challenged her as he thought, besides verbal, there was also physical aggression between his parents

I: Have you ever seen things for real like fighting or killing?

Child 50: *Yes. Mum and dad. [Carer: We've never hit. We argued.] And hit probably.*

5.4.2.3 THE STREET

Children from various areas see aggression, mostly verbal, in the street. They see adults and CYP, including children their age, *shouting* or *swearing* at each other. Children who reported seeing aggression in the street tended to come from families of below the national average family income. In a few cases, children and carers, with a family income level of £20,000 or less, described some more severe forms of physical aggression happening in the street

Child 38: ... kids are starting to do it [violence] on the streets. An eighty-seven year old lady got beaten up in my road the other day. She got beaten up at the bus stop. ... There's a bus stop across my road across from me that's dangerous. The council keep having to put glass in the back - plastic glass and teenagers when they get drunk and keep kicking it in and it comes out and then my stepdad's granddad tripped over it the other day and broke his glasses. And mum reported it to the council. (Boy aged 11)

Carer 21: Sometimes [he sees aggression] out in the street because of where we live. Some of the teenagers are quite aggressive and violent and fight with each other. (Mother of boy aged 10)

5.4.2.4 THE PARK

Children from different areas and SE backgrounds witnessed incidents of verbal and physical aggression in the local park

Child 09: ... yesterday I was at the park and there was this boy who was older and he's a bit, he's not mental but he's a bit hyper and he wonder around everywhere. And these people, he was running, he was going running down the slide and everything, and then these people started swearing at him going "Why did you do that in our park? You could have done that somewhere else". It wasn't really his fault. And then, well, he walked away and someone threw a stone at him, the same person. (Girl aged 9)

Child 34: ...they normally arrange fights down [park] and when I was down there, my mum saw it as well and there was this one girl who came and started an argument with another girl and then they started rolling down the hill. They all got muddy, pulling ribbons from people's hair out, but one of the girls ran and said "Oh, I need help". (Girl aged 12)

Carer 34: There was one day that she was out with me with the dogs, just down in the local park, and there was a large group of children, and then one of the girls started fighting with another girl and A. said "You can't leave her, mum", and I said "There are lots of them" and I literally just said "Right, I'll go down there" and then she was worried that I was going to get hurt, so I stood nearby and she said "You can't leave her, they're going to hurt her". And she got all upset that all these people were against one girl. (Mother of girl aged 12)

5.4.2.5 THE NEIGHBOURS

A few children, with a family income level of £20,000 or less, witnessed incidents of verbal aggression involving neighbours

Carer 26: *We're having a bit of a dispute with one of our neighbours at the minute and he sees me arguing and what-not and I was like, "Well, you know J. don't take any notice of that" but I don't know whether he's took notice or not.* (Mother of boy aged 11)

This finding of a possible link between a low family income level and children seeing aggression in the community, i.e. the street and neighbours, informed a further quantitative analysis (see Chapter 4, section 4.6).

5.4.2.6 AT FRIENDS

In a few cases children saw aggressive incidents at friends' houses

Child 21: [**Carer:** *They were playing on the Playstation last time we went to visit and he was getting really angry because you kept winning. He was very aggressive because I did think he was going to start whacking you with the control pad*](Boy aged 10)

5.4.3 THE VIRTUAL WORLD

Boys and girls, from various areas and SE backgrounds, see aggression in the 'virtual world', which is mainly represented by TV programmes and VG. Carer reports tended to parallel the child reports, whether children were interviewed alone or in their carer's presence. Sometimes, this is where they see aggression most often

I: *Where do you think he sees aggression most in his life?*

Carer 17: *It's got to be the TV and his games.* (Mother of boy aged 10)

Carer 18: *The TV, definitely.* (Mother of girl aged 9)

Carer 50: *It would be on the Playstation without a doubt.* (Mother of boy aged 12)

5.4.3.1 TYPES OF AGGRESSION

Children see various types of aggression on TV programmes and in VG. They tend to see more severe forms of physical aggression, such as fighting using knives or guns, *stabbing, shooting or killing*, more in the 'virtual world' than in 'real life', especially when playing *shooting games*

Child 02: *[Looking at picture of stabbing] Someone stabbed him.*

I: Have you seen anything like that?

Child 02: *No, I haven't seen it but I actually like, you can't actually see it when they stab it ... they hit the ground, you see the knife in the back, that's about it.*

I: Have you seen this in the streets, or at school?

Child 02: *No.*

I: How about games or TV?

Child 02: *Yeah, games and TV, yeah. Like in James Bond, this man got a sniper and he comes up at the end of a mission, he gets a knife and stabs you in the back and you end up half injured and he gets a rope and strangles you. [Looking at picture of shooting] I've only seen that in games, I've never actually seen it in real life. (Boy aged 9)*

Child 25: *Like when people are shouting at each other in the playground. It doesn't really tend to have stuff like that on the video games. It's more like physical stuff.*

I: Have you seen children doing that?

Child 25: *Yes. When they get angry at each other they shout.*

I: Could you think where you have seen these things most?

Child 25: *Probably at school. Or on the TV I suppose.*

I: How about these two pictures [of hitting and stabbing]?

Child 25: *I don't think I tend to see these ones at school. I think they're more on television or video games. [Looking at picture of chasing] A bully is chasing a child.*

I: Is school the place you'd see it most?

Child 25: *Yes. I think in video games they try to do more like with swords and guns and punching. (Girl aged 12)*

I: Where have you seen this kind of things most, like shouting, hitting somebody and threatening somebody?

Child 52: *Well, I wouldn't say guns and knives at school but I'd say most of it was at school, and knives and guns and stuff in video games. (Boy aged 9)*

5.4.3.2 AGE & CONTENT APPROPRIATENESS

Children see aggression in TV programmes, VG and films that are considered appropriate for them. For example, the following target a child audience: televised cartoon series such as *The Simpsons*, *Watch My Chops*, *Horrid Henry*, *Power Rangers*; TV programmes such as *Tracy Beaker* and *Grange Hill*; VG and films that are recommended by rating boards (e.g. the Entertainment Software Rating Board (ESRB), the British Board of Film Classification (BBFC)) as suitable for the child's age group, i.e. have rating symbols e.g. 7+, E - Everyone, U - Universal – Suitable for all.

Some TV programmes are easily accessible to children due to the broadcasting time: *programmes before 9pm, everyday programmes, early evening programmes, soaps such as EastEnders and Coronation Street*. Some children watch programmes such as *soaps* together with parents, others alone or together with siblings

Child 17: *They tend to put violent stuff on telly, really violent stuff. The more violent stuff it should be on after 9 o'clock.* (Boy aged 10)

Child 35: *I've got a game called Iron Man, I play that because it's a hero and you get to fly around in the suit and use all the weapons and that's either a 12+ or a 7+.* (Boy aged 12)

Child 52: *On, say, Coronation Street people fight with each other. On EastEnders people fight with each other. On The Simpsons it's really, really funny and he does funny fighting and all of that.* (Boy aged 9)

Carer 02: *There's one game, I can't remember what's called, it is age appropriate and when I found out that he got it and that he's playing it I was mad. It's basically you steal cars, people get in your way and you would run them over or you stab them. Now that's age appropriate for R.! I can't remember what is called. When I found out he got it, 'cause he's borrowed it of a friend, of P., and when I found*

out he got it I went mad at P.'s stepdad, he says "Well, it's age appropriate". I said I don't care, I do not want him to have it again. And he thought it was OK. You know, steal cars, run people if they get in your way or stab them! That's not age appropriate for a nine year old. And this game was 7+! He played it couple of times and I only saw him playing it once and I said "What are you doing?" and he says "He's in my way so I'm gonna stab him". So I took it off him. (Mother of boy aged 9)

Carer 11: *The amount of programmes that are on the television that have got that sort of thing in them, you know? Coronation Street – he would watch that and I would let him watch it and then there's the lad David in Coronation Street who's threatened his mum, so yes, he would see things and I would try to sort of say to him that whatever they're doing is wrong, but I think it's hard to stop them seeing anything like that because it's in so many programmes, you know, The Bill, and they're all on early in the evening. ... It's in so many things because even in cartoons you see aggression to a certain extent. You know, in the form of a cartoon character. ... I would say that it's in a lot of things and he does watch them, yes. I would class the everyday sort of programmes that are on, there is aggression in those. (Mother of boy aged 12)*

Carer 35: *EastEnders, and that awful Tracey Beaker programme, you hear how they speak to families, or not families in Tracey Beaker's case 'cause she's orphaned and living in some sort of an orphanage. When you look at how she addresses people and how her aggression comes over, that's negative. (Mother of boy aged 12)*

Children also see aggression in TV programmes, VG and films that are considered inappropriate for them but which target an older CYP and adult audience. Examples include: *late night* TV programmes (broadcasted around or after 9pm) such as crime dramas (e.g. *CSI*, *Law and Order*), *Casualty*, *The Bill*, *Family Guy*; VG and films that are recommended by rating boards as suitable for older children, i.e. have rating symbols of 15+ (suitable only for 15 years and over) and 18+, such as *Grand Theft Auto* (18+), *Final Fight Streetwise* (18+), *The Punisher* (18+).

Age inappropriate shooting games, where you shoot the baddies to win the game, are played more by boys than girls

***Child 02:** James Bond. Quite a good one. Basically it's a shooting game, it's 12+ but mum allows me to have one game that's 12+. Basically it's shooting people, you get off if you press, I think it's L1 you could put a little circle on it, if it's green you keep shooting until it's red and it will go black and then they're dead. ... We got to shoot them all [the Russians], we have to try survive. (Boy aged 9)*

***Child 11:** I'm going to get Grand Theft Auto 4, well, my brother is if he passes his SATS. We'll play on that. We were playing it last night at my friend's house ... you can go round shooting people for no reason. (Boy aged 12)*

***Child 38:** I did have a game called Final Fight Streetwise. I've got loads of little gangs to beat up that you have to get through on the way there.*

I: How about Grand Theft?

***Child 38:** That has got a lot of shooting in it but that's only in the missions. ... The missions I did this morning, someone broke into my flat and went to kill my mate and I went in and had to shoot them because they were going to shoot her. ... I didn't kill them. I only shot them in the leg. I only shot them in the shin. I didn't seriously injure them. I only shot them in the shin just above the ankle so I could get them out, so you could get out and then I ran out but I did call an ambulance because the hospital is literally round the corner for me, so I ran into the hospital and got a paramedic straightway to him. (Boy aged 11)*

***Child 43:** I know that she's not happy with me playing The Punisher because it's 18. People think he's a baddie but he's a goodie. He's not like the police but he goes around and he stops all these terrorists and he kind of like saves the good people but he kills the bad ones. He's not got a job and he doesn't have a license to kill or anything but he goes around the buildings and he kills the terrorists. I think it's based in America. It doesn't really have any swearing in it but I usually play army games and stuff and she is okay with me playing that but it's practically the same as that. (Boy aged 8)*

Children sometimes have access to age inappropriate VG sold to children, either intentionally or accidentally. By the time carers become aware of it, the child is already playing the game

Child 11: *You can get sold eighteens [18+ games] anyway. If I went in and tried to buy Grand Theft Auto 4 they'd sell it to me. They would sell it me if I went into Games Station and asked them. They sold it to my brother's friend who's a twenty-year old now and before he was my age, he went in and he got served. He gave him Grand Theft Auto 4 and he got away with it.* (Boy aged 12)

Carer 05: *I don't really like him playing that one. But he was getting picked on at school. They all had it, so it's like a stigma isn't it? And when ... you buy the console because it was in, it's one of the new games out at the time, you're stuck. It's like "Great, I got all I want!" but they shouldn't really, you know, they should ask what age group is for but they just hand it over to you. Buying it and you got an eighteen [18+] game in it and it's for a child!* (Mother of boy aged 8)

5.4.3.3 AGAINST RULES

Children sometimes see aggression in VG and films that they watch or play against parental rules, either at home or somewhere else such as at friends' houses

Child 11: *Green Street was quite good but it's really violent.* [**Carer:** *Have you seen that?*] *Yes. I haven't seen Football Factory but I've seen Green Street.* [**Carer:** *Where?*] *You know I saw it at J.'s house.* [**Carer:** *Right.*] (Boy aged 12)

Child 29: *I watch loads of horror films, gangsters, Freddie Kiber. Have you seen that? Freddie will kill, stab and all that. I watched it in pitch black in my sister's room, all lights out. Didn't I mum?* [**Carer:** *Very sneaky, aren't you?*]

I: *Are there things you like watching on TV but mum or dad won't let you?*

Child 29: *They won't let me watch boxing and all that.* [**Carer:** *I don't let him watch horror films and Green Street, anything like that.*] *My mum didn't know, it was luck.* (Boy aged 9)

Carer 38: *There's a lot of programmes that he watches that I don't agree with. I'll say "I don't like you watching that" but he will still*

watch things that I don't approve of. And he's at that age where if I say "You're not watching that" and I turn off the TV, the minute I'm out of the room he's just straight back in. (Mother of boy aged 11)

Carer 43: *He likes army programmes, but he's not allowed to play them. Because of the violence and the bad language. I think some of them are about age fifteen or over. But there's been the odd occasion when I've come in and found him playing them, but they're his dad's games.*

I: *So he probably knew that he's not allowed to.*

Carer 43: *Oh, he knows that he's not allowed to and his defence would be "Well, I've turned the volume down", he'll say "I've got no sound on so it's okay". I have to explain to him that that's not the only reason I don't like him playing those games. (Mother of boy aged 8)*

5.4.3.4 SPORTS GAMES

Some children, mainly boys, see aggression in sports VG and films e.g. football, wrestling, car racing. They are interested in sports but they also see the aggressive elements of such games

Carer 11: *He likes the sports element of it but there are sides of it that aren't, you know, you think aren't very nice. ...There are films like Tokyo Drift and those sorts of films, car racing films, but it always has an element, or a lot of them have an element of aggression, or what I would call aggression in them. (Mother of boy aged 12)*

5.4.3.5 PREFERENCE & OBSESSION

Some children, especially boys, have an obvious preference for VG that contain aggression

Carer 38: *It's the type of games that he plays. It's always violent games. It's always the ability to kill someone, or shoot someone, or run someone over or blow a building up. (Mother of boy aged 11)*

Carer 52: *He plays a wide range, but given the chance he would play violent games. (Mother of boy aged 9)*

Two participating boys were reported to have an *obsession* for playing VG, i.e. playing intensively while ignoring other activities and neglecting their personal care

Carer 22: *It's the Playstation and the computer and it's games ... my younger son will do different things, but he always wants his competitive games. If I let him play on it from first thing in the morning to when he fell asleep in bed it wouldn't be enough ... just totally obsessed. My husband's took the games off him again because they're not washing, he won't eat meals and it's like an obsession. The first thing he does when he comes through the door is get straight to the games and if he can't have them, he's all over the place. He's dying to get to them.* (Mother of boy aged 12)

Child 29: *I used to play it [Bullworth Academy] every day. I used to get up very early and play it about 6 o' clock in the morning. I loved it that bad. I've played it all day and I was like "Mum, I don't want anything up!" and she says "Come down, come down". ... I played it once about six times.* (Boy aged 9)

5.4.3.6 REASONS FOR PREFERENCES

There is more than one aggression-related reason for children's TV, film and VG preferences. For example, the competitive nature of VG is a common reason, as children like being challenged, to *go up levels* and to win the game. This is exciting and *fun*

I: What makes you play video games?

Child 35: *It depends what it is and how it makes me feel, and if it's boring then what's the point of even trying to buy it, and if it's easy to complete then you've completed it and you don't want to play with it anymore.* (Boy aged 12)

Carer 02: *If I leave him, then he's just over the top, if I leave him getting on with it he would play it for 3-4 hours. He'd say "Mum, I got to this level!", "Mum, I got to that level".* (Mother of boy aged 9)

Carer 35: *They're getting stars and things and moving on to the next level. ... I guess in one way it's a skill thing.* (Mother of boy aged 12)

Carer 52: *He loves to win ... James Bond game ... and Star Wars Lego, he talked about that with you, again sort of childish but exciting, you know, attacking people.* (Mother of boy aged 9)

The 'virtual world' also gives children the possibility of doing things they find exciting and *fun*, which they cannot do in 'real life'. VG are most exciting and *more fun* as things are happening under the player's control

Child 11: *You can go round shooting people for no reason and stuff, but it's sort of a game ... you can just go round and do whatever you want sort of thing. Like, you can just climb to the top of a building and jump off sort of thing and then reload, so it's quite funny ... I'd like mess around and run away from the police and stuff and jump off bridges and everything ... It's a game and you just do it because you can sort of thing, like driving a car into another carlike sometimes you really want to do in real life - not shoot someone, but like drive on the wrong side of the road and stuff and things I do in the game. It's sort of like getting the police chases in cars and stuff. You can't really do that in real life because you'd just get arrested.* (Boy aged 12)

Child 43: *In a game it's probably more fun, in a movie it's not as good as in a game because in a game you can actually know what's going to happen and what you can do next but in a movie you're like "Oh no, I can't watch it" and in a game you can play at any time.* (Boy aged 8)

VG are designed and advertised to be appealing to children and are easily accessible. Children are prompted in this direction by the whole media market

Child 52: *With video games they sort of bring out a new version of something, a new version of this, a new version of that and all of that and whatever thing I see when I'm out is a new game or something that I really, really want and I just rush into the shop and get it.* (Boy aged 9)

Carer 02: *He's got the James Bond Magazine, he collects that and he refers to each part to what he's seen in the film "Oh, that's on my game, and that's not on my game".* (Mother of boy aged 9)

I: *Why do you think they like the fighting games?*

Carer 18: *I think it's influenced through TV and all the music industry, the rapping and the gangster things that are about nowadays, isn't it? (Mother of girl aged 9)*

In addition, there is a lack of non-aggressive, age appropriate VG that children would enjoy

Carer 35: *There doesn't seem to be very many nice [video games], they all seem to be on this warfare, winning, speeding, cars racing, you've got to win. (Mother of boy aged 12)*

Children's interests are shared with peers. There is *peer pressure* and fear of *stigma* as their peers watch similar TV programmes and films and play similar VG

I: *What do you like about The Simpsons?*

Child 09: *I don't know. It's just that most of my friends watch it. I didn't use to watch it but it's just my friends watched it. (Girl aged 9)*

Child 11: *I just play the shooting games with my friends because everyone likes to play them and you can play with four players. (Boy aged 12)*

Child 43: *I've seen every single one [James Bond] except the new one, but somebody won't take me to watch it! Nearly everyone else has seen this! (Boy aged 8)*

Carer 05: *Sometimes he gets angry with this one [video game] because it's quite an angry one. I don't really like him playing that one. But he was getting picked on at school. They all had it, so it's like a stigma, isn't it? (Mother of boy aged 8)*

Carer 35: *I asked him about this infecting the world thing and I've said to him "Why do you think this is a good thing?" And he said "Well my friends at school play it", so again you've got the peer pressure. (Mother of boy aged 12)*

Boys' interests are also shared with their fathers

Child 43: *When I was very young my dad got all this game stuff on consoles. I think I was probably about one or two, or probably about three. (Boy aged 8)*

Carer 43: *He likes army programmes, but he's not allowed to play them because of the violence and the bad language. But there's been the odd occasion when I've come in and found him playing them, but they're his dad's games. (Mother of boy aged 8)*

Child 50: *Star Wars are cool, the weapons and everything are just like, wicked. Plus it's like my dad, he was a good fan of it. (Boy aged 12)*

Carer 02: *They're all age appropriate [video games], all except one and that's James Bond. And he watches it on the telly anyway with his dad, him and his dad are addicted to it. (Mother of boy aged 9)*

For some children, VG provide the world to escape into, to *run away* from the 'real life' difficulties

Carer 22: *He saw a lot of anger and upset people ... We were all trying to do our best for my sister and the girls ... There have been horrible situations and I think he was angry that the attention was going to them and not him. He was pushed out ... Maybe it's his way of running away – the machines [the computer games] and his escapism. (Mother of boy aged 12)*

Parental restriction sometimes gives these programmes and games the appeal of the 'forbidden fruit'

Child 11: *I think if you tell someone they can't watch it that much then they'll just go and watch it anyway and then... they'll think it's amazing because they've never been able to watch it before, so if you just allow them to watch it you never get the thrill out of it. (Boy aged 12)*

Carer 11: *If he thought that I was banning it at home he would then just find somewhere else to go and play it because most of all the children that I know, I would say that these are his brother's friends and they've got all the games where they're eighteens [18+ games] or they've got an age restriction on them. They've all got them, so it's like that DVD that I didn't want him to watch at home. He watched it somewhere else and if anything, I'd rather they watched it in the home so that I could just maybe say "Well look, you do realise that that's not the right thing?" (Mother of boy aged 12)*

Sometimes children lack other activities such as playing outdoors

I: What would be the first thing you like about video games?

Child 22: *Because it's something to do when there's nothing else to do. It takes your mind off things.* (Boy aged 12)

5.4.3.7 GENDER DIVIDE

Girls are less interested than boys in VG that contain aggression e.g. *shooting games*, which they tend to play with their brothers. The competitive nature of VG is reported to relate to boys' competitive nature and the way society is constructed around gender differences

Child 34: *My brother's got Playstation 3 and he's got gun games on it. He knows everything about them really. But I've had a go, he normally nags me and pulls me and begs me to come and play with him.* (Girl aged 12)

I: Are there any games you don't like to play?

Child 35: *Normally the girl games I don't like to play because they have loads of stupid things that you don't want to do.* (Boy aged 12)

Carer 22: *I think definitely boys are more prone to obsession with these games. ... I don't know if it's because the boys' games are designed like that ... they also do include aggression ... and the competitive element together. That is in a boy's nature. I think boys are by nature more competitive than girls.* (Mother of boy aged 12)

Carer 18: *My boys like the racing and the fighting and those kinds of chasing game ones and the robbery games ... We bought some games for her and she bought the pony games where you look after your pony ... she is quite soft in that nature. She wouldn't outwardly go and purchase one herself, a fighting game or anything like that.* (Mother of girl aged 9)

I: Has it ever happened that she's played a game with some aggression or violence in it?

Carer 53: *No, I don't think she's ever played any game like that.*

I: Not even at friend's houses?

Carer 53: *No, not as far as I know. Her friends are all quite girly girls, they're all sort of into their fluffy pink things.* (Mother of girl aged 12)

5.4.3.8 THE GENERATION GAP

When it comes to seeing aggression in the ‘virtual world’, there is a generation gap. Compared to their children, carers grew up with less, and a different type of, ‘virtual’ aggression, e.g. mainly *cartoon violence* in TV programmes like *Tom and Jerry* or *Itchy and Scratchy*

Carer 18: *I think they see [aggression on TV] more than what I used to when I was a child. Because obviously there are programmes like The Bill aren't there; the police programmes and things like that where people are roughed up and arrested with their arms behind their backs and they're doing things wrong. There weren't programmes like that when I was younger and if there was then it was The Sweeney and that was on later on at night, so I would have been in bed and not seeing it so, yes. I do believe there's definitely a different breed of television that wasn't around when I was younger ... They are exposed to a lot really when you think about it and break it down, aren't they? ... The whole music system and way of portraying life has changed a lot from when we were younger. (Mother of girl aged 9)*

Carer 38: *When I was growing up I never had computer games, I was never sat in front of the telly, I was always out busy doing things, and I'm not violent and I'm not aggressive ... But with him it's totally different. (Mother of boy aged 11)*

Children are part of the ‘new generation’ who know more about VG than their carers. Sometimes carers are not aware of the aggressive content of VG they buy for their children

Child 35: *It's normally parents going out, don't know what the games are and children know that they don't know what the age of eighteen means so they take advantage of that. (Boy aged 12)*

5.4.3.9 DIFFICULT TO PROTECT CHILDREN

It is difficult for carers to protect children from the aggression coming into their lives through the ‘virtual world’, which adds to what children are exposed to in ‘real life’: aggression seems to be *everywhere*. Some carers thought continuous

parental monitoring of what children are watching or playing is impossible and sometimes inadvisable, as restrictions imposed by carers could have the opposite effect, although letting children make their own decisions may be risky. Some carers are more radical, saying VG should be completely discarded from society

Carer 11: *He would see things and I would try to sort of say to him that whatever they're doing is wrong, but I think it's hard to stop them seeing anything like that because it's in so many programmes, you know ... It's in so many things because even in cartoons you see aggression to a certain extent. (Mother of boy aged 12)*

Carer 18: *You see some horrific things on the News that children don't always watch, but when the children are in their rooms they must pick up ... and if an adult is going "Oh my God, look at that!" on the telly to their partner, the children are going to look, aren't they and see what it was and whether it's, you know, an actual disaster and somebody is hurt and there are bodies everywhere. I mean sometimes that's a bit daunting for kids, but it is life, isn't it, unfortunately? (Mother of girl aged 9)*

I: *Is it difficult to stop him?*

Carer 38: *Well, yeah, because if he's up in his room and I'm downstairs, I don't know what he's watching without going up and down to check every five minutes. So it's quite difficult. (Mother of boy aged 11)*

Carer 29: *I can't understand why [video games] are brought out into the society. If society needs to get better, why bring that crap out? That's how I see it. I think they should all be taken completely off the shelf so nobody can go on them. They only bring violence. (Mother of boy aged 9)*

5.5 THE ASSOCIATION BETWEEN EXHIBITED AGGRESSION AND SEEING AGGRESSION

Children and carers appear to have different views on any association between aggression seen and exhibited aggression. The themes that emerged from the

data suggest two models of thinking: the child and the carer models. These models are graphically represented in Figures 5.3 and 5.4.

5.5.1 THE CHILD MODEL: 'OTHERS BUT NOT ME'

Children were often unable to identify the factors that contribute to their own aggressive behaviour. *Anger* and *stress* were identified as two such factors in some cases. Generally, neither boys nor girls think that seeing aggression in their lives has any influence on their own behaviour. This contrasts with their carers' views. Where they do think there may be a link between seeing aggression and exhibited aggression, such as *copying* what they see on TV and in VG, children seem to only apply this reasoning to *other people*

Child 11: *I don't really know why I get angry or aggressive. I don't know. I just do.*

I: *Do you think it might be seeing things around you?*

Child 11: *Not for me, but it might be for some other people ... I do everything similar to what I've seen but not because I've seen it. It's just because I've done it sort of thing.* (Boy aged 12)

I: *Do you think that children see these things anywhere and they try and do them when they get angry, like seeing something on television or in a game or somewhere else and then when they get angry, to do the same thing?*

Child 25: *Yes, if it was their favourite TV character they probably would try and copy them.*

I: *Has it ever happened to you?*

Child 25: *No.* (Girl aged 12)

Child 53: *My mum and dad stopped me watching it because they thought it was that that was making me angry but it wasn't that.*

I: *And what do you think?*

Child 53: *No, not really. I think I was just stressed.* (Girl aged 12)

Child 38: *Because there are movies with loads of violence in kids are starting to do it on the streets.* (Boy aged 11)

5.5.1.1 REAL VS. VIRTUAL

With regard to any effects of seeing aggression, from children's points of view, the 'virtual world' is clearly separate from 'real life'. Children dislike and feel scared or upset by aggression in 'real life' and they tend to empathise with the person being *hurt*. Their attitude towards the aggression seen in TV programmes, VG and films, even in more severe forms such as *shooting* and *killing*, is neutral: they 'ignore' it; they feel *normal*. They reason that the latter is *just a programme*, *only a game*, *not real*; they see it as *exciting* and *fun*. They see themselves as old or mature enough to differentiate reality from fantasy and to understand the potential consequences of behaving aggressively. As such, they consider that seeing aggression in the 'virtual world' has no influence on their behaviour. Their carers confirm this attitude

I: When seeing shooting on the game, how does that make you feel?

Child 02: *It make me feel like normal basically 'cause it's not really real. It's just a game.*

I: How about seeing that in a movie?

Child 02: *Exactly the same, isn't real, it's just like a film.* (Boy aged 9)

Carer 02: *He understands they are not real, and he understands they are make-believe. And as long he is concerned, they don't affect him at all.* (Mother of boy aged 9)

Child 07: *There's blood and things that go out of their bodies in The Simpsons. Like their heads get chopped off. My friends are always talking about it in school.*

I: Do you feel scared about it?

Child 07: *Not really 'cause it's just a cartoon, it's not real life.* (Boy aged 9)

I: How do you think he feels when he sees aggression? Does he feel scared or excited?

Carer 17: *He doesn't feel scared. It depends what it is. If it was real people he'd probably be upset by it. If it's in a game he'd probably find it exciting because they tend to be the fast moving games. But he probably wouldn't see that as real. It's just a game.* (Mother of boy)

aged 10)

Child 22: *A lot of people being shot and that sort of thing and not really sort of innocent people, but it's generally sort of soldiers ... It doesn't really seem bad if it's in the game. It's not hurting anyone but if it was for real ... I really, really wouldn't like it.* (Boy aged 12)

Child 38: *If it's not real it's OK because you already know that it's done in a studio. Like, all the movies that aren't true and that have got blood in them, you only know it's like tomato ketchup.*

I: Games such as Grand Theft, do you think that's OK for kids to watch?

Child 38: *No, because kids could go around copying it.*

I: How about yourself?

Child 38: *No, I don't copy it because I'd know I'd get arrested because I've been in trouble with the police before ... Kids think it would be a good idea to copy them but it's not a good idea for them.* (Boy aged 11)

I: Have you seen things like fighting or shooting often in a game or a movie?

Child 43: *If it's for real it would not be fun at all, in a game it's probably more fun, in a movie it's not as good as in a game because in a game you can actually know what's going to happen and what you can do next but in a movie you're like 'Oh no, I can't watch it' and in a game you can play at any time.* (Boy aged 8)

Carer 43: *Some of the cartoons that they watch have violence in them, with fighting and whatever else, but he's very aware that it's a cartoon, that it's not real.* (Mother of boy aged 8)

5.5.1.2 REALISTIC VS. CARTOON LIKE

Another distinction that emerged from the data is that between 'realistic' or 'human like' and 'non-realistic' or 'cartoon like' aggression seen in the 'virtual world'. *Cartoon violence*, even if it contains *shooting* and *killing*, typically involves *good* characters fighting and destroying *bad* characters, which then just disappear, i.e. *their bodies fade away*. As such, cartoons or cartoon like programmes, films and VG (e.g. *The Simpsons*, *Tom and Jerry*, the Lego type of VG) are less *realistic*, and therefore thought to be *not really violent*. Children

regard them as *funny*. TV programmes, VG and films that involve *real looking* or *proper human* people and which may depict a *person in pain*, blood or *body parts* are more *realistic*. This is typically seen in programmes, films and games that are recommended by rating boards as only suitable for older CYP (e.g. 15+). More recently released *new games*, which depict *moves like in real life*, are also seen as more realistic. Children tend to dislike and consider these *really violent* and *not alright* for children to watch or play. Their carers confirm this attitude

Child 22: *[There are] a lot of programmes with violence in them, programmes or cartoon programmes that aren't smart, but they're funny and they're not meant to be offensive ... I used to watch a lot of Tom and Jerry, which has a lot of cartoon violence in but they're funny.*

I: *If you had the possibility to speak to somebody creating video games, or creating TV programmes, designing them, and they'll ask you what do you think we could change or could do better, what would you say?*

Child 22: *I'm not sure because if they make them really accurate, like if a person has shot someone and they're screaming in pain and stuff then it would really upset people because it would be a lot more realistic. I'd prefer them to keep some that are not as realistic.* (Boy aged 12)

Carer 22: *Tom and Jerry ... they're awful ... Have you ever seen Itchy and Scratchy or The Simpsons? I mean that is awful, isn't it, sometimes? There is blood flying everywhere. Of course, there's a roar of laughter at that, they love it ... He says he's happy with the games he plays because you don't actually see blood, or anybody actually killed. They just kind of disappear.* (Mother of boy aged 12)

Child 35: *All games that have like violence in them ... in a cartoon way, like Ratchet and Clank have weapons. When you kill, well, if you destroy the bad people, which they do, you can't destroy a good person. Their bodies fade away, but when I've seen my brother playing San Andreas the bodies normally stay until you disappear, until you go.*

I: *Is it different seeing them in a game and seeing them in a movie, like TV or on DVD?*

Child 35: *For the younger games then it's different and then with the older games it's similar.*

I: *How about seeing shooting and killing in a movie or these older games because they are showing blood and people dying?*

Child 35: *Well, as in Ratchet and Clank it's not a human race sort of thing, so that wouldn't really matter.* (Boy aged 12)

Child 38: *He's got Gun Fest 34 and that is a new game and when he goes to smash cars to shoot somebody it actually does seem real moves, so if you go to shoot somebody from a far distance they actually move the way they'd get shot in real life ... It's alright for eighteen-year-olds but not for kids like my age.* (Boy aged 11)

Carer 34: *She was on a game thing one time ... It was like matchstick men, it wasn't proper, human people, and they could choose... what weapon they wanted like a gun with nails coming out of it, and you could fire it at this other matchstick man and even though it wasn't really gory, I didn't like it. There was like this sort of red paint, which was blood, coming out and I just said "You're not playing that. I don't like it" ... They could choose if they were in a prison, or out on the street or in a school and then you could choose a knife, or something, and throw the knife. She found that funny and she said "But it's not real", but I said "That's not the point. You're not playing it and that's it, end of". Then, I was in ... another part of the house, and when I come down she had shown the boys it. So the boys think it's really funny as well. Because they're not real looking people she thinks it's funny. But I think if they used proper human people on there she wouldn't then like it. But because it was characters, like in a cartoon, she thought that was funny.* (Mother of girl aged 12)

5.5.1.3 SEEING BLOOD

Children's feelings change from neutral to repulsion when they see blood, gory or horror things, or too graphic action in TV programmes, VG and films. For children, seeing blood is equivalent to violence and, as such, inappropriate for children to watch or play

Child 02: *I don't think it's violent 'cause you don't see any blood.* (Boy aged 9)

I: You said there is some shooting in the game.

Child 07: *Yeah.*

I: Do you think that is violent?

Child 07: *Not in this game.*

I: Why?

Child 07: *'Cause all you do is just shoot somebody. They don't fight*

back or anything 'cause they're dead on the floor. No blood or anything.

I: So you thing that's all right for a game?

Child 07: *Yeah. If it's not too graphic.* (Boy aged 9)

Child 22: *The games that I play, I'm not entirely sure whether they are 15+. I don't know if it's just because of like shooting, but there isn't any blood or anything that would make it like that.* (Boy aged 12)

5.5.1.4 CONTRIBUTING FACTORS

When it comes to the aggression exhibited by others, participating children identified several contributing factors, e.g. *anger* and *stress*

I: Why do you think children are sometimes aggressive or violent?

Child 11: *Because they're angry and they're stressed out.* (Boy aged 12)

Someone's *nature*, i.e. people who are *mean* or *evil* and therefore more prone to enjoy aggression or behave aggressively when angry, was mentioned

Child 25: *Some people might do it if they're angry but I think it's more if you were kind of evil and you'd probably do something like that, not because you were angry. I suppose like, when you are angry it kind of makes you think to do these things more often, but I think if it was just like a normal child or adult, or someone that didn't like to do these things then they probably wouldn't do it if they were angry.* (Girl aged 12)

The influence of others was noted such as the *wrong* education provided by parents. Other factors related to upbringing and home life, such as family life *broken* by parental separation, seeing parents behaving aggressively towards each other and children being physically abused at home were mentioned

I: Have you seen people breaking things?

Child 07: *I have seen it with G. 'cause he is just mean. But it comes from his dad because, what happened was, ages ago, probably years ago, his dad was trying to kill his mum. I think that's probably where it*

comes from. (Boy aged 9)

Child 38: *A kid took a knife into the school and threatened to knife somebody with it.*

I: *Why do you think they did that – took a knife and threatened somebody?*

Child 38: *Because they really hated the kid.*

I: *Why do you think people, children behave in this way?*

Child 38: *Because they've been taught the wrong way by their parents.*
(Boy aged 11)

I: *Think about kids shouting at other kids or hitting other kids. Why do you think they do that?*

Child 43: *Sometimes they're bullies and their mum and dad have broken up or something. And sometimes because their mum and dad hit and punched them.* (Boy aged 8)

Peer influence was exemplified by children being annoyed or provoked by others

Child 07: *There's a person called B. at school and he does it a lot. He was threatening to murder L.*

I: *Why do you think that person does that?*

Child 07: *'Cause he gets annoyed very easily. And other people are trying annoy him even more to make it look funny while he's chasing somebody. And some people just stand and they go 'Go B., go B.'* (Boy aged 9)

I: *Do you have friends at school who shout or swear?*

Child 09: *There are six of them at school. Ever since they got there people started being a bit more mean.* (Girl aged 9)

Another contributory factor seemed to be identified as a link between seeing aggression in TV programmes and VG when you are younger or in an earlier stage of development and exhibited aggression. *Really young people*, i.e. under 7-8 years of age, who are 'immature' and who do not know *right and wrong* were understood to be less able to distinguish between reality and fiction, and hence to imitate the behaviour of their favourite character or *hero*. Such children, who *do not understand* aggression, think *it's alright* and do not understand the *bad*

consequences of aggressive behaviour. Also, children who start playing violent VG when very young, i.e. aged 3-4 years, and who play intensively until older, e.g. teenager, could, it was thought, grow up to be like that

I: You said there are lots of violent things on TV or it might be in computer games. Do you think that children might do these after seeing them?

Child 11: *Yeah, because like they might think it's alright, like really young people so in a game you might have stabbed someone and they might think it's funny and then not realise what the actual consequences are and that someone will die and then they might do it. ... Someone might not understand the effects and they might think it's sort of fun and go and stab someone and it doesn't really matter, but it actually does. (Boy aged 12)*

Child 17: *I suppose if they start young age they'll be playing them more often. Little children tend to copy what they see on TV or play. So if they pick up violent stuff, they play violent games, it's more likely they're gonna grow up to be like that. ... If they start playing them when they're young about 3, 4 and watch these horrible things on TV, I think they're gonna grow up actually be like that ... the younger they start they more likely they're probably, they're gonna grow up to be like that ... You tend to be more good, you know what's right and wrong when you start coming 7 and 8. In our family people set a good example. But if they grow up with a bad example, playing bad video games when they start really young, it's more likely, well 85 out of 100%, they are gonna grow up to be like that. (Boy aged 10)*

I: How is it for you seeing violence in a movie or a game? Do you think the way you behave is affected by these things?

Child 35: *I think with younger kids they don't understand and they'll probably imitate the things, but when you're the right age and play then they'll probably understand you shouldn't really do it because they're older. (Boy aged 12)*

Child 52: *Here's a message: if you ever play Grand Theft Auto and if you are young like me, because I've had one go on it on my PSP called Liberty City and it's not good because if you carry on playing it until you grow older to a teenager or a man and grow up to be like the man in there you will kill people, you will blow up things, you will not become a very nice man, you will become part of a gang and you will have to kill*

innocent people for nothing, get sent to prison, do it again, steal cars and all that. (Boy aged 9)

A few children did not think that seeing aggression contributes to other children's exhibited aggression, when they had other explanations, such as people's *nature*

I: Do you think is there any link let's say between people seeing this kind of things [aggression towards animals] and doing them?

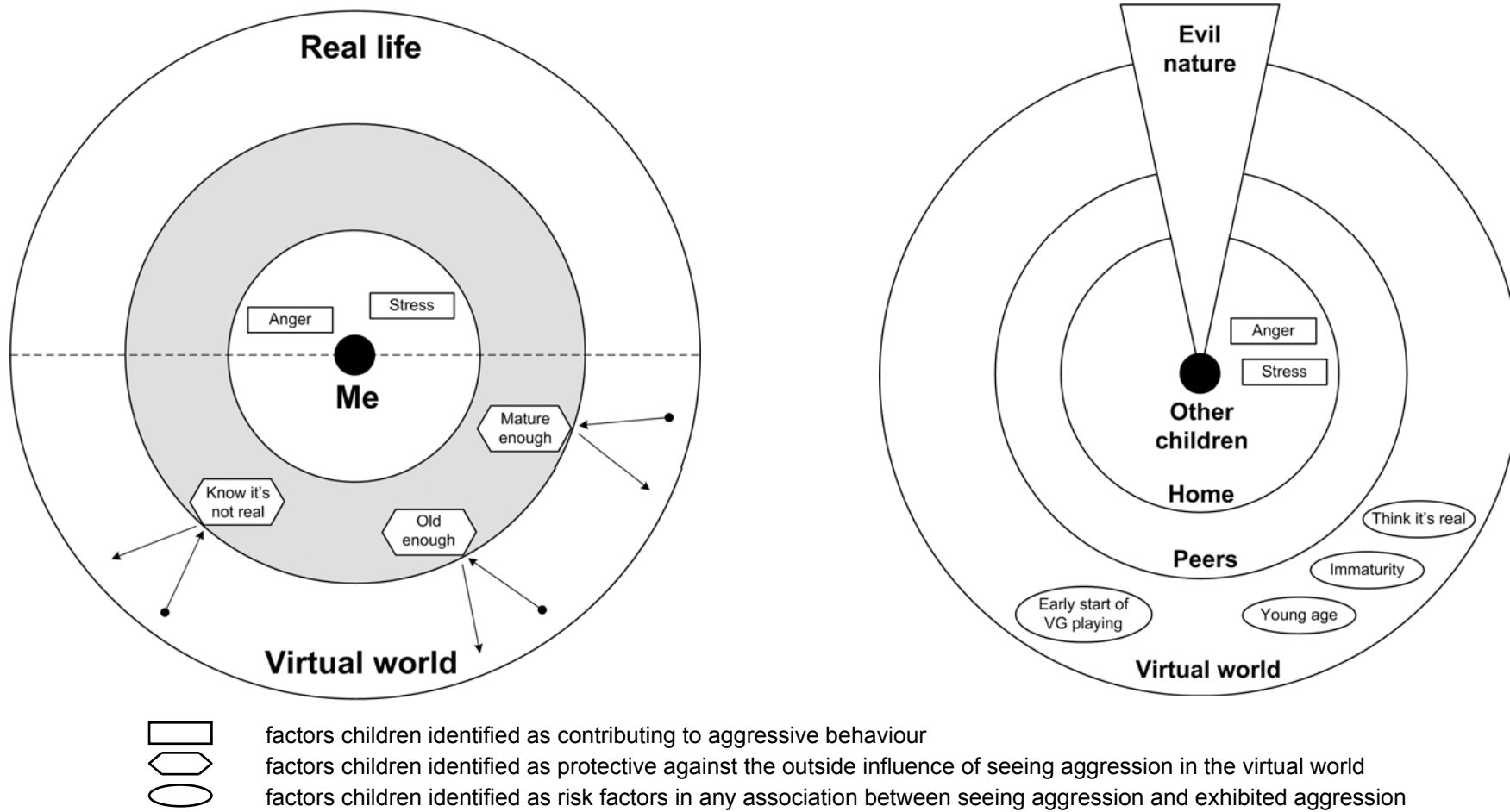
Child 07: *Don't think so, no. I think some people are just mean to animals. I think it's just them and they like it but it's stupid. (Boy aged 9)*

5.5.1.5 POSITIVE EFFECTS

Seeing aggression in the 'virtual world' may have some positive aspects, as one child noted, preparing children for the aggression they would see in 'real life' and learning about the negative consequences of aggressive behaviour

Child 11: *You have to have a little bit of violence [in video games and TV programmes] because there's a reality that people fight. ... I think for some it would be good because then they'd think how awful it was and then they'd never do that to anyone in their lives, so they won't think it's well good. So it's got to have violence because then you can see how bad it actually is and the effects of it so then people wouldn't do it. (Boy aged 12)*

Figure 5.3 Association between aggression seen and exhibited aggression: Child model 'Others but not me'



5.5.2 THE CARER MODEL: 'NATURE AND NURTURE'

From the carers' point of view, the cause of aggressive behaviour in children consists of a combination of inner factors and outside influences. Inner factors are related to the aggressive *nature*, *predisposition*, or *tendencies* of the child; they are *something inbuilt* in a child, which dictates the way an individual will *cope* with what they see around them. Outside influences, or *nurture*, include influences from 'real life', especially home, but also school, and the virtual world. The importance of aggression seen at home was particularly noted when the participating child had witnessed more severe domestic violence between parents. The family as well as the community are noted to have an important role in providing education and models of behaviour to children.

Carers did not identify the aggression children see in the 'virtual world', e.g. on TV and in VG, as representing a single or main cause of children's aggressive behaviour. Instead, it was seen as adding to children's *aggressive predisposition*, pre-existing behavioural problems and the aggression children see in 'real life'. For those children who already have *anger* or *aggression inside*, and for those who witness aggression in their family, seeing aggression on TV and VG was considered a possible trigger for aggressive behaviour. Again, the child's *environment*, i.e. his/her family and the community in which they live, was thought to have a vital role in helping children to understand the nature and negative consequences of the aggression they see in the 'virtual world' and thus preventing and/or limiting the child's exhibited aggression

I: What do you think causes aggressive behaviour in children?

Carer 53: *It's a combination of things I think, of their experiences and what they see and I think it's some natural, you know, nature,*

not nurture. I think some things are inbuilt in children. ... I think some children are predisposed to be a certain way. (Mother of girl aged 12)

Carer 25: *Some children are more highly strung than other children, so maybe aggressive behaviour would be easier for them to perform than to the non aggressive child. (Mother of girl aged 12)*

Carer 07: *I do think outside influences as in films, general home life etc and where you live definitely has an influence on a child's aggression – definitely. If we lived in some of the undesirable areas ... I'm sure he would be a different child because he would mix with children like that. An awful lot of influence comes from parents I believe in both ways of the aggression towards the child that is used and that's how the child accepts how to grow up. Also, we've had contact with a couple of children ... we've known of the parents and what they're like and their own upbringing and so the influence on their own child has not been a good influence. They're not nurtured properly. It does have a big influence on what the child is like and how their growing up life is structured. ... If you're brought up with an awful lot of violence as in swearing and aggression in the house, so parents arguing or maybe if you're hit then yes, it does make them very aggressive.*

I: *Do you think that the media, television or video games have a lot of influence, or just a bit, or not at all?*

Carer 07: *I think maybe a slight influence, but as long as it is watched or used within a controlled environment then if the child is taught that that's not the way to behave and that's an extreme behaviour, then if the child watched a James Bond film, as long as it's brought up in a home environment that you know that that's not what you should do, like going out and shooting somebody, even if they are a baddie then I don't think that influences the child to go and do that sort of thing, but if they were involved in gangs in certain areas of the country where gang warfare is accepted and if you get mixed up in the gang then yes ... the outside influences of violence would be greatly felt on the child. Obviously there has to be a limit and if you would allow the child to watch violent films every night, even though condoning that's not what to do, that could confuse the child. (Mother of boy aged 9)*

I: *What do you think causes aggressive behaviour in children?*

Carer 35: *I think there's many things ... falls back on to what happens within their family, what happens within their peers and then what they've seen on the television and their process of how they've put it together and whether it's good or bad. I still think family life has a lot to do with how children are. I think if families are always swearing and shouting then the children will tend to swear and shout too. That to them is the norm. But if they swear*

and shout and you take them aside and try to calm them down and try to find the root of what's happened, then go through the process of trying to sort out why it's happened and then work something out from there, maybe you can do something. But it's very hard if you're in a cycle where a parent is totally aggressive all the time, and to get anything done they just bawl and shout, there's no reason behind it. I also think that yelling at them all the time and shouting at them all the time and chastising them all the time is a really negative way of bringing up children. The process of them understanding why they get shouted at periodically is different to them being shouted at all the time. And then if you shout at them all the time they don't understand what's different to normal.

I: So thinking about television programmes and video games, what do you think?

Carer 35: Well, it can be ... It depends on how the family deals with it, how the individuals in the family deal with it. I think that it's definitely a process of putting it into the mind and then it's how that child deciphers it. And I think if the family's a negative family, then the process of seeing somebody else shouting becomes the norm. Whereas if somebody sits with you and explains to you and just says "Do you realise that what you've just done is not a good act?", and why it hasn't been a good act, then at least it's something to work on. Whereas if somebody just yells at you and stops you, you have no reason for knowing why it's not a good act then how can you make your decision in life, because that process is a good process to learn, like as a baby they have to learn not to punch or bite, and I think if that doesn't have that input at an early age as people get older they begin to think that it's the right thing to do. (Mother of boy aged 12)

I: What do you think causes aggressive behaviour in children?

Carer 43: I think, rather than computer games, I think it's their own life. I think it's seeing aggressive behaviour in real life. I think if children come from aggressive families then they're going to act aggressively. And I think that's the most important, the strongest factor. I think children are a product of their own environment and if that's what they perceive as being normal...

I: Do you think that watching that on TV or video games might be an adding factor?

Carer 43: I do, yeah ... I had a friend whose little boy was obsessed with watching the Rambo films and he went to bed every night with a knife under his pillow and tried to sew his arm up. But she didn't see that there was any problem with him watching it all the time. He was about 8 or 9 at the time and I think a parent's got to be aware that an 8 year old boy shouldn't be watching a film like that. I do think children are influenced by that, but I think it's up to the parents to step in and see when there's a problem. (Mother of boy aged 8)

Carer 29: *[Aggression] does affect children. That is definitely question-and-answer, yes it does. It depends what sort of child it is, I mean everybody's different. With L., because L. is like he is, they are not good for him. Where's other children, they can play on Playstation and it won't affect them. Because I know from my friends, through their kids, one of them is on some harsh DVDs and he can do all that, he's different, his temperament is more grown up. (Mother of boy aged 9)*

I: *What do you think causes aggressive behaviour in children?*

Carer 17: *I think they're born with a predisposition to be aggressive and then depending on how their parents bring them up, it either comes out or it goes, but deep down they'd always still have it but if they've been brought up well – well is the wrong word – in the best way for them, they learn to control it. That's what I think.*

I: *Do you think seeing aggression is one of the causes?*

Carer 17: *Maybe in a child that was already going to be aggressive it might exacerbate it, but I don't think it would cause it alone in a child who wasn't aggressive. I think probably for an aggressive child seeing aggression almost gives them permission that it's OK. (Mother of boy aged 10)*

Carer 05: *I don't let him watch because J. is a very angry child anyway. He sometimes doesn't know right from wrong and if I let him actually watch on telly he might think it's more right than what it is wrong. So you don't try something that's already there ... there's anger inside him anyway. I don't want to, you know, feed that anger. (Mother of boy aged 8)*

Carer 22: *He must learn how to be angry. He has learnt some from us. There's no doubt about it but there are things that they pick up from the telly that add to it. (Mother of boy aged 12)*

Some carers did not think that seeing aggression in TV programmes and VG contributed to their children's exhibited aggression, as they have other explanations such as the child's nature and/or the aggression seen in 'real life', most importantly at home

Carer 11: *He can just get cross over any little things that we wouldn't call significant, but he would get very cross over those things. ... I don't think a particular programme would have that affect on him. (Mother of boy aged 12)*

Carer 34: *At Pre-School she started strangling children because she had seen her dad do it to me. ... I wouldn't say that because she's seen it on the telly that she's doing it. ... With the way with her and her violence when she sees it she always compares it to her dad. I think that's where it stems from and that's where it will always go back to. (Mother of girl aged 12)*

A few carers placed more emphasis on the role of a child's *nature* – something in the child's genes or *mental make-up* – as the single cause of their children's exhibited aggression

Carer 07: *I don't think his aggression comes from any outside input. I think it's frustration at not being able to cope with whatever he's trying to deal with ... inner frustration and aggression ... I think it's from within ... there is something that we're missing in his mental make-up – that he might have something on the spectrum of Asperger's or autism or something like that. (Mother of boy aged 9)*

Carer 17: *I think he is naturally quite aggressive. His dad was quite aggressive and we split up before N. was born, so he's not had any influence on N.'s environment and what he's seen. It's all been down to me and I'm not aggressive, but I think it's in his genes. (Mother of boy aged 10)*

5.5.2.1 PERCEPTION OF AGGRESSION

It is unclear how children at this developmental stage understand the aggression they see in the 'virtual world'. Sometimes the distinction between reality and fiction becomes blurred and they think of some characters or behaviours as being 'real', especially when aggression is depicted without its potential negative consequences. Things children see can *play on their mind* and children could identify themselves with the *baddies*. Carers do not discard the potential role of aggression that is 'not real', as their children do. Carers sometimes think the 'not real' could have an effect on child's behaviour

Carer 43: *One time there was a serial killer and he got quite upset about that. He didn't really understand it. I came downstairs one day and he was hiding all the breakfast cereals, like the Weetabix,*

in the cupboard, and I said “What are you doing?” and he said “There’s a serial killer”. And he was really upset, he genuinely thought that they were after his breakfast cereal. (Mother of boy aged 8)

I: Would you like to go to a boarding school in real life?

Child 29: *I want to go to that one!* [from Bullworth Academy game]

I: But that's not real.

Child 29: *Well, the kids are.* [**Carer:** They're not.] *The kids are real but it's only acting.* [**Carer:** No, it's just a cartoon.] *No, the kids are real people but they're acting.* [**Sibling:** No, it's people that have been made on the computer.] [**Carer:** They're not humans.] *I don't care, I want it!* (Boy aged 9)

Carer 26: *I think he thinks ‘Well, if Bart can do it, I can do it.’ Bart Simpson is a real person to him ... He thinks that’s real as well because it’s the way James Bond is and I’ve said “Well, James Bond is not real. It’s just an actor”, “No, no, he is. I’m James Bond” and I’m thinking well, yes but he carries a gun and like, “What are you going to carry?” ... He normally plays Space Invaders and that sort of thing because he thinks aliens are real things and he has to kill them all.* (Mother of boy aged 11)

Carer 35: *I think it’s a really bad role model [EastEnders]. I think that they think that perhaps it’s just a street in London and it’s actually happening, it’s live now. Probably the same as Casualty and the other programmes people have that perception that it’s a real life thing, that they don’t think that it’s made up to be.*

I: Do you think he makes no difference between reality programmes and Eastenders?

Carer 35: *Yes, I would say definitely yes ... Tom & Jerry ... perhaps the violence that’s portrayed through it, when you actually analyze it, if you start to think about it it’s quite violent and if you watch it it’s quite funny, you know you’ve got that sort of boundary, when you’re watching it. And I also wonder how children process these things. Whether they see it as violence or whether it’s only as adults that we start to see it as violence. ... If I think about Tom & Jerry as a child, we used to laugh so much about all the various things that happened, like when the bulldog was hiding behind the wall to hit him with the hammer it used to be funny, but it isn’t a funny action if you put that into human beings doing that, it’s a horrible action. But as the process of watching a cartoon, that perception is a different thought process. And I think there is a perception there that it’s really hard to know how children filter that in their visual capacity as to how as an adult you filter it when you watch it. ... There was something on the computer that they were told about at school, friends-wise, and it’s a map of the world and they have to infect it. It*

seems really bad to want to infect the world. The process of thinking that they're doing harm to the world. That's how I perceive it, again maybe a child doesn't, but that's my perception. (Mother of boy aged 12)

Carer 02: *He says he can distinguish between what's real and what's not real but what's not real is coming into the real world in the form of his aggression and his violence, so he's not having it, age appropriate or not. (Mother of boy aged 9)*

Carer 07: *He does like to watch the police-chase programmes where they chase and catch criminals, which I can't decide whether it's a bad thing or not really. It's good that you see the police being proactive and catching criminals, but how much he sees and whether he identifies with the criminals or the police. (Mother of boy aged 9)*

Carer 22: *I suppose from the television they do all sorts and there's no consequence. ... The cars drive through a shop and people are shooting guns and ... you never see the negative side of it, do you? I think they think they're almost superhuman in a way. (Mother of boy aged 12)*

Carer 38: *Where does playing end and reality begin? Because he does get quite intense with some of his games and some of his stuff and I think that can't be normal. ... The kids see it as more of a game, whereas the adults see it more of a worry. (Mother of boy aged 11)*

Carers also made a distinction between 'realistic' or 'human like' and 'non-realistic' or 'cartoon like' aggression viewed in the 'virtual world'. They thought the former could influence children's behaviour more than the latter

Carer 43: *Children do realise with cartoons that they're not real and I think a cartoon is probably an easier way for them to see it than in a film. It's easier to empathise when it's a film and they see actual people and they find it harder to empathise when it's a cartoon which, I think, has a lesser effect on them. (Mother of boy aged 8)*

5.5.2.2 EXPLANATIONS FOR ASSOCIATION

Carers thought that watching aggression in the 'virtual world' could influence their children's behaviour in various ways. 'Desensitisation' through the normalisation

and acceptance of aggression was noted, i.e. by seeing it on TV and VG children become used to or *less sensitised* to aggression and think aggression is *right, the norm* and acceptable behaviour in society

Carer 11: ... if that's what they're used to seeing ... if they see things [on TV] they might think about it. (Mother of boy aged 12)

Carer 22: Older [children] have perhaps become more numbed to it all from playing it all the way through. ... Perhaps they become less sensitised because they've had a build-up gradually and moving up the games. (Mother of boy aged 12)

Carer 25: By seeing it [aggression] on television programmes in the home, it can't be a good thing and I think that is what they see and then think it is the norm. (Mother of girl aged 12)

Carer 43: If a child is stuck to a video game for twenty four hours a day they're going to think of that as being normal and they'll see the violence in that as being normal. (Mother of boy aged 8)

Another explanation for an association between aggression seen and exhibited aggression was that what children see on TV and VG can act as a *role model* and hence be imitated

Carer 09: It was real life for her and then also, things came up on the television that were the same and so there was no positive role model going on anywhere. (Mother of girl aged 9)

Carer 22: They've got something [anger] inside them and they've got to do something with it and that's perhaps where they copy ... and the world is full of a lot of aggression. (Mother of boy aged 12)

Seeing aggression in TV programmes and VG can also *reinforce* the aggression children see in 'real life', especially parents' aggressive behaviour. Thus aggression appears *more acceptable* to children

I: Do you think that sometimes when children are angry they do these things, like shouting at adults or hitting or bullying other children, or threatening others? Do you think there is any kind of link between the things they see and the things they do in terms of kind of copying – not immediately, but later?

Carer 09: *Especially if what she's seeing on the television mirrors her father's behaviour as well as the sort of double reinforcement that it's acceptable to hit or throw or hurt, yes. ... The more she sees it on the television, the more she thinks it is normal at home and the more accepting she becomes of aggression, so it's probably worse in real life but if you see it in real life and on television it just reinforces the message. ... I remember her playing them and I remember them leading to her being even more physical and so thinking "Right, that's it, you're not playing those games". (Mother of girl aged 9)*

Obsession, addiction and gender were issues that came up in relation to two boys, whose aggression was seemingly caused by attempts to interfere with their *obsession with playing VG*, which one parent calls *the dreaded machines*. The games are at the centre of a continuous struggle between the child and his parents. The boy's behaviour around playing VG is compared to that of a *drug addict*, linked, in part, to boys' competitive nature

Carer 22: *He always wants his competitive games and that's where the aggression comes when we try and stop him ... If I let him play on it from first thing in the morning to when he fell asleep in bed it wouldn't be enough ... just totally obsessed. ... The other day he came in here in a fit of anger about that, because it's always about the machines – the dreaded machines [the computer games]. We've taken him off them and he came in and he jumped on that settee with all his might in a fit of anger. ... I think he's aggressive because he thinks everybody else can play on the machines all day and he can't. I think that's where his aggression comes from. ... It's the addictive nature. It's the obsessive addictive that makes him angry. It is I suppose like a drug addict trying to get to his drugs to do anything, to get to what he wants. ... I think people have got in them the ability to become addicted or obsessed. It's something within your makeup, which no doubt he's had. ... I think definitely boys are more prone to obsession with these games. I don't know if it's because the boys' games are designed like that ... they also do include aggression ... and the competitive element together. ... I wonder if there was no aggression in them if it could create the same obsession. Maybe not. Because the aggression is the excitement, isn't it? Aggression and excitement – are they almost the same thing? ... It's the competitive element ... he is very competitive. He's determined to get somewhere and I'm stopping him and that's the end of the world to him. (Mother of boy aged 12)*

Carer 29: *He wants his Playstation back. I suppose he would be*

better behaved because he likes it that much. If he starts to get aggressive, I would say I take it off then. ... He's not better behaved now. He's better behaved when he's actually got the game. (Mother of boy aged 9)

VG playing and sometimes watching TV, regardless of its content, make some children *hyper* or *high*, as if their *brain is on the go*. This is thought to contribute to their aggressive behaviour, especially for boys

Carer 02: *I don't know what it does to his brain, but he's a different child altogether when he's been on that [video games]. He is very high. R. is what is called a hundred-mile-an-hour child, he never does anything slowly, he always rushes around, he always has done. He will keep going, and he will keep going and he will keep going. When he's been on the computer on the games he's worse. ... It's like he's on drugs, if you like. And his brain is going round and round and round and he will say things and then before you had the chance to answer what he's asked you he's on something else. ... If he's been on the computer or the television, nine times out of ten he will lash out. He will pick his little sister up who is eight and he will just throw her across the room. He will throw chairs, tables, we have to physically sit on him in order to stop him. He's dangerous to himself, he's dangerous to other people. ... He only goes like that if he's been on the games or the telly.*

I: *you think it's the content of what he sees or plays or is it...?*

Carer 02: *They're car racing games, or Madagascar ... It's like that, they're playing golf ... It's no violence in it whatsoever, it's a comical game, I've played it and it's hilarious. And even that will chopper him. ... He even goes like that if he plays his dad. ... If he plays much after 4 o'clock then we have to extend his bedtime because he's just on the go, his brains are on the go all the time, he just can't settle. (Mother of boy aged 9)*

5.5.2.3 AGE/ DEVELOPMENTAL STAGE

Similar to child data, carer data also suggest that age/ developmental stage is an important factor, i.e. that there is a more likely association between seeing aggression and aggressive behaviour in children at earlier stages of their development, e.g. under 8-9 years, who may not have yet developed the ability to distinguish *right from wrong* and 'reality from fantasy'. They are perceived to be

more impressionable and as yet unable to understand and foresee the possible consequences of their behaviour. Carers also note the *impressionable* teenage stage

Carer 05: *He sometimes doesn't know right from wrong and if I let him actually watch on telly he might think it's more right than what it is wrong. (Mother of boy aged 8)*

I: *Would the age of the child be important when child sees aggression?*

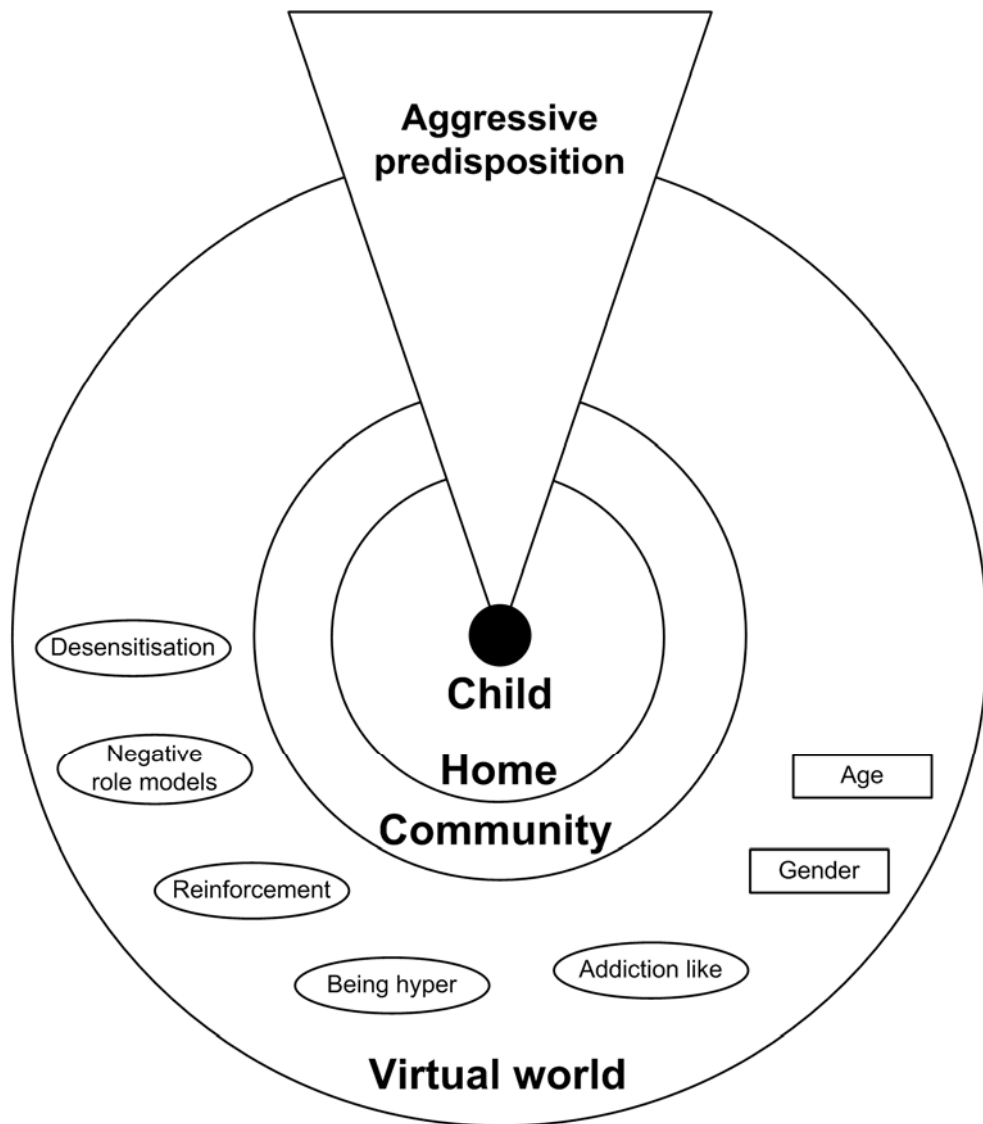
Carer 17: *Yes, because if they were little they'll just think it is normal, whereas if they were older they'd have already developed their own sets of morals and values and it wouldn't affect them so much. ... It's on a scale again. The younger the child the more it will affect them and it will get less and less ... It might have a bit more when they're sort of fourteen and fifteen, when they're becoming impressionable again, but then dies off when they get to eighteen. (Mother of boy aged 10)*

Carer 21: *Younger children are a lot more impressionable ... and a lot more likely to copy what they see and they're just a lot more open. ... They become more involved in what they're doing, whereas when they get past the age of about five or six ... they have more of an ability to differentiate... that's not reality and this is. (Mother of boy aged 10)*

Carer 53: *When she was younger ... probably about eight or nine ... I definitely associated the Tracey Beaker programmes with E.'s bad attitude and aggressive approach to people when she was cross. ... As she got a little older I think she could see it had affected her. ... There's no problem now because she's older and able to understand how you should behave. (Mother of girl aged 12)*

This finding of the potential role of age, or developmental stage, within any association between seeing aggression and exhibited aggression informed a secondary quantitative analysis (see Chapter 4, section 4.6).

Figure 5.4 Association between aggression seen and exhibited aggression: Carer model 'Nature and nurture'



- factors carers identified as important in the association between seeing aggression and exhibited aggression
- possible ways to explain the association between seeing aggression and exhibited aggression

5.5.3 TERMINOLOGY: AGGRESSION AND VIOLENCE

From both child and carer points of view, there is a notable distinction between aggression and violence. On the spectrum of aggression, violence is placed towards the more severe end, i.e. physical aggression

***Child 11:** You sort of get really aggressive and then sometimes you do violence, but you can just be aggressive without being violent because like, when you lose your temper you're aggressive but you don't have to hit someone. (Boy aged 12)*

***Carer 07:** You can be aggressive in your mannerism and your general manner, but that doesn't mean you're going to be violent to other people but other people do feel your aggression, which I suppose is a mental violence. (Mother of boy aged 9)*

***Carer 17:** I suppose it's a scale. For me, aggression is probably not quite as bad as actually carrying it out, but it's still bad and it's still on the scale. ... Aggression can be as little as an evil stare; looking at somebody nastily and making them feel intimidated and violence is obviously physically doing something to them, not just with your body language. (Mother of boy aged 10)*

5.6 SUMMARY

This chapter described the characteristics of the qualitative study participants, the study thematic charts (an integrative part of the Framework Analysis Approach) and the qualitative study findings. A detailed discussion regarding the contribution of this study component to answering the research questions follows in the next chapter.

Table 5.2 Thematic charts

Study No., Gender, Age at ref/in std, Ethnicity, Area, Income, Emp carer, Educ carer, Ref reason, Scores	For real: Child	For real: Carer	TV: Child
02, Boy, 8/9, WB, CAMHS1, £20,000 or less, Empl, Sixth Form/College, Behavioural, CASP=16.46, [LOW] MAVRIC-C=10, MAVRIC-P=18	always arguing between parents; dad hit laptop when got temper. school bullying, kids chasing others	shouting at home, dad swears, at school kids hit each other all the time, fighting, kicking, he has been bullied	quarrels and someone pushing someone downstairs; saw someone smashed someone's head. stabbing
05, Boy, 7/8, WB, CAMHS1, £20,000 or less, Empl, ?, Hyperkinetic, [HIGH] CASP=43.09, [HIGH] MAVRIC-C=23, [HIGH] MAVRIC-P=24	kids hurting, chasing others, throwing things at others at school. shouting in the streets		shouting; someone pulling & harming dog in <i>Watch my chops</i>
07, Boy, 9/9, WB, CAMHS3, £20,000-£30,000, Empl, Secondary school, Emotional, CASP=10.97, MAVRIC-C=18, MAVRIC-P=18 [LEAST DIFF MAVRIC]	chasing, punching another at school, threaten to murder someone & breaking things. street: women shouting at each other; somebody throw a ball at somebody	some aggression at school as school kids do, boys fight; had heard swear words	guts & blood come out of bodies in <i>The Simpsons</i> , heads chopped off
09, Girl, 9/9, WB, CAMHS3, £40,000-£50,000, Empl, University, Emotional, CASP=19.37, MAVRIC-C=10, MAVRIC-P=22 [MOST DIFF MAVRIC]	people arguing at home, school; older kids at school & park swearing. boy threw stone at another	child lived with violence for 8 years (violent father)	Bart squeezes Homer and Homer squeezes Bart; <i>Batman</i> is bit violent; dog being dragged along in <i>Watch my chops</i>
11, Boy, 11/12, WB, CAMHS4, £30,000-£40,000, Empl, Secondary school, Conduct, CASP=9.46, MAVRIC-C=17, MAVRIC-P=16	loads of fights at school, in our year group there is like a fight every day	aggression between boys at school to see who is the toughest; street: certain areas I prefer him not to go & play in	TV is sort of like school, someone playing up through drugs & they might not pay a person & get beaten up; sees chasing, stabbing, shooting on TV more than for real
17, Boy, 9/10, WB, CAMHS2, £20,000-£30,000, Not empl, University, Behavioural, CASP=28.52, MAVRIC-C=18, [LOW] MAVRIC-P=12	bullying, shouting, punching, fighting on playground. school is first where most violence happens; playground equal to TV	aggression at school & friend's house	lot violent programmes, fightings; stabbing in news; dead bodies in a 9 o'clock programme, not suitable, could see it through door. dog dragged in cartoon
18, Girl, 8/9, WB, CAMHS2, £20,000 or less, Not empl, Secondary school, Emotional, CASP=29.91, MAVRIC-C=12, MAVRIC-P=17	seen someone throwing something at someone, doing it on purpose: seen fighting for real; children threatening other children; seen someone kick a dog	the general bickering because girls can be very bickery, fall out quite often	someone angry with someone & telling him off in cartoons; fighting & stabbing mostly on TV & VG; too much violence some TV-shooting & killing people; chasing in <i>The Simpson</i> , breaking things
21, Boy, 8/10, WB, CAMHS4, £20,000 or less, ?, Further education, Emotional, CASP=8.93, [LOW] MAVRIC-C=3, MAVRIC-P=10	on the streets someone shouting at someone else; seen a boy once, in a visit, getting angry & loud towards him while playing on Playstation	fightings at school; out in the street teenagers quite aggressive & fight	someone destroying things when angry in cartoons

Study No., Gender, Age at ref/in std, Ethnicity, Area, Income, Emp carer, Educ carer, Ref reason, Scores	For real: Child	For real: Carer	TV: Child
22, Boy, 11/12, WB, CAMHS2, £20,000-£30,000, Not empl, Secondary school, Behavioural, CASP=19.68, MAVRIC-C=18, MAVRIC-P=16	people breaking things; small fights with brothers; people at school threatening to hit each other & developed into fight	lot of anger from us about the machines; not calm house, bit shouty & wrong age; brothers often talk aggressively	seen people getting hurt, killed; lot of programmes with violence eg cartoons; used to watch Tom and Jerry which has a lot of cartoon violence; lot of shouting on TV
25, Girl, 11/12, WB, CAMHS4, £30,000-£40,000, Empl, Further education, Emotional, [LOW] CASP=5.81, MAVRIC-C=10, [LOW] MAVRIC-P=3	children shouting at each other in playground. aggression mostly at school & TV; school - shouting, yelling; throwing stuff at people to hurt them; punching; bully chasing child	parents argue; sometimes shout at kids. aggression mostly at school (pushing, shoving)	seen aggression mostly at school & TV. hitting, stabbing more on TV & VG; breaking objects & hurting animals, killing in adult programmes
26, Boy, 10/11, WB, CAMHS2, £20,000 or less, Empl, ?, Behavioural, [HIGH] CASP=48.19, MAVRIC-C=13, MAVRIC-P=22		aggression mostly on the field, always lads drinking, swearing & fighting; kids fighting. sees me arguing with a neighbour	mum lets him watch anything on TV
29, Boy, 7/9, WB, CAMHS2, £20,000 or less, Empl, Secondary school, Behavioural, CASP=22.68, MAVRIC-C=17, MAVRIC-P=18 [LEAST DIFF MAVRIC]	seen children punch someone in the face. someone throwing something at someone else on schoolground. kids in the street, my age, swearing at each other	sees aggression mostly at school, fighting on playground; walking in gangs; half the kids nowadays fighting at school	watched many horror films, gangsters, killing, stabbing (watched in pitch black in sister's room, mum didn't know)
34, Girl, 11/12, WB, CAMHS3, £20,000-£30,000, Empl, Secondary school, Emotional, CASP=37.45, MAVRIC-C=14, MAVRIC-P=18	parents shouting, dad hit mum & punched wall, Police came. children punching each other - mostly at school & TV; bullying & shouting & fightings at school & park. bullied	seen things when parents broke up, dad became nasty, threw bottle & hit me. local park: girls fighting	children punching each other - mostly at school & TV; someone throwing something eg stone at someone else mostly on TV; swearwords in The Simpsons, Road Wars. people wrecking things in cartoons
35, Boy, 11/12, WB, CAMHS4, ?, Empl, Further education, Emotional, CASP=11.87, MAVRIC-C=17, MAVRIC-P=15	arguments, people shouting	seen aggression mostly at father, child brought up with lot of aggression. seen bullying a lot at school	
38, Boy, 11/11, WB, CAMHS4, £20,000 or less, ?, Further education, Hyperkinetic, [LOW] CASP=7.96, MAVRIC-C=18, MAVRIC-P=14	people shouting & throwing things & hit each other; saw a kid took a knife into school & threatened somebody. old lady beaten up at bus stop, teenagers kicking the glass; someone hit a dog & left it on street to die	does hear words in school	shooting on TV & VG; watched <i>Family Guy</i> - swearing & beating up; seen films for over 18 that are on at about 9 o'clock, have rude stuff eg <i>Sex in the City</i>
43, Boy, 7/8, WB, CAMHS3, above £50,000, Empl, University, Hyperkinetic, CASP=19.48, MAVRIC-C=10, MAVRIC-P=13	yelling, someone throwing things & punching & chasing someone, try to grab them for real		someone being shot on the news cartoons eg swearing in <i>Family Guy</i>
47, Boy, 8/9, WB, CAMHS3, £20,000-£30,000, Empl, Further education, Emotional, CASP=19.19, MAVRIC-C=15, [HIGH] MAVRIC-P=23	shouting & bullying at school	aggression at school & on TV - half and half; shouting, fighting	shouting; in <i>Teenage Ninja Turtles</i> , <i>Spiderman</i> , <i>The Simpsons</i> - baddies with swords & guns; watches grown up eg fightings, guns and cops; people smashing things in <i>Tom and Jerry</i>

Study No., Gender, Age at ref/in std, Ethnicity, Area, Income, Emp carer, Educ carer, Ref reason, Scores	For real: Child	For real: Carer	TV: Child
50, Boy, 11/12, WB, CAMHS4, £20,000 or less, Empl, Secondary school, Hyperkinetic, CASP=29.76, [HIGH] MAVRIC-C=22, MAVRIC-P=21	kids fight weaker kids, threatening others. parents arguing & hit?; shouting & fighting at school. shouting next door. people throwing stuff at people & kids fighting in park	arguing at home: his dad would call him a name or maybe smack him. sees bit aggression at school	people shouting; kids fighting: <i>Superman</i> - baddies use guns, fight, try to kill people; seen stabbing; weapon use in <i>Star Wars</i>
52, Boy, 8/9, AOW, CAMHS4, above £50,000, Empl, University, Emotional, CASP=13.05, MAVRIC-C=21, MAVRIC-P=9 [MOST DIFF MAVRIC]	aggression most at school; people trying to smack others, kick things; kids shouting & bullying	arguing at home. fighting in playground	fake explosions in cartoons; on the news about someone who got blown up; fighting in soaps, cartoons
53, Girl, 10/12, WB, CAMHS2, £20,000-£30,000, Empl, University, Behavioural, CASP=9.88, [HIGH] MAVRIC-C=22, MAVRIC-P=17	shouting at home & school; fights on playground	surprised at what child said about seeing aggression on playground, didn't know	people shouting, throwing things at others when angry eg <i>Tracy Beaker</i> . hurting a dog; stabbing & shooting most on TV, news (watched programmes parents forbid but look suitable)

Study No	TV: Carer	VG: Child	VG: Carer
02		threatening with knife, stabbing & shooting in 12+ VG	fightings in VG appropriate for him ; only age inappropriate i= <i>James Bond</i> , him and dad addicted to it; 7+ VG where you steal car & stab (from friend)
05		shouting; VG characters swear; seen someone punching another person (mum allows him to play any games)	got game with shouting & hitting (18+ came with console); sees swearing
07	violence in cartoons, fights with laser guns	plays a VG where you shoot baddies (12+; plays with dad & friends)	his favourite VG: car game - driving into buildings & wrecking the car, police chase you
09	violent TV similar to things at home. seeing aggression more in cartoons than real people things (watches late night TV)	hitting/ stabbing/ shooting someone (mum allows her to play any game)	child likes VG where people kill each other. more aggression in some VG than TV
11	The Bill; character in soap threatened mum: aggression in early evening TV even cartoons. Two main sources:TV & school	plays shooting games (with friends); played Grand Theft Auto (at friend's). chasing, stabbing, shooting on VG more than for real. can get sold 18+VG	sports VG=aggressive. if banned at home he would find somewhere else to play.his brother plays fighting games & might have a go
17	aggression in normal programmes<9pm ((watch with parents); almost every programme is aggressive, even cartoons	more violent games than watch violence TV - throw grenades, punch, stab; plays shooting games (12+?); swearing, shootings & fightings in most VG he plays	lot of games e.g <i>Star Wars</i> are often about aggression
18	sees aggression mostly on (everyday) TV. children see aggression on TV more than carer used to; bullying, swearing eg children's TV; sneaks & watches older programmes (shares room with older sister)	seen fighting & stabbing mostly on TV & VG; seen shooting; had to kill Mr Burns in <i>The Simpsons</i>	borrowed brother's fighting games (her own games are not aggressive)
21	sees aggression mostly on TV & VG	fighting aliens with guns (plays with dad;mum allows him to play any games)	sees aggression mostly on TV & VG; has a couple of fighting games (sometimes plays 2-3hrs in his room)

Study no	TV: Carer	VG: Child	VG: Carer
22	aggression on TV & VG, in teenage male programmes, male films, shooting guns but no consequence; comedies often violent; even cartoons eg <i>The Simpsons</i>	plays war games - a lot of fighting & shooting; people are getting shot for no reason in some games	bit of swearing in VG; mainly plays war VG (up to 15+) - it is shooting & banging (obsessed with VG)
25	violent things on TV eg Casualty; seen aggression more on TV than VG	on VG it's more like physical stuff than shouting; people throw stuff at each other; seen hitting, punching, stabbing more on TV & VG, mostly VG; swords and guns - mostly VG (plays VG with brother sometimes)	
26	violence in certain cartoons eg Horrid Henry		violence in <i>Space Invaders</i> - kill aliens
29	sees fightings	fightings in 15+VG - shoot arrow at teacher & dead straightaway, killed teacher on a gun, beat everybody up, smashing window; ; <i>shootings in 18+VG</i>	plays rough & ready VG 15+; played <i>18+VG</i> without mum's knowing and against her wish. VG sold behind the counter
34	can see aggression everywhere; when she sees violence she always compares it to her dad; woman getting attacked in <i>Crimewatch</i>	swearwords & bullets in some Playstation games she plays with brother; horrible things in 18+ VG	brother plays war & guns & fighting & shooting VG, she will watch it for a bit
35	aggression mostly at father & TV & internet; aggression in <i>Tracy Beaker</i> , <i>Eastenders</i> , cartoons (TV in bedroom; ex-husband let them play & watch things beyond their years)	weapons & destroy things & shouting; kill bad people (cartoons); boy destroys the world with nuclear bomb; seen brother playing <i>18+ VG</i> - punch & stab	lot of VG are violent, child likes VG where they shoot people; plays <i>Roomscape</i> - kill unicorns
38	lot of programmes with violence & bad language even if suitable eg < 9pm (difficult to monitor what kids watch & let them make own decisions & parent to see child watching violence; TV back in when carer out)	gangs to beat up; shooting in missions, seem real moves	always plays violent game eg kill, shoot someone. even VG sold for 12 yr olds have weapons.car racing VG - more violence. unsuitable for 10-13 & shops sell VG
43	cartoons with fighting; fighting in wrestling; in <i>Family Guy</i>	plays <i>The Punisher</i> (18+) - see people committing suicide, killing someone (mum not happy but I play it anyway); plays army games - swear & kill people (mum's OK) (started playing games with dad when very young, about 3)	likes army games but not allowed because of violence & bad language, some 15+, dad's games, found him playing them on occasion
47	cartoon violence, bad manners & unacceptable behaviour. children watch lot more TV nowadays	shouting; fighting & shooting guns & stabbing in games on dad's VG (plays alone or with dad)	played <i>James Bond</i> games at friend's house - violent

Study no	TV: Carer	VG: Child	VG: Carer
50	aggression in children's programmes eg <i>The Simpsons</i>	shouting & fighting; 12/15/18+ VG (mum & dad buy VG & from friends; mum doesn't mind him playing 18+ VG	played 15/18+ VG e.g. VG with school bully (carer now banned); seen lot aggression in age appropriate VG (3+)
52	sees aggression mostly on TV; programmes with violence eg soaps (watch with mum); cartoons	knives & guns most in VG; kill people with guns & bomb; kill monsters & people (dad got it on PS1)	likes violent games, attacking people; played <i>Grand Theft Auto</i> with his friends?
53	aggression in American crime dramas eg <i>CSI</i> , <i>Law & Order</i> ; watched <i>Tracy Beaker</i> when aged 8/9 - rudeness (carer banned it)	shoot & kill monsters; dad's 18+ game shoot everybody (parents allow her to play any VG)	

Study No	Film: Child	Film: Carer	Internet: Child	Internet: Carer	Books & Mags: Child	Books & Mags: Carer
02	threatening with knife; kill someone; <i>Transformers</i> -bit of violence (mum put pincode, used to know it)	fightings in <i>James Bond</i> films (watching with dad)				collects James Bond Magazine & refers to what seen in film & VG
05						
07						
09						Harry Potter
11	fighting films threatening, someone got killed (watched at friend's house, not allowed at home). if don't let me watch I'll watch somewhere else	films more aggressive than every day programmes. car racing films. (carer forbid because of violence & didn't know he watched at friend's)				
17		sees aggression in <i>Star Wars</i> films				
18		milder aggression (chucking things, breaking things, door or window being smashed)				
21	seen a few times someone hitting someone else	bad language in some DVDs eg Billy Elliot				

Study no	Film: Child	Film: Carer	Internet: Child	Internet: Carer	Books & Mags: Child	Books & Mags: Carer
22	often seen someone throwing something at someone else; watched real footage of people being attacked					commando books
25		violent things in movies eg Pirates of the Caribbean; lot of swearing in films, violence & the sex side of it				
26	<i>James Bond</i> - people trying to kill each other, shoot people					
29	arguing & swearing & fighting in <i>Green Street</i> (watched without mum's knowing); watched <i>This is England</i> . watched films with gangsters, killing, stabbing	watches karate films				
34	many swear words & scary things in <i>The Ring</i>	seen somebody get killed	rude stuff, beating, dog shot it in the head	YouTube: Miniclip weapon & fire& throw knife (banned it)	newspaper -girls found dead in park	
35				map of world & they infect it		<i>Dr Who</i> annuals
38	some movies with loads of violence		shooting on the news site			
43		films eg <i>James Bond</i> - lot of violence, <i>Star Wars</i> , <i>Rocky</i>				
47						

Study no	Film: Child	Film: Carer	Internet: Child	Internet: Carer	Books & Mags: Child	Books & Mags: Carer
50						aggression in <i>Star Wars</i>
52		watched James Bond kick people out of doors & throw people off a building				
53	in <i>Indiana Jones</i> they took the heart out of a person while it was still beating; seen somebody showing somebody a knife	sometimes we get a family film & might have bit aggression				

Study No	Other issues: Child	Other issues: Carer	elements identified_sources: Child	elements identified_sources: Carer
02			1. HOME (VERBAL & OBJECT). SCHOOL (PHYSICAL & SYMBOLIC). TV (VERBAL & PHYSICAL). VG (PHYSICAL & SYMBOLIC). FILM (PHYSICAL & SYMBOLIC). 2. Aggress in soaps. 3. Violence in age inappr VG (12+) (allowed) 4. Violence in age inappr film & against rules (at friends)	1. HOME (VERBAL). SCHOOL (PHYSICAL & VERBAL). VG (PHYSICAL). FILM (PHYSICAL). MAGAZINE. 2. violence in age approp VG (7+) (against mum's wish). 3. violence in one age inappr VG & film (allowed).
05			1. SCHOOL (PHYSICAL & SYMBOLIC). STREET - MAIN SOURCE (VERBAL). TV (VERBAL & ANIMAL). VG (VERBAL & PHYSICAL). 2. aggress in cartoons	1. VG (VERBAL & PHYSICAL). 2. aggression in age inappr VG (18). 3. Difficult to protect child - age inappr VG come with console & sold without questioning age.
07			1. SCHOOL (PHYSICAL & SYMBOLIC & OBJECT). STREET (VERBAL & PHYSICAL). TV (PHYSICAL). VG (PHYSICAL). 2. violence in cartoons. 3. violence in age inappr VG	1. SCHOOL (PHYSICAL & VERBAL). TV (PHYSICAL). VG (OBJECT). 2. violence in cartoons. 3. aggress in car racing VG
09		aggression still comes in with other than VG	1. HOME & SCHOOL (VERBAL). PARK (VERBAL & PHYSICAL). TV (PHYSICAL & ANIMAL). VG (PHYSICAL). 2. aggress in cartoons	1. HOME. TV. VG (PHYSICAL). BOOKS. 2. aggress in age approp progr - cartoons (> in real people progr) & soaps. 4. aggress in age inappr progr (late night). 5. Too much aggress in VG. 6 aggress in VG > than TV. 7. Child prefers violent VG. 8. Difficult to protect child
11	fighting, people hurting each other - on nearly everything	hard not to expose them to certain amount	1. SCHOOL (PHYSICAL). TV (PHYSICAL & SYMBOLIC). VG (PHYSICAL). FILM (PHYSICAL & SYMBOLIC). 2. violence on TV & VG more than for real 2. violence in age inappr VG (18+) (at friend). 3. Violent, age inappr VG sold to children. 4 violence in age inappr film (18+) & against rules (at friend). 4. Violence everywhere & part of life & TV reflects reality	1. SCHOOL & TV - MAIN SOURCE. (PHYSICAL & SYMBOLIC). STREET. VG (PHYSICAL). FILM (PHYSICAL). 2. aggress in everyday & early evening progr - cartoons & soaps. 3. Difficult to protect child (aggress in many progr). 4. aggress in sports VG & car racing films. 5. violence in age inappr VG & films against rules (at friends). 6. more violence in films than everyday progr.
17			1. SCHOOL & PLAYGROUND - MAIN SOURCE (VERBAL & PHYSICAL). TV & VG (PHYSICAL). 2. violence in age approp progr (before 9pm) - cartoons. 3. violence in age appr VG (3). 4. violence in age inappr VG (12). 4. Most VG =violent. 5. People play violent VG > watch violence on TV	1. SCHOOL. AT FRIENDS. TV & VG - MAIN SOURCE. FILM. 2. aggress in progr before 9pm - cartoons & soaps. 3. Aggress everywhere - most progr & lot VG
18		we live in a violent world	1. REAL LIFE (PHYSICAL & SYMBOLIC & ANIMAL). TV - MAIN SOURCE (VERBAL & PHYSICAL & SYMBOLIC & OBJECT). VG - MAIN SOURCE (PHYSICAL). 2. aggress in cartoons. 3. violence in age approp VG (cartoon like). 4. Too much violence in some TV progr	1. PLAYGROUND. TV - MAIN SOURCE. VG (PHYSICAL). FILM (OBJECT). 2. aggress in everyday & children's progr. 3. TV portrays life=violent. 4. violence in age inappr progr (late night). 5. violence in age inappr VG (18+). 6. Violence part of life. 7. Difficult to protect child
21		going to see it at some point	1. STREET (VERBAL). AT FRIENDS (VERBAL). TV (OBJECT). VG & FILM (PHYSICAL). 2. aggress in cartoons. 3. violence in age inappr VG (15/16+)	1. SCHOOL & STREET (PHYSICAL). AT FRIENDS (VERBAL). TV & VG - MAIN SOURCE (PHYSICAL). FILM (VERBAL). 2. Difficult to protect child (too much violence)

Study no	Other issues: Child	Other issues: Carer	elements identified_sources: Child	elements identified_sources: Carer
22			1. REAL LIFE (OBJECT). HOME (PHYSICAL). SCHOOL (SYMBOLIC). TV (PHYSICAL & VERBAL). VG & FILM (PHYSICAL). 2. violence in cartoons. 3. violence in war VG	1. HOME - MAIN SOURCE (VERBAL) TV (PHYSICAL). VG (VERBAL & PHYSICAL). INTERNET (VERBAL) BOOKS. 2. violence in age approp progr - cartoons. 3. violence in age approp, war VG
25		it's everyday life & it's how some people live	1. SCHOOL - MAIN SOURCE (VERBAL & PHYSICAL & SYMBOLIC). PLAYGROUND (VERBAL). TV & VG - MAIN SOURCE (PHYSICAL). 2. violence in adult progr	1. SCHOOL - MAIN SOURCE (VERBAL & PHYSICAL). HOME (VERBAL). TV & FILM (VERBAL & PHYSICAL). 2. aggress on TV > in VG. 3. violence in soaps. 4. violence in age appr films. 5. Too much violence in films. 6. Violence part of life
26			1. FILM (PHYSICAL). 2. violence in age inappr film (12)	1. PLAYGROUND - MAIN SOURCE (PHYSICAL & VERBAL). TV & VG (PHYSICAL). NEIGHBOURHOOD (VERBAL). 2. aggress in cartoons. 3. violence in age approp VG (3+)
29			1. REAL LIFE (PHYSICAL). SCHOOL (PHYSICAL). STREET (VERBAL). TV & VG (PHYSICAL). FILM (VERBAL & PHYSICAL). 2. violence in age inappr VG (15, 18+) (allowed) 3. violence in age inappr films (15, 18+) & against rules.	1. SCHOOL/ PLAYGROUN - MAIN SOURCE (PHYSICAL). TV & VG & FILM (PHYSICAL). 2. violence in age inappr VG (15+) (allowed). 3. violence in age inappr VG (18+) & against rules. 4. Age inappr VG sold to children. 5. Child prefers violent VG
34		there's aggression everywhere	1. SCHOOL - MAIN SOURCE (VERBAL & PHYSICAL). HOME (VERBAL & PHYSICAL). PARK (VERBAL & PHYSICAL). TV - MAIN SOURCE (PHYSICAL & VERBAL & OBJECT). VG (VERBAL & PHYSICAL). FILM (VERBAL). INTERNET (PHYSICAL & VERBAL & ANIMAL). MAGAZINES. 2. aggress in cartoons. 3. violence in age inappr VG (18+)	1. HOME - MAIN SOURCE (PHYSICAL). PARK (PHYSICAL). TV & VG & FILM & INTERNET (PHYSICAL). 2. Aggress everywhere
35			1. REAL LIFE (VERBAL). VG (PHYSICAL & VERBAL & OBJECT). 2. violence in age approp VG (cartoon-like, 3, 7, 12+)	2. HOME - MAIN SOURCE. SCHOOL. TV & INTERNET - MAIN SOURCE. VG (PHYSICAL). FILM. MAGAZINES. 2. aggress in children's progr - cartoons & soaps. 3. Difficult to protect child. 4. Most VG=violent. 5. Child prefers violent VG
38			1. SCHOOL (VERBAL & PHYSICAL & SYMBOLIC). STREET (PHYSICAL & OBJECT & ANIMAL). TV & VG & FILM & INTERNET (PHYSICAL). 2. violence in age inappr progr (cartoon but 12+) 3. violence in age inappr VG (18+)	1. SCHOOL (VERBAL). TV (VERBAL & PHYSICAL). VG (PHYSICAL). 2. violence in many progr - incl age approp (before 9pm). 3. violence in age inappr progr (after 9pm). 4. violence in progr against rules. 5. Difficult to protect child. 6. violence in age approp VG. 6. Most VG=violent. 7. Child prefers violent VG. 8. VG sold to children.
43			1. REAL LIFE (VERBAL & PHYSICAL & SYMBOLIC). TV (PHYSICAL & VERBAL). VG (PHYSICAL). 2. aggress in cartoons. 3. aggress in age inappr progr (cartoon but 12+). 4. violence in age inappr VG (18+)	1. TV - MAIN SOURCE (PHYSICAL). VG (PHYSICAL). FILM (PHYSICAL). 2. Sees aggress in cartoons 3. aggress in in age inappr progr (cartoon but 12). 4. violence in age inappr VG (15, 18+).
47		difficult to protect child when aggression in cartoons & other things they watch	1. SCHOOL & PLAYGROUND - MAIN SOURCE (VERBAL). TV (VERBAL & PHYSICAL & OBJECT). VG (VERBAL & PHYSICAL). 2. violence in cartoons	1. SCHOOL & TV - MAIN SOURCE (VERBAL & PHYSICAL). VG (PHYSICAL). 2. aggress in children's progr - cartoons. 3. Played violent, age inappr VG (12+) against rules (at friend). 4. Difficult to protect child

Study no	Other issues: Child	Other issues: Carer	elements identified_sources: Child	elements identified_sources: Carer
50			1. REAL LIFE (PHYSICAL & SYMBOLIC). HOME (VERBAL & PHYSICAL & OBJECT). SCHOOL & NEIGHBOURHOOD (VERBAL). SCHOOL & PARK (PHYSICAL). TV & VG (VERBAL & PHYSICAL). 2. violence in age appropriat progr. 3. violence in age appropriat VG (12+). 4. violence in age inappropriat VG (15, 18+) (allowed)	1. VG - MAIN SOURCE (PHYSICAL & OBJECT). HOME (VERBAL & PHYSICAL). SCHOOL. TV (PHYSICAL). BOOKS. 2. aggress in children's progr - cartoons. 3. aggress in age appropriat VG (cartoon like, 3). 4. violence in age inappropriat VG (15, 18+). 5. Most VG=violent. 6. violence in sports VG
52			1. SCHOOL - MAIN SOURCE (PHYSICAL & VERBAL & OBJECT). TV (PHYSICAL). VG - MAIN SOURCE (PHYSICAL). 2. aggress in cartoons & soaps. 3. violence in age appropriat VG (cartoon like, 3+). 4. violence in age inappropriat VG (12, 15, 18+).	1. HOME (VERBAL). PLAYGROUND (PHYSICAL). TV - MAIN SOURCE (PHYSICAL). VG (PHYSICAL). FILM (PHYSICAL & OBJECT). 2. aggress in cartoons & soaps. 3. aggress in age inappropriat progr (12+; after 9pm) & against rules. 4. violence in age appropriat VG (cartoon like, 3). 5. violence in age inappropriat VG (12+, 15+). 6. Prefers violent VG. 7. violence in age inappropriat film (12+).
53			1. HOME & SCHOOL (VERBAL). SCHOOL & PLAYGROUND (PHYSICAL). TV - MAIN SOURCE (PHYSICAL & ANIMAL). TV (VERBAL). VG & FILM (PHYSICAL). 2. ggress in children's progr. 3. violence in PG film 4. violence in progr against rules. 5. violence in age appropriat VG (cartoon like). 6. violence in age inappropriat VG (18+).	1. TV (PHYSICAL). FILM. 2. aggress in children's progr. 3. violence in age inappropriat progr - crime drama (15+; after 9pm)

Study No., Gender, Age at ref/ Age in std, Ethnicity, Area, Income, Emp carer, Educ carer, Ref reason, Scores	Feelings & thoughts_aggression: Child	Feelings & thoughts_aggression: Carer	Feelings & thoughts_aggression for real: Child
No.02, Boy, 8/9, WB, CAMHS1, £20,000 or less, Empl, Sixth Form/College, Behavioural, CASP=16.46, [LOW] MAVRIC-C=10, MAVRIC-P=18			seen parents arguing - feels like I want to move out, live on my own
No.05, Boy, 7/8, WB, CAMHS1, £20,000 or less, Empl, ?, Hyperkinetic, [HIGH] CASP=43.09, [HIGH] MAVRIC-C=23, [HIGH] MAVRIC-P=24	sad when sees people shouting - it's a bit like me, I know how angry I am & I shout		seen kids hurting other kids at school - sad, angry
No.07, Boy, 9/9, WB, CAMHS3, £20,000-£30,000, Empl, Secondary school, Emotional, CASP=10.97, MAVRIC-C=18, MAVRIC-P=18 [LEAST DIFF MAVRIC]	people shouldn't be doing things like stabbing another. sad		annoyed
No.09, Girl, 9/9, WB, CAMHS3, £40,000-£50,000, Empl, University, Emotional, CASP=19.37, MAVRIC-C=10, MAVRIC-P=22 [MOST DIFF MAVRIC]			scared sometimes; sorry for person being hurt
No.11, Boy, 11/12, WB, CAMHS4, £30,000-£40,000, Empl, Secondary school, Conduct, CASP=9.46, MAVRIC-C=17, MAVRIC-P=16	people don't need to stab someone, that's a step too far		tried to break fights up at school, wasn't very nice
No.17, Boy, 9/10, WB, CAMHS2, £20,000-£30,000, Not empl, University, Behavioural, CASP=28.52, MAVRIC-C=18, [LOW] MAVRIC-P=12			boy throwing a ball at someone else, that's not good
No.18, Girl, 8/9, WB, CAMHS2, £20,000 or less, Not empl, Secondary school, Emotional, CASP=29.91, MAVRIC-C=12, MAVRIC-P=17			scared in case something might happen to me; kick a dog = cruel

Study No., Gender, Age at ref/ Age in std, Ethnicity, Area, Income, Emp carer, Educ carer, Ref reason, Scores	Feelings & thoughts_aggression: Child	Feelings & thoughts_aggression: Carer	Feelings & thoughts_aggression for real: Child
No.21, Boy, 8/10, WB, CAMHS4, £20,000 or less, ?, Further education, Emotional, CASP=8.93, [LOW] MAVRIC-C=3, MAVRIC-P=10		thinks it's not right & tends to empathise with victim	scared & bit angry
No.22, Boy, 11/12, WB, CAMHS2, £20.000-£30,000, Not empl, Secondary school, Behavioural, CASP=19.68, MAVRIC-C=18, MAVRIC-P=16			if for real I wouldn't like it
No.25, Girl, 11/12, WB, CAMHS4, £30.000-£40,000, Empl, Further education, Emotional, [LOW] CASP=5.81, MAVRIC-C=10, [LOW] MAVRIC-P=3			more horrible to see violent things in real life than in VG/TV
No.26, Boy, 10/11, WB, CAMHS2, £20,000 or less, Empl, ?, Behavioural, [HIGH] CASP=48.19, MAVRIC-C=13, MAVRIC-P=22			seeing things like shooting people in the street would be different that seeing it in a game but don't know why
No.29, Boy, 7/9, WB, CAMHS2, £20,000 or less, Empl, Secondary school, Behavioural, CASP=22.68, MAVRIC-C=17, MAVRIC-P=18 [LEAST DIFF MAVRIC]			
No.34, Girl, 11/12, WB, CAMHS3, £20.000-£30,000, Empl, Secondary school, Emotional, CASP=37.45, MAVRIC-C=14, MAVRIC-P=18	upset		mum and dad arguing, dad hit mum - upset, crying. when there's fights at school I just leave, don't want to get into trouble

Study No., Gender, Age at ref/ Age in std, Ethnicity, Area, Income, Emp carer, Educ carer, Ref reason, Scores	Feelings & thoughts_aggression: Child	Feelings & thoughts_aggression: Carer	Feelings & thoughts_aggression for real: Child
No.35, Boy, 11/12, WB, CAMHS4, ?, Empl, Further education, Emotional, CASP=11.87, MAVRIC-C=17, MAVRIC-P=15	it depends if you're doing something that you need to do or something that you're getting forced to do eg when defending yourself		would probably run, frightened
No.38, Boy, 11/11, WB, CAMHS4, £20,000 or less, ?, Further education, Hyperkinetic, [LOW] CASP=7.96, MAVRIC-C=18, MAVRIC-P=14			felt angry at kid who took a knife into school & threatened to knife somebody. seeing people hit each other for real - different than on TV - people in pain
No.43, Boy, 7/8, WB, CAMHS3, above £50,000, Empl, University, Hyperkinetic, CASP=19.48, MAVRIC-C=10, MAVRIC-P=13			killing people - in real life I'd probably stop
No.47, Boy, 8/9, WB, CAMHS3, £20,000-£30,000, Empl, Further education, Emotional, CASP=19.19, MAVRIC-C=15, [HIGH] MAVRIC-P=23		thinks it's unfair even if he doesn't understand	
No.50, Boy, 11/12, WB, CAMHS4, £20,000 or less, Empl, Secondary school, Hyperkinetic, CASP=29.76, [HIGH] MAVRIC-C=22, MAVRIC-P=21		thinks it's wrong but if doing thinks is right	seen kids shouting at each other - don't like it

Study No., Gender, Age at ref/ Age in std, Ethnicity, Area, Income, Emp carer, Educ carer, Ref reason, Scores	Feelings & thoughts_aggression: Child	Feelings & thoughts_aggression: Carer	Feelings & thoughts_aggression for real: Child
No.52, Boy, 8/9, AOW, CAMHS4, above £50,000, Empl, University, Emotional, CASP=13.05, MAVRIC-C=21, MAVRIC-P=9 [MOST DIFF MAVRIC]	children should know how to defend themselves eg with fists		
No.53, Girl, 10/12, WB, CAMHS2, £20.000-£30,000, Empl, University, Behavioural, CASP=9.88, [HIGH] MAVRIC-C=22, MAVRIC-P=17			would feel alright, everyone would be trying to stop it

Study No	Feelings & thoughts_ aggression for real: Carer	Feelings & thoughts_ aggression on virtual: Child	Feelings & thoughts_ aggression on virtual: Carer
02		feels like I am at home (mum or dad does that)	
05	sometimes would think it's very sad seeing people fighting, but sometimes thinks it's funny	doesn't like VG with fightings because it's making him wanting to fight as well. sad, worried about person being hit	swearing in games but he knows it's wrong to swear. sometimes with VG they think it's right because they see it on there. doesn't like anything fighting or shouting
07	would feel sadness & compassion for injured person & would help, would see right & wrong being done; doesn't get angry		carer not sure whether he identifies with the criminals or the police; he knows right & wrong
09	child lived with violence for 8 years, didn't know it wasn't normal, that's all she thought there was; seeing violence in real life is probably worse than TV	doesn't like when Bart squeezes Homer & Homer squeezes Bart, isn't normal for them to do it, sometimes feel sorry, sometimes it's funny. doesn't like seeing people die, makes her sad	not sure whether she's attracted to violent VG because her dad was violent. the more she sees it on TV the more she thinks it is normal, more accepting of aggression; TV reinforces the message. things seen on TV stay in her mind, worries about it
11		cartoon characters aren't all good, there wouldn't be a story, little violence=is reality. TV violence - doesn't get angry; depends: if horrible man =it's a part of film, enjoys it, but if it's just beating someone up=bad	gets scared quite easily eg murder scenes; wouldn't get scared watching football violence. he does think about it but he sees the right and wrong in it
17	When seeing aggression - if it's real people he'd probably be upset by it	doesn't like seeing fightings; scared when seen stabbing on TV. shooting or fighting or blood - feels horrible. stabbing in <i>Casualty</i> - can't sleep. whenever I go to cinema I always think someone with a knife is gonna stab me	seeing aggression around him e.g. TV or VG may make him think it's more normal than it is. When seeing aggression - if it's in a game he'd probably find it exciting because they tend to be the fast moving games - wouldn't see that as real, it's just a game
18		doesn't like violence; sometimes feels scared; had to kill Mr Burns in <i>The Simpsons</i> game & didn't like it	aggression would probably upset her but if it's something mild eg somebody being chased & man-handled by police they may look at it as exciting

Study No	Feelings & thoughts_aggression for real: Carer	Feelings & thoughts_aggression on virtual: Child	Feelings & thoughts_aggression on virtual: Carer
21	tends to run & hide behind me, scared	seeing people fighting - if in a movie he wouldn't be scared	doesn't like horror & anything with excessive violence. seeing aggression - if on TV or VG he would say it's not fair
22	not scared he's going to be hit	people getting shot/killed for no reason - doesn't like. violence TV if funny=OK, but if scary=no, OK for old enough. not bad if in VG, not hurting anyone	doesn't like violence, very sensitive, gets scared, things play on his mind
25	doesn't like aggression, feels uncomfortable & unhappy	killing on TV - hard to get to sleep afterwards, images come to mind	
26	kids fighting on the field, might only be play-fighting but he takes it seriously; he sees me arguing with a neighbour - I don't know whether he's took notice or not	fighting & shooting & killing each other in movies - sad because they die, has nightmares, scared	swearings, guns on TV - when he gets older he's going to think 'Well, they can do it so why can't I?'
29	gets excited, thinks is good, he's like'yeee, come on man	not scared, it's fun & stops him from being bored all the time, stops him from getting angry	doesn't get scared or angry
34	things she saw when young have stuck, always compares violence to her dad. incident in park: upset & worried that I was going to get hurt (although she hurts people eg brothers she can't stand seeing anyone else being hurt)	swearwords in <i>The Simpsons</i> - rude, not suitable for children, goes out of the room. if younger cousin watches it she might keep image in her head when older; don't like shootings in VG. swear words & scary things in <i>The Ring</i> - rude. violence - upsetting, not fair. war films - real life & don't want to think of it	watched aggression & knows that's not right. needs to know why they were doing that; always compares it to her dad, doesn't like it, gets upset; can play on her mind for a while

Study No	Feelings & thoughts_ aggression for real: Carer	Feelings & thoughts_ aggression on virtual: Child	Feelings & thoughts_ aggression on virtual: Carer
35		<i>Ratchet and Clank</i> have weapons & you kill, destroy the bad people - you can't destroy a good person	carer unsure how he feels; carer unsure whether his anger actually reflects what he's seen or if it's within him; nothing comes out showing he's perceived aggression on TV as being horrible - carer wondering about his perception, whether seen through different eyes. in one way it's a skill thing but on the other is how you kill people
38		<i>Grand Theft Auto</i> : lot of shooting - OK in the game. seeing someone shot on TV or movie - sad because you know it could kill somebody; if in a VG - that bit should be taken out	doesn't like to see people hurting animals. enjoys playing violent games, it's always the ability to kill or shoot or run someone over or blow a building up
43		killing people - OK in VG. I wouldn't dare do it in real life; goodies always catch the baddies in VG, would like to see the other way. not scared to see someone shot & injured on the news	important for children to be aware of what's going on important: talk about & explain. scared when heard about serial killer, hid breakfast cereal in cupboard. films with violence - isn't bothered, doesn't affect him
47	worried if it was in real life	OK to do things like shooting or fighting if you're trying to help people	if on TV he'd probably ignore it. never tried to interpret things seen in cartoons
50		not scared, watch it every day, used to it & they're acting	wouldn't watch anything murder related - frightening, doesn't like it

Study No	Feelings & thoughts_ aggression for real: Carer	Feelings & thoughts_ aggression on virtual: Child	Feelings & thoughts_ aggression on virtual: Carer
52	if ever saw two men fighting in the street he'd be terrified	not scared but if I was 5, 6 or 7 I would get scared	likes <i>Lego Star Wars</i> - attacking people - sort of childish but exciting. When seeing aggression on TV - he's not upset, tends to get more excited by it because he does see it as not real
53	don't think she likes it, frightened if in real life	don't like it, scared for the victim	When seeing aggression - if on TV - it's not real to her

Study No	Seeing blood: Child	Seeing blood: Carer	Real - not real: Child
02	don't think it's violent - no blood. bad violence - blood run out & guts, disgusting, nobody should be allowed to play it, too violent	hitting somebody with a hammer & his head open & blood everywhere - extreme violence, not suitable	you're not real Bond, disguised as Bond. it's not real, just a game/film. if you play <i>Star Wars</i> , you'll think it's real, like a girl in class
05			shouting & hitting & breaking things on TV/VG - knows it's not real but will think of it
07	gory when guts & blood come out, heads get chopped off, don't like it. shooting game - not violent, you just shoot somebody, no blood (only 12+); VG=alright if not too graphic; doesn't want to play 18+ VG- gory		bit gory when guts & blood come out of their bodies in <i>The Simpsons</i> - not scared cause it's just a cartoon, not real life. seeing shooting - it's all right for a game
09			doesn't like Batman - it's good saving people but it's a bit too much saving & don't really believe in superheroes
11			shooting people but just a game, quite funny, it's not real; violence on TV - most people ignore it because it's just a programme, isn't real life; on TV you might hurt someone but in real life if you hit them & they fall & smack their head
17	don't like that you could see the blood coming, it's horror; games with the blood action should at least be 15+ rather than 12+ cause it's really violent		shooting, blood coming in game - feels better than on TV cause video games aren't really realistic; TV programmes = more non-fiction
18			in movie you see someone acting but that isn't the same as seeing someone properly hurt. fighting in VG - it's a game, not real

Study No	Seeing blood: Child	Seeing blood: Carer	Real - not real: Child
21	it's OK if you don't see any blood; usually no blood in games & doesn't get scared or angry		in films people are acting, not actually doing anything to hurt someone deliberately
22	if blood, people killed/hurt - turn off. if lot of blood makes you feel sick, not good for children, but not as bad if just fighting	happy with war VG - don't actually see blood or actually killed, just disappear. doesn't want to see blood & gore	
25			know it's just a game, not real but still not nice, but it would be worse to see it in real life
26			things they do in <i>James Bond</i> - aren't real because they're TV programmes, OK to see shooting people
29	playing VG have to fight sometimes to win but there's no blood in it. worst thing in a game: in <i>Grand Theft Auto</i> , where he had a gun & shot someone, blood splat in everywhere		<i>Bullworth Academy</i> game - wants to go to this boarding school, the kids are real people but they're acting; it's only a game
34	horrible things in 18+ VG: blood, head comes off, show all body parts, don't like it		younger brother takes up scary things on TV seriously & tells him it's not real

Study No	Seeing blood: Child	Seeing blood: Carer	Real - not real: Child
35	a good game won't show blood or gory things		it's a game, if it were real I'd go & help
38			if it's not real it's OK, know it's done in a studio, blood is like tomato ketchup. but movies that got killing that ctually happened - kids shouldn't watch
43	18+ game - usually see blood on the ground		seeing fighting, shooting - if it's for real not fun at all, in game it's more fun, in movie not as good as in game; in game you know what's going to happen & what can do next & can play any time; somebody shot in a game - it's OK, they're not really hurt
47			shoot & kill in VG - OK, only a game, not real, fun - wouldn't do if for real. would be scared if for real. things on TV - not real, they're like pictures drawn & they just make them move
50	OK with playing 15/18+ VG - depends on how gruesome it is; if just bit of blood then it's fine. played VG (16) that mum banned but there's no blood in it		OK to see it, not bad because it's not for real & there's no blood. Seeing baddies fighting, killing others in TV & films - not scared, they're acting

Study No	Seeing blood: Child	Seeing blood: Carer	Real - not real: Child
52	doesn't like bloody gore films eg where body gets cut off		cartoons - knows it's not for real
53	when gory, blood spurts out on the camera at you - not scary but don't like it		shooting & stabbing people - in movie it's not real. in <i>Indiana Jones</i> film they took the heart out of a person while it was still beating - scares me even though it's not real

Study No	Real - not real: Carer	Realistic - not realistic: Child	Realistic - not realistic: Carer
02	he says he can distinguish between what's real & what's not real, he understands TV & VG are not real, it's make-believe		
05			
07	difficult for children to analyse where acting stops and where real-life starts		
09	she makes difference real - not real, understands they're characters, but knowing they're not real doesn't stop her from thinking behaviour is real eg <i>Eastenders</i> , thinks people behave like that (eg shouting at each other)		
11			
17	think he knows the difference real-not real (TV, movie, cartoons) but not sure where the separation from reality & the programme ends. aggression in VG - wouldn't see that as real, it's just a game	Lego <i>Star Wars</i> is like cartoon, funny, doesn't have the violence, more suitable than <i>Star Wars</i> with real people. a cartoon is not really a violent thing. <i>The Simpsons</i> is cartoon & <i>Eastenders</i> is people, realistic.	
18	don't think a child can comprehend the difference reality - film, they get bit sucked in, it can play mind games with them		

Study No	Real - not real: Carer	Realistic - not realistic: Child	Realistic - not realistic: Carer
21	he makes a difference between real life & what is happening on TV/VG		
22	aware TV isn't real but they all think they can hit each other quite hard & have no consequence. younger children are not going to know fact & fiction	cartoon programmes with violence - funny & not offensive. TV more realistic than VG. more realistic=upsetting	cartoons (<i>Tom and Jerry, Itchy and Scratchy, The Simpsons</i>)- blood flying everywhere, there's a roar of laughter at that, they love it
25			
26	plays <i>Space Invaders</i> - thinks aliens are real & has to kill them all 'they ain't going to kill me, I'm going to kill them'. think he knows it's just a game. Bart Simpson is a real person to him & thinks if Bart can do it, he can do it. thinks James Bond is real		
29			
34	fire weapon at matchstick man in game, sort of red paint which was blood coming out - found it funny, carer banned it but she said it's not real	people wrecking things in cartoons - really funny	funny because it's characters, like in a cartoon, not real looking people; if proper human people she wouldn't like it

Study No	Real - not real: Carer	Realistic - not realistic: Child	Realistic - not realistic: Carer
35	<i>Eastenders</i> - just a street in London & actually happening, perception it's real life, don't think it's made up to be; he makes no difference between reality programmes & <i>Eastenders</i>	violence in a cartoon way - it's not a human race thing, so wouldn't really matter; but in <i>Grand Theft Auto</i> bodies stay until you disappear. Seeing violent things - in older games is more similar to TV or DVD, look more real	cartoon violence: non-human figures, funny, relaxing children perceive it as violent? how children filter that?
38	shooting in VG - it's funny, only playing. where does playing end and reality begin? gets quite intense with some of his games & can't be normal. kids see it as a game but adults worry	new game: it seem real moves, if shoot somebody they move the way they'd get shot in real life - OK for 18-yr-olds but not for kids his age	
43	cartoons with fighting - aware it's a cartoon, not real. thinks of James Bond as being a real person & that's what he does, but equally aware he's a goodie so it's OK. problem if children not aware of boundaries good-bad. aggression in VG - understands it's not real.		children realise cartoons are not real, probably easier way for them to see aggression. easier to empathise when it's a film & see actual people, harder to empathise when cartoon
47		fighting games - kill them & when you come back they're gone	
50	if it's fictional he'll probably watch it		

Study No	Real - not real: Carer	Realistic - not realistic: Child	Realistic - not realistic: Carer
52	thinks <i>James Bond</i> is great, kick people out of doors & throw people off building - you have to tell him that's not real. aggression on TV - sees it as not real & excited by it	if it's a 'U' game, if it says 'contains fantasy violence' that's OK; but if contains killing people, VG children shouldn't be watching e.g. <i>Grand Theft Auto</i> where kill people - it's like real life	cartoon violence - not the same as watching on <i>The Bill</i> where somebody can hit somebody with a baseball bat but it's in a realistic context; soaps in the middle because adults know that's not how real life is but child probably doesn't interpret it same
53	aggression on TV - it's not real to her	plays <i>Mario Brothers</i> game - every time you kill him he goes dead & comes back to life on next level, bit confusing	

Study No	elements identified_feelings & thoughts: Child	elements identified_feelings & thoughts: Carer
02	1. Real - not real: dislikes seeing aggress in real life & wants to go away; shooting VG&films=feels OK because it's not real (just a game/film); some children think it's real. 2. Seeing blood=violent - dislikes it.	1. Real - not real: child thinks TV&VG=no effect on him as not real (make believe). 2. Seeing blood=violent, not suitable
05	1. Feelings towards aggress (either real or TV/VG): sad, worried, scared, angry; dislikes fighting in VG - makes him want to fight; knows TV&VG aggress is not real but will think of it	1. Feelings towards aggress in real life: sometimes sad, sometimes thinks it's funny. 2. Feelings towards aggress in VG: dislike fighting, wrong to swear; but sometimes think it's right
07	1. Feelings towards aggress in real life (& TV but happened for real): sad, annoyed. 2. Violent=if seeing blood (too graphic) - dislikes it. 3. Real - not real: cartoon violence=not scared because not real (just a cartoon); shooting=OK in VG	1. Feelings towards aggress in real life: sadness, compassion, concern, would go help. 2. Feelings towards aggress in TV: knows right-wrong but he identifies with=?. 3. Real - not real: difficult for children to differ acting-real
09	1. Feelings towards aggress in real life: scared, sorry for victim, unfairness. 2. Feelings towards aggress in cartoons & VG: not OK, doesn't like it, sad, sorry for victim, people could copy cartoon aggress. 3. Real - not real: knows it's a cartoon (but not OK, people could copy cartoon aggress), doesn't believe in superheroes. Cartoon violence=funny	1. Feelings towards aggress in real life: at home=thought it's normal; worse than seeing on TV. 2. Feelings towards aggress in TV&VG: reinforcing real life aggression (normal, accepting); stay on mind. 3. Real - not real: knows they're character on TV but thinks their behaviour is real
11	1. Feelings towards aggress in real life: dislike, tried to break fights up. 2. Real - not real: fighting VG=not real, funny, just a game; violent films=not real, good films, just a film; some films more real as actually happened; most people ignore TV violence=not real, just a progr. 3. Feelings towards aggress in progr: dislikes if it's just beating someone; enjoys if bad person punished. Positive aspect: fighting film-looking after friends; some TV violence needed to reflect reality (violence=part of life)	1. Feelings towards aggress in TV: knows right-wrong
17	1. Feelings towards aggress in real life: it's not good. 2. Feelings towards aggress in TV&VG: dislike, it's wrong, scared. 3. Violent=if seeing blood - dislikes it. 3. Realistic - non realistic: cartoons (& Lego VG)=funny, not violent (like when drop bit Lego on floor), more suitable than realistic progr (real people with costumes). Real - not real: blood in VG=non realistic, better than TV progr=more non-fiction	1. Feelings towards aggress in real life: upset. 2. 1. Feelings towards aggress in TV&VG: think it's normal. 3. Real - not real: VG aggression=not real, just a game, exciting; difficult for children to differ acting-real
18	1. Feelings towards aggress in real life: dislike, scared. 2. Feelings towards aggress on TV: too much violence (shooting, killing) - dislike, scared. Real - not real: TV&VG violence=not real on VG, acting on TV but not same as seeing one properly hurt.	1. Feelings towards aggress in progr: knows right-wrong, upset if severe but excited if mild aggression. 2. Real - not real: difficult for children to differ acting-real, sucked in, plays mind games with children. 3. Realistic - non realistic: cartoon-like VG violence seen at young age=has psychological effect on children's lives

Study No	elements identified_feelings & thoughts: Child	elements identified_feelings & thoughts: Carer
21	1. Feelings towards aggress in real life: scared, angry. 2. Feelings towards aggress in film: not scared. Real - not real: film=acting, not hurt. Seeing blood: usually no blood in violent VG=OK, not scared, not angry	1. Feelings towards aggress (either real or TV/VG): knows right-wrong, sense of unfairness, scared if real, empathise with victim. 2. Real - not real: makes difference real life-TV&VG
22	1. Feelings towards aggress in real life: dislike. 2. Feelings towards aggress in TV&VG: TV violence=OK for children if funny, not OK if scary; violence=not so bad if in VG; VG violence=OK if not hurting anyone, not offending, people old enough; shooting for no reason in VG: dislike; dislike seeing violence (killing) on TV. 3. Seeing blood: dislike, VG with blood=15, not OK for children; fighting without blood=not as bad. 4. Cartoon violence=funny. 5. Realistic - non realistic: TV=more realistic than VG 6. War VG violence: just soldiers, not innocent people	1. Feelings towards aggress in TV/VG: dislike, scared, plays on mind; no negative side/no consequence; desensitisation; honourable if war violence. 2. Seeing blood: violent, child dislike, child thinks OK if no blood in VG; 3. Real - not real: knows TV=not real; difficult for younger children to differ fiction-real. 4. Cartoon violence=funny
25	1. Feelings towards aggress in real life: dislike & worse than in TV&VG. 2. Feelings towards aggress on TV: dislike too much killing. 3. Real - not real: knows fighting/killing in VG=not real, just a game but still dislike	1. Feelings towards aggress in real life: dislike, upset.
26	1. Feelings towards aggress in real life: different than seeing in VG. 2. Feelings towards aggress in films: sad when people die, scary. 3. Real - not real: shooting people in TV progr=OK, not real	1. Feelings towards aggress in TV: would think OK to do as others do it. 2. Real - not real: thinks TV&film characters=real; VG=knows it's a game.
29	1. Feelings towards aggress in films: not scared 2. Real - not real: bully VG=not real, only a game & with real people acting, wants to go to that school 3. Seeing blood: dislike; OK if no/bit blood in VG&films. Positive aspects of playing VG (stops from getting angry)	1. Feelings towards aggress in real life: excited. 2. 1. Feelings towards aggress in TV: not scared, not angry
34	1. Feelings towards aggress in real life: scared, upset, goes away, it's wrong. 2. Feelings towards aggress in TV&VG: dislike, goes away, upset (rude, not suitable); stay on mind-for younger age. 3. Real - not real: for younger age. 4. Seeing blood: dislike. 5. Cartoon violence=funny	1. Feelings towards aggress in real life: upset, worried, stay on mind. 1. Feelings towards aggress in TV&film&VG: dislike, upset, it's wrong, sense of unfairness, play on mind. Real - not real & Realistic - non realistic: cartoon-like VG violence=OK as not real, funny; dislike if real looking people

Study No	elements identified_feelings & thoughts: Child	elements identified_feelings & thoughts: Carer
35	<p>1. Feelings towards aggress in real life: scared, go away or try help. 2. Feelings towards aggress in VG: destroy bad people only (cannot destroy good people). 3. Real - not real: VG violence=it's a game. 4. Seeing blood: good game if no blood. 5. Realistic - non realistic: cartoon-like VG violence=not human, doesn't matter; older VG (18)=look more real (similar to TV&film)</p>	<p>1. Feelings towards aggress in TV&VG: children's perception of it as violent or different from adults? 2. Real - not real: some TV progr (soaps)=think is real. Cartoon violence: funny; children's perception of it as violent?</p>
38	<p>1. Feelings towards aggress in real life: angry, different from seeing on TV (hear people in pain). 2. Feelings towards aggress in TV&VG: VG shooting=OK in VG but dislike, should be taken out; TV&movie shooting=sad (could kill). 3. Real - not real: not real=OK (knowing movies are in studio, blood=ketchup), real movies=should be banned, not OK for kids. 4. Realistic - non realistic: older VG (18)=seem real when shot, not OK for children his age</p>	<p>1. Feelings towards aggress in VG: exciting, likes it (carer worried); dislike animal being hurt on TV. 2. Real - not real: VG violence=only a game, funny (children's perception=different from adults)</p>
43	<p>1. Feelings towards aggress in real life: would try stop it. 2. Feelings towards aggress in VG: VG killing=OK, wouldn't do it in real life but can do it in VG, kill bad people (save good people), designed own army VG where baddies catch goodies. 3. Real - not real: VG violence (fighting&shooting)=fun&OK (not really hurt, knows what's happening), less fun in movie, not fun if for real. 4. Seeing blood: VG with blood (killing, suicide)=18</p>	<p>1. Feelings towards aggress in TV&film: scared of things on TV news; not bothered about film violence. 2. Real - not real: cartoon=not real; film character (hero)=real but knows right-wrong (violence=OK if children understand right-wrong). 3. Realistic - non realistic: cartoon violence=less effect on children than 'actual people' in films</p>
47	<p>1. Feelings towards aggress in progr&films: not scared (watched before, like it), OK if helping people. 2. Real - not real: VG violence (fighting&shooting&stabing&killing)=OK, not real, only a game, fun (if for real: wouldn't do it, scared); TV=not real. 3. Realistic - non realistic: kill in VG=they just disappear</p>	<p>1. Feelings towards aggress in real life: dislike, sense of unfairness; worried. 1. Feelings towards aggress in TV (cartoon&other progr): children's perception of it as violent?; TV progr violence=ignores it</p>
50	<p>1. Feelings towards aggress in real life: dislike. 2. Feelings towards aggress in TV&films: not scared, it's acting, good to watch, used to it. 3. Real - not real: VG&TV&film violence=OK, not real, not scared. 4. Seeing blood: no/just bit blood=OK, upset if too gruesome</p>	<p>1. Feelings towards aggress: dislike, it's wrong, scared. Real - not real: would watch if fiction</p>

Study No	elements identified_feelings & thoughts: Child	elements identified_feelings & thoughts: Carer
52	<p>1. Feelings towards aggress in VG: violent (bloody)VG=not scared but would be if younger (5-7). 2. Real - not real: cartoon=not real, fake (worried if for real). 3. Seeing blood=dislike. 4. Realistic - non realistic: violence in older VG=like real life, not OK for children</p>	<p>1. Feelings towards aggress in real life: scared. 2. Real - not real: TV&film violence=not real, excited, not upset; TV character (hero)=real; children's perception different from adults? (for adults: cartoon violence=different from realistic progr, soaps=not real)</p>
53	<p>1. Feelings towards aggress in real life: OK. 2. Feelings towards aggress in TV&VG&film: dislike, scared for person. 2. Real - not real: film violence=not real, but could still feel scared, on TV(news)=real. 3. Realistic - non realistic</p>	<p>1. Feelings towards aggress in real life: scared. 2. Real - not real: TV aggress=not real</p>

Study No., Gender, Age at ref/ Age in std, Ethnicity, Area, Income, Emp carer, Educ carer, Ref reason, Scores	What is aggression: Child	What is aggression: Carer
No.02, Boy, 8/9, WB, CAMHS1, £20,000 or less, Empl, Sixth Form/College, Behavioural, CASP=16.46, [LOW] MAVRIC-C=10, MAVRIC-P=18	shooting game - I don't think it's violent as you don't see any blood. watched a film where people trying to kill someone - wouldn't say it's got violence	carer does not think of shouting & swearing as aggression/ violence. extreme violence: hitting somebody with a hammer
No.05, Boy, 7/8, WB, CAMHS1, £20,000 or less, Empl, ?, Hyperkinetic, [HIGH] CASP=43.09, [HIGH] MAVRIC-C=23, [HIGH] MAVRIC-P=24		hitting, punching with anger, breaking windows
No.07, Boy, 9/9, WB, CAMHS3, £20,000-£30,000, Empl, Secondary school, Emotional, CASP=10.97, MAVRIC-C=18, MAVRIC-P=18 [LEAST DIFF MAVRIC]	no blood = not violent	difference between aggression and violence - you can be aggressive in your general manner, but that doesn't mean you're going to be violent to other people. Aggression = mental violence, mentally threatened but not physically in danger
No.09, Girl, 9/9, WB, CAMHS3, £40,000-£50,000, Empl, University, Emotional, CASP=19.37, MAVRIC-C=10, MAVRIC-P=22 [MOST DIFF MAVRIC]		
No.11, Boy, 11/12, WB, CAMHS4, £30,000-£40,000, Empl, Secondary school, Conduct, CASP=9.46, MAVRIC-C=17, MAVRIC-P=16	you can just be aggressive without being violent eg when you lose your temper you're aggressive but you don't have to hit someone. somebody chasing, trying to scare, threaten others = aggressive; violence = fighting, shooting, stabbing someone, being horr	would class the everyday sort of programmes as having aggression; violent - street fighting film
No.17, Boy, 9/10, WB, CAMHS2, £20,000-£30,000, Not empl, University, Behavioural, CASP=28.52, MAVRIC-C=18, [LOW] MAVRIC-P=12	Violence: fights, stabbing, threatening, bullying, hurting animals	Aggression & violence: a scale. aggression can be as little as an evil stare; violence is physically doing something to them not just with your body language
No.18, Girl, 8/9, WB, CAMHS2, £20,000 or less, Not empl, Secondary school, Emotional, CASP=29.91, MAVRIC-C=12, MAVRIC-P=17	violence: shooting & killing people	Aggression & violence: the same, with different levels
No.21, Boy, 8/10, WB, CAMHS4, £20,000 or less, ?, Further education, Emotional, CASP=8.93, [LOW] MAVRIC-C=3, MAVRIC-P=10		

Study No., Gender, Age at ref/ Age in std, Ethnicity, Area, Income, Emp carer, Educ carer, Ref reason, Scores	What is aggression: Child	What is aggression: Carer
No.22, Boy, 11/12, WB, CAMHS2, £20.000-£30,000, Not empl, Secondary school, Behavioural, CASP=19.68, MAVRIC-C=18, MAVRIC-P=16	violence: when there is a lot of blood & people getting killed or hurt; hurting animals. chasing someone to try hurt him - not as violent as shooting & stabbing & killing but it could develop into killing each other	boys violence=thoughtless & always supposed to be taken funny; girls=more spiteful & cold-blooded way. violence = cold-blooded & premeditated. aggression =verbal, gentler than violence
No.25, Girl, 11/12, WB, CAMHS4, £30.000-£40,000, Empl, Further education, Emotional, [LOW] CASP=5.81, MAVRIC-C=10, [LOW] MAVRIC-P=3	aggression: angry & hurt people, scream. violence: fighting	aggressive behaviour: verbally abusive, shouting & swearing; violence: physically hitting someone
No.26, Boy, 10/11, WB, CAMHS2, £20,000 or less, Empl, ?, Behavioural, [HIGH] CASP=48.19, MAVRIC-C=13, MAVRIC-P=22	violence: people shooting each other	violence - fightings, killing, crime, swearing, guns, robberies
No.29, Boy, 7/9, WB, CAMHS2, £20,000 or less, Empl, Secondary school, Behavioural, CASP=22.68, MAVRIC-C=17, MAVRIC-P=18 [LEAST DIFF MAVRIC]		fighting & killing
No.34, Girl, 11/12, WB, CAMHS3, £20.000-£30,000, Empl, Secondary school, Emotional, CASP=37.45, MAVRIC-C=14, MAVRIC-P=18		
No.35, Boy, 11/12, WB, CAMHS4, ?, Empl, Further education, Emotional, CASP=11.87, MAVRIC-C=17, MAVRIC-P=15		Aggression & violence: very similar, you have to be aggressive to be violent, can't be violent unless you're aggressive
No.38, Boy, 11/11, WB, CAMHS4, £20,000 or less, ?, Further education, Hyperkinetic, [LOW] CASP=7.96, MAVRIC-C=18, MAVRIC-P=14	violence: people shooting each other	

Study No., Gender, Age at ref/ Age in std, Ethnicity, Area, Income, Emp carer, Educ carer, Ref reason, Scores	What is aggression: Child	What is aggression: Carer
No.43, Boy, 7/8, WB, CAMHS3, above £50,000, Empl, University, Hyperkinetic, CASP=19.48, MAVRIC-C=10, MAVRIC-P=13		Aggression can be verbal or threatening; violence is physical
No.47, Boy, 8/9, WB, CAMHS3, £20,000-£30,000, Empl, Further education, Emotional, CASP=19.19, MAVRIC-C=15, [HIGH] MAVRIC-P=23		Anger: shouting & being angry. aggression: using threatening behaviour; violence: doing something physically eg hitting & using weapons
No.50, Boy, 11/12, WB, CAMHS4, £20,000 or less, Empl, Secondary school, Hyperkinetic, CASP=29.76, [HIGH] MAVRIC-C=22, MAVRIC-P=21		Aggression & violence: similar; aggression: sort of more built up anger eg shouting; violence: more sort of carried out, hitting
No.52, Boy, 8/9, AOW, CAMHS4, above £50,000, Empl, University, Emotional, CASP=13.05, MAVRIC-C=21, MAVRIC-P=9 [MOST DIFF MAVRIC]		Aggression & violence: on continuum; violence is worse than aggression, it can be aggressive but being violent you're actually carrying out the aggressive intent & causing harm to someone
No.53, Girl, 10/12, WB, CAMHS2, £20,000-£30,000, Empl, University, Behavioural, CASP=9.88, [HIGH] MAVRIC-C=22, MAVRIC-P=17		aggression could be verbal & don't actually lay hands on anybody; violent: could actually hurt somebody by physically touching them

Study No	elements identified_what is aggression: Child	elements identified_what is aggression: Carer	Preference for virtual aggressive features: Child
02			likes <i>James Bond</i> game - I do hard missions, my sister probably won't get past. nothing else to do
05			
07		difference aggress - violence: violence=physical	
09			didn't use to watch The Simpsons but friends watched it
11	difference aggress - violence: violence=physical	difference aggress - violence: violence=physical	fightings films-sports. you can do things in VG that you can't to do in real life. everyone likes to play shooting VG & easy. if you tell someone they can't watch something they badly want they'll watch it anyway & think it's amazing. age restricted VG mu
17	violence=physical	difference aggress - violence: violence=physical	likes <i>Eastenders</i> - mysterious
18	violence=physical	difference aggress - violence: on a scale	likes The Simpsons - funny
21			

Study No	elements identified_what is aggression: Child	elements identified_what is aggression: Carer	Preference for virtual aggressive features: Child
22	1. difference aggress - violence: violence=physical. 2. cartoon violence=funny	1. violence=physical. 2. gender difference 3. different kinds of aggression on TV & VG: cartoon aggression=funny; war=honourable heroes	funny & interesting; cartoon violence - funny. playing VG - something to do when nothing else, takes your mind off things; compare games with other people - competitive bit; lot different to reality
25	difference aggress - violence: violence=physical	difference aggress - violence: violence=physical	likes <i>Eastenders</i> - like the action & it's kind of realistic & exciting
26	violence=physical	violence=physical	likes to win when playing VG
29		violence=physical	having fun; when playing outside gets in trouble for nothing but indoors he's 'as good as gold' when playing the game; every single kid in the school in the game are his mates, wants to go to that boarding school, it's cool; all his mates are allowed the
34			
35		1. difference aggress - violence: violence=physical. 2 cartoon violence=funny	doesn't like girl VG - have stupid things, boring. plays <i>Iron Man</i> - it's a hero & get to fly around in the suit & use the weapons. friends play same kind of VG. what attracts people to VG: good reviews & titles. if VG easy to complete
38	violence=physical		friends watch & funny

Study No	elements identified_what is aggression: Child	elements identified_what is aggression: Carer	Preference for virtual aggressive features: Child
43		difference aggress - violence: violence=physical	in VG you can know what's going to happen & what can do next. fun. started playing games with dad when very young & plays dad's army games, do missions, hard to complete.makes you want to play more because of what you can do on it. James Bond hero
47		difference aggress - violence: violence=physical	played fighting games - you're trying to test yourself (doesn't like younger games - babyish, for girls). funny
50		difference aggress - violence: violence=physical	played VG sometimes for 5hrs, at weekend normally plays for 12hrs, sometimes does 24/7s, it's fun; friends play same VG & sharing. funny, cool, weapons; my dad was a good fan of it
52		difference aggress - violence: violence=physical	it's like my style a bit; funny. whatever thing I see when I'm out is a new game that I really, really want & I just rush into the shop & get it
53		difference aggress - violence: violence=physical	different thing fight on every level, it's really good & connect with other on Internet. had a go on dad's Playstation

Study No	Preference for virtual aggressive features: Carer	elements identified_preference: Child	elements identified_preference: Carer
02	watching & playing James Bond with dad, both addicted to it; likes the action, getting up levels. doesn't go out & play very often, spend a lot of time on his own, doesn't play with anybody; VG - release, something to do	1. challenge 2. lack of other activities	1. sharing dad's interest 2. challenge 3. lack of other activities 4. peers
05	wants VG that are not for his age because friends at school got them; plays angry Nintendo game - got picked on at school, they all had it, it's like stigma & new game & comes with the console		1. peer pressure & stigma 2. VG industry
07	it's just boys destroying stuff, it's aggression in boys, expressing his anger; it's what dad likes that has influence; likes fast quick result, active VG - doesn't like VG sister plays involving family issues as boring; doing VG as he's been inside a lot		1. challenge & excitement 2. sharing dad's interest 3. gender divide 4. lack of outdoor activities
09	not sure whether she's attracted to violent VG because her dad was violent & then got interested in VG where people kill each other; also the most easily accessible & cheapest VG; small part of the bigger game eg Harry Potter	1. peers	1. reinforcing real life 2. game industry/ market (accessible & cheap)
11	likes the sports element but there are aggressive sides of it. all kids have the games, so if you didn't let them have it they'd just go round to their friends & play it, pressure that's put on them. he'll only watch TV if he's got nothing else to do	1. different from reality & anything possible & funny 2. easy & shared with friends activity 3. peer pressure 4. passion for fighting=sport. 5. forbidden fruit appeal 6. VG industry - advertising	1. passion for the sport feature 2. peer pressure 3. lack of other activities
17	likes <i>Star Wars</i> - not sure whether because his brother & their friends watch them. plays VG when indoors as hasn't got a lot else to do; likes fast & fiery games, going to different levels & winning (doesn't like ones that you have to concentrate on tasks	1.mystery	1. peers 2. lack of other activities 3. challenge & excitement
18	her own games are not aggressive; sometimes playing fighting VG with brothers; it's games companies & influence through TV & music industry - portraying life more violent; all teenagers talking about same films; watches older programmes because she shares	1. fun	1. gender 2. media (TV & VG & music) industry portrays life as violent 3. peers (& siblings)
21	new games are more interactive, they connect with friends, his friends are into same games & it's fashionable		1. peers & interactive 2. fashion

Study No	Preference for virtual aggressive features: Carer	elements identified_preference: Child	elements identified_preference: Carer
22	likes adventure. obsessed with competitive games, got to get to next level; ability to become addicted makes him keener; boy's nature; excitement & thrill. new games = interactive. talk at school about levels they're on. way of running away. dadd involved	1. fun 2. lack of other activities 3. challenge/competition 4. different from reality	1. gender 2. the comic side/ funny 3. (being prone to) obsession/ addiction 4. competitive nature of VG 5. excitement & interactive 6. desensitisation 7. peer pressure 8. escapism 9. games industry 10. sharing dad's interest
25	not really that interested in PS2 compared to brother, she tends to do quite girly things	1. excitement	gender divide
26	if it's not a cartoon it's boring unless it's <i>James Bond</i> ; watches <i>James Bond</i> films if he's bored, nothing else to do	1. challenge/competition	1. excitement & challenge 2. lack of exciting & non-violent programmes
29	he likes <i>Bullworth Academy</i> game like most lads, most of his mates have got them, worse ones than that; half of parents don't care what VG their children play. people don't take note of game ratings & they will still sell them behind the counter	1. excitement 2. virtual world 3. safe from outside's trouble 4. peers	1. gender 2. peers 3. parental non-restriction/non-awareness 4. VG industry
34	doesn't play VG brother plays i.e. war & guns & fighting & shooting VG; the boys are into one thing and she's into something else		1. gender divide re VG
35	not many nice VG, all on warfare, winning. media pushing things on children. cartoon violence - funny. at school there's a little bit of 'What did you see last night?'. soaps - they think it's actually happening. friends taught him to go on certain sites;	1. gender 2. challenge & excitement 3. hero appeal 4. peers 5. VG industry - advertising 6. parental non-awareness	1. peer pressure 2. the comic side/ funny 3. perception as real 4. challenge to win 5. VG industry (advertising)
38	frustrated & bored with some VG, not exciting enough. seeing who is the best; friends play same VG. not many VG suitable for age 10-13 yr olds without guns & killing, either too young, too old. manufacturers aim to get young ones & shops sell VG for profit	1. peers 2. fun	1. excitement & skill 2. peer pressure 3. VG industry

Study No	Preference for virtual aggressive features: Carer	elements identified_preference: Child	elements identified_preference: Carer
43	likes dad's games - thinks it's going to be really exciting because he's not allowed to; he likes the idea of being in the war & the army & killing the baddies; friends at school play them all. likes anything that has a hero. playing VG can relieve boredom	1. different from reality & anything possible & under player's control & exciting 2. challenge 3. sharing dad's interest 3. peer pressure 4. fun	1. forbidden fruit appeal 2. army & war & hero appeal 3. peers 4. sharing dad's interest 5. lack of other activities
47	played VG at friend's house. cartoons = relaxing	1. challenge 2. gender 3. fun	1. peers 2. fun/relaxing
50	likes age inappropriate VG that carer banned because other kids play, thinks it's unfair because kids his age are playing them & he's not allowed to; fun. VG playing = like addiction	1. addiction 2. peers 3. fun 4. excitement 5. sharing dad's interest	1. peers 2. addiction 3. fun
52	friends passionate about same, violent VG; likes competitive VG, loves to win, exciting; being a boy; likes soaps (watching with mum), you get a cliff-hanger at end, engages with characters. James Bond is great	1. personality 2. VG industry 3. excitement	1. peer pressure 2. challenge 3. excitement 4. gender 5. TV industry - captivating 6. sharing mum's interest/family activity 7. hero appeal
53	investigation side; pressures as other watch same things. doesn't play violent VG - her friends are all quite girly girls; challenges to work through levels	1. challenge 2. peers & interactive 3. sharing dad's interest	1. challenge 2. peer pressure 3. gender

Study No., Gender, Age at ref/ Age in std, Ethnicity, Area, Income, Emp carer, Educ carer, Ref reason, Scores	Association seeing - doing aggression: Child	Association seeing - doing aggression: Carer
No.02, Boy, 8/9, WB, CAMHS1, £20,000 or less, Empl, Sixth Form/College, Behavioural, CASP=16.46, [LOW] MAVRIC-C=10, MAVRIC-P=18	children might do things after seeing eg beating someone.might do things seen in VG because think it's real	not real coming into real world as his aggression. friend had a knife at sister's throat & his mum got not a clue what he's watching
No.05, Boy, 7/8, WB, CAMHS1, £20,000 or less, Empl, ?, Hyperkinetic, [HIGH] CASP=43.09, [HIGH] MAVRIC-C=23, [HIGH] MAVRIC-P=24	VG with fightings - make him wanting to fight. Ikid at school hurt people - seen it somewhere?	programmes with aggression - might think it's more right than wrong, don't want to feed anger inside
No.07, Boy, 9/9, WB, CAMHS3, £20,000-£30,000, Empl, Secondary school, Emotional, CASP=10.97, MAVRIC-C=18, MAVRIC-P=18 [LEAST DIFF MAVRIC]		heard then used swear words until understood meaning.TV&VG violence if watched in controlled environment, taught at home - no influence. but if gang warfare tolerated then outside influences greatly felt. child allowed violent films every night - confusing
No.09, Girl, 9/9, WB, CAMHS3, £40,000-£50,000, Empl, University, Emotional, CASP=19.37, MAVRIC-C=10, MAVRIC-P=22 [MOST DIFF MAVRIC]	people think if they are doing it then I'm gonna do it	TV mirrors dad's behaviour - double reinforcement that it's acceptable, no positive role model.playing aggressive VG - leading to her being more physical; watches people shouting at each other on TV or at home so she shouts. violence in TV & VG = not main cause
No.11, Boy, 11/12, WB, CAMHS4, £30,000-£40,000, Empl, Secondary school, Conduct, CASP=9.46, MAVRIC-C=17, MAVRIC-P=16	seeing aggression give people ideas, if angry or not completely right, young people not realise consequences	seeing aggression - think about & get used to it
No.17, Boy, 9/10, WB, CAMHS2, £20,000-£30,000, Not empl, University, Behavioural, CASP=28.52, MAVRIC-C=18, [LOW] MAVRIC-P=12	it's the younger who copy, grow up with bad example	seeing aggression a think it's normal. would not cause it alone in a non-aggressive child. younger child more affected them. impressionable again at 14/15
No.18, Girl, 8/9, WB, CAMHS2, £20,000 or less, Not empl, Secondary school, Emotional, CASP=29.91, MAVRIC-C=12, MAVRIC-P=17	children could copy things seen on TV & VG if feel like they're strong & brave & can do whatever	her brothers like fighting/ racing games that makes them aggressive because if she borrowed one & played it she can be quite nasty to her siblings. seeing violence in VG at young age has psychological effect in their everyday lives

Study No., Gender, Age at ref/ Age in std, Ethnicity, Area, Income, Emp carer, Educ carer, Ref reason, Scores	Association seeing - doing aggression: Child	Association seeing - doing aggression: Carer
No.21, Boy, 8/10, WB, CAMHS4, £20,000 or less, ?, Further education, Emotional, CASP=8.93, [LOW] MAVRIC-C=3, MAVRIC-P=10		seeing aggression somewhere could cause aggressive behaviour in children, particularly younger children - more likely to copy what they see
No.22, Boy, 11/12, WB, CAMHS2, £20,000-£30,000, Not empl, Secondary school, Behavioural, CASP=19.68, MAVRIC-C=18, MAVRIC-P=16	seeing adults fighting could show children it's OK to do it; if younger children were playing violent games they might not realise it's bad to hurt people	cause of aggressive behaviour in children: often what they copy
No.25, Girl, 11/12, WB, CAMHS4, £30,000-£40,000, Empl, Further education, Emotional, [LOW] CASP=5.81, MAVRIC-C=10, [LOW] MAVRIC-P=3	being evil makes you do it more; normal child/adult wouldn't do it. Children copy favourite TV character	aggression they shouldn't be watching for their age, think it's the norm (important to explain reasons & consequences)
No.26, Boy, 10/11, WB, CAMHS2, £20,000 or less, Empl, ?, Behavioural, [HIGH] CASP=48.19, MAVRIC-C=13, MAVRIC-P=22		seeing aggression might add to his behaviour - they can do it so can I'; he does hit & punch & kick people like in <i>James Bond</i> . if Bart Simpson does something he'll do that outside next day
No.29, Boy, 7/9, WB, CAMHS2, £20,000 or less, Empl, Secondary school, Behavioural, CASP=22.68, MAVRIC-C=17, MAVRIC-P=18 [LEAST DIFF MAVRIC]	fightings in film - some crazy people might do them in real life	seeing aggression makes him worse because he's got aggression in him anyway; violent VG give kids ideas. seeing aggression affects children but it depends on child
No.34, Girl, 11/12, WB, CAMHS3, £20,000-£30,000, Empl, Secondary school, Emotional, CASP=37.45, MAVRIC-C=14, MAVRIC-P=18	might copy when you're at a young age & you don't understand what it means	seeing aggressive things on TV & internet doesn't help, could make children behave like that
No.35, Boy, 11/12, WB, CAMHS4, ?, Empl, Further education, Emotional, CASP=11.87, MAVRIC-C=17, MAVRIC-P=15	younger kids don't understand & imitate violent things seen in films & VG. brother's friend (14 yrs old) plays violent VG & he's like a bully, does affect him	violence shown on TV is reflected in the community; children need a lot more suggestion to be good & they're impressionable when just off teenage age & negative impressions & depends on how the family deals with it

Study No., Gender, Age at ref/ Age in std, Ethnicity, Area, Income, Emp carer, Educ carer, Ref reason, Scores	Association seeing - doing aggression: Child	Association seeing - doing aggression: Carer
No.38, Boy, 11/11, WB, CAMHS4, £20,000 or less, ?, Further education, Hyperkinetic, [LOW] CASP=7.96, MAVRIC-C=18, MAVRIC-P=14	because kids watch programmes/movies with violence they are starting to do it on streets. seeing things in games - kids could go around copying it - immaturity & funny to copy it. has sometimes done things seen in TV&VG but doesn't remember	comes out with words heard on TV besides school. his behaviour when angry - lot to do with outside influences eg TV/VG because he's seen it's OK for everyone else to do it
No.43, Boy, 7/8, WB, CAMHS3, above £50,000, Empl, University, Hyperkinetic, CASP=19.48, MAVRIC-C=10, MAVRIC-P=13	bullies shouting or hitting other kids seeing these things in VG	copied rude things from cartoons. seeing aggression in family more important than VG; but if child stuck to VG 24hrs - think is normal
No.47, Boy, 8/9, WB, CAMHS3, £20,000-£30,000, Empl, Further education, Emotional, CASP=19.19, MAVRIC-C=15, [HIGH] MAVRIC-P=23		children's aggression comes from watching things - if allowed to watch anything on TV, especially at younger age because they don't really understand consequences
No.50, Boy, 11/12, WB, CAMHS4, £20,000 or less, Empl, Secondary school, Hyperkinetic, CASP=29.76, [HIGH] MAVRIC-C=22, MAVRIC-P=21	sometimes people do things e.g. threatening others after seeing them. has done things seen in TV & VG but doesn't remember	VG encourage children & they think they could go out & do in real life things seen in games
No.52, Boy, 8/9, AOW, CAMHS4, above £50,000, Empl, University, Emotional, CASP=13.05, MAVRIC-C=21, MAVRIC-P=9 [MOST DIFF MAVRIC]	if you ever play <i>Grand Theft Auto</i> & you are young like me - it's not good because if you carry on playing it until you grow older to be like that	watch real life & TV aggression - see it as normal. TV & VG effect: yes but not major detrimental
No.53, Girl, 10/12, WB, CAMHS2, £20,000-£30,000, Empl, University, Behavioural, CASP=9.88, [HIGH] MAVRIC-C=22, MAVRIC-P=17		when younger (8-9) associated <i>Tracey Beaker</i> - her aggression. stopped from watching: improvement. no problem now - she's older

Study No	Seeing it doesn't make them aggressive: Child	Seeing it doesn't make them aggressive: Carer	Predisposition: Child	Predisposition: Carer
02	killing in film - won't do any harm; wouldn't do things seen in VG	he thinks TV & VG don't affect him (not real)		he's got language on his own without watching on TV
05	wouldn't punch after seeing it			very angry child
07	children won't do things after seeing won't punch another if seen	his aggression not from outside input	some people are just mean	his aggression comes from within
09	wouldn't copy things seen on TV & VG			
11	doesn't make me get aggressive; won't do because I saw	don't think TV has influence on his behaviour; hard to tell		depends on individual child & how they cope; some children more attracted to aggression than other
17	know right and wrong when 7-8	doesn't copy from TV & VG		naturally aggressive, in his genes
18	wouldn't copy things seen on TV & VG like shooting or fighting			

Study No	Seeing it doesn't make them aggressive: Child	Seeing it doesn't make them aggressive: Carer	Predisposition: Child	Predisposition: Carer
21		don't think things he does when angry are related to things he sees on TV or VG		all children are different
22	wouldn't do these things after seeing violence on TV or VG	don't think it's what he sees on TV & VG & films that makes him aggressive		always been difficult, had a bad start (difficult birth, sick all time); always been an angry type; that's his dad a bit; something in him, ability to become addicted
25	would not copy things seen on TV like shouting or punching or stabbing	don't think things she's seen on TV or VG affected her behaviour		a child may have aggressive tendencies, aggressive behaviour would be easier to perform than to non aggressive child
26	don't think children would do things i.e. fighting, threatening others, punching, kicking or shooting after seeing it; I haven't done that when angry	not sure whether he copies violent things from TV. violence in certain cartoons but he never copies		he's been like it since he was 2 & getting worse as gets older; only a certain age in his mental way & easily led
29	mum thinks I'll probably get all the swearings off it [film] but I'm not			it's started from early age before he watching films & playing on Playstation; he's got short temper & he's very easily led
34		wouldn't say she's being aggressive because she's seen it on TV or internet, that's not the case with her		gets aggressive with brothers & little sister a lot because of being angry
35				some children are more susceptible to seeing things

Study No	Seeing it doesn't make them aggressive: Child	Seeing it doesn't make them aggressive: Carer	Predisposition: Child	Predisposition: Carer
38	I don't copy because I'd get arrested		people behave this way because they're evil	child aggressive, out of control & doesn't realise he's doing it until he's done it
43	wouldn't dare do in real life things they do in <i>The Punisher</i>	watching films with violence doesn't affect him		children react differently to violence around them. idown to parents to educate
47	haven't done these things after seeing on TV or VG. wouldn't do that for real	has not picked behaviours up from TV		
50				
52		since he's been playing VG his character doesn't appear to have changed, doesn't tend to be more aggressive		boys naturally more aggressive than girls, that's what boys do
53	parents thought <i>Tracy Beaker</i> made her angry but she doesn't think so			something inbuilt in children, some children predisposed

Study No	Family/ Upbringing: Child	Family/ Upbringing: Carer	Peers/ Ccommunity: Child	Peers/ Ccommunity: Carer
02				
05				
07		influence from parents; aggression at home make children aggressive	somebody chasing, push, threaten,another & others try annoy him even more	if living in undesirable areas he would mix with aggressive children
09		she's seen violence at home (father)	some older kids at school swearing - ever since they got there people are more mean	
11				
17	(in our family people set a good example)	children born with aggressive predisposition & depends how parents bring them up		
18		bad upbringing at home - brings bad behaviour		bad upbringing where you live - brings bad behaviour

Study No	Family/ Upbringing: Child	Family/ Upbringing: Carer	Peers/ Ccommunity: Child	Peers/ Ccommunity: Carer
21				
22		learnt behaviour - from seeing at parents		
25		mum being aggressively abusive sometimes - that's teaching them to do it		
26			things I do when get angry - because people are annoying me; people get angry & punch something because someone punched them	he's easily led; if others do it then I can do it
29		half the kids nowadays are fighting at school, they got gangs; there are different upbringing	things children do e.g. punching, hitting, swearing, bullying other children - probably their mates, all kids do it; 2 days ago when I got really angry it's because this girl made fun of me	only time he flips is if some kid is winding him up because he's got such a short temper
34		what's happened in her own life has set the seed in her head		
35		brought up with a lot of aggression & I can see a lot of things he does are much the same. family life has a lot to do with how children are: if families always swearing & shouting then children will tend to swear & shout too, that is the norm		what's happened in community make person bad

Study No	Family/ Upbringing: Child	Family/ Upbringing: Carer	Peers/ Ccommunity: Child	Peers/ Ccommunity: Carer
38	been taught the wrong way by parents			if happened in school it should be dealt with in school
43	bullies: parents broke up or hit them	it's to do with the way they're brought up		
47		lot of children's aggression comes from their background, way they've been brought up		nowadays children can't be disciplined, don't seem to have respect for adults - society has changed
50		mum's was not to hit but talk into reason but dad would call him a name or maybe smack him		
52		learnt behaviour: carer sometimes aggressive to him (shouting)		
53	people angry & fighting - got bad background			

Study No	Multiple factors: Child	Multiple factors: Carer	Other issues: Child	Other issues: Carer
02				hundred-mile-an-hour child & when on VG or TV he's worse, brain on the go, like on drugs
05				hyper before started playing VG & kids hyper after playing, could be graphics, not like watching TV
07		film & home life & where you live		
09				stop her from watching things triggers off anger. when she didn't win game had a go at brother
11				
17				playing VG - he's all hyper
18			being angry & take it out on others	fighting/ racing VG games - may starts getting agitated if playing too much, affects sleep pattern

Study No	Multiple factors: Child	Multiple factors: Carer	Other issues: Child	Other issues: Carer
21				
22		things picked up from parents,school, TV - influences from everywhere		angry like a drug addict trying to get his drugs. it's the obsession & aggression & competitive element together
25			doing things to look clever in front of friends	brother plays skiing game but sometimes he can get a bit hyped up
26				
29				
34				
35		what happens in family & peers & things seen on TV		

Study No	Multiple factors: Child	Multiple factors: Carer	Other issues: Child	Other issues: Carer
38				they get angry with their parents for not letting them have games they want
43				
47		unstable backgrounds & aggression in family		
50			people do things e.g. shouting, threatening others because they are angry	
52				
53		experiences & what they see & nature	being stressed made her angry	

Study No	elements identified_association: Child	elements identified_association: Carer
02	1. Real - not real. & 2. Others but not me: link seeing-doing aggress for some who think it's real (doing things seen in VG because some children think it's real; not me because knows it's just a game)	1. Link seeing-doing aggress: TV&VG adding to preexisting probl - even if not real (child thinks TV&VG=no effect on him as not real). 2. Playing VG effect: like high, brain on the go, will lash out&hit (even sports VG)
05	1. Others but not me: link seeing-doing aggress for some; not me - I wouldn't punch after seeing in VG)	1. Link seeing-doing aggress: progr adding to preexisting probl (might think it's right; feed/trigger anger inside). 2. Playing VG effect: hyper (the VG graphic)
07	1. No link seeing-doing aggress (children wouldn't throw/threat/hurt animals after seeing; I wouldn't punch/shoot). 2. Nature: people=just mean. 3. Comes from parents. 4. Peers	1. Link seeing-doing aggress: TV&VG but role of family & community to educate; home & community (=negative outside influence). 2. Inner factors only for my child (no outside influence)
09	1. Others but not me: link seeing-doing aggress for some (copy from cartoons); wouldn't copy TV&VG shout&hit&threat). 2. Peers influence	1. Link seeing-doing aggress: TV&VG reinforce real life (eg home) influence; some children don't understand consequences & copy from VG; TV&VG adding to preexisting probl for my child (not main cause of aggression). 2. Playing VG effect: make child frustrated/angry & behave aggressively
11	1. Others but not me: link seeing-doing aggress for some (get ideas & copy TV aggress as think it's OK to do) & for really young people (think it's funny & hero & not realise consequence); fighting films send bad message; people copy more from films that actually happened (more real); seeing doesn't make me aggress, I wouldn't shoot after seeing in VG. 2. Positive aspect: seeing TV&VG violence=people see it's bad & wouldn't do it	1. Link seeing-doing aggress but role of inner factors (individual reaction/way of coping). 2. Not my child (TV&VG)
17	1. Link seeing-doing aggress for young age (3-4. don't know right-wrong, copy what they see - VG&TV violence=bad example, start young & play more, carry on when older, the younger they start the worst). 2. Protective: older age (7-8): good example set by family	1. Link seeing-doing aggress: TV&VG adding to preexisting probl (not cause aggression alone but on aggressive predisposition; might think it's normal); more for younger & 14-15yrs. 2. Inner factors only for my child. 3. Role of family to educate. 4. Playing VG effect: hyper
18	1. Others but not me: link seeing-doing aggress for some (who think they can do whatever); I wouldn't copy TV&VG fighting/shooting	1. Link seeing-doing aggress: VG; home & community (=negative outside influence). 2. Playing VG effect: won't put VG down, affects sleep (brothers)

Study No	elements identified_association: Child	elements identified_association: Carer
21		1. Link seeing-doing aggress: more for younger (<5-6yrs, not able to differentiate reality-TV&VG); role of inner factors (individual reaction). 2. Not my child (TV&VG)
22	1. Others but not me: link seeing-doing aggress for some (think it's OK to do, get ideas) & more for young people (not realise it's bad); I wouldn't do after seeing TV&VG violence	1. Link seeing-doing aggress: outside negative influence of TV&VG, home, school. 2. Not my child (TV&VG) but nature + home aggress. 3. Playing VG effect: obsession (aggression contributes to obsession) causes the anger; hyper
25	1. Others but not me: link seeing-doing aggress for some (who are evil, not normal child: copy favourite TV character); I wouldn't copy from TV shout&punch&stab	1. Link seeing-doing aggress: TV&VG (think it's norm); home negative influence. 2. Role of family to educate. 3. Not my child (TV&VG) 4. Inner factors (aggressive tendencies). 5. Playing VG effect: hyper (brother)
26	1. No link seeing-doing aggress (children wouldn't fight/threat/punch/kick/shoot after seeing; I haven't done that). 2. Peers	1. Link seeing-doing aggress: TV&VG adding to preexisting probl. 2. Peers
29	1. Others but not me: link seeing-doing aggress for some (crazy people); I wouldn't do VG things (swear&punch). 2. Peers.	1. Link seeing-doing aggress: TV&VG adding to preexisting probl; role of inner factors (individual reaction). 2. Role of family to educate. 3. Peers
34	1. Link seeing-doing aggress: children could copy VG fights; for young age (don't understand what means & copy from progr&films)	1. Link seeing-doing aggress: home negative influence; TV&VG. 2. Home influence for my child but not TV&VG
35	1. Link seeing-doing aggress: bullies imitate VG violence; for young age (don't understand & imitate violence from films&VG). 2. Protective: older age	1. Link seeing-doing aggress: TV; just off teenage age; home & community & peers (=negative outside influence). 2. Role of family to educate. 3. Role of inner factors (susceptibility).

Study No	elements identified_association: Child	elements identified_association: Carer
38	1. Link seeing-doing aggress: children could copy violence from progr&films&VG - immature, think it's fun, not realise they get in trouble; has done some things seen in TV&VG-doesn't remember what. Not me: wouldn't copy VG violence (understands it, knows will get in trouble). 2. Upbringing (taught wrong way by parents)	1. Link seeing-doing aggress: TV&VG (it's OK to do it); school (negative outside influence). 2. Role of inner factors. 3. Role of school/community 4. Playing VG effect: anger when VG banned
43	1. Others but not me: link seeing-doing aggress: but rarely; I wouldn't do violence as in VG. 2. Upbringing (broken family, domestic violence)	1. Link seeing-doing aggress: real life (home)=most important negative outside influence (more than VG); TV&VG (think it's norm). 2. Role of family to educate. 3. Role of inner factors (individual reaction). 4. Not my child (film violence)
47	1. Not me: I haven't done that.	1. Link seeing-doing aggress: TV&VG; more for younger age (don't understand consequences); home (negative outside influence). 2. Role of family to educate. 3. Not my child (TV)
50	1. Link seeing-doing aggress: sometimes people do it after seeing; he has done some things seen in TV&VG but doesn't remember what	1. Link seeing-doing aggress: VG adding to preexisting probl; home (negative outside influence).
52	1. Link seeing-doing aggress: children his age playing violent VG would grow up violent	1. Link seeing-doing aggress: real life (eg home negative influence); TV&VG. 2. Not my child (TV&VG) 3. Role of inner factors (gender)
53	1. No link seeing-doing aggress: children's aggressive behav=not because seen it; aggressive progr doesn't make her angry (parents=opposite)	1. Link seeing-doing aggress: VG adding to preexisting prob (aggressive predisposition); age 8-9yrs. Protective: older age

CHAPTER 6: DISCUSSION

6.1 INTRODUCTION

This chapter initially relates specifically to the findings of *this mixed methods study* followed by a discussion of these findings in the context of the existing literature, a methodological critique of *this study*, recommendations for future research and implications for mental health practice and services in order to draw conclusions for this thesis as a whole. In this chapter and the next, references to the thesis study will be differentiated from other studies by italicisation, e.g. *this study*.

6.2 MAIN FINDINGS OF *THIS STUDY*

This thesis reports the first study of exhibited aggression in a clinical population of children attending CAMHS in the UK and their watching of aggression on TV and in VG. It is the first study of exhibited aggression in children attending CAMHS, who have behavioural and emotional difficulties, which focuses on aggression rather than psychiatric diagnosis, as in previous research. This thesis also reports the first qualitative study on the views of children in this clinical population and their carers on any association between children's exhibited aggression and their watching of aggression in TV programmes and VG. The quantitative and qualitative study components aimed to answer specific research questions. This section relates to the first three research questions. Research question 4

concerning the appropriate methodology for future research will be discussed in detail towards the end of this chapter.

6.2.1 QUESTION 1: What are the type, severity and frequency of reported aggression exhibited by children aged 7-11 years with BED attending Tier 2/3 CAMHS?

This study found that children aged 7 to 11 years with BED attending Tier 2/3 CAMHS exhibited various types of aggression: verbal aggression, aggression against objects and animals, physical aggression (including more severe forms such as attempting to kill a person) and using weapons (using a knife or a gun in a fight). The mean scores on the CAS-P subscales, reflecting both the frequency and severity of types of aggression, ranged from as low as 0.43 for weapon use to as high as 8.83 for verbal aggression (possible range of scores for these CAS-P subscales are 0.00 - 12.16 and 0.00 - 26.16, respectively). The low frequency of the severe forms i.e. attempting to kill a person and using weapons may be related to the young age of the sample.

This study also found that children aged 7 to 11 years with BED attending Tier 2/3 CAMHS had clinically significant levels of exhibited aggression as demonstrated by the sample's mean score above the clinical cut-off on the MAVRIC. According to self- and carer-report, 71.8% and 78.3% respectively of children scored above this cut-off.

6.2.2 QUESTION 2: Where do children aged 7-11 years with BED attending Tier 2/3 CAMHS see aggression in their lives?

According to children and their carers, there are multiple sources of seeing aggression in these children's lives, both in 'real life' and the 'virtual world'. 'Real life' mainly includes those places where children spend most of their time: the school and/or playground (the real-life source most often noted by children and their carers) and the home. *This study* found no connection between children's socio-demographic characteristics (gender, ethnicity, family income level, main carer's employment status and level of education, and geographical area based on CAMHS location) and their seeing aggression in these settings. A low family income level does, however, appear to be related to seeing aggression the community, whether in the street or related to neighbours. The aggression children see in real-life settings tends to be mostly verbal, e.g. people arguing, shouting and swearing at each other, but also physical, such as 'hitting', 'punching' and 'bullying'.

'Virtual world' sources of seeing aggression most often involved VG and TV programmes, according to children and their carers. There is a tendency for children to see more severe forms of physical aggression (e.g. use of weapons such as a knife or a gun to take someone's life) more often in TV programmes and VG than in 'real life'. It is notable that aggression is present in age- and content-appropriate as well as inappropriate TV programmes and VG. Parental restrictions sometimes have the opposite effect of children watching and playing forbidden programmes and VG more.

Boys tend to play VG that include aggression more than girls. Children and their carers perceive boys' preferences to be related to their gender-specific competitiveness and the competitive nature of the games. Society and the media (e.g. the games market), their fathers' and peers' similar preferences and the accessibility and appeal of these games are also believed to influence boys' preferences for VG that have aggressive content. The competitive nature of the games and male gender-specific issues are hence thought to one feed into each other.

6.2.3 QUESTION 3: What are the views of children aged 7-11 years with BED attending Tier 2/3 CAMHS and their parents/carers on any association between exhibited aggression and viewed aggression?

Child and carer views on any association between seeing aggression and exhibited aggression inform two distinct models of thinking: the child model of 'others but not me' and the carer model of 'nature and nurture'. Children of this age do not think their own behaviour is influenced by seeing aggression in their lives. This includes watching aggression on TV and in VG, towards which they have neutral feelings because 'it is not real'. They see themselves as being at an age, or stage, in their development where they have mastered the ability to differentiate reality from fantasy and to understand the potential negative consequences of aggressive behaviour. In contrast, in relation to what contributes to aggression in other people, children's views share some common features with their carers' views.

Carers think that the cause of aggressive behaviour in children consists of a combination of inner and environmental factors, among which the most important are the real-life influences of home and community. Seeing aggression on TV and VG adds to children's aggressive predisposition, pre-existing behavioural problems and the aggression they see in real life. Younger children, such as those aged under 9 years and those who are in earlier stages of their development, are thought to have limited abilities to make the distinction between real and not real and understand the possible negative consequences of aggression.

Compared to their carers' generation who mainly watched a non-realistic, cartoon-like type of aggression on TV, children also watch a more realistic type of aggression on TV and VG that depicts real-looking characters, blood or body parts. This realistic aggression is regarded as 'violent' and thought to possibly have a stronger influence on children's behaviour.

In the qualitative study, sources of where children see aggression, or child and carer views on any association between viewed aggression and exhibited aggression, did not follow a pattern in relation to a high or a low score on the aggression measures. It is acknowledged that qualitative analysis does not equate with the presence or absence of a statistically significant association.

6.3 COMPARISON WITH PREVIOUS RESEARCH FINDINGS

6.3.1 EXHIBITED AGGRESSION

The results of *this study* are similar to what Knox and colleagues (2000) found in a sample of 74 psychiatric inpatient and outpatient American CYP aged 13-17 years with major depressive disorder (DSM-IV criteria), with regard to CYP self-report. 73% of their sample scored above the clinical cut-off of 10 on MAVRIC-C compared to 71.8% in *this study*. It is worth noting the difference in the carers' estimates of their children's aggression: 78.3% of *this study* sample compared to 38% of that earlier study sample scored above the cut-off of 10 on MAVRIC-P. Similar to *this study*, higher carer compared to child self-report of aggression were found in a sample of 28 psychiatric inpatient American children aged 5-12 years (who met DSM-III-R criteria for various psychiatric diagnoses such as ADHD, CD, ODD, depression): 57.1% of the sample scored above the clinical cut-off of 15 on MAVRIC-P, while 50% of the sample scored above the clinical cut-off of 15 on MAVRIC-C (Goodman et al., 2006). This suggests that the reliability of carer reports of their children's aggression may depend on the child's age: carers may be more aware of their children's aggression in the case of younger children and less so for adolescents.

The correlations between child- and carer-reports of exhibited aggression in *this study* were lower than those reported by some studies (r ranged from 0.18 to 0.55, Knox et al., 2000; r ranged from 0.39 to 0.62, Goodman et al., 2006) but similar to earlier research findings of a low correspondence between child and parent reports of aggression ($r = 0.23$, Epkins cited by Knox et al., 2000) and of symptoms of psychopathology in CYP ($r = 0.25$, Achenbach et al. cited by

Goodman et al., 2006). Similar to the results reported by Goodman et al. (2006), *this study* found a higher correlation between child and carer reports on the behavioural compared to the state of mind items of the MAVRIC, suggesting that carers may be less aware of their children's states of mind related to aggression. This does not entirely explain, however, the low child-carer correspondence in *this study* as the correlations on the behavioural items were still low and not statistically significant. Both child and carer reports of aggression are subjective measures, and it is difficult to establish which one has more validity than the other. Authors previously discussed the possibility that CYP over-report or parents under-report aggression, particularly in the case of parental reports of their daughters' aggression (Goodman et al., 2006; Knox et al., 2000). *This study* found no such gender differences in reports of aggression, i.e. between carers and their daughters or between carers and their sons. As discussed later in this chapter, *this study* suggests that children may provide less reliable estimates of their own aggressive behaviour compared to their carers.

The high, positive correlations between the carer-reports of exhibited aggression in *this study*, the MAVRIC-P and CAS-P, were similar to the findings of other studies (r ranged from 0.53 to 0.74, Goodman et al., 2006; r ranged from 0.53 to 0.69, Halperin et al., 2002; $r = 0.86$, Knox et al., 2000). This strengthens support for the convergent validity of MAVRIC-P and CAS-P.

The total sample's mean scores on the Verbal Aggression, Aggression against Objects and Animals, Provoked Physical Aggression and Use of Weapons subscales of CAS-P in *this study* fell above the previously reported (Halperin et

al., 2002) mean for children with ODD, but below the mean for children with CD on all subscale scores, in a similar sample. Halperin and colleagues (2002) conducted their study in an American sample of children aged 7 to 11 years (mean age was 9.2 years (SD = 1.3)), mostly boys (90.4%), who were clinically referred for disruptive behaviour disorders (ADHD, OCD and CD (DSM-III-R criteria)). They found no significant differences between the clinical control and ADHD groups, both of which scored significantly ($p \leq 0.05$) lower than the ODD group on all subscales except the Use of Weapons; the CD group scored significantly ($p \leq 0.05$) higher than the other three groups on all subscales except the Use of Weapons. Similar to Halperin and colleagues (2002) findings, weapon use was rarely reported in *this study*.

6.3.2 SEEING AGGRESSION

This study's findings of multiple 'real' and 'virtual' sources of where children see aggression, with severe forms being seen more often on TV and in VG than in real-life settings, agree with earlier Israeli research. In the latter, Raviv et al. (2001) found that Israeli primary school children witnessed violence at home, at school, in the neighbourhood and on TV, with severe violence being witnessed on TV more frequently than in any of the three real-life settings. The tendency for children and their carers to agree on sources of seeing aggression coincides with that earlier report. *This study's* and Raviv et al.'s (2001) study alert us to the fact that children see a lot of aggression, particularly at school, in VG and on TV.

Children's reports, in *this study*, of seeing aggression in TV programmes, including those rated as age- and content-inappropriate, contradict earlier

qualitative research on primary school children with BED in the US, which reported that children mainly watch TV programmes rated as positive and family friendly, as a way of escaping from the reality of their sometimes violent home lives (Lowdermilk, 2004). Children in *this study* did not report TV and VG as ways to escape from real life, although carers sometimes mentioned playing VG as an escape for children from witnessing verbal aggression in the family.

In the Good Childhood Inquiry (Pople, 2009), CYP in the UK frequently complained about feeling unsafe in their neighbourhood. As *this study* suggests, this may be related to their seeing aggression in their community.

In the same report, CYP also complained about the lack of available activities and facilities in their community that would appeal to their age group; watching TV and playing VG are available options when there is nothing else to do (Pople, 2009). Similarly, in *this study*, some children talked about the lack of outdoor activities as one of the reasons behind their playing VG.

This study's findings point towards the idea that children and their carers belong to very different generations when it comes to the 'virtual world'. Children are part of the new generation, more familiar with VG and more exposed to aggression through VG playing and watching TV. As suggested by the Good Childhood Inquiry (Pople, 2009), CYP in the UK are relaxed around and take the presence of technology in their lives, such as use of computers to play games, for granted. Hulme (2009) talks about 'digital natives' when describing individuals who have grown up with new information and communication technologies (computers, the

internet, mobile phones and VG) and who are fundamentally different from previous generations in the way they communicate, seek information, engage, interact and entertain themselves. As carers taking part in this study noted, it is often difficult to remove TV and VG from these children's lives, or to protect children from the aggression coming into their lives, through these virtual means.

6.3.3 THE ASSOCIATION BETWEEN AGGRESSION SEEN AND EXHIBITED AGGRESSION

The qualitative findings of *this study* point towards aggression being the result of a combination of inner and environmental factors. Watching aggression on TV programmes and in VG is secondary to seeing aggression in real-life settings. What appears to be key is the role of family as well as the community, e.g. school, in helping children to understand the nature and consequences of the aggression they are exposed to and thus possibly preventing and/or limiting its influence on the child's behaviour. This coheres with the current understanding of child development and of the multiple risk factors model for aggression (Browne and Hamilton-Giachritsis, 2005). The ecological model of child development brings together family and environmental factors (Gordon, 2000). *This study* coheres with previous reports of the potential role of gender (with particular regard to males) and aggressive predisposition/personality traits as factors that may account for or explain any observed relationship between exposure to media violence and exhibited aggression (Ferguson and Kilburn, 2009; Browne and Hamilton-Giachritsis, 2005).

Explanations for any association between seeing aggression on TV and in VG and exhibited aggression suggested by *this study* include the imitation of negative role models, reinforcement of real-life aggression, desensitisation, having an aggressive predisposition and explanations that watching TV and playing VG make children 'hyper'. These reported reasons cohere with existing theories such as social learning theory, the cognitive neo-association model, the social information-processing model and arousal theory (see Chapter 1).

Concerning the association between seeing aggression and exhibited aggression, *this study's findings* support a model based on a child having certain abilities, such as the ability to distinguish reality from fantasy, the ability to reflect on the nature of one's life experiences and how they influence one's own behaviour.

There are similarities between *this study's* findings and a recent UK report on CYP and their parents' views about VG playing (Byron, 2008). Similarities include children often talking about playing 18-rated games and about younger children's lack of ability to distinguish between the virtual and the real; parental concerns over their children's potential acceptance of violence induced by playing violent VG and the risk of addiction to playing VG; the notion of 'it's only a game' and the reason that children would get access to VG in other ways given, by parents, as a reason for not restricting their child's playing of VG; parental lack of awareness of the content of some VG their children play; and, the importance of a child's individuality in relation to their susceptibility to any effects of playing VG.

This study augments, in the following ways, the findings of a systematic review on the association between the amount and/or aggressive content of TV watching and VG playing and exhibited aggression in CYP with BED (see Chapter 2 and Mitrofan et al, 2009). Children's perception that their own behaviour is not being influenced by seeing aggression on TV and the opposite views of their carers cohere with earlier research. *In this study*, some carers reported that watching TV and playing VG, regardless of the content, makes some children 'hyper' and this contributes to their aggressive behaviour. This process could explain, at least in part, the previously reported association between watching TV, regardless of the content, and children's aggression. The way children perceive non-realistic, cartoon-like aggression as 'not really violent' and 'funny' and which, according to their carers, could influence children's behaviour less than realistic, human-like aggression, could partly explain the contradictory results of the earlier experimental studies looking at the effects of watching aggressive cartoons on children's behaviour.

6.4 CRITIQUE OF *THIS STUDY*. LIMITATIONS. ARISING ISSUES

6.4.1 THE STUDY POPULATION AND DESIGN

This thesis reports a mixed methods pilot study that aimed to provide an understanding of any association between aggression in children attending CAMHS who have behavioural and emotional difficulties and their watching of aggression in TV programmes and VG. *This study* was not designed to test the above association, but acts as a pilot study to inform the methodology of a future study that will specifically test for any such association in this clinical population.

Most children with aggressive behaviour are usually brought to CAMHS by their parents/carers, who are looking for advice on how to better manage their children's aggression. Mental health professionals, including the author of this thesis, are often called on to give such advice about managing children's aggression. One significant aspect of such advice concerns psycho-education about environmental factors that may contribute to high levels of aggressive behaviour in children. Possible associations between exposure to aggression or violence in TV programmes and VG and children's aggressive behaviour have become public health concerns, especially for younger children (AAP, 2000a; Browne and Hamilton-Giachritsis, 2005). Children who have mental health problems, particularly children who have behavioural and emotional difficulties are thought to be more susceptible (Browne and Hamilton-Giachritsis, 2005; Gadow and Sprafkin, 1993; Sprafkin, Gadow and Abelman, 1992; Sprafkin, Gadow and Grayson, 1984). A first systematic review that focused on children with behavioural and emotional difficulties found insufficient, contradictory and methodologically flawed evidence on the association between seeing aggression on TV and in VG and exhibited aggression in this population. Little research has been conducted in clinical populations of children attending mental health services who have behavioural and emotional difficulties. The focus of such research has been on associated psychiatric diagnosis such as conduct disorder, not aggression per se (Mitrofan et al., 2009).

This is why *this study* was conducted in a clinical population of children attending CAMHS who have behavioural and emotional difficulties. Its overall aim is to enable mental health professionals to give evidence-based advice to the carers of

these children on whether watching of aggression in TV programmes and VG increases the likelihood of children's aggressive behaviour. The findings of *this study* pertain to a clinical population of children attending mental health services in the UK. *This study* focused on aggression, not psychiatric diagnosis. The reason behind this decision was that, although commonly associated with various diagnoses, aggression is not equivalent to, and not specific for a psychiatric diagnosis (Connor and McLaughlin, 2006).

This study had a mixed methods research design, involving both a quantitative and a qualitative component, and combining quantitative and qualitative research methods. The reasons behind the selection of a mixed methods research design were the complexity of, and the numerous unknown issues in this area and in this population, as shown by the systematic review reported in chapter 2: the unknown level of exhibited aggression and the unknown level of use of TV and VG; uncertainty around other factors that may account for or explain any such association (the so-called third variables); the lack of relevant and good quality data on which to calculate an appropriate study sample size. Although valid and reliable measures of exhibited aggression in this population have been developed, valid and reliable measures of seeing aggression in TV programmes and VG are lacking. These unknown issues and lack of valid and reliable measures prevented the undertaking of a study to test for the association between exhibited aggression and seeing aggression on TV and in VG in a population of children attending mental health services, who have behavioural and emotional difficulties. The complexity and the unknown issues prompted an exploration of the research topic in both breadth and depth, gathering and

converging quantitative data on the level of children's exhibited aggression and qualitative data on the views of children and their carers through a mixed methods pilot study. *This pilot study* will inform the methodology of a future study that will specifically test for any such association in this clinical population.

The design of *this study* follows a previously identified rationale for the combination of quantitative and qualitative research methods in a single study for complementary purposes: the two research methods, although founded on different epistemological and ontological paradigms, are specifically employed to study different phenomena within the same study (Sale et al., 2002). In choosing a mixed methodology, *this study* was not theoretically or philosophically driven, but based on pragmatic principles: the impetus for choosing the research design was not a paradigm but the research question (Halcomb, Andrew and Brannen in Andrew and Halcomb, 2009).

Patient and public involvement in clinical research and clinical decision-making has been increasingly supported in recent years, including the importance of having children's own perspectives in addition to information from carers and professionals in child psychiatry research (Trivedi and Wykes, 2002; Robinson and Thomson, 2001; Bird et al., 1992) in order to better reflect the needs of the service users and thus improve clinical practice. This has been previously suggested in relation to research on children's aggression, however, there has been little research on the views of children with behavioural and emotional difficulties attending mental health services and their carers on any association between children's aggression and their seeing aggression in TV programmes

and VG, as a systematic review has shown (Mitrofan et al., 2009). Qualitative research has been generally regarded as an interpretative approach concerned with understanding the meanings people attach to phenomena and the way people understand and interpret their social world. This is why *this study* used qualitative methodology to find out about the views of children and their carers on where children see aggression and any association between exhibited aggression and viewed aggression, in order to have a more in-depth understanding of the research topic. The potential differences between children's views and adults' views (i.e. carers and professionals) discussed in the child psychiatric literature are actually supported by the two distinct qualitative models of child and carer thinking found by *this study*.

The quantitative method was necessary to provide data on the type, severity and frequency of reported exhibited aggression, which were previously lacking in this clinical population, and to enable relationships between variables to be investigated. The quantitative data facilitated the selection of the qualitative sample and the qualitative data analysis. The qualitative data informed a further analysis of the quantitative data.

The two quantitative and qualitative components of *this study* made it possible to cover the research topic in both breadth and depth, and provided key information for the design of a future research study to specifically test for such an association, such as information concerning potential third variables and feasible sampling strategies (as discussed in more detail later in this chapter).

6.4.2 THE SAMPLE: CASE ASCERTAINMENT AND RECRUITMENT

The target population of *this study* was of children who had been referred for behavioural problems/ emotional problems/ aggressive behaviour/ challenging behaviours/ antisocial behaviour to Tier 2/3 CAMHS in Coventry & Warwickshire, who were aged 7 to 11 years at the time of their referral and who were open cases at the time of the study, and their main carers.

The main critique of *this study* regards the low recruitment rate and small sample size of *the survey* and the possibility that the problems in case identification and recruitment resulted in a biased sample.

There were a number of delays that affected the timing of this project: delay in receiving Ethical and particularly NHS R&D Approval (the whole process took almost a year), difficulties and delay in case ascertainment due to lack of appropriate databases of patients in CAMHS, barriers and delay in contacting case managers to ascertain whether the child fulfilled inclusion/exclusion criteria and in finding CAMHS staff members to make the initial contact with non-responding families, and delay due to the processing of referrals at CAMHS.

Identifying suitable participants was difficult because of a lack of suitable databases of patients in Tier 2/3 CAMHS in Coventry & Warwickshire. At South Warwickshire CAMHS I used their Reportage database of patients that provided the information necessary to apply the inclusion/ exclusion criteria such as the reason for referral to CAMHS. At Coventry CAMHS there was no database of patients; the system of recording patient data did not generally provide

information on the reason for referral and the identity of the case managers. At North Warwickshire CAMHS I used the existing database of patients, which however, did not generally provide information on the reason for referral. At all participating CAMHS the information concerning the time of referral and status at CAMHS as well as the information on the identity of the case managers were not entirely accurate. I therefore often had to spend much research time to manually check the information against individual patient files.

Approaching case managers in a busy clinic proved a challenge. There was often a delayed or lack of response from case managers. I made efforts to overcome this by repeated attempts and the use of multiple ways to contact them including letter, e-mail, phone contact and word of mouth. Arranging for the 'chasing up' of non-respondents to invitation letters, i.e. telephone contacts made by a CAMHS team member (to ask carers about their willingness to participate and/or to consent to the participation of their child and to check their permission to be contacted by telephone by the researcher), contributed to the delay in the recruitment process, due to the fact that CAMHS are busy services with sometimes limited numbers of staff.

The processing of referrals at CAMHS also contributed to the delay in recruitment. Children referred to CAMHS are often placed on a waiting list for assessment and/or treatment intervention. A number of weeks may pass before enough information is gathered at CAMHS and/or a CAMHS professional is appointed as case manager. I therefore sometimes needed to wait a number of

weeks until enough information had been gathered by the case manager, in order to allow me to decide whether a child fulfilled the inclusion or exclusion criteria.

I experienced serious difficulty in recruiting, having a very low response rate despite taking a number of steps to enhance recruitment. The extension of the recruitment period brought an extra fourteen participants, from 45 invited at this stage. I made painstaking efforts to contact the 150 potential participants who did not reply to the invitation letter to check their willingness to participate. The 'chasing up' was challenging but fruitful: 22 children, and their main carers, were recruited. I had to consider 69 potential participants as opt out because no further contact could be made: the attempted phone contact by a CAMHS team member was unsuccessful for 66 (i.e. no answer, wrong number); three agreed to participate, however they did not attend their appointment and all my attempts to phone contact them were unsuccessful. Unfortunately, forty potential participants could not be 'chased up' mainly because CAMHS team members did not have the time to make phone contact.

The major difficulties I encountered in recruiting the first survey participants prompted the change in the qualitative sampling strategy from purposive to convenience sampling in order to minimise the likelihood of failing to recruit/organise a second appointment to the qualitative study. This early amendment of the methodology proved fruitful and I was eventually able to use purposive sampling of interviews and achieve the target qualitative sample size of 20. This strategy had the drawback of the necessary exclusion of some interviews which had been undertaken.

Due to ethical considerations (Curtis et al., 2004), and also because of a limited budget, *this study* did not use incentives or rewards for participation. This may have improved response rate.

Following the NRES (2007) guidance, I did not ask targeted participants to state their reasons for opting out on the opting out/permission to contact form. This might have helped to explain the low response rate. Nevertheless, I collected all information spontaneously offered or provided by carers when asked at the 'chasing up' stage. Most issues were around carer's concern for the child's mental health, practicalities such as time, and carers considering their children as 'not appropriate' for the study because the child did not watch TV or play VG, he/she was 'not affected by TV', his/ her behaviour was less 'problematic' at the time of the study or the child was 'not aggressive'.

6.4.3 DATA

There are general criticisms of the use of questionnaires around completeness and accuracy of data, question wording, the respondents' potential literacy problems and their interpretation of the questions (Gillham, 2000; Oppenheim, 1992), and specific criticisms of the questionnaires used in *this study*. The two questionnaires concerning aggression, the CAS-P and the MAVRIC, were specifically designed for use in children, had previously been used in a population of children attending mental health services and their validity and internal reliability had been tested, however, these measures had not been previously used in a UK population. *This study* specifically assessed and found their internal reliability as acceptable. Questions were read and explained to respondents

whenever necessary. There were issues that arose regarding question wording such as: the use of the words 'yell', 'kick doors', 'wreck your room', 'school principal' in the MAVRIC, instead of which children and carers preferred 'shout', 'slam doors', 'making a mess in your room' and 'head teacher', respectively. It is worth noting that there are no 'not applicable' or 'don't know' options in either CAS-P or MAVRIC.

This study only used subjective measures i.e. child self-report and carer-report. Additional informants such as teachers were not sought, particularly in case of the CAS and the SDQ. The self-report version of the SDQ was not used as it is not suitable for children below the age of 11 years.

In order to overcome challenges in interviewing children, especially when discussing sensitive issues, I used recommended techniques to facilitate communication such as the use of age-appropriate questions and pictures (Arksey and Knight, 1999). I sometimes had to use what could be regarded as more 'leading' questions in order to explore children's views in more depth in those cases when children answered the open-ended questions with 'Yes' or 'No' only. I found the use of pictures very useful, but I noted that children often took things literally. For instance, they answered questions about where they had seen aggression by referring to what was depicted in the picture e.g. 'I have seen it in the class but not like that', 'It does happen in my game but it's not like that'. They sometimes answered 'I haven't seen that' because they had not seen a depiction of aggression exactly as illustrated in the picture.

Aggression may be regarded as a sensitive topic, however, no interviewee expressed or exhibited distress in relation to the issues discussed during the completion of questionnaires and interviews. On one occasion, upon contacting to arrange for the carer interview, the carer expressed concern about questions on the MAVRIC-C, particularly asking a child about thoughts or attempts to kill someone or to kill themselves. The carer related the child's problem behaviour on the following day to the questions I asked (such as having a tantrum and doing things similar to issues from MAVRIC-C such as wreck his/her room when angry) and also to the discussion during the interview about a VG the child liked but was not allowed to play by the carer. I expressed my apologies, re-stated my position as a researcher and as such not being able to give advice on any treatment intervention and I advised the carer to contact the CAMHS professional seeing the child at CAMHS at the time of the study.

6.4.4 GENERALISABILITY OF FINDINGS OF *THIS STUDY*

This study sample was characterised by a gender and ethnic imbalance, thereby affecting the generalisability of the quantitative findings to a clinical population of children attending Tier 2/3 CAMHS in the UK. 74.5% of children were boys, compared with 60% of the CYP using Tier 2/3 CAMHS in the UK, and slightly over 60% of the CYP using Tier 2/3 CAMHS in the West Midlands South region (Coventry, Warwickshire, Herefordshire and Worcestershire). 99% of children were of White British ethnicity, compared with 81% of the CYP using Tier 2/3 CAMHS, and around 90% of the CYP using Tier 2/3 CAMHS in the West Midlands South region (Barnes et al., 2004).

The sample did reflect the socio-economic diversity in Coventry & Warwickshire, which is characterised by higher deprivation in Coventry and North Warwickshire compared to South Warwickshire districts (Coventry City Council and Coventry NHS Teaching Primary Care Trust, 2007; Department of Health, 2007). More than forty percent of *this study* sample had an average family income level of £20,000 or less.

The sample of CAMHS in *this study* was a convenience sample: the participating CAMHS were chosen due to the close proximity to the University of Warwick and their willingness to accommodate *the study*. In *this study*, the proportions of different reasons for the referral of children to CAMHS were higher, but with similar hierarchy, when compared to the proportions of the primary presenting disorders of service users of Tier 2/3 CAMHS in the West Midlands South region (Barnes et al, 2004). Emotional disorders were the most frequent reason (47% compared with 26%), followed by hyperkinetic disorders (17% compared with 11%), and lastly conduct disorders (15% compared with 10%). It was not possible to compare the proportions within participating CAMHS and all the regional CAMHS due to lack of available data. It is uncertain how representative the participating CAMHS were of CAMHS in general.

The quantitative findings of *this study* need to be interpreted carefully as they are limited by the small sample size (47). It is therefore not possible to exclude a type II error (see section 6.2.4.4).

The qualitative findings may be less representative of the views of children and carers of other than White British ethnicity. The qualitative data analysis was informed by the researcher's training and experience as a mental health professional and by *a priori* reasoning about the possible link between the watching of aggression and exhibited aggression in the study population.

6.4.5 RESEARCH WITH HARD TO REACH POPULATIONS

The challenges in case ascertainment and recruitment in *this study* prompted me to conduct a systematic search for previously published material on barriers to conducting research with my study population as a 'hard to reach' population because of participants' vulnerabilities (CYP with mental health problems as a doubly vulnerable population), because of the sensitivity of the research topic (mental health, aggression) and the setting of the research (health services i.e. CAMHS, involving both CYP and their carers).

The number of papers identified through this systematic search was rather limited (10). This disinclination of researchers to report on difficulties in the process of research involving 'hard to reach' CYP, such as children with disabilities, children excluded from school, had been previously noted (Curtis et al., 2004). The papers mentioned below raised issues, which could be summarised into three main categories: participant related barriers, topic related barriers and service related barriers.

Some groups of CYP have been identified as a difficult to reach and vulnerable population in previous research. CYP with emotional and behavioural disorders

were previously described as one such group. A qualitative study of CYP aged 12-21 years with emotional and behavioural disorders living in a residential care institute in Belgium described this population as negatively influenced by their previous experiences and by the social group they belong to, with an aversion to 'being studied'. They distrusted research and were suspicious of the destination of the research results. Authors highlighted the importance of guaranteeing anonymity, making sure no authority figures are present during the interview and returning to the participants with the results and asking them for feedback (Vander Laenen, 2009).

Macnab and colleagues (2007) discussed challenges in research in emotionally vulnerable, 'hard to find' CYP aged 14-16 years who were not in receipt of educational provision in the UK such as the balance between protecting children from harm and guaranteeing confidentiality on one hand, and the unnecessary restrictions on potentially worthwhile research imposed by 'over-zealous gatekeepers', such as professionals.

Previously reported challenges in engaging CYP with mental health problems in research concern participant recruitment (National CAMHS Support Service and YoungMinds, 2005; Laws, 1998;) and obtaining responses from CYP and their parents (Ford, Tingay and Wolpert, 2006; Johnston and Gowers, 2005). A funded, national, multi-site project of transition from CAMHS to adult mental health services in the UK (the TRACK Study) identified several difficulties in research in CAMHS (Singh et al., 2010): service related barriers such as bureaucratic delays due to R&D structural changes, clinician reluctance to allow

access to service users and their notes, delayed and sometimes even complete lack of response from clinicians, poor quality of databases; ideological barriers as research is not generally embedded in CAMHS culture; patient related barriers such as lack of response from service users, the complexity of the problems and the high levels of co-morbidity in CYP presenting to CAMHS; ethical dilemmas in research with vulnerable groups.

The difficulties I experienced in conducting *this study* cohere with the above-listed barriers, with particular regard to case ascertainment and recruitment in CAMHS and the poor response of families. Although the participating CAMHS had been willing to accommodate *the study*, there were many barriers: the lack of appropriate databases of patients and difficulty in getting a response from staff members in a busy clinic. Case managers sometimes acted as ‘over-zealous gatekeepers’, restricting the researcher’s access to families out of concern for the family’s difficulties related to the child’s mental health problems and the fragile relationship they had established with the child and family. Within the participating CAMHS environment I was an outsider, which may have contributed to these service related barriers.

The participant related barriers *this study* identified were mainly around carers’ concern in relation to the child’s mental health, practicalities such as time and carers’ beliefs about the child’s unsuitability for *the study*. The struggles of these families related to the child’s mental health problems and their having to wait for up to several months for the child to be seen at CAMHS may have contributed to the carer’s reluctance to participate. A lack of carers’ concern over any exhibited

aggression or seeing aggression on TV and VG in their children and a lack of interest in the research topic could also have contributed to this. In *this study*, the collection of carer data through telephone interviews proved useful as some carers preferred this to a face-to face interview due to practicalities.

Despite having a very limited budget, *this study* achieved the target qualitative sample size of 20. The TRACK Study, which was a significantly funded, multiply staffed research project conducted in part in the same Trusts (Singh et al., 2010), recruited only 11 of the planned 20 service users in their qualitative study. The main reason behind this achievement is the painstaking 'chasing up' process of non-respondents. The TRACK study also indicates the challenges of conducting research in this area.

6.5 IMPLICATIONS FOR FUTURE RESEARCH

This section first relates to the fourth research question of this thesis and continues with a broader discussion of directions for future research in the field.

6.5.1 QUESTION 4: What is an appropriate methodology for a future study to test for any association between aggression exhibited by children aged 7-11 years with BED attending Tier 2/3 CAMHS and their watching aggression on television and in video games?

The fourth research question was initially based on one of the objectives of this thesis, that is to inform the methodology of a future, larger-scale correlation study to test for any relationship between reported exhibited aggression and watching of aggression in TV programmes and VG in a clinical population of children

attending CAMHS who have BED. The quantitative and qualitative findings of *this study* suggest three main issues that need to be taken into account when designing such a study in this clinical population.

First, there are multiple and frequent ‘real’ and ‘virtual’ sources of where children see aggression. This means that it would be unlikely that researchers would find a significant body of children who do not see aggression, either in real life or in the virtual world.

Second, the contribution made by seeing aggression on TV and in VG potentially has a role that may be independent of, and secondary to seeing aggression in real-life in its association with children’s exhibited aggression. Third, the quantitative and qualitative findings of *this study* identified several potential third variables that may account for any such association (see below). This means that it is more appropriate for a future study to investigate the suggested additional influence of seeing aggression on TV and in VG, by looking at the difference in levels of reported exhibited aggression in groups defined according to children’s exposure to aggression in real life and virtual environments.

6.5.1.1 POTENTIAL THIRD VARIABLES

Any study to investigate the causal relationship between two variables needs to take into account the possibility of third variables, defined as factors that may account for or explain the observed relationship. Controlling for third variables reduces or eliminates the observed association. *This pilot study* aimed to identify potential third variables that would need to be considered within a future

correlational study to investigate the relationship between reported exhibited aggression and watching of aggression in TV programmes and VG in a clinical population of children attending CAMHS who have BED.

To note, there is an overlap between the term third variable used in *this study* (defined above) and the epidemiological and statistical terms of confounder, moderator and mediator. The latter three terms are commonly used to define a variable or factor that is associated with both the predictor of interest (also called the independent variable) and the outcome (also called the dependent variable) and it affects the direction and/or strength of the relationship between the predictor and outcome. If not controlled for, it causes bias in the estimate of the relationship under study. Statistically, there is little difference between confounder, moderator and mediator: controlling for these variables will reduce or eliminate the effect of the predictor on the outcome. The difference between confounder and mediator is that the mediator is a presumed consequence of the predictor, standing within the causal chain between the predictor and outcome, thus almost entirely explaining the relationship between the latter two. A moderator is a variable that influences the strength of a relationship between the variables under study (Babyak, 2009; Baron and Kenny, 1986; Hennekens and Buring, 1987). Bias may be defined as any systematic error that results in an incorrect estimate of the association between exposure and outcome under study. Common types of bias are selection bias (i.e. there are differences between those who are selected for a study and those who are not selected) and information (e.g. observer, follow-up and recall) bias (Hennekens and Buring, 1987).

The quantitative and the qualitative components of *this study* identified several issues concerning third variables and possible sources of bias in relation to both children's exhibited aggression and where they see aggression, thus generating suggestions for the sampling strategy and measures to be used in a future study.

The quantitative study identified several factors that were associated ($p \leq 0.05$) with children's exhibited aggression: the child's age, average family income level, household size (number of people living in the home), main carer's highest level of formal education, household type (i.e. family headed by lone parent or married/cohabiting couple), peer relationships and social development. The qualitative findings of the potential role of age within any association between viewed aggression and exhibited aggression, and of a possible link between a low family income level and children's seeing more aggression in real life informed a further analysis of the quantitative data. The findings of this further quantitative analysis supports the role of age and family income in relation to children's exhibited aggression: children aged 9 years or younger, with below the national average family income, living in larger households scored significantly higher on aggression measures than children aged 10-11 years, with above the national average family income, living in smaller households, respectively. As such, both quantitative and qualitative findings suggest the child's age and family income level as potential third variables.

There were weak associations ($p \leq 0.10$) between scores on aggression measures and the main carer's highest level of formal education and household type. Children whose carers' highest level of education was secondary school,

living in a family headed by a lone parent scored significantly higher on the measure of weapon use than children whose carers' highest level of education was university, living in a family headed by a couple, respectively. Children living in a family headed by a lone parent scored significantly lower on the measure of initiated physical aggression than children living in a family headed by a couple.

The correlation and group comparison analyses using the SDQ scores showed that high levels of exhibited aggression were associated with high levels of peer relationship problems and low levels of prosocial behaviour. This suggests that children who exhibit aggressive behaviour are at risk of having poor peer relationships and poor social skills. These children tend to be rather solitary, playing alone, are not liked and picked on or bullied by other children. They lack friends and get on better with adults than other children. They tend not to be kind to other children and not considerate to other people's feelings. One possible explanation of this association is that a tendency to behave aggressively may contribute to a child being rejected by other children and this in turn could have a negative influence on the child's development of social skills and ability to establish peer relationships. In relation to the methodology of a future study, the SDQ would be a useful measure of peer relationship problems and level of prosocial behaviour, as it is a well-established, valid and reliable screening tool in children of this age.

The qualitative findings suggest the following potential third variables: child's gender, family income level and 'real life' sources of seeing aggression such as the home, school, playground and community. A low family income level appears

to be related to seeing aggression the community. Age and developmental stage are also highlighted, in relation to children's abilities to distinguish reality from fantasy and to reflect on how life experiences, including seeing aggression, influence one's own behaviour. It is unlikely that the simple recording of age would be able to capture these features. This raises the question of how these abilities can be operationalised in terms of research methods for a future study.

Boys tend to play VG that include aggression more than girls. The children's and carers' perceived reasons for this preference i.e. the gender-specific competitiveness, the competitive nature of these games, their fathers' and peers' similar preferences, the influence of society and the media raise issues that need further clarification. Future research could enquire how much of this gender influence is innate and to what extent it represents the influence of parents, particularly fathers, peers and society. Future studies would need to consider whether competitiveness is gender specific and how it can be operationalised in terms of research methods.

The qualitative findings (both child and carer views) support the role of aggressive predisposition, pre-existing behavioural problems and real-life influences of home and community in causing aggressive behaviour in children. Seeing aggression on TV and VG adds to children's aggressive predisposition, pre-existing behavioural problems and the aggression they see in real life.

It is difficult at this early stage of knowledge to say whether, and which of above-listed potential third variables would be a confounder, mediator or moderator (as

defined above) for an observed association between watching aggression in TV programmes and VG and aggressive behaviour in a clinical population of children attending CAMHS who have BED. Gender, aggressive predisposition, exposure to aggression within the family, which brings along the issue of parenting, and exposure to aggression within the community may act as confounders. Boys, children with aggressive predisposition, children exposed to aggression within their families (with or without receiving poor parenting) or exposed to aggression in the community may have a higher risk of displaying aggressive behaviour, while having a preference for TV programmes and/or VG with aggressive content. When statistically controlling for these variables, the relation between exhibited aggression and watching aggression on TV/VG would be reduced or eliminated. Age, developmental stage, family income level and household size may act as moderators, in that the above association could be stronger for younger children, in earlier stages of their development, with a low family income level, living in larger households and weak or nonexistent for older children, in later developmental stages, with a higher family income level, living in smaller households. Possible mediators could be the perception of reality versus fantasy and understanding of consequences of 'real life' as opposed to 'virtual' aggression, the peer relationship, social development, and arousal. Watching aggression on TV and in VG could have an effect on the child's ability to distinguish between 'real' and 'virtual' aggression and the consequences of each, could increase the likelihood of having poor social skills and peer relationship problems (as children would spend more time watching TV/playing VG and interacting less with peers, becoming more socially isolated), also increase the likelihood of being 'hyper'. Each of these could increase the likelihood of children

behaving aggressively in real life social encounters, thus explaining why there is an observed association between watching aggression on TV and in VG and children's exhibited aggression.

6.5.1.2 RECRUITMENT

This study suggests that particular efforts need to be made in a future study to enhance representativeness of the CAMHS population. Recruitment to *this study* was higher in CAMHS located in the more prosperous areas compared to more deprived areas (combined participation rate 28.6% in CAMHS 3 and 4 compared to 13.2% in CAMHS 1 and 2). Although not conclusively proven, this difference in participation rates could be related to socio-demographic factors and/or different levels of commitment by CAMHS teams to study recruitment. As such, a larger number of potential participants from the more socially deprived areas should be approached in a future study, to overcome a potential lower recruitment rate. Also, in order to have a sample that would be representative of the CAMHS population, a larger number of potential participants from minority ethnic communities should be approached. The reason is that, although lower proportions of ethnic minority children attend CAMHS than would be expected from the general population (81% of cases are White British; Barnes et al, 2004), all children participating in this study were of White ethnicity (99% were White British).

6.5.1.3 CHOICE OF MEASURE OF AGGRESSION

The reliability testing in *this study* shows acceptable to excellent internal reliability for the two measures of aggression, CAS-P and MAVRIC. Each measure, however, has advantages as well as disadvantages.

CAS-P has the advantage of providing a comprehensive measure of types of aggression, which is important as the verbal type appears to be strongly associated with children's psychopathology. *This study* found a strong correlation between high levels of verbal aggression and high levels of conduct problems, low levels of prosocial behaviour and high impact of the child's difficulties on the child and his/her family. High levels of verbal aggression were more strongly correlated with high levels of conduct and peer problems and impact of the child's difficulties and low levels of prosocial behaviour compared to physical and object and animal types of aggression. Unexpectedly, a high level of physical aggression was not associated with high levels of conduct problems. It is therefore all the more important to use a measure that differentiates between different types of aggression.

CAS has no child self-report version, which may render it less useful in a study that aims to measure and compare children's and their carers' reports of aggression. Compared to the MAVRIC, no cut-off for CAS-P scores has been recommended by the authors to suggest a clinically significant level of aggression. This may be regarded as a disadvantage when it comes to the interpretation of CAS-P scores in a clinical population and setting. As a carer report of children's exhibited aggression, the CAS-P (overall and each subscale)

was highly correlated with the carer version of the MAVRIC. This provides support for the convergent validity of the MAVRIC-P and CAS-P.

The MAVRIC allows for both child- and carer-report, however it does not provide a measure of types of aggression. Another disadvantage is that it includes not just exhibited aggression but also state of mind items, of which carers appear to have less knowledge.

The survey found a very low correspondence between child and carer reports of exhibited aggression, which may suggest the need to include both child and carer reports in a future study of aggression. It is worth noting, however, the child model of ‘others but not me’ identified by *the qualitative study*. This suggests that children at this age and developmental stage may be less able to reflect on how life experiences, including seeing aggression, could influence one’s own behaviour. These children may be less able to reflect on their own aggressive behaviour and thus they may provide less reliable estimates of their own aggressive behaviour compared to their carers. For these reasons, out of the two measures of aggression used in this study, CAS-P would be recommended as the primary outcome measure in a future study of aggression. This would still introduce subjective bias, but this could be limited by using an objective measure such as direct observations of aggressive behaviour.

The qualitative findings suggest that any measure of where children see aggression, whether using child or carer report (as they appear to agree on this matter), needs to address both ‘real’ and ‘virtual’ environments such as home,

school, playground, neighbourhood, TV and VG. Such a measure needs to distinguish between types of aggression children see in their lives. The qualitative data suggest the terminology used in a study of aggression is important: 'violence' should be used in relation to physical aggression only. As, for children, the depiction of blood, with or without body parts, in TV programmes and VG, is often a necessary and sufficient requirement for 'violence', it may be worth including a question about seeing blood in any measure of where children see aggression on TV and in VG.

6.5.1.4 SAMPLE SIZE

Power and sample size estimations are used by researchers to determine how many subjects are needed to answer the research question in order to avoid a type I or a type II error. A type I error is said to occur when researchers reject the null hypothesis incorrectly when it is, in fact, true (e.g. reporting a difference between study groups receiving two different treatment interventions when, in fact, there is no difference). Conventionally, a probability (significance level or α) of <0.05 is chosen for a type I error (that is, the probability of finding a difference of this magnitude or greater by chance alone would occur on less than 5% of occasions). A type II error is said to occur when researchers accept the null hypothesis incorrectly when it is, in fact, false (i.e. reporting that there is no difference between groups when, in fact, there is a difference). There is less convention regarding the accepted level of probability of getting a type II error or β ; figures of 0.8-0.9 are common (that is, if a difference truly exists between interventions then researchers will find it on 80%-90% of occasions). The power of a study, $1-\beta$, is the probability that the study will detect a predetermined

difference between groups, if it truly exists, given a pre-set value of α and a sample size, n . If researchers are trying to detect small differences between groups, large study samples are needed in order to narrow the probability distribution i.e. where the true population value lies, also known as the confidence interval (Jones et al., 2003).

A future study could investigate the suggested additional influence of seeing aggression on TV and in VG to seeing aggression in real-life in relation to children's exhibited aggression by looking at the difference in levels of reported exhibited aggression between groups defined according to reported exposure to aggression in the real life and virtual environments.

As discussed above, *this study* recommends the use of CAS-P as a measure of reported exhibited aggression. The CAS-P Total score was used in the following estimation of sample size. According to reported exposure to aggression, four groups could be defined: first group characterised by high levels of exposure to both real life and virtual aggression, second group characterised by high level of exposure to real life aggression but low level of exposure to virtual aggression, third group characterised by low level of exposure to real life aggression but high level of exposure to virtual aggression, and a fourth group characterised by low levels of exposure to both real life and virtual aggression. Given that high levels of exposure to aggression in real life are likely in this population as *this study* suggests, the most conservative sample size estimation (i.e. least number in sample) would be based on the difference in exhibited aggression scores between the first two groups, and this is reported below. An algorithm for T-test

for independent groups (Box 6.1) was used for sample size estimation (Schulz and Grimes, 2005). The values of type I and type II error were chosen at the standard α of 0.05 and β of 0.20 (Jones et al., 2003).

Box 6.1 Algorithm for sample size estimation

$$n_1 = n_2 \approx 2(z_{1-p\alpha/2} + z_{1-p\beta})^2 S^2 / (M_1 - M_2)^2 + z_{1-p\alpha/2}^2 / 4$$

n_1, n_2 : sample size of the two groups

M_1, M_2 : mean values of the two groups

z : value of chosen type I and type II error

$$z_{1-p\alpha/2} = 1.96 \text{ (}\alpha=0.05\text{)}$$

$$z_{1-p\beta} = 0.84 \text{ (}\beta=0.20\text{)}$$

This study showed that high levels of exhibited aggression were associated with high levels of peer relationship problems and low levels of prosocial behaviour, suggesting that children who exhibit aggressive behaviour are at risk of having poor peer relationships and poor social skills. The mean and standard deviation for the mean CAS-P Total score for *this study* sample, and the mean CAS-P Total scores for the children at high risk of peer problems and poor prosocial behaviour according to the SDQ scores (i.e. children who scored in the 'abnormal' SDQ category) found in *this study* were used in the sample size estimation.

If the difference (rounded to a whole) between the means of the CAS-P Total score of the two first two groups was estimated at 2, based on the difference between the mean CAS-P Total score for *this study* sample (17.06) and the mean CAS-P Total score for the group at high risk of peer problems (19.20), with a standard deviation of 11 (based on the standard deviation for the mean CAS-P

Total score of 11.16 rounded to a whole), the estimated number of children needed in a group would be 475 (total of $475 \times 4 = 1,900$).

If the difference (rounded to a whole) between the means of the CAS-P Total score of the two first two groups was estimated at 9, based on the difference between the mean CAS-P Total score for *this study* sample (17.06) and the mean CAS-P Total score for the group at high risk of poor prosocial behaviour (25.90), with a standard deviation of 11, the estimated number of children needed in a group would be 24 (total $24 \times 4 = 96$).

6.5.2 FUTURE DIRECTIONS OF RESEARCH

A significant amount of research has been dedicated to answering the question of whether seeing aggression within TV programmes and VG increases the likelihood of children's aggressive behaviour, but the issue is still very much debated in the literature. The evidence provided by previous research conducted in samples drawn from either the whole population or clinical populations of children attending mental health services is yet contradictory and inconclusive. *The study* reported in this thesis, although not providing the definitive evidence-base, is able to offer some answers and also raise some questions for the planning and design of future research on this topic, both in a general population- and a clinical population-based studies.

This study suggests that future research in this field should no longer focus on the aggression within the virtual world of TV and VG only. Instead, it should take a broader, ecological perspective and also a developmental standpoint. Seeing

aggression in TV programmes and VG seems to play a subsidiary role to seeing aggression in real-life in its association with children's exhibited aggression. A child's developmental stage appears to play a significant role, perhaps more significant than chronological age. Children at earlier developmental stages may not have the ability to make clear distinctions between reality and fantasy or to reflect on the nature of their own experiences in life and how these experiences can influence their own behaviour.

This clinical study coheres with previous reports of the potential role of gender (with particular regard to males) and aggressive predisposition/personality traits as factors that may account for any observed relationship between exposure to media violence and exhibited aggression in the general adult and child population (Ferguson and Kilburn, 2009; Browne and Hamilton-Giachritsis, 2005). Some of the potential third variables identified by *this study* and discussed above specifically in relation to a future clinical population-based study, could arguably apply to future general population-based studies as well: child's age, gender, real life sources of seeing aggression such as seeing aggression within the family, child's peer relationships and social development, family income level, type and size of household, and parents' level of formal education (see Section 6.5.1.1). Possible third variables, which need to be operationalised in terms of research methods, are the ability to distinguish reality from fantasy, the ability to reflect on one's life experiences, including seeing aggression, and how they influence one's own behaviour, and competitiveness.

The planning of future clinical population-based research needs to take on board the challenges of undertaking such research in a 'hard to reach' population and setting. Research in CAMHS presents many challenges, with particular regard to case ascertainment and recruitment. The selection of CAMHS where professionals and service users are more accepting of research and where there is an appropriate infrastructure, e.g. complete and up-to-date databases of service user (demographics and clinical) and service delivery data is highly important. Clinicians, as gatekeepers, could be encouraged to be more involved, in order to facilitate access to families and to encourage families to participate. The usefulness of the 'chasing up' process is key, as *this study* suggests, and identifying specific CAMHS staff, who are sanctioned to undertake this task by management (i.e. so that they understand that facilitating research is an accepted and core part of the business of NHS services) is important. It may be worth considering the use of telephone interviews with parents/carers as a method of data collection and underlining this in the study information sheet to improve recruitment rates.

As previously discussed, *the study* reported in this thesis was planned as a pilot study for a future observational, correlational study to test for any association between reported exhibited aggression and seeing aggression on TV and in VG in a population of children attending CAMHS who have behavioural and emotional difficulties. Various research methodologies, however, could be employed by future general population- or clinical population-based studies attempting to address the question of the influence of seeing aggression on TV and in VG on children's aggressive behaviour. Examples are experimental,

observational studies, such as cross-sectional correlation and longitudinal studies, and qualitative research. Each of these methodologies has its own pattern of strengths and drawbacks and a complete summary of these is beyond the scope of this thesis.

The main challenge in researching this topic has been to provide evidence for/against a causal relationship between seeing aggression on TV and in VG and aggressive behaviour. Experimental studies are strongest in that sense, mostly due to the random allocation of study participants to groups, which reduces the possibility that the compared groups differ at baseline in any way that could yield statistically significant differences in the study outcome (i.e. aggression measure). Experimental studies, however, have limitations such as ethical implications (e.g. assigning participants to high versus low exposure to aggression in TV programmes/VG) and difficulties in the design and evaluation of an intervention to reduce children's exposure to aggression in TV programmes/VG. Cross-sectional correlation studies (to test for the relationship between an independent variable and a dependent variable, both of which are measured at same point in time) may have less ethical challenges but are also less likely to establish causality.

Verbal aggression, which may be regarded as a less severe form than physical aggression, is frequently exhibited by children and it is strongly associated with children's psychopathology. It is also often reported to be seen by children in real-life settings, such as home and school, and in the virtual world of TV programmes and VG. Measures that would distinguish between types of aggression, both in

terms of exposure to and exhibited behaviour, and between aggression seen in real and virtual environments should be used in future research.

One of the questions raised by *this study* is regarding whether future research should use one or multiple perspectives of children's aggressive behaviour. Subjective measures have been largely used in previous research in this field. The importance of multiple informants (e.g. parents, teachers, peers, children themselves) in research on children's aggression has been previously suggested, mainly due to issues around validity and inter-rater reliability of subjective measures. The quantitative findings of *this study* raised the issue of the lack of consensus between child and parent/carer reports of a child's aggression. The qualitative findings of *this study* suggest two main issues. A carer perspective would be recommended as a primary measure of aggression in future quantitative research e.g. correlational or experimental studies in children at this age and developmental stage, as these children may provide less reliable estimates of their own aggressive behaviour compared to their parents/carers. Children's perspectives, however, remain very important and should not be discarded; complementarity rather than correspondence is worth seeking as child and adult perspectives potentially uncover different underlying phenomena. What children regard as relevant to them might be different from an adult's perspective and we need to give children the opportunity to express their views. One example is children's perspectives on what is, and what is not violent: the depiction of blood makes the difference for them. A qualitative approach would perhaps be most appropriate to further explore children's views in order to help

develop more developmentally appropriate measures of exhibited aggression and aggression children are exposed to.

6.6 MAIN FINDINGS OF THE THESIS AND THEIR IMPLICATIONS FOR POLICY AND PRACTICE

The systematic review reported in this thesis (see Chapter 2 and Mitrofan et al., 2009) found insufficient, contradictory and methodologically flawed evidence on the association between seeing aggression on television and in video games and exhibited aggression in CYP attending mental health services who have behavioural and emotional difficulties. The systematic review informed the research questions and methodology of *the pilot, mixed methods study*.

The new findings that *this study* adds to the literature are as follows. Some of these findings may seem obvious, however the evidence to support them had been previously lacking. *This study* is the first to report on the level of exhibited aggression in a UK-based sample of children aged 7-11 years attending Child and Adolescent Mental Health Services, who have behavioural and emotional difficulties. These children exhibit various types of aggression – verbal aggression, aggression against objects and animals, physical aggression – of various frequency and severity across types, from lower levels of severe forms (such as attempts to kill someone and use of weapons) to higher levels of verbal aggression. These children see aggression in multiple real and virtual parts of their lives, with severe forms of aggression being seen more often on television programmes and in video games than in real-life setting such as home, school, playground and community. The aggression children see in real-life settings is

mostly verbal. There seems to be no particular pattern in children's sources of seeing aggression in relation to their socio-demographic characteristics or level of aggressive behaviour, except for a low family income level, potentially related to seeing aggression the community (the street or related to neighbours).

Child and carer views on any association between seeing aggression and exhibited aggression are distinct. Children of this age and developmental stage do not think their own behaviour is influenced by seeing aggression in their lives, including seeing aggression on television and in video games. Their carers believe that seeing aggression on television and in video games has an additional influence to children's aggressive predispositions and to the aggression they see in real life. Carers regard aggressive behaviour in children as the result of a combination of inner and environmental factors, among which the most important are the real-life influences of home and community. The role of family as well as the community, e.g. school, in helping children to understand the nature and consequences of the aggression they are exposed to and thus possibly preventing and/or limiting its influence on the child's behaviour is perceived as key.

This study has not aimed to test for, and it is not able to provide a definitive statement about the association between exhibited aggression in children attending specialist outpatient CAMHS who have behavioural and emotional difficulties and their watching of aggression on television and in video games. The quantitative and qualitative findings of *this study*, however, offer the following suggestions for mental health policy and practice.

Parents, carers and children, clinicians, policy makers and professional organisations should be aware of children, regardless of their socio-demographic background or level of aggressive behaviour, seeing a lot of aggression in so many parts of their lives. Although seemingly obvious, this may be overlooked in clinical practice. Clinicians' concern about the influence of seeing aggression on children's aggressive behaviour should focus on both real life, such as at home and school, and the virtual world of television and video games. Clinicians seeing children referred for aggressive behaviour should be asking children and their carers where children see aggression and what they are seeing. Broad, open-ended questions, as opposed to closed questions, would be advisable in clinical encounters as to encourage children to tell of their experience of exposure to aggression anywhere in their lives. Such questions should differentiate between types of aggression such as verbal versus physical aggression. Questions should also differentiate between more realistic aggression, which depicts real-looking characters, blood or body parts versus less/non-realistic aggression seen within the virtual world.

As part of the development of strategies for the prevention of aggressive behaviour and promotion of children's mental health and wellbeing, attention should be paid to the potential additional role of aggression seen in the virtual world of television and video games and to a more important source, that of seeing aggression in real life, in relation to any association with exhibited aggression. Attention should be also paid to a child's developmental stage: the above statement may be especially true when a child is younger and/or at an earlier stage in his/her development and may have a limited ability to distinct

reality from fantasy, to reflect on the nature of their own experiences in life and how these experiences can influence their own behaviour.

Children of today are more exposed to seeing aggression through virtual means, such as video games, compared with their carers' generation. We can reasonably expect this to be even more true for the children of tomorrow. Children are encouraged in this direction by the entire media market: video games are designed and advertised to be appealing to children as they are exciting and bring desired challenges in children's lives, they are easily accessible, increasingly realistic in their content, such as increasingly graphic violent content, without necessarily showing the negative consequences of violence. This realistic aggression is thought to possibly have a stronger influence on children's behaviour. Aggression is present in age- and content-appropriate as well as inappropriate television programmes and video games. Furthermore, there is a lack of non-aggressive, age appropriate, enjoyable video games for children. A lack of other, such as outdoor, activities sometimes contributes to children's playing video games.

The challenge for mental health prevention/promotion is how to protect children from the aggression coming into their lives through both real life and virtual means. With regard to the latter, it is of questionable value, as well as difficult to achieve in practice, to remove television and video games from children's lives. As *this* study suggests, parental restrictions of children's access to the virtual environment are not the answer as restrictions sometimes have the opposite effect of children watching and playing forbidden programmes and VG more.

Media producers should pay more attention to the development of more non-aggressive, age appropriate, enjoyable video games and television programmes for children. Giving children the opportunity and encouraging them to take part in other activities such as playing outdoors would be also an important way forward.

Carers who took part in *this* study believe in a child's individuality in relation to their susceptibility to any effects of exposure to aggression, and that the family as well as the community, e.g. school, have a key role in helping children to understand the nature and consequences of the aggression they are exposed to and thus possibly preventing and/or limiting its influence on the child's behaviour. Parents/carers should be aware of what their children are watching on television and video games, particularly programmes and video games with more realistic, more graphic, aggressive content. Children's access to such programmes and video games, if any, should be supervised and accompanied by developmentally appropriate explanations and discussion about the aggression seen and the potential consequences of aggressive behaviour in real life. Parents, carers and professionals should be even more careful when a child appears to have a predisposition for aggressive behaviour, when a child is younger and/or at an earlier stage in their development, as watching of aggression could have a greater impact on these children.

6.7 SUMMARY

The summary of this chapter amounts to the conclusions of this thesis, which follow in the next chapter.

CHAPTER 7: CONCLUSIONS

The overall aim of this thesis was to provide an understanding of any association between aggression in children with behavioural and emotional difficulties, attending specialist outpatient CAMHS and their watching of aggression in television programmes and video games, to enable mental health professionals to give evidence-based advice on such association to the carers of these children. My research interest sprang from my experience as a mental health professional, working with children and young people attending mental health services.

In my search for an answer to the question about whether there is an association between seeing aggression on television and in video games and exhibited aggression in children and young people attending mental health services who have behavioural and emotional difficulties, I conducted a systematic review of the literature. This systematic review found insufficient, contradictory and methodologically flawed evidence on this association. It also pointed towards the complexity of this research area, with numerous gaps in knowledge. This informed my decision to conduct a mixed methods, pilot study in order to fill some of these gaps and to inform the methodology of a future study in this clinical population of children attending mental health services.

Children aged 7 to 11 years with behavioural and emotional difficulties, attending specialist outpatient CAMHS have clinically significant levels of exhibited aggression. They exhibit various types of aggression (verbal aggression, aggression against objects and animals, physical aggression) of various frequency and severity across types. These children see aggression in so many parts of their lives, both real and virtual. Their generation is more exposed to seeing aggression through virtual means, such as video games, compared with their carers' generation. Research on any association between children seeing aggression and their exhibited aggressive behaviour needs to take a broader, ecological perspective and also a developmental standpoint. Aggression appears to be the result of a combination of inner and environmental factors, among which the virtual environment of television and video games seems to play a subsidiary role to real life. Verbal aggression, which may be considered by some to be less severe than physical aggression, is frequently exhibited by these children, is strongly associated with children's psychopathology and is often reported to be seen by these children in real-life settings such as home and school and in the virtual world of television and video games.

Carers of these children regard the family as well as the community as having a vital role in preventing and/or limiting the potential influence of exposure to aggression on children's behaviour. Children at particular stages in their development may not possess the ability to reflect on the nature of their own experiences in life and how these experiences can influence their own behaviour. For younger children, the distinction between reality and fantasy may not be as clear as for adults.

This thesis is not able to provide the definitive evidence of an association between exhibited aggression in children with behavioural and emotional difficulties attending specialist outpatient CAMHS and their watching of aggression on television and in video games. It has provided, however, key information that facilitates an understanding of any such association and the design of future research. The planning of a future study needs to take on board the challenges of undertaking research in this population and setting. Research in CAMHS raises many, including service related, difficulties. Selecting services where professionals and service users are more accepting of research and where the infrastructure, e.g. databases collecting relevant demographic, clinical and service-related information is in place, is highly important for its success.

Future research may either confirm or refute the existence of an association between seeing aggression on TV and in VG and exhibited aggression in children. Until then, concern about the influence of seeing aggression on children's aggressive behaviour should focus on both real life and virtual environments. Parents and carers, professional organisations and policy makers should pay just as much heed to the aggression children see in real life as to the aggression they see in the virtual world.

REFERENCES

- About Google Scholar. Retrieved April 20, 2006 from <http://scholar.google.com/intl/en/scholar/about.html>.
- About Intute: social sciences, 2006. Retrieved January 09, 2007 from <http://www.intute.ac.uk/socialsciences/about.html>.
- About PsycInfo. Retrieved February 04, 2006 from <http://arc.uk.ovid.com:8590/webspirs/changeGuideTopic.ws?topic=1>.
- Achenbach, T.M. (1991a). *Manual for the Child Behavior Checklist 4/18 and 1991 Profile*. Burlington: University of Vermont Department of Psychiatry.
- Achenbach, T.M. (1991b). *Manual for the Teacher's Report Form and 1991 Profile*. Burlington: University of Vermont Department of Psychiatry.
- Ajetunmbi, O. (2002). *Making sense of critical appraisal*. London: Arnold.
- Alderson, P., Green, S. & Higgins, J.P.T. (Eds.) (2005) 'Cochrane Reviewers' Handbook 4.2.2 [updated May 2005]. In: *The Cochrane Library*, Issue 3. Chichester, John Wiley and Sons, Ltd.
- American Academy of Pediatrics (2000a). *Media Guidelines For Parents*. Retrieved November 06, 2005 from <http://www.aap.org/healthtopics/mediause.cfm>.
- American Academy of Pediatrics (2000b). *Media Matters. Joint Statement on the Impact of Entertainment Violence on Children. Congressional Public Health Summit July 26, 2000*. Retrieved November 28, 2006 from <http://www.aap.org/advocacy/releases/jstmtevc.htm>.
- American Psychiatric Association (1980). *Diagnostic and Statistical Manual of Mental Disorders*, 3rd ed. DSM-III. Washington, DC: American Psychiatric Association.
- American Psychiatric Association (1994). *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed. DSM-IV. Washington, DC: American Psychiatric Association.
- American Psychiatric Association (2000). *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed. DSM-IV-TR (text revision) Washington, DC: American Psychiatric Association.
- Anderson, C. (2004). 'An update on the effects of playing violent video games'. *Journal of Adolescence*, 27, 113–22.
- Anderson, C.A. & Bushman, B. J. (2001). 'Effects of violent video games on aggressive behavior, aggressive cognition, aggressive affect, physiological arousal, and prosocial behavior: A meta-analytic review of the scientific literature'. *Psychological Science*, 12(5), 353-359.
- Anderson, C.A. & Bushman, B.J. (2002). 'Human aggression'. *Annual Review of Psychology*, 53, 27–51.
- Anderson, C.A., Berkowitz, L., Donnerstein, E., Huesmann, L.R., Johnson, J.D., Linz, D., Malamuth, N.M. & Wartella, E. (2003). 'The influence of media violence on youth'. *Psychological Science in The Public Interest*, 4(3), 81-110.
- Anderson, C.A. & Dill, K.E. (2000). 'Video games and aggressive thoughts, feelings, and behavior in the laboratory and in life'. *Journal of Personality and Social Psychology*, 78, 772–90.
- Archer, J. (2001). 'A strategic approach to aggression'. *Social Development*, 10, 267–271.
- Arksey, H. & Knight, P. (1999). *Interviewing for social scientist. An introductory resource with examples*. Sage Publications.
- Arthur, S. & Nazroo, J. (2003). 'Designing fieldwork strategies and materials'. In: Ritchie, J. & Lewis, J. (Eds.) *Qualitative Research Practice*. London: Sage Publications.
- Babyak, M.A. (2009). 'Understanding confounding and mediation'. *Evidence Based Mental Health*, 12, 68-71.
- Bambauer, K. Z. & Connor, D.F. (2005). 'Characteristics of aggression in clinically referred children'. *CNS Spectrums*, 10(9), 709-718.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bandura, A. (1994). 'The social cognitive theory of mass communication'. In J. Bryant & D. Zillman (Eds.), *Media Effects: Advances in Theory and Research*. Hillsdale, NJ: Erlbaum, 61–90.
- Barnes, D., Wistow, R., Dean, R., Appleby, C., Glover, G. & Bradley, S. (2004). *National Child and Adolescent Mental Health Service Mapping Exercise 2004. A Summary of National Trends*.
- Baron, M.R. & Kenny, D.A. (1986). 'The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations'. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.

- Bazeley, P. (2007). *Qualitative data analysis with NVivo*. 2nd ed. Sage Publications.
- Bennathan, M. (2004). Children with Emotional and Behavioural Difficulties in School. Retrieved October 17, 2006 from <http://www.sebda.org/index.php?module=subjects&func=viewpage&pageid=2>.
- Bensley, L. & van Eeywyk, J. (2001). 'Video-games and real-life aggression: review of the literature'. *Journal of Adolescent Health*, 29, 244–57.
- Berkowitz, L. (1984). 'Some effects of thoughts on anti- and prosocial influence of media events: A cognitive-neoassociation analysis'. *Psychological Bulletin*, 95, 410–27.
- Bhui, K., King, M., Dein, S. & O'Connor, W. (2008). 'Ethnicity and religious coping with mental distress'. *Journal of Mental Health*, 17(2), 141-151.
- Bird, H.R., Gould, M.S., Staghezza, B. (1992). 'Aggregating data from multiple informants in child psychiatry epidemiological research'. *Journal of the American Academy of Child and Adolescent Psychiatry*, 31(1), 78-85.
- Blanchard, R.J. & Blanchard, D.C. (1984). 'Affect and aggression: an animal model applied to human behavior'. In: Blanchard, R.J. & Blanchard, D.C. (Eds.), *Advances in the study of aggression*, New York, 1-62.
- Bland, M (2000). *An introduction to medical statistics*. Oxford University Press.
- Brannen, J. (2005). 'Mixing methods: the entry of qualitative and quantitative approaches into the research process'. *International Journal of Social Research Methodology*, 8(3), 173-184.
- Britten, N. (2006). 'Qualitative interviews'. In: Pope, C. and Mays, N. (Eds.) *Qualitative research in health care*. 3rd ed. Blackwell Publishing.
- Browne, K.D. & Hamilton-Giachritsis, C. (2005). 'The influence of violent media on children and adolescents: a public-health approach'. *The Lancet*, 365, 702-10.
- Bryman, A. (2001). *Social research methods*. Oxford University Press.
- Bushman, B.J. (1995). 'Moderating role of trait aggressiveness in the effects of violent media on aggression'. *Journal of Personality and Social Psychology*, 69, 950–960.
- Bushman, B.J. & Geen, R.G. (1990). 'Role of cognitive-emotional mediators and individual differences in the effects of media violence on aggression'. *Journal of Personality and Social Psychology*, 58, 156–163.
- Buss, A. (1961). *The psychology of aggression*. New York: Wiley.
- Buss, A.H. & Durkee, A. (1957). 'An inventory for assessing different types of hostility'. *Journal of Consulting Psychology* 21, 343–349.
- Cairns, R., Cairns, B., Neckerman, H., Ferguson, L., & Gariepy, J. (1989). 'Growth and aggression: 1. Childhood to early adolescence'. *Developmental Psychology*, 25, 320–330.
- CAMHS Mapping Reports 2008/2009. Retrieved October, 08 2010 from <http://www.childrensmapping.org.uk>.
- Cassidy, E., James, A. & Wiggs, L. (2001). 'The prevalence of psychiatric disorder in children attending a school for pupils with emotional and behavioural difficulties'. *British Journal of Special Education*, 28(4), 167-173.
- Cawley, M. R. *The psychological aspects of obesity: a quantitative and qualitative study*. Unpublished thesis, University of Glasgow, 2004.
- Chafee, S.H. & McLeod, J.M. (1972). 'Adolescent television use in the family context'. In G.A. Comstock & E.A. Rubinstein (Eds.), *Television and social behaviour: television and adolescent aggressiveness*, 3. DHEW Publication No. HSM 72-9058. Washington, DC: U.S. Government Printing Office, 149-172.
- Cohen's Kappa. Retrieved June 13, 2006 from <http://www-class.unl.edu/psycrs/handcomp/hckappa.pdf>.
- Cole, T., Visser, J. & Upton, G. (1998). *Effective schooling for children with emotional and behavioural difficulties*. London: David Fulton.
- Collett, B.R., Ohan, J.L. & Myers, K.M. (2003). 'Ten-year review of rating scales. VI: Scales assessing externalizing behaviors'. *Journal of the American Academy of Child and Adolescent Psychiatry*, 42 (10), 1143-1170.
- Connor, D. F. (2002). *Aggression and antisocial behaviour in children and adolescents: research and treatment*. The Guilford Press, New York.
- Connor, D.F., Melloni, R.H. & Harrison, R.J. (1998). 'Overt categorical aggression in referred children and adolescents'. *Journal of the American Academy of Child and Adolescent Psychiatry*, 37(1), 66-73.
- Connor, D. & McLaughlin, T.L. (2006). 'Aggression and Diagnosis in Psychiatrically Referred Children'. *Child Psychiatry and Human Development*, 37, 1–14.

- Côté, L. & Turgeon, J. (2005). 'Appraising qualitative research articles in medicine and medical education'. *Medical Teacher*, 27(1), 71-75.
- Coventry City Council & Coventry NHS Teaching Primary Care Trust (2007). *Coventry Health Profile. February 2007*. Retrieved September 01, 2010 from http://www.apho.org.uk/default.aspx?QN=P_HEALTH_PROFILES.
- Coyne, S.M., Archer, J. & Eslea, M. (2004). 'Cruel intentions on television and in real life: Can viewing indirect aggression increase viewers' subsequent indirect aggression?'. *Journal of experimental child psychology* 88, 234-253.
- Creswell, J.W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches*. 2nd Ed. Sage Publications.
- Crick, N. R. & Grotpeter, J. (1995). 'Relational aggression, gender, and social-psychological adjustment'. *Child Development*, 66, 710-722.
- Critical Appraisal Skills Programme (CASP) 2004. Retrieved June 05, 2006 from <http://www.phru.nhs.uk/casp/casp.htm>.
- Crombie, I.K. (1996). *The pocket guide to critical appraisal: A handbook for health care professionals*. London: BMJ Publishing Group.
- CSA Illumina: Databases and Collections, 2006. Retrieved April 18, 2006 from <http://www.csa.com/factsheets/assia-set-c.php>.
- Curtis, K., Roberts, H., Copperman, J., Downie, A. & Liabo, K. (2004). 'How come I don't get asked no questions? Researching 'hard to reach' children and teenagers'. *Child and Family Social Work*, 9, 167-175.
- Cybulnik, S.E., Marks, D.J., Newcorn, J.H. & Halperin, J.M. (2003). 'Measurement of aggression in children and adolescents'. In Coccaro, E.F. (Ed.), *Aggression. Psychiatric assessment and treatment*, New York, 267-291.
- Dahlberg, L.L. (1998). 'Youth Violence in the United States. Major Trends, Risk Factors, and Prevention Approaches'. *American Journal of Preventive Medicine*, 14, 259-272.
- Davis, S. (1991). 'Violence by psychiatric inpatients: A review'. *Hospital and Community Psychiatry*, 42, pp. 585-590.
- Department for Children, Schools and Families and Department for Culture, Media and Sport (2008). *Byron Review. Children and New Technology. Safer Children in a Digital World: Full Report*. Retrieved April 16, 2008 from <http://www.dfes.gov.uk/byronreview/>.
- Department for Education and Skills. *The Children Act 1989*. Retrieved April 04, 2008 from <http://www.dfes.gov.uk/publications/childrenactreport/>.
- Department for Education and Skills (2001). *Special Educational Needs Code of Practice*. DfES/581/2001, DfES, London.
- Department of Health (2007). *Warwickshire Health Profile 2007*. Retrieved September 01, 2010 from http://www.apho.org.uk/default.aspx?QN=P_HEALTH_PROFILES.
- Dixon-Woods, M., Agarwal, S., Young, B., Jones, D. & Sutton, A. (2004). *Integrative approaches to qualitative and quantitative evidence*. NHS Health Development Agency.
- Dixon-Woods, M., Straw, R.L., Agarwal, S. & Smith, J.A. (2004). 'The problem of appraising qualitative research'. *Quality and Safety in Health Care*, 13, 223-225.
- Dodge, K.A. & Crick, N.R. (1990). 'Social information-processing bases of aggressive behavior in children'. *Personality and Social Psychology Bulletin*, 16, 8-22.
- Dorr, A. & Kovacic, P. (1980). 'Some of the people some of the time – But which people? Television violence and its effects'. In: Palmer, E.L. & Dorr, A. (Eds.), *Children and the faces of television: Teaching, violence, selling*, New York: Academic Press, 183-199.
- D'Oosterlinck, F., Broekaert, E., De Wilde, J., Bockaert, L.F. & Goethals, I. (2006). 'Characteristics and profile of boys and girls with emotional and behavioural disorders in Flanders mental health institutes: a quantitative study'. *Child: Care, Health and development*, 32, 213-234.
- Eron, L.D. (1982). 'Parent-child interaction, television violence, and aggression of children'. *American Psychologist*, 37, 197-211.
- Farrington, D. P. (2005). 'Childhood origins of antisocial behavior'. *Clinical Psychology and Psychotherapy*, 12, 177-190.
- Felthous, A.R. & Barratt, E.S. (2003). 'Impulsive aggression'. In *Aggression. Psychiatric assessment and treatment*, E.F. Coccaro (Ed.), New York, 123-145.
- Fenigstein, A. (1979). 'Does aggression cause a preference for viewing media violence?'. *Journal of Personality and Social Psychology*, 37, 2307-2317.
- Ferguson, C.J. & Kilburn, J. (2009). 'The public health risks of media violence: A meta-analytic review'. *The Journal of Pediatrics*, 154(5), 759-763.

- Ferguson, C.J., Olson, C.K., Kutner, L.A. & Warner, D.E. (2010). 'Violent video games, catharsis seeking, bullying, and delinquency: a multivariate analysis'. *Crime & Delinquency*, XX(X), 1-21.
- Flood-Page, C., Campbell, S., Harrington, V. & Miller, J. (2000). *Home Office Research Study 209. Youth crime: Findings from the 1998/99 Youth Lifestyles Survey*. Retrieved October 19, 2006 from <http://www.homeoffice.gov.uk/rds/pdfs/hors209.pdf>.
- Ford, T, Tingay, K. & Wolpert, M. (2006). CORC's survey of routine outcome monitoring and national CAMHS dataset developments: a response to Johnston and Gower. *Child and Adolescent Mental Health* 11, 50-52.
- Fox, N.A. & Leavitt, L.A. (1995). *The Violence Exposure Scale for Children (VEX)*. College Park, MD: University of Maryland.
- Freedman, J.L. (1984). 'Effect of television violence on aggressiveness'. *Psychological Bulletin*, 96(2), 227-246.
- Friedrich, L.K. & Stein, A.H. (1973). 'Aggressive and prosocial television programs and the natural behavior of preschool children'. *Monographs of the Society for Research in Child Development*, 38(4, Serial No. 151), 1-63.
- Gadow, K. D. & Sprafkin, J. (1987). 'Effects of viewing high versus low aggression cartoons on emotionally disturbed children'. *Journal of Pediatric Psychology*, 12(3), 413-427.
- Gadow, K. D. & Sprafkin, J. (1993). 'Television 'violence' and children with emotional and behavioural disorders'. *Journal of Emotional and Behavioral Disorders*, 1, 54-63.
- Gadow, K.D. & Sprafkin, J. (1998). *Adolescent Symptom Inventory – 4 Norms Manual*. Stony Brook, NY: Checkmate Plus.
- Gadow, K. D., Sprafkin, J. & Ficarrotto, T. J. (1987). 'Effects of viewing aggression-laden cartoons on preschool-aged emotionally disturbed children'. *Child Psychiatry and Human Development*, 17(4), 257-274.
- Gadow, K. D., Sprafkin, J. & Grayson, P. (1990). 'The Help-Hurt game as a measure of aggression in children with learning and behavior disorders'. *Learning and Individual Differences*, 2(3), 337-351.
- Galen, B. R. & Underwood, M. K. (1997). 'A developmental investigation of social aggression among children'. *Developmental Psychology*, 33, 589-600.
- General Medical Council (2002). *Research: The role and responsibilities of doctors*. London: General Medical Council.
- General Medical Council (2007). *0 -18 years: guidance for all doctors*. London: General Medical Council.
- George, D. & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference. 11.0 update* (4th ed.). Boston: Allyn & Bacon.
- Gillham, B. (2000). *Developing a questionnaire*. London : Continium.
- Golafshani, N. (2003). 'Understanding reliability and validity in qualitative research'. *The Qualitative Report*, 8(4), 597-607.
- Goodman, R. (1997). 'The Strengths and Difficulties Questionnaire: a research note'. *Journal of Child Psychology and Psychiatry*, 38, 581-586.
- Goodman, R. (2001). 'Psychometric properties of the Strengths and Difficulties Questionnaire'. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40(11), 1337-1345.
- Goodman, R., Meltzer, H. & Bailey, V. (1998). 'The Strength and Difficulties Questionnaire: A pilot study on the validity of the self-report version'. *European Child and Adolescent Psychiatry*, 7, 125-130.
- Goodman, G., Bass, J.N., Geenens, D.L. & Popper, C.W. (2006). 'The MAVRIC-C and MAVRIC-P: A Preliminary Reliability and Validity Study'. *Journal of Personality Assessment*, 86(3), 273-290.
- Gordon, J. (2000). 'Ecological influences on parenting and child development'. *British Journal of Social Work*, 30, 703-720.
- Greenhalgh, T. (2001). *How to read a paper: The basics of evidence based medicine*. London: BMJ Publishing Group.
- GreyNet. Retrieved May 06, 2006 from <http://www.greynet.org/>.
- Griffiths, M. (1999). 'Violent video games and aggression: A review of the literature'. *Aggression and violent behavior*, 4(2), 203-212.
- Grimes, T., Bergen, L., Nichols, K., Vernberg, E. & Fonagy, P. (2004). 'Is psychopathology the key to understanding why some children become aggressive when they are exposed to violent television programming?'. *Human Communication Research*, 30(2), 153-181.

- Grimes, T., Vernberg, E. & Cathers, T. (1997). 'Emotionally disturbed children's reactions to violent media segments'. *Journal of Health Communication* 2(3), 157-68.
- Grosz, D. E., Lipschitz, D. S., Eldar, S., Finkelstein, G., Blackwood, N., Gerbino-Rosen, G., Faedda, G.L. & Plutchik, R. (1994). 'Correlates of violence risk in hospitalized adolescents'. *Comprehensive Psychiatry*, 35, 296-300.
- Gunter, B. (1983). 'Do aggressive people prefer violent television?'. *Bulletin of the British Psychological Society*, 36, 166-168.
- Gunter, B. & Harrison, J. (1997). 'Violence in children's programmes on British television'. *Children and Society*, 11, 143-156.
- Halcomb, E. J., Andrew, S. & Brannen, J. (2009). 'Introduction to mixed methods research for nursing and the health sciences'. In Andrew, S. & Halcomb, E.J. (Eds.), *Mixed methods research for nursing and the health sciences*, Blackwell Publishing, 3-12.
- Halperin, J.M., McKay, K.E. and Newcorn, J.H. (2002). 'Development, Reliability, and Validity of the Children's Aggression Scale-Parent Version'. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41(3), 245-252.
- Halperin, J.M., McKay, K.E., Grayson, R.H. and Newcorn, J.H. (2003). 'Reliability, validity, and preliminary normative data for the Children's Aggression Scale-Teacher Version'. *Journal of the American Academy of Child and Adolescent Psychiatry*, 42(8), 965-971.
- Harden, A., Garcia, J., Oliver, S., Rees, R., Shepherd, J., Brunton, G & Oakley, A. (2004). 'Applying systematic review methods to studies of people's views: an example from public health research', *Journal of Epidemiology and Community Health*, 58, 794-800.
- Hartmann, D.P. (1969). 'Influence of symbolically modelled instrumental aggression and pain cues on aggressive behaviour'. *Journal of Personality and Social Psychology*, 11, 280-288.
- Hässler, F., Gierow, B., Tilch, P. & Langemann, I. (1993). '[Television behavior of a pediatric and adolescent psychiatric patient population]. [German]'. *Pediatric und Grenzgebiete*, 31(5), 363-369.
- Health Advisory Service, 1995. Retrieved October 16, 2006 from [http://www2.warwick.ac.uk/fac/med/study/ugr/mbchb/phase_2/junior_rotation/psychiatry/child psychiatry/camhslinks/](http://www2.warwick.ac.uk/fac/med/study/ugr/mbchb/phase_2/junior_rotation/psychiatry/child_psychiatry/camhslinks/).
- Hennekens, C. H. & Buring, J. E. (1987). *Epidemiology in Medicine*. Lippincott Williams & Wilkins.
- Himmelweit, H.T., Oppenheim, A.N. & Vince, P. (1958). *Television and the child*. London: Oxford University Press.
- Horsburgh, D. (2003). 'Evaluation of qualitative research'. *Journal of Clinical Nursing*, 12, 307-312.
- Huesmann, L.R., Lagerspetz, K. & Eron, L.D. (1984). 'Intervening variables in the TV-violence-aggression relation: evidence from two countries'. *Developmental Psychology*, 20, 746-75.
- Huesmann, L.R., Moise-Titus, J., Podolski, C.L. & Eron LD. (2003). 'Longitudinal relations between children's exposure to TV violence and their aggressive and violent behavior in young adulthood: 1977-1992'. *Developmental psychology*, 39(2), 201-21.
- Hulme, M. (2009). *Life Support: Young people's needs in a digital age*. Retrieved September 01, 2010 from <http://www.youthnet.org/mediaandcampaigns/pressreleases/hybrid-lives>.
- Inventory of Aggression Assessment for Children and Adolescents, University of Medicine and Dentistry of New Jersey. Retrieved October 23, 2006 from <http://vinst.umdj.edu/VAID/browse.asp>.
- Irvine, F.E., Roberts, G.W., Jones, P., Spencer, L.H., Baker, C.R. & William, C. (2006). 'Communicative sensitivity in the bilingual healthcare setting: A qualitative study of language awareness'. *Journal of advanced nursing*, 53(4), 422-434.
- Johnston, C. & Gowers, S. (2005). Routine outcome measurement: a survey of UK Child and Adolescent Mental Health Services. *Child and Adolescent Mental Health* 10, 133-139.
- Jones, S. R., Carley, S. & Harrison, M. (2003). 'An introduction to power and sample size estimation'. *Emergency Medicine Journal*, 20, 453-458.
- Josephson, W.L. (1987). 'Television violence and children's aggression: Testing the priming, social script, and disinhibition predictions'. *Journal of Personality and Social Psychology*, 53, 882-890.
- Kelly, E., Sprafkin, J., & Gadow, K. D. (1986). 'A comparative study of television viewing habits in special education and regular classroom settings'. Unpublished manuscript, State University of New York at Stony Brook.
- Kirkwood, B.R. (1998). *Essentials of medical statistics*. Oxford Blackwell Scientific.

- Knox, M., King, C., Hanna, G., Logan, D. & Ghaziuddin, N. (2000). 'Aggressive behaviour in clinically depressed adolescents'. *Journal of the American Academy of Child and Adolescent Psychiatry*, 39(5), 611-618.
- Kronenberg, W. G., Mathews, V. P., Dunn, D. W., Wang, Y., Wood, E. A., Larsen, J. J., Rembusch, M. E., Lowe, M. J., Giauque, A. L. & Lurito, J. T. (2005). 'Media violence exposure in aggressive and control adolescents: Differences in self- and parent-reported exposure to violence on television and in video games'. *Aggressive behavior*, 31, 201-216.
- Lagerspetz, K., Björkqvist, K. & Peltonen, T. (1988). 'Is indirect aggression typical of females? Gender differences in aggressiveness in 11- to 12-year old children'. *Aggressive Behavior*, 14, 403-414.
- Lancaster, G., Dodd, S. & Williamson, P. (2004). 'Design and analysis of pilot studies: recommendations for good practice'. *Journal of Evaluation in Clinical Practice*, 10(2), 307-312.
- Laws, S. (1998). *Hear me! Consulting with young people on mental health issues*. London: Mental Health Foundation.
- Leyens, J.P., Camino, L., Parke, R.D. & Berkowitz, L. (1975). 'Effects of movie violence on aggression in a field setting as a function of group dominance and cohesion'. *Journal of Personality and Social Psychology*, 32, 340-366.
- Litwin, M.S. (1995). *How to measure survey reliability and validity*. Sage Publications.
- Livingstone, S. & Bovill, M. (2001). *Children and their Changing Media Environment*. Lawrence Erlbaum Associates.
- Loeber, R. & Hay, D. (1997). 'Key issues in the development of aggression and violence from childhood to early adulthood'. *Annuals Review of Psychology*, 48, 371-410.
- Loney, J. & Milich, R. (1982). 'Hyperactivity, inattention, and aggression in clinical practice'. In: Wolraich, M.L. & Routh, D.K. (Eds.), *Advances in Behavioral Pediatrics*, New York: Plenum.
- Lowdermilk, J. L. (2004). 'A deconstruction and qualitative analysis of the consumption of traditional entertainment media by elementary-aged children diagnosed with emotional disorders'. *Dissertation-Abstracts-International: Section A*, 65/08, 2950.
- Macnab, N., Visser, J. & Daniels, H. (2007). 'Desperately seeking data: methodological complications in researching 'hard to find' young people'. *Journal of Research in Special Educational Needs*, 7(3), 142-148.
- Marshall, M. N. (1996). 'Sampling for qualitative research'. *Family Practice* 13, 522-525.
- McKay, K., Halperin, J.M., Grayson, R.H., Hall, S., Peracchio, N. & Newcorn, J.H. (1993). 'The children's aggression scale: parent and teacher versions'. *Scientific Proceedings of The Annual Meeting of the American Academy of Child and Adolescent Psychiatry*, 9.
- Medical Research Council (2004). *MRC Ethics Guide: Medical research involving children*. London: Medical Research Council.
- Meltzer, H., Gatward, R., Goodman, R. & Ford, T. (2003). 'Mental health of children and adolescents in Great Britain'. *International Review of Psychiatry*, 15, 185-187.
- Mitrofan, O., Paul, M. & Spencer, N.J. (2009). 'Is Aggression in Children with Behavioural and Emotional Difficulties Associated with Television Viewing and Video Game Playing? A systematic review'. *Child: Care, Health And Development* 35(1), 5-15.
- Morgan, A., Malam, S., Muir, J. & Barker, R. (2006) *Health and social inequalities in English adolescents: exploring the importance of school, family and neighbourhood, findings from the WHO Health Behaviour in School-aged Children study*. National Institute for Health and Clinical Excellence. Retrieved October 20, 2006 from http://www.hbsc.org/countries/downloads_countries/England/NationalReport2006.pdf.
- Moyer, V.A., Elliot, E.J., Davis, R.L., Gilbert, R.L., Klassen, T., Logan, S., Mellis, C. & Williams, K. (2000). *Evidence based paediatrics and child health*. BMJ Books, London.
- Möller-Nehring, E., Moach, A., Castell, R., Weigel, A. & Meyer, M. (1998). '[Conditions facilitating social disorder in children and adolescents in a clinic referred sample]. [German]'. *Praxis der Kinderpsychologie und Kinderpsychiatrie*, 47(1), 36-47.
- National CAMHS Support Service & YoungMinds. (2005). *Exploring participation in CAMHS: improving the Involvement of Children, Young People and their Carers in CAMHS*. CAMHS National Conference, Stratford: Leicester, Northampton & Rutland Strategic Health Authority.
- National Electronic Library for Health (NELH). Retrieved May 11, 2006 from <http://www.nelh.nhs.uk/>.
- National Research Ethics Service (2007). 'Information sheets & Consent forms. Guidance for researchers and reviewers. Version 3.1 April 2007'. Retrieved March 22, 2007 from <http://www.nres.npsa.nhs.uk/applicants/help/guidance.htm#consent>.

- National Research Register. Retrieved May 06, 2006 from <http://www.update-software.com/national/>.
- New York Academy of Medicine Gray Literature Report. Retrieved May 06, 2006 from <http://www.nyam.org/library/greyreport.shtml>.
- NHS Health Advisory Service (1995). *Together We Stand: Thematic review of the commissioning, role and management of Child and Adolescent Mental Health Services*. The Stationary Office.
- Nunnally, J. C. (1978). *Psychometric theory*. 2nd ed. New York: McGraw-Hill.
- NVIVO, QSR International Pty. Ltd. <http://www.qsrinternational.com>
- Office for National Statistics (2005). *Mental health of children and young people in Great Britain, 2004*. Palgrave Macmillan, New York.
- Office for National Statistics (2006). *General Household Survey 2006. Household and Individual Questionnaires*. London: Macmillan.
- Office for National Statistics (2007). *Key Population and Vital Statistics. Local and Health Authority Areas. Population and vital statistics by area of usual residence in the United Kingdom, 2007*. The Office for National Statistics.
- Office for National Statistics (2008). *General Lifestyle Survey 2008*. Retrieved October 08, 2010 from <http://www.statistics.gov.uk/statbase/product.asp?vlnk=5756>.
- Office for National Statistics (2010). *National Statistics Online 2010. Household Income*. Retrieved September 17, 2010 from <http://www.statistics.gov.uk/cc/nugget.asp?id=334>.
- O'Neal, E.C. & Taylor, S.L. (1989). 'Status of the provoker, opportunity to retaliate, and interest in video violence'. *Aggressive Behavior*, 15, 171–180.
- Oppenheim, A. N. (1992). *Questionnaire design, interviewing and attitude measurement*. 2nd ed. Continuum International Publishing.
- Ovid Technologies Field Guide: CINAHL, 2006. Retrieved March 31, 2006 from http://gateway.uk.ovid.com/rel_live/server1/flguide/nursing.htm.
- Ovid Technologies Field Guide: EMBASE, 2006. Retrieved March 31, 2006 from http://gateway.uk.ovid.com/rel_live/server1/flguide/embase.htm.
- Paik, H. & Comstock, G. (1994). 'The effects of television violence on antisocial behavior: A meta-analysis'. *Communication Research* 21, 516–546.
- Pallant, J. (2007). *SPSS survival manual. A step-by-step guide to data analysis using SPSS version 15*. 3rd ed. Open University Press.
- Patton, M.Q. (1990). *Qualitative evaluation and research methods*. 2nd ed. Sage Publications.
- Pelham, W.E., Milich, R., Murphy, D.A. & Murphy, H.A. (1989). 'Normative data on the IOWA Conners teacher rating scale'. *Journal of Clinical Child Psychology*, 18, 259–262.
- Pfeffer, C.R., Jiang, H. & Domeshe, L.J. (1997). 'Buspirone treatment of psychiatrically hospitalized prepubertal children with symptoms of anxiety and moderately severe aggression'. *Journal of Child and Adolescent Psychopharmacology*, 7(3), 145–155.
- Philo, G. (1996). *Media and mental distress*. London: Longman, 1996.
- Pope, C., Ziebland, S. & Mays, N. (2006). 'Analysing qualitative data'. In: Pope, C. & Mays, N. (Eds.) *Qualitative research in health care*. 3rd ed. Blackwell Publishing.
- Pople, L. (2009). *The Good Childhood Inquiry. Lifestyle: A summary of themes emerging from children and young people's evidence*. Retrieved February 02, 2010 from http://www.childrensociety.org.uk/all_about_us/how_we_do_it/the_good_childhood_inquiry/1818.html.
- Raviv, A., Erel, O., Fox, N.A., Leavitt, L.A., Raviv, A., Dar, I., Shahinfar, A & Greenbaum, C.W. (2001). 'Individual measurements of exposure to everyday violence among elementary schoolchildren across various settings'. *Journal of Community Psychology*, 29(2), 117–140.
- Recklitis, C.J. & Noam, G.G. (2004). 'Aggressive behavior in the adolescent psychiatric patient: A clinical-developmental perspective'. *Child Psychiatry and Human Development*, 34(4), 341–361.
- Rice, B.J., Woolston, J., Stewart, E., Kerker, B.D. & Horwitz, S.M. (2002). 'Differences in younger, middle, and older children admitted to child psychiatric inpatient services'. *Child Psychiatry and Human Development*, 32, 241–261.
- Ritchie, J. & Spencer, L. (1993). 'Qualitative data analysis for applied policy research'. In: Bryman, A. & Burgess, R. (Eds.) *Analysing qualitative data*. London: Routledge, 173–194.
- Ritchie, J., Lewis, J. & Elam, G. (2003). 'Designing and selecting samples'. In: Ritchie, J. & Lewis, J. (Eds.) *Qualitative Research Practice*. London: Sage Publications.
- Ritchie, J., Spencer, L. & O'Connor, W. (2003). 'Carrying out qualitative analysis'. In: Ritchie, J. & Lewis, J. (Eds.) *Qualitative Research Practice*. London: Sage Publications.

- Robertson, W. *An evaluation of Families for Health: a new family-based intervention for the management of childhood obesity*. Unpublished thesis, University of Warwick, 2009.
- Robinson, A. & Thomson, A. (2001). 'Variability in patient preferences for participating in medical decision making: implications for the use of decision support tools'. *Quality in Health Care*, 10(Suppl I), i34-i38.
- Sale, J. E., Lohfeld, L. H. & Brazil, K. (2002). 'Revisiting the quantitative – qualitative debate: implications for mixed-methods research'. *Quality & Quantity*, 36, 43-53.
- Salmon, G, James, A., Cassidy, E.L. & Javaloyes, M.A. (2000). 'Bullying a review: Presentations to an adolescent psychiatric service and within a school for emotionally and behaviourally disturbed children'. *Clinical Child Psychology and Psychiatry*, 5(4), 563–579.
- Savage, J. (2004). 'Does viewing violent media really cause criminal violence? A methodological review'. *Aggression and Violent Behavior*, 10, 99–128.
- Schramm, W., Lyle, J. & Parker, E.B. (1961). *Television in the lives of our children*. Stanford, CA: Stanford University Press.
- Schulz, K. F. & Grimes, D. A. (2005). 'Sample size calculations in randomized trials: mandatory and mystical'. *Lancet*, 365, 1348-1353.
- Shahinfar, A., Fox, N.A. & Leavitt, L.A. (2000). 'Preschool children's exposure to violence: Relation of behavior problems to parent and child reports'. *American Journal of Orthopsychiatry*, 70, 115–125.
- Sherry, L. (2001). "The effects of violent video games on aggression. A meta-analysis". *Human Communication Research*, 27(3), 409-431.
- Singh, S. P., Paul, M., Islam, Z. & Weaver, T. (2010). *Transition from CAMHS to Adult Mental Health Services (TRACK): A Study of Service Organisation, Policies, Process and User and Carer Perspectives. Report for the National Institute for Health Research Service Delivery and Organisation programme*. Retrieved September 02, 2010 from <http://www.sdo.nihr.ac.uk/files/project/117-final-report.pdf>.
- Slater, M.D., Henry, K.L., Swaim, R.C. & Anderson, L.L. (2003). 'Violent media content and aggressiveness in adolescents: a downward spiral model'. *Communication Research*, 30, 713–36.
- Snape, D. & Spencer, L. (2003). 'The foundations of qualitative research'. In: Ritchie, J. & Lewis, J. (Eds.) *Qualitative Research Practice*. London: Sage Publications.
- Sorgi, P., Ratey, J., Knoedler, D. W., Markert, R. J. & Reichman, M. (1991). 'Rating aggression in the clinical setting. A retrospective adaptation of the overt aggression scale: preliminary results'. *Journal of Neuropsychiatry and Clinical Neurosciences*, 3 (92), S52-S56.
- Spencer, L., Ritchie, J. & O'Connor, W. (2003). 'Analysis: practices, principles and processes'. In: Ritchie, J. & Lewis, J. (Eds.) *Qualitative Research Practice*. London: Sage Publications.
- Sprafkin, J. & Gadow, K. D. (1986). 'Television viewing habits of emotionally disturbed, learning disabled, and mentally retarded children'. *Journal of Applied Developmental Psychology*, 7, 45-59.
- Sprafkin, J. & Gadow, K. D. (1988). 'The immediate impact of aggressive cartoons on emotionally disturbed and learning disabled children'. *The Journal of Genetic Psychology*, 149(1), 35-44.
- Sprafkin, J. & Gadow, K. (1987). 'An observational study of emotionally disturbed and learning-disabled children in school settings'. *Journal of Abnormal Child Psychology*, 15(3), 393-408.
- Sprafkin, J., Gadow, K.D. & Abelman, R. (1992). *Television and the exceptional child: A forgotten audience*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Sprafkin, J., Gadow, K. D. & Dussault, M. (1986). 'Reality perceptions of television: A preliminary comparison of emotionally disturbed and nonhandicapped children'. *American Journal of Orthopsychiatry*, 56(1), 147-152.
- Sprafkin, J., Gadow, K.D. & Grayson, P. (1984). 'Television and the emotionally disturbed, learning disabled, and mentally retarded child: A review'. In Gadow, K.D. (Ed.) *Advances in learning and behavioral disabilities*, 3, 151-213. Greenwich, CT: JAI Press.
- Sprafkin, J., Gadow, K. D. & Grayson, P. (1987). 'Effects of viewing aggressive cartoons on the behavior of learning disabled children'. *Journal of Child Psychology and Psychiatry*, 28(3), 387-398.
- Sprafkin, J., Gadow, K. D. & Grayson, P. (1988). 'Effects of cartoons on emotionally disturbed children's social behavior in school settings'. *Journal of Child Psychology*, 29, 91-99.
- Sprafkin, J., Grayson, P. & Gadow, K. D. (1983). *Code for Observing Social Activity*. State University of New York, Department of Psychiatry, Stony Brook, NY.

- Sprafkin, J., Kelly, E. & Gadow, K. D. (1987). 'Reality perceptions of television: A comparison of emotionally disturbed, learning disabled, and nonhandicapped children'. *Developmental and Behavioral Pediatrics*, 8(3), 149-153.
- Sprafkin, J., Watkins, L. T. & Gadow, K. D. (1990). 'Efficacy of a television literacy curriculum for emotionally disturbed and learning disabled children'. *Journal of Applied Developmental Psychology*, 11, 225-244.
- SPSS Inc. (2008). SPSS. Chicago: SPSS.
- Steiner, H. (1997). 'Practice parameters for the assessment and treatment of children and adolescents with conduct disorder'. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36, 122S-139S.
- Tashakkori, A. & Teddlie, C. (2003). *Handbook of mixed methods in social and behavioural research*. Sage Publications.
- Teachernet (2006). Teaching in England-Pupils with Emotional and Behavioural Difficulties. Retrieved October 18, 2006 from <http://www.teachernet.gov.uk/teachinginengland/detail.cfm?id=541>.
- Tannenbaum, P.H. & Zillmann, D. (1975). 'Emotional arousal in the facilitation of aggression through communication'. In Berkowitz, L. (Ed.) *Advances in Experimental Social Psychology*, 8. New York: Academic Press, 149-92.
- The British Library: Some facts and figures. Retrieved May 06, 2006 from <http://www.bl.uk/about/didyou.html>.
- The Cochrane Collaboration (2005). Glossary of Terms in The Cochrane Collaboration Version 4.2.5 Updated May 2005. Retrieved January 06, 2007 from <http://www.cochrane.org/resources/handbook/glossary.pdf>.
- The Cochrane Library, 2006. Retrieved April 13, 2006 from <http://www3.interscience.wiley.com/cgi-bin/mrwhome/106568753/ProductDescriptions.html>.
- The Research Findings Electronic Register. Retrieved May 09, 2006 from <http://www.refer.nhs.uk/ViewWebPage.asp?Page=Home>.
- The Social Research Association (2001). *A Code of Practice for the Safety of Social Researchers*. Retrieved November 20, 2006 from <http://www.the-sra.org.uk/>.
- The University of Warwick (2006a). University of Warwick Research Code of Conduct. Retrieved November 20, 2006 from <http://www2.warwick.ac.uk/services/rss>.
- The University of Warwick (2006b). *Safety in the University- Part 15-Fieldwork*. Retrieved November 20, 2006 from http://www2.warwick.ac.uk/services/safety/health_and_safety/policy/15.
- Trivedi, P. & Wykes, T. (2002). 'From passive subjects to equal partners. Qualitative review of user involvement in research'. *The British Journal of Psychiatry*, 181, 468-472.
- U.S. Office of Education (1977). *Federal Register*, 42, 42478.
- Vander Laenen, F. (2009). 'I don't trust you, you are going to tell', adolescents with emotional and behavioural disorders participating in qualitative research'. *Child: Care, Health and development*, 35, 323-329.
- Villani, S. (2001). 'Impact of media on children and adolescents: A 10-year review of the research'. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40(4), 392-401.
- Vitiello, B., Behar, D., Hunt, J., Stoff, D. & Ricciuti, A. (1990). 'Subtyping aggression in children and adolescents'. *Journal of Neuropsychiatry and Clinical Neuroscience*, 2, 189-192.
- Vivona, J. M., Ecker, B., Halgin, R. P., Cates, D., Garrison, W. T. & Friedman, M. (1995). 'Self- and other-directed aggression in child and adolescent psychiatric inpatients'. *Journal of the American Academy of Child and Adolescent Psychiatry*, 34, 434-444.
- Walters, R. H. & Willows, D. C. (1968). 'Imitative behavior of disturbed and non-disturbed children following exposure to aggressive and nonaggressive models'. *Child Development*, 39, 79-89.
- Warwick Library: Databases by coverage type: Conference Papers Index. Retrieved April 21, 2006 from <http://www2.warwick.ac.uk/services/library/main/electronicresources/databases/databases/databasestype/>.
- Warwick Library: Databases by coverage type: Dissertation Abstracts. Retrieved April 21, 2006 from <http://www2.warwick.ac.uk/services/library/main/electronicresources/databases/databases/databasestype/>.
- Warwick Library: Databases by coverage type: Index to Theses. Retrieved April 21, 2006 from

<http://www2.warwick.ac.uk/services/library/main/electronicresources/databases/databases/databasestype/>.

Warwick Library: Databases by coverage type: Sociological Abstracts. Retrieved April 21, 2006 from <http://www2.warwick.ac.uk/services/library/main/electronicresources/databases/databases/databasestype/>.

Warwick Library: Database Descriptions: Medline, 2006. Retrieved March 31, 2006 from <http://www2.warwick.ac.uk/services/library/main/electronicresources/databases/databases/databasesdescriptions/mno/>.

Warwick Library: Database Descriptions: Child Data, 2006. Retrieved April 18, 2006 from <http://www2.warwick.ac.uk/services/library/main/electronicresources/databases/databases/databasesdescriptions/cd/#child>.

Warwick Library: Database Descriptions: Cochrane Library, 2006. Retrieved April 13, 2006 from <http://www2.warwick.ac.uk/services/library/main/electronicresources/databases/databases/databasesdescriptions/cd/#coch>.

Wikipedia: Google Scholar. Retrieved April 20, 2006 from http://en.wikipedia.org/wiki/Google_Scholar.

Wood, W., Wong, F.Y. & Chachere, J.G. (1991). 'Effects of media violence on viewers' aggression in unconstrained social interactions'. *Psychological Bulletin*, 109(3), 371-383.

World Health Organization (1992). *The ICD-10 Classification of Mental and Behavioural Disorders: Clinical Descriptions and Diagnostic Guidelines*. Geneva: World Health Organization.

World Health Organization (2002). *Youth Violence*. Retrieved October 09, 2006 from http://www.who.int/entity/violence_injury_prevention/violence/world_report/factsheets/en/youthviolencefacts.pdf.

World Health Organization current bibliography. Retrieved May 06, 2006 from <http://www.who.int/library/>.





























































Young Person's Advisory Service. (2007). *Time to talk...time to listen: a consultation with Liverpool mental health service users aged 14-25*. Liverpool: Young Person's Advisory Service.

























































Yudofsky, S. C., Silver, J. M., Jackson, W., Endicott, J., & Williams, D. (1986). 'The Overt Aggression Scale for the Objective Rating of Verbal and Physical Aggression'. *American Journal of Psychiatry*, 143 (1), 35-39.













































ZETOC: Welcome to ZETOC. Retrieved May 10, 2006 from <http://zetoc.mimas.ac.uk/>.

















































APPENDIX 1
FULL LIST OF SEARCH RESULTS IN PSYCINFO, ASSIA,
MEDLINE, EMBASE & CINAHL


















































PsycInfo (Webspirs)













Search	Results	Display	Create SDI
<input type="checkbox"/> #30 #2 and depress* and disord*	50		
<input type="checkbox"/> #29 #2 and depress*	109		
Searches and results below from saved search history 17 Febr 06			
<input type="checkbox"/> #28 #2 and hyperkinet*	1		
<input type="checkbox"/> #27 #26 and disord*	34		
<input type="checkbox"/> #26 #2 and anxiety	89		
<input type="checkbox"/> #25 #2 and mood disord*	6		
<input type="checkbox"/> #24 #2 and affective disord*	8		
<input type="checkbox"/> #23 #22 and disord*	279		
<input type="checkbox"/> #22 #2 and development*	1409		
<input type="checkbox"/> #21 #2 and emotional disord*	5		
<input type="checkbox"/> #20 #2 and hyperkinetic	1		
<input type="checkbox"/> #19 #2 and oppositional defiant disorder	6		
<input type="checkbox"/> #18 #2 and delinquen*	55		
<input type="checkbox"/> #17 #16 and disord*	20		
<input type="checkbox"/> #16 #2 and conduct	44		
<input type="checkbox"/> #15 #14 and disord*	9		
<input type="checkbox"/> #14 #2 and antisocial	54		
<input type="checkbox"/> #13 #12 and disord*	37		
<input type="checkbox"/> #12 #2 and violence	418		
<input type="checkbox"/> #11 #10 and disord*	312		
<input type="checkbox"/> #10 #2 and psych*	1575		
<input type="checkbox"/> #9 #2 and mental health	242		
<input type="checkbox"/> #8 #7 and disord*	117		
<input type="checkbox"/> #7 #2 and attent*	344		
<input type="checkbox"/> #6 #4 and disord*	26		
<input type="checkbox"/> #5 #3 and disord*	247		
<input type="checkbox"/> #4 #2 and aggress*	201		
<input type="checkbox"/> #3 #2 and behav*	1169		
<input type="checkbox"/> #2 #1 and child*	3565		
<input type="checkbox"/> #1 media	20311		

Search	Results	Display	Create SDI
<input type="checkbox"/> #30 #29 and disord*	7		
<input type="checkbox"/> #29 #2 and depress*	34		
Searches and results below from saved search history 17 Febr 06 II			
<input type="checkbox"/> #28 #27 and disord*	3		
<input type="checkbox"/> #27 #2 and anxiety	27		
<input type="checkbox"/> #26 #2 and mood disord*	1		
<input type="checkbox"/> #25 #2 and affective disord*	0		
<input type="checkbox"/> #24 #23 and disord*	53		
<input type="checkbox"/> #23 #2 and development*	1004		
<input type="checkbox"/> #22 #2 and emotional disord*	2		
<input type="checkbox"/> #21 #2 and hyperkinetic	0		
<input type="checkbox"/> #20 #2 and hyperkinet*	0		
<input type="checkbox"/> #19 #2 and oppositional defiant disorder	0		
<input type="checkbox"/> #18 #2 and delinquen*	27		
<input type="checkbox"/> #17 #16 and disord*	4		
<input type="checkbox"/> #16 #2 and conduct	19		
<input type="checkbox"/> #15 #14 and disord*	6		
<input type="checkbox"/> #14 #2 and antisocial	54		
<input type="checkbox"/> #13 #12 and disord*	21		
<input type="checkbox"/> #12 #2 and violence	408		
<input type="checkbox"/> #11 #10 and disord*	86		
<input type="checkbox"/> #10 #2 and psych*	1067		
<input type="checkbox"/> #9 #2 and mental health	66		
<input type="checkbox"/> #8 #7 and disord*	25		
<input type="checkbox"/> #7 #2 and attent*	229		
<input type="checkbox"/> #6 #5 and disord*	14		
<input type="checkbox"/> #5 #2 and aggress*	318		
<input type="checkbox"/> #4 #3 and disord*	59		
<input type="checkbox"/> #3 #2 and behav*	995		
<input type="checkbox"/> #2 #1 and child*	2598		
<input type="checkbox"/> #1 televis*	8556		

Search	Results	Display	Create SDI
<input type="checkbox"/> #27 #2 and depress*	2		
Searches and results below from saved search history 17 Febr 06 III			
<input type="checkbox"/> #26 #2 and anxiety	0		
<input type="checkbox"/> #25 #2 and mood disord*	0		
<input type="checkbox"/> #24 #2 and affective disord*	0		
<input type="checkbox"/> #23 #22 and disord*	2		
<input type="checkbox"/> #22 #2 and development*	18		
<input type="checkbox"/> #21 #2 and emotional disord*	0		
<input type="checkbox"/> #20 #2 and hyperkinet*	0		
<input type="checkbox"/> #19 #2 and oppositional defiant disord*	0		
<input type="checkbox"/> #18 #2 and delinquen*	1		
<input type="checkbox"/> #17 #16 and disord*	0		
<input type="checkbox"/> #16 #2 and conduct	1		
<input type="checkbox"/> #15 #14 and disord*	1		
<input type="checkbox"/> #14 #2 and antisocial	1		
<input type="checkbox"/> #13 #12 and disord*	0		
<input type="checkbox"/> #12 #2 and violence	9		
<input type="checkbox"/> #11 #10 and disord*	1		
<input type="checkbox"/> #10 #2 and psych*	18		
<input type="checkbox"/> #9 #2 and mental health	1		
<input type="checkbox"/> #8 #7 and disord*	0		
<input type="checkbox"/> #7 #2 and attent*	1		
<input type="checkbox"/> #6 #5 and disord*	0		
<input type="checkbox"/> #5 #2 and aggress*	4		
<input type="checkbox"/> #4 #3 and disord*	1		
<input type="checkbox"/> #3 #2 and behav*	13		
<input type="checkbox"/> #2 #1 and child*	30		
<input type="checkbox"/> #1 electronic game*	49		

Search	Results	Display	Create SDI
<input type="checkbox"/> #26 #2 and depress*	5		
<input type="checkbox"/> #25 #2 and anxiety	7		
<input type="checkbox"/> #24 #2 and mood disord*	1		
<input type="checkbox"/> #23 #2 and affective disord*	0		
<input type="checkbox"/> #22 #21 and disord*	11		
<input type="checkbox"/> #21 #2 and development*	108		
<input type="checkbox"/> #20 #2 and emotional disord*	0		
<input type="checkbox"/> #19 #2 and hyperkinet*	0		
<input type="checkbox"/> #18 #2 and oppositional defiant disord*	0		
<input type="checkbox"/> #17 #2 and delinquen*	4		
<input type="checkbox"/> #16 #2 and conduct	1		
<input type="checkbox"/> #15 #14 and disord*	1		
<input type="checkbox"/> #14 #2 and antisocial	2		
<input type="checkbox"/> #13 #12 and disord*	4		
<input type="checkbox"/> #12 #2 and violence	52		
<input type="checkbox"/> #11 #10 and disord*	9		
<input type="checkbox"/> #10 #2 and attent*	32		
<input type="checkbox"/> #9 #8 and disord*	14		
<input type="checkbox"/> #8 #2 and psych*	124		
<input type="checkbox"/> #7 #2 and mental health	11		
<input type="checkbox"/> #6 #5 and disord*	3		
<input type="checkbox"/> #5 #2 and aggress*	58		
<input type="checkbox"/> #4 #3 and disord*	12		
<input type="checkbox"/> #3 #2 and behav*	114		
<input type="checkbox"/> #2 #1 and child*	228		
<input type="checkbox"/> #1 video game*	666		

Search	Results	Display	Create SDI
<input type="checkbox"/> #27 #2 and depress*	5		
<input type="checkbox"/> #26 #2 and anxiety	7		
<input type="checkbox"/> #25 #2 and mood disord*	0		
<input type="checkbox"/> #24 #2 and affective disord*	0		
<input type="checkbox"/> #23 #22 and disord*	12		
<input type="checkbox"/> #22 #2 and development*	146		
<input type="checkbox"/> #21 #2 and emotional disord*	0		
<input type="checkbox"/> #20 #2 and hyperkinet*	0		
<input type="checkbox"/> #19 #2 and oppositional defiant disord*	1		
<input type="checkbox"/> #18 #2 and delinquen*	3		
<input type="checkbox"/> #17 #16 and disord*	1		
<input type="checkbox"/> #16 #2 and conduct	5		
<input type="checkbox"/> #15 #14 and disord*	0		
<input type="checkbox"/> #14 #2 and antisocial	3		
<input type="checkbox"/> #13 #12 and disord*	2		
<input type="checkbox"/> #12 #2 and violence	52		
<input type="checkbox"/> #11 #10 and disord*	17		
<input type="checkbox"/> #10 #2 and psych*	155		
<input type="checkbox"/> #9 #2 and mental health	7		
<input type="checkbox"/> #8 #7 and disord*	13		
<input type="checkbox"/> #7 #2 and attent*	35		
<input type="checkbox"/> #6 #5 and disord*	4		
<input type="checkbox"/> #5 #2 and aggress*	58		
<input type="checkbox"/> #4 #3 and disord*	23		
<input type="checkbox"/> #3 #2 and behav*	150		
<input type="checkbox"/> #2 #1 and child*	330		
<input type="checkbox"/> #1 computer game*	973		

Search	Results	Display	Create SDI
<input type="checkbox"/> #6 #5 and disord*	1		
<input type="checkbox"/> #5 electronic game* and child* and depress*	2		
<input type="checkbox"/> #4 #3 and disord*	7		
<input type="checkbox"/> #3 televis* and child* and depress*	34		
<input type="checkbox"/> #2 #1 and disord*	50		
<input type="checkbox"/> #1 media and child* and depress*	108		

























































Search























Results Display Create SDI

Searches and results below from saved search history 22 Feb III






































<input type="checkbox"/> #63	#23 and depress*	20		
------------------------------	------------------	----	---	---






















































Searches and results below from saved search history 22 Feb III












































<input type="checkbox"/> #62	#23 and depress*	20		
<input type="checkbox"/> #61	#23 and anxiety	121		
<input type="checkbox"/> #60	#23 and anxiety	121		
<input type="checkbox"/> #59	#23 and mood disord*	2		
<input type="checkbox"/> #58	#23 and mood disord*	2		
<input type="checkbox"/> #57	#23 and affective disord*	1		
<input type="checkbox"/> #56	#23 and affective disord*	1		
<input type="checkbox"/> #55	#37 and disord*	157		
<input type="checkbox"/> #54	#37 and disord*	157		
<input type="checkbox"/> #53	#23 and development*	337		
<input type="checkbox"/> #52	#23 and development*	337		
<input type="checkbox"/> #51	#23 and emotional disord*	2		
<input type="checkbox"/> #50	#23 and emotional disord*	2		
<input type="checkbox"/> #49	#23 and hyperkinet*	0		
<input type="checkbox"/> #48	#23 and hyperkinet*	0		
<input type="checkbox"/> #47	#23 and oppositional defiant disord*	0		
<input type="checkbox"/> #46	#23 and oppositional defiant disord*	0		
<input type="checkbox"/> #45	#23 and delinquen*	1		
<input type="checkbox"/> #44	#23 and delinquen*	1		
<input type="checkbox"/> #43	#23 and conduct	16		
<input type="checkbox"/> #42	#23 and conduct	16		
<input type="checkbox"/> #41	#23 and antisocial	2		
<input type="checkbox"/> #40	#23 and antisocial	2		
<input type="checkbox"/> #39	#29 and disord*	31		
<input type="checkbox"/> #38	#29 and disord*	31		
<input type="checkbox"/> #37	#23 and psych*	746		
<input type="checkbox"/> #36	#23 and psych*	746		
<input type="checkbox"/> #35	#23 and mental health	71		
<input type="checkbox"/> #34	#23 and mental health	71		
<input type="checkbox"/> #33	#23 and attent*	97		

#32 #23 and attent*	97		
#31 #23 and aggress*	11		
#30 #23 and aggress*	11		
#29 #24 and disord*	31		
#28 #24 and disord*	31		
#27 #23 and behav*	566		
#26 #23 and behav*	566		
#25 #22 and child*	109		
#24 #22 and child*	109		
#23 virtual reality	1546		
#22 virtual reality	1546		

Searches and results below from saved search
history 22 Feb III

#21 #2 and depress*	1		
#20 #2 and anxiety	11		
#19 #2 and mood disord*	1		
#18 #2 and affective disord*	1		
#17 #16 and disord*	13		
#16 #2 and development*	50		
#15 #2 and emotional disord*	0		
#14 #2 and hyperkinet*	0		
#13 #2 and oppositional defiant disord*	0		
#12 #2 and delinquen*	1		
#11 #2 and conduct	0		
#10 #2 and antisocial	0		
#9 #8 and disord*	16		
#8 #2 and psych*	51		
#7 #2 and mental health	8		
#6 #2 and attent*	11		
#5 #2 and aggress*	2		
#4 #3 and disord*	15		
#3 #2 and behav*	47		
#2 #1 and child*	109		
#1 virtual reality	1546		

Search	Results	Display	Create SDI
<input type="checkbox"/> #27 #1 and depress*	73		
<input type="checkbox"/> #26 #1 and anxiety	41		
<input type="checkbox"/> #25 #1 and mood disord*	4		
<input type="checkbox"/> #24 #1 and affective disord*	2		
<input type="checkbox"/> #23 #22 and disord*	98		
<input type="checkbox"/> #22 #1 and development*	634		
<input type="checkbox"/> #21 #1 and emotional disord*	1		
<input type="checkbox"/> #20 #1 and hyperkinet*	0		
<input type="checkbox"/> #19 #1 and oppositional defiant disord*	2		
<input type="checkbox"/> #18 #1 and delinquen*	46		
<input type="checkbox"/> #17 #16 and disord*	27		
<input type="checkbox"/> #16 #1 and conduct*	141		
<input type="checkbox"/> #15 #14 and disord*	4		
<input type="checkbox"/> #14 #1 and antisocial	30		
<input type="checkbox"/> #13 #12 and disord*	21		
<input type="checkbox"/> #12 #1 and violence	187		
<input type="checkbox"/> #11 #10 and disord*	165		
<input type="checkbox"/> #10 #1 and psych*	833		
<input type="checkbox"/> #9 #8 and disord*	46		
<input type="checkbox"/> #8 #1 and mental health	114		
<input type="checkbox"/> #7 #6 and disord*	26		
<input type="checkbox"/> #6 #1 and attent*	124		
<input type="checkbox"/> #5 #4 and disord*	18		
<input type="checkbox"/> #4 #1 and aggress*	96		
<input type="checkbox"/> #3 #2 and disord*	99		
<input type="checkbox"/> #2 #1 and behav*	654		
<input type="checkbox"/> #1 media and adolesc*	1543		

Search	Results	Display	Create SDI
<input type="checkbox"/> #24 #1 and depress*	19		
<input type="checkbox"/> #23 #1 and anxiety	11		
<input type="checkbox"/> #22 #1 and mood disord*	0		
<input type="checkbox"/> #21 #1 and affective disord*	0		
<input type="checkbox"/> #20 #19 and disord*	24		
<input type="checkbox"/> #19 #1 and development*	263		
<input type="checkbox"/> #18 #1 and emotional disord*	0		
<input type="checkbox"/> #17 #1 and hyperkinet*	0		
<input type="checkbox"/> #16 #1 and oppositional defiant disord*	0		
<input type="checkbox"/> #15 #1 and delinquen*	27		
<input type="checkbox"/> #14 #1 and conduct	6		
<input type="checkbox"/> #13 #1 and antisocial	20		
<input type="checkbox"/> #12 #11 and disord*	12		
<input type="checkbox"/> #11 #1 and violence	129		
<input type="checkbox"/> #10 #9 and disord*	45		
<input type="checkbox"/> #9 #1 and psych*	338		
<input type="checkbox"/> #8 #1 and mental health	29		
<input type="checkbox"/> #7 #6 and disord*	4		
<input type="checkbox"/> #6 #1 and attent*	39		
<input type="checkbox"/> #5 #4 and disord*	4		
<input type="checkbox"/> #4 #1 and aggress*	93		
<input type="checkbox"/> #3 #2 and disord*	27		
<input type="checkbox"/> #2 #1 and behav*	317		
<input type="checkbox"/> #1 televis* and adolesc*	777		


Search

Results Display Create SDI

Searches and results below from saved search
history 22 Feb VII

☐ #129 virtual reality and adolesc* 24  

Searches and results below from saved search
history 22 Feb VII

☐ #128 virtual reality and adolesc* 24  

☐ #127 #64 and depress* 0 

☐ #126 #64 and depress* 0 

☐ #125 #64 and anxiety 0 

☐ #124 #64 and anxiety 0 

☐ #123 #64 and mood disord* 0 

☐ #122 #64 and mood disord* 0 

☐ #121 #64 and affective disord* 0 

☐ #120 #64 and affective disord* 0 

☐ #119 #80 and disord* 1  

☐ #118 #80 and disord* 1  

☐ #117 #64 and development* 0 


☐ #116 #64 and development* 0 


☐ #115 #64 and emotional disord* 0 

☐ #114 #64 and emotional disord* 0 


☐ #113 #64 and hyperkinet* 0 

☐ #112 #64 and hyperkinet* 0 

☐ #111 #64 and oppositional defiant disord* 0 

☐ #110 #64 and oppositional defiant disord* 0 

☐ #109 #64 and delinquen* 0 

☐ #108 #64 and delinquen* 0 

☐ #107 #64 and conduct 0 

☐ #106 #64 and conduct 0 

☐ #105 #64 and antisocial 0 

☐ #104 #64 and antisocial 0 




































☐ #103 #64 and violence 0 


























































☐ #102 #64 and violence 0 
























































☐ #101 #71 and disord* 0 






























☐ #100 #71 and disord* 0 










































☐ #99 #64 and psych* 0 

#98	#64 and psych*	0	
#97	#64 and mental health	0	
#96	#64 and mental health	0	
#95	#64 and attent*	0	
#94	#64 and attent*	0	
#93	#67 and disord*	0	
#92	#67 and disord*	0	
#91	#64 and aggress*	0	
#90	#64 and aggress*	0	
#89	#65 and disord*	0	
#88	#65 and disord*	0	
#87	#64 and behav*	0	
#86	#64 and behav*	0	
#85	computer game* and adolesc*	144	
#84	computer game* and adolesc*	144	
#83	#45 and depress*	1	
#82	#45 and depress*	1	
#81	#45 and anxiety	1	
#80	#45 and anxiety	1	
#79	#45 and mood disord*	0	
#78	#45 and mood disord*	0	
#77	#45 and affective disord*	0	
#76	#45 and affective disord*	0	
#75	#58 and disord*	0	
#74	#58 and disord*	0	
#73	#45 and development*	6	
#72	#45 and development*	6	
#71	#45 and emotional disord*	0	
#70	#45 and emotional disord*	0	
#69	#45 and hyperkinet*	0	
#68	#45 and hyperkinet*	0	
#67	#45 and oppositional defiant disord*	0	
#66	#45 and oppositional defiant disord*	0	
#65	#45 and delinquen*	0	
#64	#45 and delinquen*	0	

#63	#45 and conduct	1		
#62	#45 and conduct	1		
#61	#45 and antisocial	0		
#60	#45 and antisocial	0		
#59	#45 and violence	4		
#58	#45 and violence	4		
#57	#45 and psych*	8		
#56	#45 and psych*	8		
#55	#45 and mental health	2		
#54	#45 and mental health	2		
#53	#45 and attent*	0		
#52	#45 and attent*	0		
#51	#45 and aggress*	6		
#50	#45 and aggress*	6		
#49	#45 and behav*	8		
#48	#45 and behav*	8		
#47	video game* and adolesc*	117		
#46	video game* and adolesc*	117		
#45	electronic game* and adolesc*	14		
#44	electronic game* and adolesc*	14		
Searches and results below from saved search history 22 Feb VII				
#43	virtual reality and adolesc*	24		
#42	#21 and depress*	4		
#41	#21 and anxiety	3		
#40	#21 and mood disord*	0		
#39	#21 and affective disord*	0		
#38	#37 and disord*	3		
#37	#21 and development*	55		
#36	#21 and emotional disord*	0		
#35	#21 and hyperkinet*	0		
#34	#21 and oppositional defiant disord*	0		
#33	#21 and delinquen*	5		
#32	#21 and conduct	2		
#31	#21 and antisocial	2		

#30	#21 and violence	31		
#29	#28 and disord*	9		
#28	#21 and psych*	85		
#27	#21 and mental health	6		
#26	#21 and attent*	6		
#25	#24 and disord*	3		
#24	#21 and aggress*	32		
#23	#22 and disord*	9		
#22	#21 and behav*	62		
#21	computer game* and adolesc*	144		
#20	#2 and depress*	1		
#19	#2 and anxiety	3		
#18	#2 and mood disord*	1		
#17	#2 and affective disord*	0		
#16	#15 and disord*	7		
#15	#2 and development*	50		
#14	#2 and emotional disord*	0		
#13	#2 and hyperkinet*	0		
#12	#2 and oppositional defiant disord*	0		
#11	#2 and delinquen*	3		
#10	#2 and conduct	0		
#9	#2 and antisocial	4		
#8	#2 and violence	32		
#7	#2 and psych*	68		
#6	#2 and mental health	5		
#5	#2 and attent*	8		
#4	#2 and aggress*	34		
#3	#2 and behav*	62		
#2	video game* and adolesc*	117		
#1	electronic game* and adolesc*	14		

Search	Results	Display	Create SDI
<input type="checkbox"/> #21 #1 and depress*	5		
<input type="checkbox"/> #20 #1 and anxiety	3		
<input type="checkbox"/> #19 #1 and mood disord*	1		
<input type="checkbox"/> #18 #1 and affective disord*	0		
<input type="checkbox"/> #17 #16 and disord*	2		
<input type="checkbox"/> #16 #1 and development*	80		
<input type="checkbox"/> #15 #1 and emotional disord*	1		
<input type="checkbox"/> #14 #1 and hyperkinet*	0		
<input type="checkbox"/> #13 #1 and oppositional defiant disord*	0		
<input type="checkbox"/> #12 #1 and delinquen*	5		
<input type="checkbox"/> #11 #1 and conduct	1		
<input type="checkbox"/> #10 #1 and antisocial	4		
<input type="checkbox"/> #9 #1 and violence	15		
<input type="checkbox"/> #8 #7 and disord*	6		
<input type="checkbox"/> #7 #1 and psych*	81		
<input type="checkbox"/> #6 #1 and mental health	10		
<input type="checkbox"/> #5 #1 and attent*	16		
<input type="checkbox"/> #4 #1 and aggress*	5		
<input type="checkbox"/> #3 #2 and disord*	7		
<input type="checkbox"/> #2 #1 and behav*	85		
<input type="checkbox"/> #1 media and young people	222		

Search	Results	Display	Create SDI
<input type="checkbox"/> #24 virtual reality and young people	3		
<input type="checkbox"/> #23 computer game* and young people	9		
<input type="checkbox"/> #22 video game* and young people	6		
<input type="checkbox"/> #21 electronic game* and young people	0		
<input type="checkbox"/> #20 #1 and depress*	0		
<input type="checkbox"/> #19 #1 and anxiety	2		
<input type="checkbox"/> #18 #1 and mood disord*	0		
<input type="checkbox"/> #17 #1 and affective disord*	0		
<input type="checkbox"/> #16 #1 and development*	23		
<input type="checkbox"/> #15 #1 and emotional disord*	0		
<input type="checkbox"/> #14 #1 and hyperkinet*	0		
<input type="checkbox"/> #13 #1 and oppositional defiant disord*	0		
<input type="checkbox"/> #12 #1 and delinquen*	2		
<input type="checkbox"/> #11 #1 and conduct	1		
<input type="checkbox"/> #10 #1 and antisocial	1		
<input type="checkbox"/> #9 #1 and violence	9		
<input type="checkbox"/> #8 #7 and disord*	3		
<input type="checkbox"/> #7 #1 and psych*	35		
<input type="checkbox"/> #6 #1 and mental health	2		
<input type="checkbox"/> #5 #1 and attent*	5		
<input type="checkbox"/> #4 #1 and aggress*	5		
<input type="checkbox"/> #3 #2 and disord*	2		
<input type="checkbox"/> #2 #1 and behav*	31		
<input type="checkbox"/> #1 televis* and young people	90		

ASSIA (CSA Illumina)

The listed searches are saved for O.Dinca@warwick.ac.uk

Strategy 46 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(media or television) and (child* or adolesc* or (young people)) and depress*

Date Range: Earliest-2006

Strategy 45 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(media or television) and (child* or adolesc* or (young people)) and anxiety

Date Range: Earliest-2006

Strategy 44 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(media or television) and (child* or adolesc* or (young people)) and affective and disord*

Date Range: Earliest-2006

Strategy 43 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(media or television) and (child* or adolesc* or (young people)) and mood and disord*

Date Range: Earliest-2006

Strategy 42 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

((electronic game*) or (vidoe game*) or (computer game*)) and (child* or adolesc* or (young people)) and depress*

Date Range: Earliest-2006

Strategy 41 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

((electronic game*) or (vidoe game*) or (computer game*)) and (child* or adolesc* or (young people)) and anxiety

Date Range: Earliest-2006

Strategy 40 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

((electronic game*) or (vidoe game*) or (computer game*)) and (child* or adolesc* or (young people)) and affective and disord*

Date Range: Earliest-2006

Strategy 39 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

((electronic game*) or (vidoe game*) or (computer game*)) and (child* or adolesc* or (young people)) and mood and disord*

Date Range: Earliest-2006

Strategy 38

Expires: 2006-09-01

[Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(virtual reality) and **(child* or adolesc* or (young people))**

Date Range: Earliest-2006

Strategy 37

Expires: 2006-09-01

[Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

((electronic game*) or (video game*) or (computer game*)) and **(child* or adolesc* or (young people))** and **delinquen***

Date Range: Earliest-2006

Strategy 36

Expires: 2006-09-01

[Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

((electronic game*) or (video game*) or (computer game*)) and **(child* or adolesc* or (young people))** and **psych*** and **disord***

Date Range: Earliest-2006

Strategy 35

Expires: 2006-09-01

[Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

((electronic game*) or (video game*) or (computer game*)) and **(child* or adolesc* or (young people))** and **psych***

Date Range: Earliest-2006

Strategy 34

Expires: 2006-09-01

[Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

((electronic game*) or (video game*) or (computer game*)) and **(child* or adolesc* or (young people))** and **(mental health)**

Date Range: Earliest-2006

Strategy 33

Expires: 2006-09-01

[Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

((electronic game*) or (video game*) or (computer game*)) and **(child* or adolesc* or (young people))** and **(oppositional defiant)** and **disord***

Date Range: Earliest-2006

Strategy 32

Expires: 2006-09-01

[Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

((electronic game*) or (video game*) or (computer game*)) and **(child* or adolesc* or (young people))** and **conduct**

Date Range: Earliest-2006

Strategy 31

Expires: 2006-09-01

[Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

((electronic game*) or (video game*) or (computer game*)) and **(child* or adolesc* or (young people))** and **(attention deficit)**

Date Range: Earliest-2006

Strategy 30 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

((electronic game*) or (video game*) or (computer game*)) and (child* or adolesc* or (young people)) and emotion*

Date Range: Earliest-2006

Strategy 29 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

((electronic game*) or (video game*) or (computer game*)) and (child* or adolesc* or (young people)) and development*

Date Range: Earliest-2006

Strategy 28 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

((electronic game*) or (video game*) or (computer game*)) and (child* or adolesc* or (young people)) and hyperkinet*

Date Range: Earliest-2006

Strategy 27 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

((electronic game*) or (video game*) or (computer game*)) and (child* or adolesc* or (young people)) and hyperkinetic

Date Range: Earliest-2006

Strategy 26 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

((electronic game*) or (video game*) or (computer game*)) and (child* or adolesc* or (young people)) and violence

Date Range: Earliest-2006

Strategy 25 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

((electronic game*) or (video game*) or (computer game*)) and (child* or adolesc* or (young people)) and antisocial

Date Range: Earliest-2006

Strategy 24 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

((electronic game*) or (video game*) or (computer game*)) and (child* or adolesc* or (young people)) and attent*

Date Range: Earliest-2006

Strategy 23 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

((electronic game*) or (video game*) or (computer game*)) and (child* or adolesc* or (young people)) and aggress*

Date Range: Earliest-2006

Strategy 22 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

((**electronic game***) or (**video game***) or (**computer game***)) and (**child*** or **adolesc*** or (**young people**)) and behavi*r

Date Range: Earliest-2006

Strategy 21 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

((**electronic game***) or (**video game***) or (**computer game***)) and (**child*** or **adolesc*** or (**young people**))

Date Range: Earliest-2006

Strategy 20 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(**media** or **television**) and (**child*** or **adolesc*** or (**young people**)) and **delinquen***

Date Range: Earliest-2006

Strategy 19 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(**media** or **television**) and (**child*** or **adolesc*** or (**young people**)) and **psych*** and **disord***

Date Range: Earliest-2006

Strategy 18 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(**media** or **television**) and (**child*** or **adolesc*** or (**young people**)) and **psych***

Date Range: Earliest-2006

Strategy 17 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(**media** or **television**) and (**child*** or **adolesc*** or (**young people**)) and (**mental health**)

Date Range: Earliest-2006

Strategy 16 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(**media** or **television**) and (**child*** or **adolesc*** or (**young people**)) and (**oppositional defiant**) and **disord***

Date Range: Earliest-2006

Strategy 15 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(**media** or **television**) and (**child*** or **adolesc*** or (**young people**)) and **conduct**

Date Range: Earliest-2006

Strategy 14 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(**media** or **television**) and (**child*** or **adolesc*** or (**young people**)) and (**attention deficit**)

Date Range: Earliest-2006

Strategy 13 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(media or television) and **(child* or adolesc* or (young people))** and **emotion***

Date Range: Earliest-2006

Strategy 12 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(media or television) and **(child* or adolesc* or (young people))** and **development*** and **disord***

Date Range: Earliest-2006

Strategy 11 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(media or television) and **(child* or adolesc* or (young people))** and **development***

Date Range: Earliest-2006

Strategy 10 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(media or television) and **(child* or adolesc* or (young people))** and **hyperkinetic**

Date Range: Earliest-2006

Strategy 9 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(media or television) and **(child* or adolesc* or (young people))** and **violence** and **disord***

Date Range: Earliest-2006

Strategy 8 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(media or television) and **(child* or adolesc* or (young people))** and **violence**

Date Range: Earliest-2006

Strategy 7 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(media or television) and **(child* or adolesc* or (young people))** and **antisocial**

Date Range: Earliest-2006

Strategy 6 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(media or television) and **(child* or adolesc* or (young people))** and **attent*** and **disord***

Date Range: Earliest-2006

Strategy 5 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(**media** or **television**) and (**child*** or **adolesc*** or (**young people**)) and **attent***

Date Range: Earliest-2006

Strategy 4 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(**media** or **television**) and (**child*** or **adolesc*** or (**young people**)) and **aggress***

Date Range: Earliest-2006

Strategy 3 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(**media** or **television**) and (**child*** or **adolesc*** or (**young people**)) and behavi*r and **disord***

Date Range: Earliest-2006

Strategy 2 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)

(**media** or **television**) and (**child*** or **adolesc*** or (**young people**)) and behavi*r

Date Range: Earliest-2006

Strategy 1 Expires: 2006-09-01 [Renew](#) | [Save as Alert](#) | [Run Search](#) | [Delete](#)















































































(**media** or **television**) and (**child*** or **adolesc*** or (**young people**))












































































Date Range: Earliest-2006

CINAHL, EMBASE, Ovid MEDLINE(R) In-Process, Other Non-Indexed Citations, Ovid MEDLINE(R)

Personal Account Name: mdrdag

#	Search History		Results	Display	<input type="button" value="Contr"/>
1	media.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	324091	<input type="button" value="Display"/> DISPLAY	
2	televis\$.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	18341	<input type="button" value="Display"/> DISPLAY	
3	television.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	18111	<input type="button" value="Display"/> DISPLAY	
4	electronic\$.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	88768	<input type="button" value="Display"/> DISPLAY	
5	computer\$.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	724610	<input type="button" value="Display"/> DISPLAY	
6	video\$.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	90720	<input type="button" value="Display"/> DISPLAY	
7	game.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	10456	<input type="button" value="Display"/> DISPLAY	
8	virtual reality.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	4342	<input type="button" value="Display"/> DISPLAY	
9	child\$.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	2019040	<input type="button" value="Display"/> DISPLAY	
10	adolesc\$.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	1561155	<input type="button" value="Display"/> DISPLAY	
11	young people.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	14517	<input type="button" value="Display"/> DISPLAY	
12	behav\$.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	1041775	<input type="button" value="Display"/> DISPLAY	
13	aggress\$.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	147687	<input type="button" value="Display"/> DISPLAY	
14	attent\$.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	268018	<input type="button" value="Display"/> DISPLAY	
15	antisocial.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	11216	<input type="button" value="Display"/> DISPLAY	
16	emotion\$.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	127453	<input type="button" value="Display"/> DISPLAY	
17	development\$.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	1686322	<input type="button" value="Display"/> DISPLAY	
18	conduct.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	35080	<input type="button" value="Display"/> DISPLAY	
19	hyperkinet\$.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	3440	<input type="button" value="Display"/> DISPLAY	
20	oppositional defiant.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	1196	<input type="button" value="Display"/> DISPLAY	
21	mood.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	57484	<input type="button" value="Display"/> DISPLAY	
22	affective.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	58258	<input type="button" value="Display"/> DISPLAY	
23	anxiety.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	158353	<input type="button" value="Display"/> DISPLAY	
24	disord\$.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	1414817	<input type="button" value="Display"/> DISPLAY	
25	violence.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	47729	<input type="button" value="Display"/> DISPLAY	
26	mental health.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	126578	<input type="button" value="Display"/> DISPLAY	
27	psych\$.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	1130058	<input type="button" value="Display"/> DISPLAY	
28	delinquen\$.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	9912	<input type="button" value="Display"/> DISPLAY	
29	attention deficit.mp. [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm]	<input type="button" value="Details"/>	24922	<input type="button" value="Display"/> DISPLAY	
30	2 or 3 or 4 or 5 or 6	<input type="button" value="Details"/>	882684	<input type="button" value="Display"/> DISPLAY	
31	7 and 30	<input type="button" value="Details"/>	1880	<input type="button" value="Display"/> DISPLAY	
32	9 or 10 or 11	<input type="button" value="Details"/>	2789370	<input type="button" value="Display"/> DISPLAY	

33	1 and 12 and 32		2853	 DISPLAY
34	24 and 33		654	 DISPLAY
35	1 and 13 and 32		411	 DISPLAY
36	24 and 35		77	 DISPLAY
37	1 and 14 and 32		991	 DISPLAY
38	24 and 37		268	 DISPLAY
39	1 and 16 and 32		267	 DISPLAY
40	24 and 39		96	 DISPLAY
41	1 and 17 and 32		3527	 DISPLAY
42	24 and 41		791	 DISPLAY
43	1 and 18 and 32		107	 DISPLAY
44	24 and 43		48	 DISPLAY
45	1 and 19 and 32		2	 DISPLAY
46	1 and 20 and 32		12	 DISPLAY
47	24 and 46		12	 DISPLAY
48	1 and 21 and 32		64	 DISPLAY
49	24 and 48		43	 DISPLAY
50	1 and 22 and 32		69	 DISPLAY
51	24 and 50		35	 DISPLAY
52	1 and 23 and 32		234	 DISPLAY
53	24 and 52		114	 DISPLAY
54	1 and 26 and 32		229	 DISPLAY
55	24 and 54		113	 DISPLAY
56	1 and 27 and 32		1539	 DISPLAY
57	24 and 56		550	 DISPLAY
58	1 and 25 and 32		466	 DISPLAY
59	24 and 58		102	 DISPLAY
60	1 and 28 and 32		67	 DISPLAY
61	24 and 60		26	 DISPLAY
62	1 and 15 and 32		45	 DISPLAY
63	24 and 62		26	 DISPLAY
64	2 and 12 and 32		1690	 DISPLAY
65	24 and 64		252	 DISPLAY
66	2 and 13 and 32		272	 DISPLAY
67	24 and 66		53	 DISPLAY
68	2 and 14 and 32		251	 DISPLAY
69	24 and 68		70	 DISPLAY
70	2 and 15 and 32		29	 DISPLAY
71	24 and 70		13	 DISPLAY

72	2 and 16 and 32		194	 DISPLAY
73	24 and 72		61	 DISPLAY
74	2 and 17 and 32		676	 DISPLAY
75	24 and 74		96	 DISPLAY
76	2 and 18 and 32		19	 DISPLAY
77	24 and 76		3	 DISPLAY
78	2 and 19 and 32		1	 DISPLAY
79	2 and 20 and 32		0	-
80	2 and 21 and 32		13	 DISPLAY
81	2 and 22 and 32		30	 DISPLAY
82	24 and 81		6	 DISPLAY
83	2 and 23 and 32		86	 DISPLAY
84	24 and 83		21	 DISPLAY
85	2 and 26 and 32		96	 DISPLAY
86	24 and 85		40	 DISPLAY
87	2 and 27 and 32		827	 DISPLAY
88	24 and 87		192	 DISPLAY
89	2 and 25 and 32		488	 DISPLAY
90	24 and 89		79	 DISPLAY
91	2 and 28 and 32		29	 DISPLAY
92	24 and 91		8	 DISPLAY
93	12 and 31 and 32		243	 DISPLAY
94	24 and 93		42	 DISPLAY
95	13 and 31 and 32		64	 DISPLAY
96	24 and 95		10	 DISPLAY
97	14 and 31 and 32		88	 DISPLAY
98	24 and 97		28	 DISPLAY
99	15 and 31 and 32		3	 DISPLAY
100	16 and 31 and 32		32	 DISPLAY
101	24 and 100		8	 DISPLAY
102	17 and 31 and 32		129	 DISPLAY
103	24 and 102		25	 DISPLAY
104	18 and 31 and 32		4	 DISPLAY
105	19 and 31 and 32		0	-
106	20 and 31 and 32		0	-
107	21 and 31 and 32		4	 DISPLAY
108	22 and 31 and 32		13	 DISPLAY
109	23 and 31 and 32		12	 DISPLAY
110	26 and 31 and 32		6	 DISPLAY

111	27 and 31 and 32	<input type="button" value="Details"/>	230	<input type="button" value="Display"/> DISPLAY
112	24 and 111	<input type="button" value="Details"/>	39	<input type="button" value="Display"/> DISPLAY
113	25 and 31 and 32	<input type="button" value="Details"/>	61	<input type="button" value="Display"/> DISPLAY
114	24 and 113	<input type="button" value="Details"/>	2	<input type="button" value="Display"/> DISPLAY
115	28 and 31 and 32	<input type="button" value="Details"/>	7	<input type="button" value="Display"/> DISPLAY
116	8 and 12 and 32	<input type="button" value="Details"/>	88	<input type="button" value="Display"/> DISPLAY
117	24 and 116	<input type="button" value="Details"/>	34	<input type="button" value="Display"/> DISPLAY
118	8 and 13 and 32	<input type="button" value="Details"/>	7	<input type="button" value="Display"/> DISPLAY
119	8 and 14 and 32	<input type="button" value="Details"/>	39	<input type="button" value="Display"/> DISPLAY
120	24 and 119	<input type="button" value="Details"/>	21	<input type="button" value="Display"/> DISPLAY
121	8 and 15 and 32	<input type="button" value="Details"/>	1	<input type="button" value="Display"/> DISPLAY
122	8 and 16 and 32	<input type="button" value="Details"/>	16	<input type="button" value="Display"/> DISPLAY
123	8 and 17 and 32	<input type="button" value="Details"/>	47	<input type="button" value="Display"/> DISPLAY
124	24 and 123	<input type="button" value="Details"/>	18	<input type="button" value="Display"/> DISPLAY
125	8 and 18 and 32	<input type="button" value="Details"/>	4	<input type="button" value="Display"/> DISPLAY
126	8 and 19 and 32	<input type="button" value="Details"/>	0	-
127	8 and 20 and 32	<input type="button" value="Details"/>	0	-
128	8 and 21 and 32	<input type="button" value="Details"/>	4	<input type="button" value="Display"/> DISPLAY
129	8 and 22 and 32	<input type="button" value="Details"/>	5	<input type="button" value="Display"/> DISPLAY
130	8 and 23 and 32	<input type="button" value="Details"/>	34	<input type="button" value="Display"/> DISPLAY
131	24 and 130	<input type="button" value="Details"/>	16	<input type="button" value="Display"/> DISPLAY
132	8 and 26 and 32	<input type="button" value="Details"/>	8	<input type="button" value="Display"/> DISPLAY
133	8 and 27 and 32	<input type="button" value="Details"/>	67	<input type="button" value="Display"/> DISPLAY
134	24 and 133	<input type="button" value="Details"/>	26	<input type="button" value="Display"/> DISPLAY
135	8 and 25 and 32	<input type="button" value="Details"/>	4	<input type="button" value="Display"/> DISPLAY
136	8 and 28 and 32	<input type="button" value="Details"/>	0	-
Search History saved as "refined search"				
<input type="button" value="Combine"/> <input type="button" value="Delete Sets"/> <input type="button" value="Save Search History"/> <input type="button" value="Remove Duplicates"/>				

APPENDIX 2
INFORMATION SHEET FOR CAMHS

Aggression in Children with Behavioural and Emotional Difficulties attending Outpatient Child and Adolescent Mental Health Services and Aggression in Television and Video Games: A Mixed Methods Study

Study Researcher: Oana Mitrofan

Supervisors: Moli Paul, Nicholas Spencer, Scott Weich, University of Warwick

This study forms part of a PhD thesis. The study has been approved by the Coventry Research Ethics Committee and Research & Development, Coventry and Warwickshire Partnership Trust.

INTRODUCTION

Many children with aggressive behaviour are brought to CAMHS by their parents/carers, who are looking for advice on how to better manage their children's aggression. One significant aspect of such advice is psychoeducation about environmental factors that may contribute to high levels of aggression in children. This study aims to improve the evidence base on any relationship between aggression in children with behavioural and emotional difficulties (BED) attending outpatient CAMHS and their viewing of aggression in television (TV) programmes and video games (VG). Aggression among children is reported to be increasing worldwide (World Health Organization, 2002). Data on the incidence and prevalence of aggression in primary school-aged children, however, appears to be limited. Although causing great concern to many services, such as education, health services, social services, or juvenile justice, primary school children with aggressive behaviour are often seen by CAMHS. Behavioural problems including aggression are among the most frequent reasons for the referral of children to mental health services (Barnes et al., 2004). The prevalence of aggression, as opposed to certain diagnoses such as Conduct Disorder or presentations such as behavioural problems, in a CAMHS population of primary school-aged children in the United Kingdom, is not known. Although many subtypes of aggression have been described, this study focuses on overt or direct, other-directed, aggression due to its high validity and its potentially significant life consequences (Connor, 2002).

The development of aggression is currently regarded as a complex interaction of a multitude of individual, family, and environmental factors (Browne and Hamilton-Giachritsis, 2005). The role of viewing aggression through a variety of electronic media (e.g. TV, film, VG, internet) has been increasingly studied but it remains debatable. Exposure at a younger age (American Academy of Pediatrics, 2000) and the susceptibility of children with mental health problems (Browne and Hamilton-Giachritsis, 2005) to viewing violence in the media have been hypothesised to be significant factors, however, there is hardly any good quality research on such association, especially in the UK. Indeed, the level of exhibited aggression and use of TV and VG in primary school-aged children attending CAMHS, because of BED, are unknown. This study builds on existing evidence in relation to children with BED and will therefore exclude children with other mental health/developmental disorders. It will focus on one form of passive (TV) and one of interactive (VG) electronic media.

OBJECTIVES In children with BED, aged 7 to 11 years, who are attending outpatient CAMHS:

1. to identify the type, severity and frequency of reported aggression exhibited by these children
2. to identify where these children see aggression
3. to ascertain the views of these children and their parents/carers on any association between exhibited aggression and viewed aggression
4. to inform the methodology of a larger study to test for any association between aggression exhibited by these children and their viewing of aggression in TV&VG.

METHODOLOGY This study will use a mixed-methods approach that includes quantitative and qualitative research methods. There are three study phases.

Phase I: Survey component

Sampling Children aged 7 to 11 years who have been referred for aggressive behaviour/behavioural problems/emotional problems/challenging behaviours/antisocial behaviour to Tier 2/3 CAMHS in Coventry & Warwickshire over the last twelve months and who are open-cases at the time of the study will be included. Children with pervasive developmental disorders, psychoses, mental retardation, eating disorders and substance-related disorders; significant impairments, such as sensory impairments, that may prevent them from common TV/VG use; and who are not in mainstream school will be excluded. The estimated sample size is 115.

Survey measures

- The Children's Aggression Scale-Parent (CAS-P) (Halperin, 2003; Halperin et al., 2002) (to assess the child's aggression as reported by the main carer)
- The Measure of Aggression, Violence and Rage in Children – Child and Parent Versions (MAVRIC-C/P) (Bass et al., 1993; Goodman et al., 2006) (to assess the child's aggression as reported by the child and his/her main carer).
- The P4-16-Strengths and Difficulties Questionnaire (SDQ) and impact supplement for the parents of 4-16 year olds (Goodman et al., 1998) (to assess the child's behavioural difficulties and their impact on the child and family as reported by the main carer)
- Brief questionnaire for the main carer to obtain data on socio-demographic characteristics, any contact with other statutory services because of the child's anti-social behaviour and the child's access to TV, VG.

Procedure The data management systems for the CAMHS will be used in liaison with the CAMHS Manager to identify children who fulfil the inclusion criteria. The case manager will be approached to check:

- whether the child fulfils inclusion or exclusion criteria

- whether there are any other reasons a child should not be included in the study such as being subject to current Child Protection investigations or any Court proceedings or being on the Child Protection Register
- who is the person with parental responsibility

A covering letter from a senior CAMHS Manager, an invitation to participate from the researcher, information sheets, opting out/permission to contact form and a stamped addressed envelope will be posted to the person with parental responsibility for each possible child participant. There will be explanatory posters in the CAMHS waiting rooms. If an opt-out response is received within two weeks, the family will not be approached any further.

If the person with parental responsibility wishes to discuss their participation with the researcher by selecting this option on the opting out/permission to contact form, the researcher will contact them by phone at their preferred contact number to answer questions about the study, to ask about their willingness to participate and/or to consent to the participation of their child. If willing to participate, they will be asked where and when it would be convenient for the researcher to meet the person with parental responsibility, the child and his/her main carer. If the opting out/permission to contact form is not returned, the person with parental responsibility will be contacted by phone by a CAMHS team member involved in the care of the child (the case manager, another team member appointed by the case manager) to check their willingness to participate and/or to consent to the participation of their child and to check their permission to be contacted by the researcher. If unwilling to participate/be contacted by researcher, the family will not be approached any further. Otherwise, the person with parental responsibility will be contacted by phone by the researcher to answer questions about the study and ask where and when it would be convenient for the researcher to meet the person with parental responsibility, the child and main carer. The meeting will take place either at CAMHS or at the child's home. At the beginning of the meeting, the person with parental responsibility, the child and main carer will be given the chance to discuss any additional questions they have about the study. The consent of the person with parental responsibility and the main carer and the child's informed assent will be sought. The child's main carer will be asked to complete the CAS-P, the MAVRIC-P, the P4-16-SDQ and the brief questionnaire. The researcher will administer the MAVRIC-C to the child either alone (with parental consent and child's main carer present at an agreed place nearby) or in the presence of the main carer. At the end of the meeting, the child and main carer will be asked if they are willing to be re-contacted in order to participate in the qualitative interviews (either phase II or III of the study).

Analysis Descriptive statistics will be produced on the type, severity and frequency of the participants' exhibited aggression.

Phase II: Qualitative component

Sampling A sub-sample of up to 20 participants will be selected from the survey sample. Sampling will be purposive with regard to intensity of exhibited aggression, use of TV&VG and in order to produce maximum variation in terms of age, gender and socio-economic status.

Measures Interviews will be conducted with the child and main carer using two semi-structured interview schedules whose topics concern the child's and carer's views on aggression, sources of viewing aggression and any association between viewing aggression and exhibited aggression and any factors that may influence such an association.

Procedure Consent, assent and interview-related preferences will be sought, as described above. The child and main carer interviews are estimated to be of 30 and 60 minutes length, respectively. The child will be interviewed either alone (with parental consent and child's main carer present at an agreed place nearby) or in the presence of the main carer. The interviews will be audio tape-recorded with the permission of the interviewees.

Analysis The qualitative analysis of the contents of the semi-structured interviews will follow the five stages of data analysis used in the framework approach (Pope et al., 2000).

Phase III: Questionnaire development and qualitative evaluation component

Sampling A sub-sample of up to 20 participants (different from phase II) will be selected from the survey sample. Sampling will be purposive with regard to intensity of exhibited aggression, use of TV&VG and in order to produce maximum variation in terms of age, gender and socio-economic status.

Measures The questionnaire evaluation will use a semi-structured interview schedule.

Procedure The qualitative findings of phase II will be used to develop a developmentally appropriate, semi-structured, researcher-administered questionnaire to document aggression viewed in TV&VG as reported by children with BED, aged 7 to 11, attending outpatient CAMHS, and a parallel, structured, self-administered questionnaire for parents/carers. Consent, assent and interview-related preferences will be sought, as described above. After completing the questionnaires, the child and main carer will be interviewed regarding the use of the questionnaires. The interviews will have a maximum duration of 30 minutes. The child will be interviewed either alone (with parental consent and child's main carer present at an agreed place nearby) or in the presence of the main carer. The interviews will be audio tape-recorded with the permission of the interviewees.

Analysis The qualitative analysis of the contents of the semi-structured interviews will follow the five stages of data analysis used in the framework approach.

Data handling Data will be anonymised to protect confidentiality and securely stored. No data will be shared with persons outside the research team.

MORE INFORMATION can be obtained from Oana Mitrofan, Health Sciences Research Institute, The Medical School Building, Gibbet Hill Road, University of Warwick, CV4 7AL. Tel: 024765 75132. O.Mitrofan@warwick.ac.uk

APPENDIX 3
LETTER TO CASE MANAGERS AT CAMHS

A Research Study about Aggression Seen in Television Programmes and Video Games and Aggression in Children attending CAMHS

Study Researcher: Oana Mitrofan
Supervisors: Moli Paul, Nicholas Spencer, Scott Weich
University of Warwick



Coventry Research Ethics Committee reference: 07/Q2802/78
Research & Development Coventry and Warwickshire Partnership Trust reference: PAR060907

Dear

Please find attached a list of some of your patients that I wish to include in my research project (please find attached an information sheet that gives details on this study). I would be highly grateful if you could advise me if you believe any of the below-listed children should be excluded from the study. Also, please advise me who is the person with parental responsibility for each of these children.

A child is included in the study if all below-listed INCLUSION CRITERIA are fulfilled:

- they are 7 to 11 years old (i.e. at time of referral)
- they have been referred between 01 November 2006 and 01 May 2008 for
 - behavioural problems, or
 - emotional problems, or
 - aggressive behaviour, or
 - challenging behaviours, or
 - antisocial behaviour
- they are open-cases
- they are in mainstream school

A child is excluded from the study if one or more below-listed EXCLUSION CRITERIA are fulfilled:

- they have
 - pervasive developmental disorder/ autistic spectrum disorder, or
 - psychosis, or
 - mental retardation/ learning disability, or
 - eating disorder, or
 - substance-related disorder
- they have significant impairments, such as sensory impairment, that may prevent them from common television /video game use
- any other reasons for exclusion such as being subject to current Child Protection investigations or any Court proceedings or being on the Child Protection Register

After completing this form, please leave it at the Reception in the envelope provided. Should you have any questions or require any further information please do not hesitate to contact me using my contact details listed below.

Your help is very much appreciated.

Yours sincerely

Oana Mitrofan
The Medical School Building, Gibbet Hill Road,
University of Warwick, CV4 7AL
Tel: 024765 75132. Email: O.Mitrofan@warwick.ac.uk

[illegible]

APPENDIX 4
INVITATION LETTER FROM CAMHS MANAGER

A Research Study about Aggression Seen in Television Programmes and Video Games and Aggression in Children attending CAMHS

Dear

You will find enclosed an invitation for you, your child , and your child's main carer (if different from yourself) to participate in a research study. I am writing to you to confirm that our Service is aware of this research, thinks it is of value and has agreed the research being carried out from our Service. Whether or not taking part is acceptable to you is purely a matter for your own consideration. Your decision will not affect the care your family receives from our service in any way.

The study is being conducted by the University of Warwick, which is a respected, local research university. The study researcher, Oana Mitrofan, is a qualified doctor and is a PhD student at the University of Warwick. Oana has been checked by the relevant organisations and has been identified as safe to interview children.

This study has been approved by the Coventry Research Ethics Committee and by the Research and Development Department at our NHS Trust. This means that people who know about research and ethics have checked that what is proposed by the researchers is acceptable at a professional and organisational level.

We enclose a letter from Oana Mitrofan that explains what the study is about, information sheets that provide further details about the study and an opting out form. Please return the form to our service in the enclosed, prepaid envelope.

Whether or not you decide to take part we would like to thank you for taking the time to consider the research study.

Yours sincerely

General Manager
Coventry and Warwickshire Partnership Trust

APPENDIX 5
INVITATION LETTER FROM RESEARCHER

**A Research Study about Aggression Seen in
Television Programmes and Video Games and
Aggression in Children attending CAMHS**



Dear

I would like to invite you, your child , and your child's main carer (if different from yourself) to participate in a research. I am conducting this research as part of my PhD studies at the University of Warwick. I want to find out about any association between aggression in children with behavioural and emotional difficulties attending outpatient Child and Adolescent Mental Health Services (CAMHS) and their viewing of aggression in television programmes and video games.

This research would involve me meeting your child and your child's main carer. Your child's main carer is the adult who mainly looks after your child. Your child and his/her main carer would be asked to fill in some questionnaires about aggression in your child's life and may be asked to be interviewed. I have enclosed two information sheets that provide further details about the study. Please either encourage your child to read the enclosed information sheet for children or read it to him/her. Please take time to read and also ask your child's main carer to read the information sheet for parents/guardians/carers.

Please find enclosed an opting out/permission to contact form. If you DO NOT wish to take part in this research, please tick ✓ the appropriate box that appears on the opting out/permission to contact form and return it to me in the enclosed prepaid envelope. If you wish to discuss your and your child participation in this study with me, please tick ✓ the appropriate box that appears on the opting out/permission to contact form, write your preferred contact number and choose your preferred time to be called and return it to me in the enclosed prepaid envelope. I would be grateful if you could respond within the next two weeks.

I will telephone you in two weeks to answer any questions you have about the study and to arrange convenient place and time to meet you, your child, and your child's main carer. At the beginning of this meeting, I will answer any further questions you have about the study and ask you and your child's main carer to sign consent forms to show you agreed to take part. You would also confirm that your child agreed to take part.

Whether or not you decide to take part, I would like to thank you for taking the time to find out more about this research study.

Yours sincerely

Oana Mitrofan
The Medical School Building, Gibbet Hill Road,
University of Warwick, CV4 7AL

APPENDIX 6
INFORMATION SHEET FOR PARENTS/ CARERS

A Research Study about Aggression Seen in Television Programmes and Video Games and Aggression in Children attending CAMHS



(<http://www.newsart.com/jo/images/jo1833.gif>)

Information for parents/guardians/carers about the research

Coventry Research Ethics Committee reference:

07/Q2802/78

We are inviting you, your child and your child's main carer (if different from yourself) to take part in a research study. Your child's main carer is the adult who mainly looks after your child. Before you decide whether you want to take part, it is important for you to understand why the research is being done, and what it will involve. Please take time to read the following information carefully. You can discuss it with the person seeing your child at the _____ if you wish. **We would be grateful if you were able to take a decision within the next 2 weeks.**

Medical Research Council published a leaflet entitled "Medical research involving children". If you would like to read this leaflet, please visit <http://www.mrc.ac.uk/Utilities/Documentrecord/index.htm?d=MRC002430>. You could also find paper copies of this leaflet at the reception of the _____.

What is the purpose of the study? The aim of this study is to find out about any association between aggression in children with behavioural and emotional difficulties attending outpatient Child and Adolescent Mental Health Services (CAMHS) and their viewing of aggression in television programmes and video games. By aggression we mean things like shouting at someone else, hitting someone else, hurting or even killing someone else while fighting, threatening someone else with a knife or a gun, destroying someone else's property, being cruel to animals. Video games are games like Gameboy or Nintendo, or games that someone could play on Playstation, X-Box, computer, internet, or on mobile phones. The results of this study will help health professionals, such as those seeing your child at the _____, to give parents or carers like yourself advice on how to better manage children's aggression.

Why has my family been invited to take part in the study? Your family has been invited to take part in this study because one of your children has been referred to a CAMHS team over the last twelve months for any of the following: behavioural problems, emotional problems, aggressive behaviour, challenging behaviours, or antisocial behaviour. About 115 families will take part in this study.

Does my family have to take part? Your help is very important to us, but it is up to you to decide whether or not to take part. This information sheet is provided to help you make that decision. You and your child's main carer would be asked to sign consent forms to show you have agreed to take part. You would also be asked to confirm that your child agreed to take part. This information sheet and copies of the consent forms would be for you to keep. Even if you decided to take part, you would still be free to withdraw at any time and would not have to give a reason. This would not affect the care your family has received from the team.

What would taking part in the study involve? Taking part in the study would involve the study researcher meeting your child and his/her main carer in order to answer some questionnaires. The researcher will telephone you to arrange where and when it would be convenient to have this meeting. We will need a quiet room for this meeting. The researcher would be talking to your child either alone or in the presence of his/her main carer depending on your decision and your child's wish. If the researcher is to talk to your child alone, the child's main carer would need to be present at an agreed place nearby. In case you feel these conditions cannot be met at your home or if you wish so for any other reasons, the meeting could be held at the

at a time that would be convenient for your family but between 9am and 5pm Monday to Friday. This meeting would last up to 1 hour. The researcher will talk to your child for 10-15 minutes about his/her aggressive behaviours and write down his/her answers. Your child's main carer would be asked some questions about your family (for example, who lives at home, your child's television viewing) and he/she would be asked to complete two questionnaires about your child's aggression and one questionnaire about your child's behavioural problems and how these affect your family.

Your child and his/her main carer may be invited to take part in **either** a second or a third part of the study. You, your child and his/her main carer would be asked whether or not you agree to take part. Taking part in this part of the study would involve the researcher meeting and interviewing your child and his/her main carer. This second meeting would take place under the same conditions as the first meeting (quiet room, child's main carer being at an agreed place nearby), either at your home or at the , depending on what would be convenient for your family.

Your child would be interviewed either alone or in the presence of his/her main carer depending on your decision and your child's wish. The interview in the second part of the study would include questions on what your child and his/her main carer think about aggression, where your child may see aggression and any association between seeing aggression and your child's aggressive behaviour. The interview with your child would last up to 30 minutes and the one with his/her main carer would last up to 60 minutes.

In the third part of the study, your child and his/her main carer would be first asked to answer a questionnaire, and then they would be interviewed on what they think about this questionnaire. The questionnaire would be about aggression that your child may see in television programmes and video games. The interview with your child and the one with his/her main carer would last up to 30 minutes.

What would taking part in the study not involve? Taking part in the study would not influence the care your family receives at the

. If you have any issues related to your child's treatment, then please contact the person seeing your child at the

Who would know about my family taking part in the study? Only the research team (study researcher and her supervisors) would know whether your family agreed to take part in the study. When writing up the findings of the study the researcher will never reveal the identity of participants, and any quotations that are used for the purpose of reports or presentations would be anonymous.

All information provided by your family will be treated as confidential and will not be shared with anyone outside the research team unless required by law under the terms of the Children Act 1989. This refers to any information about risk to a child that is brought to the attention of a researcher, in which case the researcher would share this information with the person seeing your child at the

What are the benefits of taking part? If you were to take part, you would be helping researchers to find out whether seeing aggression in television programmes or video games is related to aggression in children with behavioural and emotional difficulties attending CAMHS. Although this might not be directly beneficial to your family in the near future, it might help to improve and refine the care and advice mental health professionals offer to other parents or carers on how to better manage children's aggression.

What are the possible disadvantages of taking part? A possible disadvantage of taking part in this study is that we would require your family to find the time to meet and talk to the researcher and complete the study questionnaires. Another possible disadvantage is that the study might bring up sensitive issues. Also, your child might get upset because the researcher is a stranger. If your child gets upset, the researcher will try to re-assure him/her or ask his/her carer to do so. If your child no longer wishes to take part, the researcher will re-assure him/her that that is 'OK' and end the interview. If your child or his/her main carer found any of the issues raised during the meeting to be too personal or private they could tell the researcher that they did not wish to discuss that particular issue, and she would move onto the next question. Your child or his/her main carer would be free to stop a meeting at any time.

What would happen to the information my family provides during the study? If your child and his/her main carer were interviewed and if they and you

agreed, the interviews would be recorded on an audiotape. Should you not agree for the interviews to be recorded, the researcher conducting the interview would take notes. The questionnaires together with the recorded interviews would be stored in a locked cabinet at the University of Warwick and would only be identifiable via the study number. The written forms of the questionnaires and the audiotapes would only be used for the purposes of this study and would be destroyed after a period of five years. **Anonymous** quotations might be used for the purpose of reporting the findings of the study or presentations to professional audiences.

What will happen to the results of the research study? The results of the study will be written up in a PhD thesis and the results may also be written up in professional journals. We will be happy to provide you with a summary of research findings, if you wish so.

Who is organising and funding the research? The University of Warwick has provided funding for the researcher to do her PhD. The study is being conducted by Oana Mitrofan, a doctor who is doing her PhD, under supervision of Dr Moli Paul, Professor Nicholas Spencer and Professor Scott Weich at the University of Warwick.

Who has reviewed the study? All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee to protect your safety, rights, wellbeing and dignity. This study has been reviewed and agreed by the Coventry Research Ethics Committee. The research has also been checked by the Coventry and Warwickshire Partnership Trust.

What if I want further information or I am unhappy about the study?

If you want further information or have a concern about the study, you should contact **Oana Mitrofan**, Health Sciences Research Institute, The Medical School Building, Gibbet Hill Road, University of Warwick, CV4 7AL. Tel: 024765 75132 or email O.Mitrofan@warwick.ac.uk. If you do not wish your child to take part in this study, please tick ✓ the appropriate box in the enclosed opting out/permission to contact form and return it to Oana Mitrofan. If you wish to discuss your child participation in this study with Oana Mitrofan, please tick ✓ the appropriate box in the opting out/permission to contact form, write your preferred contact number and choose your preferred time to be called and return it to her in the enclosed prepaid envelope. Should you wish to complain about any part of the study, please contact Professor Sarah Stuart-Brown, Director of the Health Sciences Research Institute, The Medical School Building, Gibbet Hill Road, University of Warwick, CV4 7AL. Tel: 024765 74510 or email sarah.stewart-brown@warwick.ac.uk.

Thank you for taking the time to read this information sheet

APPENDIX 7
INFORMATION SHEET FOR CHILDREN

**A Research Study about Aggression Seen in
Television Programmes and Video Games and
Aggression in Children attending CAMHS
Information for children about the study**

Warwick
Medical School

What is a research study? We want to ask you to take part in the study we are doing. A research study is a way we try to find out the answers to questions.

Why are we doing this study? We are doing this study because we want to find out about things children do when they have problems with their temper or they get angry. We also want to find out about the things children see on television and in video games that could make them angry or scared. Video games are games like Gameboy or Nintendo, or games that someone could play on Playstation, X-Box, computer, internet, or on a mobile phone. The answers we get might help other children.

Why have I been asked to take part? You have been asked to take part because you have been seen at the .

Did anyone else check this study is OK to do? Before any research is allowed to happen, it has to be checked by a group of people called a Research Ethics Committee. They make sure that the research is fair. This study has been checked by the Coventry Research Ethics Committee.

Do I have to take part? Your help is very important to us, but it is **UP TO YOU** to say if you want to take part or not. We will also ask your mum or dad if they allow you to take part or not. It's OK if you don't want to take part. You can stop taking part anytime you want, just tell your mum or dad. Nobody will be cross with you about this.

What will happen to me if I take part in this study? If you take part, somebody called the researcher will come to talk to you. This will happen once or twice. The researcher will ask you some questions. These questions are about things that you do when you get angry and about things you have seen on television, in video games or somewhere else like home or school. Your mum or dad will tell you when the researcher will come to talk to you. This will happen at your home or the . You will not need to miss school because of this study.

Will anybody else know about me taking part? Only us and your parents and maybe the person you have been seeing at the will know that you take part. Nobody else will know about the things you tell the researcher. The only thing is that if the researcher thinks that someone hurt you, she would need to talk to someone about keeping you safe. She might speak to your parents and maybe the person you have been seeing at the .

Thank you for taking the time to read this information sheet

APPENDIX 8
OPTING OUT/ PERMISSION TO CONTACT FORM

**A Research Study about Aggression Seen in Television Programmes
and Video Games and Aggression in Children attending CAMHS**

_____ Research Ethics Committee Reference Number:

Opting out / Permission to Contact Form

Please choose ONE of the two statements below (please write a tick ✓ in the box next to the statement)

I DO NOT wish to take part in the above study ☐

OR

I would like to discuss participation in the study with the researcher ☐

And my preferred contact telephone number is

Please write your preferred contact number in the box

And my preferred time to be called is Please write a tick ✓ in one or more boxes as appropriate	Monday	am	pm
	Tuesday	am	pm
	Wednesday	am	pm
	Thursday	am	pm
	Friday	am	pm
	Saturday	am	pm
	Sunday	am	pm

Please write your name, date and sign

Name

Date

Signature

Please write the name of your child (the child whose participation in this study was requested)

APPENDIX 9
EXPLANATORY POSTER FOR CAMHS

- > Has your child been seen at this clinic over the last year for any of the following: behavioural problems, emotional problems, aggressive or antisocial behaviour?
- > Is your child between 7 and 11 years old?



If the answer to both these questions is 'Yes' you and your child may be able to participate in a research study. This study involves you and your child providing information about

- ❖ your child's aggressive behaviour,
- ❖ your child's use of television and video games, and where your child may see aggression

The aim of this study is to find out about any association between aggressive behaviour in children with behavioural and emotional difficulties attending outpatient Child and Adolescent Mental Health Services (CAMHS) and their viewing of aggression in television programmes and video games.



By aggression or aggressive behaviour we mean things like shouting at someone else, hitting someone else, hurting someone else while fighting, destroying someone else's property.

Video games are games like Gameboy or Nintendo, or games that someone could play on a Playstation, X-Box, computer, internet, or on a mobile phone.



You may be contacted about this study.

If you would like to find out more about this study, please contact Oana Mitrofan (the study researcher) at the Medical School Building, Gibbet Hill Road, University of Warwick, CV4 7AL. Tel: 024765 75132. Email: O.Mitrofan@warwick.ac.uk.

Thank you for reading this!

APPENDIX 10
CONSENT FORM FOR THE PARENT/ GUARDIAN FOR
STUDY PHASE I (SURVEY)

**A Research Study about Aggression Seen in Television Programmes and
Video Games and Aggression in Children attending CAMHS - Phase I**

Coventry Research Ethics Committee Reference Number: 07/Q2802/78

Participant Identification Number for this study:

Consent Form for the Parent/Guardian

Please write a tick ✓ in each box if you agree to the statements below

1. I confirm that I have read and understood the information sheet for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily

☐

2. I agree to my child taking part in the above study

☐

3. I understand that my child's participation is voluntary and that he/she is free to withdraw at any time without giving any reason, without his/her healthcare or legal rights being affected

☐

4. I understand that the information which my child provides will be treated in confidence and that it will not be shared with any person outside of the research team. Quotations used in the presentation of findings of the research will be anonymous.

☐

5. Please write a tick ✓ in the box next to your choice:

I agree to the researcher talking to my child alone

☐

OR

I agree to the researcher talking to my child ONLY in the presence of my child's main carer

☐

Consent Form for the Child

Parent/Guardian to write a TICK ✓ in the box next to child's answer

- | | | |
|--|------------------------------|-----------------------------|
| 1. Have you read or had read to you about this study? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 2. Has somebody explained this study to you? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 3. Do you understand what this study is about? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 4. Have you asked all the questions you want? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 5. Have you had your questions answered in a way you understand? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 6. Do you understand it's OK to stop taking part at any time? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 7. Are you happy to take part? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

Please write your name, date and sign

Name of child

Date

Signature

Name of
parent/guardian

Date

Signature

Study researcher

Date

Signature

APPENDIX 11
CONSENT FORM FOR THE MAIN CARER FOR STUDY
PHASE I (SURVEY)

**A Research Study about Aggression Seen in Television Programmes and
Video Games and Aggression in Children attending CAMHS - Phase I**

Coventry Research Ethics Committee Reference Number: 07/Q2802/78

Participant Identification Number for this study:

Consent Form for the Main Carer

Please write a tick ✓ in each box if you agree to the statements below

1. I confirm that I have read and understood the information sheet for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily ☐
2. I agree to take part in the above study ☐
3. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my healthcare or legal rights being affected ☐
4. I understand that the information which I provide will be treated in confidence and that it will not be shared with any person outside of the research team. Quotations used in the presentation of findings of the research will be anonymous. ☐

Please write your name, date and sign

Name of participant

Date

Signature

Study researcher

Date

Signature

APPENDIX 12
CONSENT FORM FOR THE PARENT/ GUARDIAN FOR
STUDY PHASE II (QUALITATIVE STUDY)

**A Research Study about Aggression Seen in Television Programmes and
Video Games and Aggression in Children attending CAMHS - Phase II**

Coventry Research Ethics Committee Reference Number: 07/Q2802/78

Participant Identification Number for this study:

Consent Form for the Parent/Guardian

Please write a tick ✓ in each box if you agree to the statements below

1. I confirm that I have read and understood the information sheet for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily

☐

2. I agree to my child taking part in the above study

☐

3. I understand that my child's participation is voluntary and that he/she is free to withdraw at any time without giving any reason, without his/her healthcare or legal rights being affected

☐

4. I give permission for the interview with my child to be tape recorded

☐

5. I understand that the information which my child provides will be treated in confidence and that it will not be shared with any person outside of the research team. Quotations used in the presentation of findings of the research will be anonymous.

☐

6. Please write a tick ✓ in the box next to your choice:

I agree to my child being interviewed alone

☐

OR

I agree to my child being interviewed ONLY in the presence of his/her main carer

☐

Consent Form for the Child

Parent/Guardian to write a TICK ✓ in the box next to child's answer

- | | | |
|--|------------------------------|-----------------------------|
| 1. Have you read or had read to you about this project? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 2. Has somebody explained this project to you? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 3. Do you understand what this study is about? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 4. Have you asked all the questions you want? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 5. Have you had your questions answered in a way you understand? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 6. Do you understand it's OK to stop taking part at any time? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 7. Are you happy to take part? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

Please write your name, date and sign

_____	_____	_____
Name of child	Date	Signature
_____	_____	_____
Name of parent/guardian	Date	Signature
_____	_____	_____
Study researcher	Date	Signature

APPENDIX 13
CONSENT FORM FOR THE MAIN CARER FOR STUDY
PHASE II (QUALITATIVE STUDY)

**A Research Study about Aggression Seen in Television Programmes and
Video Games and Aggression in Children attending CAMHS - Phase II**

Coventry Research Ethics Committee Reference Number: 07/Q2802/78

Participant Identification Number for this study:

Consent Form for the Main Carer

Please write a tick ✓ in each box if you agree to the statements below

1. I confirm that I have read and understood the information sheet for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily ☐
2. I agree to take part in the above study ☐
3. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my healthcare or legal rights being affected ☐
4. I give permission for the interview to be tape recorded ☐
5. I understand that the information which I provide will be treated in confidence and that it will not be shared with any person outside of the research team. Quotations used in the presentation of findings of the research will be anonymous. ☐

Please write your name, date and sign

_____ Name of participant	_____ Date	_____ Signature
_____ Study researcher	_____ Date	_____ Signature

APPENDIX 14
CHILDREN'S AGGRESSION SCALE-PARENT (CAS-P)
(HALPERIN ET AL., 2002)

Study no.

CHILDREN'S AGGRESSION SCALE – PARENT VERSION

Please circle one response to each question

I. VERBAL AGGRESSION: *This section will focus on incidents in which there was no physical contact or fighting.*
DURING THE PAST YEAR, HOW OFTEN HAS YOUR CHILD:

1. snapped or yelled at children living in the home?	Never	Once/month or less	Once/week or less	2-3 times/week	most days
2. snapped or yelled at adults living in the home?	Never	Once/month or less	Once/week or less	2-3 times/week	most days
3. snapped or yelled at peers/friends who do not live in the home?	Never	Once/month or less	Once/week or less	2-3 times/week	most days
4. snapped or yelled at adults who do not live in the home?	Never	Once/month or less	Once/week or less	2-3 times/week	most days
5. cursed or sworn at children who live in the home?	Never	Once/month or less	Once/week or less	2-3 times/week	most days
6. cursed or sworn at adults who live in the home?	Never	Once/month or less	Once/week or less	2-3 times/week	most days
7. cursed or sworn at peers/friends who do not live in the home?	Never	Once/month or less	Once/week or less	2-3 times/week	most days
8. cursed or sworn at adults who do not live in the home?	Never	Once/month or less	Once/week or less	2-3 times/week	most days
9. verbally threatened to hit a child who lives in the home?	Never	Once/month or less	Once/week or less	2-3 times/week	most days
10. verbally threatened to hit an adult who lives in the home?	Never	Once/month or less	Once/week or less	2-3 times/week	most days
11. verbally threatened to hit peers/friends who do not live in the home?	Never	Once/month or less	Once/week or less	2-3 times/week	most days
12. verbally threatened to hit adults who do not live in the home?	Never	Once/month or less	Once/week or less	2-3 times/week	most days

II. AGGRESSION AGAINST OBJECTS AND ANIMALS
DURING THE PAST YEAR, HOW OFTEN HAS YOUR CHILD:

13. slammed a door, kicked a chair, or thrown broken objects when angry?	Never	Once/month or less	Once/week or less	2-3 times/week	most days
14. vandalized or destroyed someone else's property?	Never	Once/month or less	Once/week or less	2-3 times/week	most days
15. taunted or teased or annoyed a pet or other animal?	Never	Once/month or less	Once/week or less	2-3 times/week	most days
16. injured or tortured a pet or other living animal?	Never	Once/month or less	Once/week or less	2-3 times/week	most days

Study no.

III. PHYSICAL AGGRESSION

A. PROVOKED PHYSICAL AGGRESSION – this section will focus on instances where another person provoked or "picked" a fight with your child (i.e., when the other person made the first physical contact).

DURING THE PAST YEAR, HOW OFTEN HAS YOUR CHILD:

17. fought with another child who lives in the home when provoked?	Never	Once/month or less	Once/week or less	2-3 times/week	most days
18. fought with an adult who lives in the home when provoked?	Never	Once/month or less	Once/week or less	2-3 times/week	most days
19. fought with peers/friends when provoked?	Never	Once/month or less	Once/week or less	2-3 times/week	most days
20. fought with other adults who do not live in the home when provoked?	Never	Once/month or less	Once/week or less	2-3 times/week	most days
21. how often did these fights result in mild physical injury (e.g. bumps and bruises)?	Never	Once or twice	3-5 times	5-10 times	more than 10 times
22. how often did these fights result in serious physical injury (e.g. stitches, broken bones, or requiring a doctor's attention)?	Never	Once or twice	3-5 times	5-10 times	more than 10 times

Please describe: _____

B. INITIATED PHYSICAL AGGRESSION – this section will focus on those fights which your child initiated or started (i.e., when he/she made the first physical contact).

DURING THE PAST YEAR, HOW OFTEN HAS YOUR CHILD:

23. started a physical fight with a child who lives in the home?	Never	Once/month or less	Once/week or less	2-3 times/week	most days
24. started a physical fight with an adult who lives in the home?	Never	Once/month or less	Once/week or less	2-3 times/week	most days
25. started a physical fight with peers/friends who do not live in the home?	Never	Once/month or less	Once/week or less	2-3 times/week	most days
26. started a physical fight with adults who do not live in the home?	Never	Once/month or less	Once/week or less	2-3 times/week	most days
27. how often did these fights result in mild physical injury (e.g. bumps and bruises)?	Never	Once or twice	3-5 times	5-10 times	more than 10 times
28. how often did these fights result in serious physical injury (e.g., stitches, broken bones, or requiring a doctor's attention)?	Never	Once or twice	3-5 times	5-10 times	more than 10 times

Please describe: _____

IV. USE OF WEAPONS

DURING THE PAST YEAR, HOW OFTEN HAS YOUR CHILD

29. carried a weapon (e.g., knife, gun)?	Never	Once or twice	3-5 times	5-10 times	more than 10 times
30. threatened another with a weapon?	Never	Once or twice	3-5 times	5-10 times	more than 10 times
31. used a weapon in a fight?	Never	Once or twice	3-5 times	5-10 times	more than 10 times
32. injured another with a weapon?	Never	Once or twice	3-5 times	5-10 times	more than 10 times
33. did this behavior occur within the context of a gang?	YES	NO			

Thank you very much for your help

APPENDIX 15
MEASURE OF AGGRESSION, VIOLENCE AND RAGE IN
CHILDREN-CHILD VERSION (MAVRIC-C) (GOODMAN ET
AL., 2006)

Study no.

**MEASURE OF AGGRESSION, VIOLENCE, AND RAGE IN CHILDREN
CHILD VERSION (MAVRIC-C)**

I'd like to ask you some questions about getting angry. Everybody gets angry sometimes. I'm interested in hearing about what it's like for you when you get angry.

1) a. Do you feel that you have trouble controlling your temper (getting angry)?

Yes

No

b. Do other people think that you have a problem controlling your temper (getting angry)?

Yes

No

(If both 1a and 1b are NO, skip question 2 and go to question 3.)

2) When did you start having a problem with your temper (getting angry)?

a. Did it start during this school year?

Yes

No

b. Did it start before that?

Yes

No

c. Have you had this problem as long as you can remember?

Yes

No

Lots of things make kids mad!

3) Have you ever gotten angry when there was nothing to be angry about?

Yes

No

Now, I would like to know about the times when you have been the most angry.

4) Do you yell or swear?

Yes

No

5) a. Do you throw things?

Yes

No

b. Do you throw things at walls?

Yes

No

c. Do you throw things at people?

Yes

No

d. Have you ever thrown or knocked over big, important, or valuable things like televisions, radios, or furniture?

Yes

No

6) a. When you are angry, do you break things?

Yes

No

b. Do you break your own things?

Yes

No

c. Do you break other people's things?

Yes

No

d. Do you punch or kick holes in walls, windows, or doors?

Yes

No

Study no.

- | | | |
|--|----------------------------------|---------------------------------|
| 7) a. When you get angry, do you wreck your room? | <input type="text" value="Yes"/> | <input type="text" value="No"/> |
| b. Do you turn your bed over? | <input type="text" value="Yes"/> | <input type="text" value="No"/> |
| c. Do you pull all the clothes out of your dresser or closet? | <input type="text" value="Yes"/> | <input type="text" value="No"/> |
| d. Do you throw all the things off your desk, dresser, or shelves? | <input type="text" value="Yes"/> | <input type="text" value="No"/> |
| 8) a. When you get angry, do you threaten or try to scare people? | <input type="text" value="Yes"/> | <input type="text" value="No"/> |
| b. Do you try to scare people with words? | <input type="text" value="Yes"/> | <input type="text" value="No"/> |
| c. Do you try to scare people with your fists or with other things like sticks? | <input type="text" value="Yes"/> | <input type="text" value="No"/> |
| d. What about knives? | <input type="text" value="Yes"/> | <input type="text" value="No"/> |
| e. Have you tried to scare people with guns? | <input type="text" value="Yes"/> | <input type="text" value="No"/> |
| 9) a. When you lose your temper, have you ever hit anyone? | <input type="text" value="Yes"/> | <input type="text" value="No"/> |
| b. Have you hit your brothers or sisters? | <input type="text" value="Yes"/> | <input type="text" value="No"/> |
| c. How about your friends? | <input type="text" value="Yes"/> | <input type="text" value="No"/> |
| d. Have you hit your mother? | <input type="text" value="Yes"/> | <input type="text" value="No"/> |
| e. Your father? | <input type="text" value="Yes"/> | <input type="text" value="No"/> |
| f. When you lose your temper, have you hit teachers? | <input type="text" value="Yes"/> | <input type="text" value="No"/> |
| g. What about your school principal? | <input type="text" value="Yes"/> | <input type="text" value="No"/> |
| h. Have you ever hit a police officer? | <input type="text" value="Yes"/> | <input type="text" value="No"/> |
| 10) What is the most you've hurt someone when you've been angry? | | |
| a. Have you ever given someone bruises, black and blue marks, or bitten someone? | <input type="text" value="Yes"/> | <input type="text" value="No"/> |
| b. Have you ever given someone a black eye or bloody nose? | <input type="text" value="Yes"/> | <input type="text" value="No"/> |
| c. Did you ever send someone to the hospital for stitches? | <input type="text" value="Yes"/> | <input type="text" value="No"/> |
| d. Have you ever broken somebody's nose, teeth, or bones? | <input type="text" value="Yes"/> | <input type="text" value="No"/> |

Study no.

e. Have you ever knocked someone out, stabbed someone with something sharp like a knife, or shot someone with a gun?

Yes

No

f. Have you ever killed someone, in a fit of anger?

Yes

No

11) a. When you are angry, do you feel like you become stronger?

Yes

No

b. Do you feel so strong that you can do extraordinary things?

Yes

No

12) When you get angry, does it hurt less when you are hit, or when you hit things?

Yes

No

13) When you get angry, are there times that you can't talk because the words don't come out right or they don't come out at all?

Yes

No

14) Have you been so angry that someone had to hold you down?

Yes

No

15) a. Have you been so angry that you thought about killing other people?

Yes

No

b. Have you thought about killing yourself?

Yes

No

c. Have you been so angry that you tried to kill someone else?

Yes

No

d. Have you tried to kill yourself?

Yes

No

16) You've told me that when you get angry, you... (select items previously identified: yell, swear, throw things, break things, wreck your room, or hit people). If we took a clock and timed the *longest* time that you do these things, how long would that be? I am going to give you four choices. Choose the one that best fits.

a. less than 15 minutes?

☐

b. 15 to 30 minutes?

☐

c. 30 to 60 minutes?

☐

d. more than 60 minutes?

☐

17) How often do you get angry where you (yell, swear, throw things, break things, wreck your room, or hit people)? I am going to give you four choices. Choose the one that best fits.

Study no.

a. Every day?

☐

b. Nearly every day?

☐

c. At least once a week?

☐

d. Every month or so?

☐

18) After you've been angry, are there times that you can't remember what you said or did?

☐ Yes

☐ No

19) After you've been angry, do you feel upset (bad, guilty) about the things you've said or done?

☐ Yes

☐ No

Thank you very much for your help

APPENDIX 16
THE MEASURE OF AGGRESSION, VIOLENCE AND
RAGE IN CHILDREN-PARENT VERSION (MAVRIC-P)
(GOODMAN ET AL., 2006)

Study no.

**MEASURE OF AGGRESSION, VIOLENCE, AND RAGE IN CHILDREN
PARENT VERSION (MAVRIC-P)**

I would like to ask you some questions about your child's ability to control his or her temper. Most of these questions can be answered either with a "yes" or "no". If you feel that further information will help me to understand your child better, please feel free to supply the information.

1) Do you feel that your child has a problem controlling his or her temper?

(If I is NO, skip question 2 and go to question 3.)

2) I would like your best guess as to when you first felt that your child developed a problem controlling his or her temper.

a. Has it been a problem for more than a year?

b. Would you say that this was a problem even before your child entered school?

c. Has your child had this problem as long as you can remember?

Children become angry for many reasons. Sometimes the things that cause an outburst may seem small and unimportant to parents, but make a child angry nonetheless.

3) Has your child ever suddenly become angry or had an outburst for absolutely no reason at all?

(Example: It has been a good day. Your child has been fine and is playing undisturbed in his or her room. Suddenly, for no reason at all, he or she explodes in anger.)

Now, I would like to know about the things your child does when he or she gets angry. I want you to think of the times when he or she has been the most angry.

4) Does he or she yell or swear?

5) a. Does he or she throw things?

b. Does he or she throw things at walls?

c. Does he or she throw things at people?

d. Has your child ever thrown or knocked over big, important, or valuable things like televisions, radios, or furniture?

Study no.

- 6) a. When he or she gets angry, does he or she destroy property?
 Yes No
- b. Does he or she break his or her own possessions?
 Yes No
- c. What about other people's possessions?
 Yes No
- d. Has he or she ever punched or kicked holes in walls, windows, or doors?
 Yes No
- 7) a. When he or she gets angry, does he or she wreck his or her room?
 Yes No
- b. Does he or she turn his or her bed over?
 Yes No
- c. Does he or she pull all the clothes out of his or her dresser or closet?
 Yes No
- d. Does he or she throw all the things off his or her desk, dresser, or shelves?
 Yes No
- 8) a. When he or she becomes angry, does he or she threaten or try to scare people?
 Yes No
- b. Does he or she try to scare people with words?
 Yes No
- c. Does he or she try to frighten people with his or her fists or with other things like sticks?
 Yes No
- d. What about knives?
 Yes No
- e. Has your child tried to frighten people with guns?
 Yes No
- 9) a. When your child loses his or her temper, has he or she ever hit anyone?
 Yes No
- b. Has he or she hit his or her brothers or sisters?
 Yes No
- c. How about his or her friends?
 Yes No
- d. Has he or she hit his or her mother?
 Yes No
- e. His or her father?
 Yes No
- f. When he or she loses his or her temper, has he or she hit his or her teachers?
 Yes No
- g. What about his or her school principal?
 Yes No
- h. Has he or she ever hit a police officer?
 Yes No

Study no.

10) What is the most your child has ever hurt someone when he or she has been angry?

a. Has he or she ever caused bruises, black and blue marks, or bitten someone?

b. Has he or she ever given someone a black eye or bloody nose?

c. Has he or she ever sent someone to the hospital for stitches?

d. Has he or she ever broken somebody's nose, teeth, or bones?

e. Has he or she ever knocked someone out, stabbed someone with something sharp like a knife, or shot someone with a gun?

f. Has he or she ever killed someone in a fit of anger?

11) When your child becomes angry, has he or she ever led you to believe that he or she feels unusually strong or powerful?

(Example: Has your child referred to himself or herself, when angry, as Superman, the Hulk, or a teenage mutant ninja turtle?)

12) Does your child appear to be less sensitive to pain when he or she is angry?

13) a. Sometimes when children become angry, they will sulk or pout and refuse to answer questions. Excluding these situations, are there times when your child becomes so angry that he or she seems unable to speak or has difficulty speaking?

b. Has your child ever become so angry that he or she will chant the same words over and over again for long periods of time?

14) Has your child been so angry that he or she had to be held by you or others?

15) a. Has your child been so angry that he or she thought about killing other people?

b. Has your child been so angry that he or she thought about killing himself or herself?

c. Has your child been so angry that he or she tried to kill someone else?

Study no.

☐ Yes

☐ No

d. Has your child been so angry that he or she tried to kill himself or herself?

☐ Yes

☐ No

16) You have told me that when your child gets angry, he or she...(select items previously identified: yells, swears, throws things, breaks things, wrecks his or her room, or hits people). If we took a clock and timed the *longest* time that he or she does these things, how long would that be? Choose the answer that best fits.

a. less than 15 minutes?

☐

b. 15 to 30 minutes?

☐

c. 30 to 60 minutes?

☐

d. more than 60 minutes?

☐

17) How often does your child get angry where he or she (yells, swears, throws things, breaks things, wrecks his or her room, or hits people)? Choose the answer that best fits.

a. Every day?

☐

b. Nearly every day?

☐

c. At least once a week?

☐

d. Every month or so?

☐

18) After your child gets angry, does he or she have trouble remembering what happened during the outburst or tantrum?

☐ Yes

☐ No

19) Does your child feel bad or guilty after he or she gets angry?

☐ Yes

☐ No

Thank you very much for your help

APPENDIX 17
STRENGTHS AND DIFFICULTIES QUESTIONNAIRE
PARENT REPORT VERSION FOR 4-16-YEAR-OLDS
(SDQ) (GOODMAN, 1999)

Strengths and Difficulties Questionnaire

P 4-16

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of the child's behaviour over the last six months.

Study no.

	Not True	Somewhat True	Certainly True
Considerate of other people's feelings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Restless, overactive, cannot stay still for long	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often complains of headaches, stomach-aches or sickness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shares readily with other children (treats, toys, pencils etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often has temper tantrums or hot tempers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rather solitary, tends to play alone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Generally obedient, usually does what adults request	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Many worries, often seems worried	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Helpful if someone is hurt, upset or feeling ill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Constantly fidgeting or squirming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has at least one good friend	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often fights with other children or bullies them	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often unhappy, down-hearted or tearful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Generally liked by other children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Easily distracted, concentration wanders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nervous or clingy in new situations, easily loses confidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kind to younger children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often lies or cheats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Picked on or bullied by other children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often volunteers to help others (parents, teachers, other children)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thinks things out before acting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Steals from home, school or elsewhere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gets on better with adults than with other children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Many fears, easily scared	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sees tasks through to the end, good attention span	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Do you have any other comments or concerns?

Please turn over - there are a few more questions on the other side

Overall, do you think that your child has difficulties in one or more of the following areas: emotions, concentration, behaviour or being able to get on with other people?

No	Yes- minor difficulties	Yes- definite difficulties	Yes- severe difficulties
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you have answered "Yes", please answer the following questions about these difficulties:

- How long have these difficulties been present?

Less than a month	1-5 months	6-12 months	Over a year
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Do the difficulties upset or distress your child?

Not at all	Only a little	Quite a lot	A great deal
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Do the difficulties interfere with your child's everyday life in the following areas?

	Not at all	Only a little	Quite a lot	A great deal
HOME LIFE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FRIENDSHIPS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CLASSROOM LEARNING	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LEISURE ACTIVITIES	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Do the difficulties put a burden on you or the family as a whole?

Not at all	Only a little	Quite a lot	A great deal
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thank you very much for your help

APPENDIX 18
BRIEF QUESTIONNAIRE

Study no.

BRIEF QUESTIONNAIRE

Introduction I would like to know a little more about your child. All information will be kept confidential. Your and your child's identity will not be revealed. **Please answer only about the child who attends the** **enter name of appropriate CAMHS**. Please complete this questionnaire to the best of your knowledge. For each question please write a **TICK** ✓ in the box next to your answer or write in your answer. If you change your mind about an answer, shade in the old box and then tick the box that you want.

Q1 What is your child's age (in years and months)? years months
Please write the numbers in the boxes

Q2 Is your child a boy or a girl? Boy Girl
Please tick one box as appropriate

Q3 What is your relationship to the child?
(such as mother/ father/ step- mother/ step- father/ foster parent/ carer)

Q4 What is your child's ethnic background?
(Our ethnic background describes how we think of ourselves. This may be based on many things, including, for example, our skin colour, language, culture, ancestry or family history. Ethnic background is not the same as nationality or country of birth.)
Please tick one box

White

British ☐

Irish ☐

Any other white background ☐
(Please write in)

Black or Black British

Caribbean ☐

African ☐

Any other black background ☐
(Please write in)

Mixed

White and Black Caribbean ☐

White and Black African ☐

White and Asian ☐

Any other mixed background ☐
(Please write in)

Asian or Asian British

Indian ☐

Pakistani ☐

Bangladeshi ☐

Any other Asian background ☐
(Please write in)

Chinese ☐

Any other ethnic background ☐
(Please write in)

Q5 Does your child ever ...

Study no.

Please tick one box as appropriate
watch TV?

☐ Yes

☐ No

play games on a console like Playstation or X-Box?

☐ Yes

☐ No

play handheld games like Gameboy or Nintendo?

☐ Yes

☐ No

use a desktop computer or laptop?

☐ Yes

☐ No

use a mobile phone?

☐ Yes

☐ No

use the internet?

☐ Yes

☐ No

Q6 Has your child ever been in contact with the police for anti-social behaviour?

Please tick one box

☐ Yes

☐ No

If yes, please tell us a little more about the kind of behaviour, e.g. assault, stealing.

Q7 Has your child ever received Anti-Social Behaviour Orders (ASBO's)?

Please tick one box

☐ Yes

☐ No

If yes, please tell us a little more about what kind of behaviours your child received Anti-social Behaviour Orders for.

Q8 Has your child ever been placed in secure accommodation because of anti-social behaviour?

Please tick one box

☐ Yes

☐ No

If yes, please tell us a little more about what kind of behaviour your child was placed in secure accommodation for.

Please tell us a little about you and your family.

Q9 Please tell us about any paid employment that you and your partner (if applicable) do. If you do not have paid employment, please leave blank.

My job is: _____

My partner's job is: _____

Q10 Please tell us about the highest level of formal education you and your

Study no.

partner (if applicable) finished

Please tick one box as appropriate

Myself	My partner
Secondary school <input type="checkbox"/>	Secondary school <input type="checkbox"/>
Sixth Form/College <input type="checkbox"/>	Sixth Form/College <input type="checkbox"/>
Further Education <input type="checkbox"/>	Further Education <input type="checkbox"/>
University <input type="checkbox"/>	University <input type="checkbox"/>

Q11 What is your average family income level?

Please tick one box

£20,000 or less per year	<input type="checkbox"/>
between £20,000-£30,000 per year	<input type="checkbox"/>
between £30,000-£40,000 per year	<input type="checkbox"/>
between £40,000-£50,000 per year	<input type="checkbox"/>
above £50,000 per year	<input type="checkbox"/>

Q12 How many people are living in your home (including you and your child)?

Please write the numbers in the box

Q13 What are their ages?

Please write below

<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

Q14 And what is their relation to your child?

(For instance: brother, grandfather)

Please write below

<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>

Thank you very much for your help

APPENDIX 19: PERMISSION TO USE THE CHILDREN'S AGGRESSION SCALE-PARENT (CAS-P) – PERSONAL COMMUNICATION

From: O.Dinca@warwick.ac.uk
To: jeffrey.halperin@qc.cuny.edu
Date: 25/10/2006
Subject: Permission to use CAS-P

Dear Professor Halperin

My name is Oana, I am a Research Postgraduate Fellow, 2nd year PhD student, University of Warwick Medical School, UK. I am currently conducting a research in order to investigate the relationship between watching television or playing electronic games and aggression in children attending Child and Adolescent Mental Health Services (CAMHS). The study aims to find any existing correlation between aggression and television & electronic media exposure in a population of children aged 5 to 10 years attending several specialist outpatient CAMHS in the UK.

I would like to employ the Children's Aggression Scale-Parent (CAS-P), as one of the study measures to assess aggressive behaviour exhibited by children attending CAMHS. Therefore, I would very much wish to have your permission to use this instrument. I would be also very grateful if you could advise me on how to obtain this instrument and the manual.

If you wish to have more information on this research project, please contact either myself (see details below) or my supervisors Dr Moli Paul (Moli.Paul@warwick.ac.uk) and Professor Nick Spencer (N.J.Spencer@warwick.ac.uk), Warwick Medical School, University of Warwick, UK.

Kind regards
Oana

*Oana Dinca, MD
MSc in Child Health
Research Postgraduate Fellow
Warwick Medical School
University of Warwick
CV4 7AL*

From: jeffrey.halperin@qc.cuny.edu
To: O.Dinca@warwick.ac.uk
Date: 27/10/2006
Subject: Re: Permission to use CAS-P

Attached is a copy of the scale along with the paper that describes its use and the scoring.

*Jeffrey M. Halperin, Ph.D.
Distinguished Professor
Department of Psychology
Queens College, CUNY
65-30 Kissena Blvd.
Flushing, NY 11367
Telephone: (718) 997-3254
Fax: (718) 997-3218
email: jeffrey.halperin@qc.cuny.edu*

APPENDIX 20: PERMISSION TO USE THE MEASURE OF AGGRESSION, VIOLENCE AND RAGE IN CHILDREN (MAVRIC) – PERSONAL COMMUNICATION

From: O.Dinca@warwick.ac.uk
To: Geoffrey.Goodman@liu.edu
Date: 25/10/2006
Subject: MAVRIC

Dear Dr Goodman,

My name is Oana, I am a Research Postgraduate Fellow, 2nd year PhD student, University of Warwick Medical School, UK. I am currently conducting a research in order to investigate the relationship between watching television or playing electronic games and aggression in children attending Child and Adolescent Mental Health Services (CAMHS). The study aims to find any existing correlation between aggression and television & electronic media exposure in a population of children aged 5 to 10 years attending several specialist outpatient CAMHS in the UK.

I would like to employ the Measure of Aggression, Violence, and Rage in Children (MAVRIC), child and parent versions, as one of the study measures to assess aggressive behaviours exhibited by children attending CAMHS. I have tried to contact Professor J.N.Bass in order to obtain permission to use the MAVRIC and also to obtain the instrument and the manual. Unfortunately, the email address that I have (jbass@attbi.com) is incorrect. I would be very grateful if you could help me in this matter.

If you wish to have more information on this research project, please contact either myself (see details below) or my supervisors Dr Moli Paul (Moli.Paul@warwick.ac.uk <mailto:Moli.Paul@warwick.ac.uk>) and Professor Nick Spencer (N.J.Spencer@warwick.ac.uk <mailto:N.J.Spencer@warwick.ac.uk>), Warwick Medical School, University of Warwick, UK.

Kind regards
Oana

*Oana Dinca, MD
Research Postgraduate Fellow
Warwick Medical School
University of Warwick
CV4 7AL*

From: Geoffrey.Goodman@liu.edu
To: O.Dinca@warwick.ac.uk
Date: 26/10/2006
Subject: RE: MAVRIC

Hi Oana,

You do not need permission to use the MAVRIC-C or MAVRIC-P. These instruments were published last year in the Journal of Personality Assessment and are now in the public domain. I can send you a copy of this article if you need it. Best wishes on your study.

Geoff Goodman

From: O.Dinca@warwick.ac.uk
To: Geoffrey.Goodman@liu.edu
Date: 25/10/2006
Subject: RE: MAVRIC

Dear Dr Goodman

Thank you so much for your quick reply. That's wonderful news for me. Yes, I would be very happy if you could send me a copy of the article (Warwick University has access to the Journal but not to the full-text version of all the recent issues).

Kind regards

Oana

From: Geoffrey.Goodman@liu.edu
To: O.Dinca@warwick.ac.uk
Date: 26/10/2006
Subject: RE: MAVRIC

Hi Oana,

I have attached an electronic version of the article, which includes the measures and instructions for scoring. I hope this information is helpful to you as you plan your study. Let me know if you have any other questions. Best wishes to you.

Geoff

APPENDIX 21

SCORING SYSTEM FOR THE CHILDREN'S AGGRESSION SCALE–PARENT (CAS-P) (HALPERIN ET AL., 2002)

Frequency of behaviour

Likert scale rating	Never Never	Once/month or less Once or twice	Once/week or less 3-5 times	2-3 times/week 5-10 times	most days more than 10 times
Value assigned	0	1	2	3	4

Severity weight for each item

Children's Aggression Scale-Parent Version		Weight
I. Verbal Aggression Items		
1. Snapped or yelled at children living in the home		.36
2. Snapped or yelled at adults living in the home		.50
3. Snapped or yelled at peers/friends who do not live in the home		.40
4. Snapped or yelled at adults who do not live in the home		.60
5. Cursed or sworn at children who live in the home		.44
6. Cursed or sworn at adults who do not live in the home		.50
7. Cursed or sworn at peers/friends who do not live in the home		.45
8. Cursed or sworn at adults who do not live in the home		.59
9. Verbally threatened to hit a child who lives in the home		.57
10. Verbally threatened to hit an adult who lives in the home		.79
11. Verbally threatened to hit peers/friends who do not live in the home		.61
12. Verbally threatened to hit adults who do not live in the home		.73
II. Aggression Against Objects and Animals		
13. Slammed a door, kicked a chair, or thrown or broken objects when angry		.50
14. Vandalized or destroyed someone else's property		.84
15. Taunted or teased or annoyed a pet or other animal		.67
16. Injured or tortured a pet or other living animal		.94
III. Provoked Physical Aggression		
17. Fought with another child who lives in the home when provoked		.55
18. Fought with an adult who lives in the home when provoked		.74
19. Fought with peers/friends when provoked		.50
20. Fought with other adults who do not live in the home when provoked		.69
21. How often did these fights result in mild physical injury (e.g., bumps, bruises)?		.67
22. How often did these fights result in serious physical injury (e.g., stitches, broken bones, or requiring a doctor's attention)?		.81
IV. Initiated Physical Aggression		
23. Started a physical fight with a child who lives in the home		.57
24. Started a physical fight with an adult who lives in the home		.77
25. Started a physical fight with peers/friends who do not live in the home		.50
26. Started a physical fight with adults who do not live in the home		.80
27. How often did these fights result in mild physical injury (e.g., bumps, bruises)?		.79
28. How often did these fights result in serious physical injury (e.g., stitches, broken bones, or requiring a doctor's attention)?		1.03
V. Use of Weapons		
29. Carried a weapon (e.g., knife, gun)		.66
30. Threatened another with a weapon		.50
31. Used a weapon in a fight		.88
32. Injured another with a weapon		1.00
33. Did this behavior occur within the context of gang membership (y/n)?		

Scoring instructions

Scoring is accomplished by multiplying the frequency of behaviour by the severity weight for each item, then summing the scores for all items of each subscale.

APPENDIX 22

SCORING SYSTEM FOR THE MEASURE OF AGGRESSION, VIOLENCE AND RAGE IN CHILDREN (MAVRIC) (GOODMAN ET AL., 2006)

MAVRIC-C scoring instructions

- 1) If a or b is yes, score = 1.
 - 2) Only record the highest score such that if yes, a = 1, b = 2, c = 3.
 - 3) Yes = 1.
 - 4) Yes = 1.
 - 5) If any answer (a-d) is yes, score 1.
 - 6) If any answer (a-d) is yes, score 1.
 - 7) If any answer (a-d) is yes, score 1.
 - 8) Only record the highest score such that if yes, a or b = 1 and c, d, or e = 2.
 - 9) Only record the highest score such that if yes, a or b = 1; c = 2; d or e = 3; f, g, or h = 4.
 - 10) Only record the highest score such that if yes, a = 1, b = 2, c = 3, d = 4, e = 5, f = 6.
 - 11) If a or b is yes, score = 1.
 - 12) Yes = 1.
 - 13) Yes = 1.
 - 14) Yes = 1.
 - 15) Do not score.
 - 16) Only record the highest score such that if yes, a = 0, b = 1, c = 2, d = 3.
 - 17) Do not score.
 - 18) Yes = 1.
 - 19) Yes = 1.
- Maximum score = 30.

MAVRIC-P scoring instructions

- 1) Yes = 1.
 - 2) Only record the highest score such that if yes, a = 1, b = 2, c = 3.
 - 3) Yes = 1.
 - 4) Yes = 1.
 - 5) If any answer (a-d) is yes, score 1.
 - 6) If any answer (a-d) is yes, score 1.
 - 7) If any answer (a-d) is yes, score 1.
 - 8) Only record the highest score such that if yes, a or b = 1 and c, d, or e = 2.
 - 9) Only record the highest score such that if yes, a or b = 1; c = 2; d or e = 3; f, g, or h = 4.
 - 10) Only record the highest score such that if yes, a = 1, b = 2, c = 3, d = 4, e = 5, f = 6.
 - 11) Yes = 1.
 - 12) Yes = 1.
 - 13) If a or b is yes, score 1.
 - 14) Yes = 1.
 - 15) Do not score.
 - 16) Only record the highest score such that if yes, a = 0, b = 1, c = 2, d = 3.
 - 17) Do not score.
 - 18) Yes = 1.
 - 19) Yes = 1.
- Maximum score = 30.

APPENDIX 23
SCORING SYSTEM FOR THE STRENGTHS AND
DIFFICULTIES QUESTIONNAIRE PARENT REPORT
VERSION FOR 4-16-YEAR-OLDS (GOODMAN, 1999)

Scoring the Informant-Rated Strengths and Difficulties Questionnaire

The 25 items in the SDQ comprise 5 scales of 5 items each. It is usually easiest to score all 5 scales first before working out the total difficulties score. Somewhat True is always scored as 1, but the scoring of Not True and Certainly True varies with the item, as shown below scale by scale. For each of the 5 scales the score can range from 0 to 10 if all 5 items were completed. Scale score can be prorated if at least 3 items were completed.

<u>Emotional Symptoms Scale</u>	Not True	Somewhat True	Certainly True
Often complains of headaches, stomach-aches ...	0	1	2
Many worries, often seems worried	0	1	2
Often unhappy, downhearted or tearful	0	1	2
Nervous or clingy in new situations ...	0	1	2
Many fears, easily scared	0	1	2

<u>Conduct Problems Scale</u>	Not True	Somewhat True	Certainly True
Often has temper tantrums or hot tempers	0	1	2
Generally obedient, usually does what ...	2	1	0
Often fights with other children or bullies them	0	1	2
Often lies or cheats	0	1	2
Steals from home, school or elsewhere	0	1	2

<u>Hyperactivity Scale</u>	Not True	Somewhat True	Certainly True
Restless, overactive, cannot stay still for long	0	1	2
Constantly fidgeting or squirming	0	1	2
Easily distracted, concentration wanders	0	1	2
Thinks things out before acting	2	1	0
Sees tasks through to the end, good attention span	2	1	0

<u>Peer Problems Scale</u>	Not True	Somewhat True	Certainly True
Rather solitary, tends to play alone	0	1	2
Has at least one good friend	2	1	0
Generally liked by other children	2	1	0
Picked on or bullied by other children	0	1	2
Gets on better with adults than with other children	0	1	2

<u>Prosocial Scale</u>	Not True	Somewhat True	Certainly True
Considerate of other people's feelings	0	1	2
Shares readily with other children	0	1	2
Helpful if someone is hurt, upset or feeling ill	0	1	2
Kind to younger children	0	1	2
Often volunteers to help others	0	1	2

The Total Difficulties Score:

is generated by summing the scores from all the scales except the prosocial scale. The resultant score can range from 0 to 40 (and is counted as missing if one of the component scores is missing).

Interpreting Symptom Scores and Defining "Caseness" from Symptom Scores

Although SDQ scores can often be used as continuous variables, it is sometimes convenient to classify scores as normal, borderline and abnormal. Using the bandings shown below, an abnormal score on one or both of the total difficulties scores can be used to identify likely "cases" with mental health disorders. This is clearly only a rough-and-ready method for detecting disorders – combining information from SDQ symptom and impact scores from multiple informants is better, but still far from perfect. Approximately 10% of a community sample scores in the abnormal band on any given score, with a further 10% scoring in the borderline band. The exact proportions vary according to country, age and gender – normative SDQ data are available from the web site. You may want to adjust banding and caseness criteria for these characteristics, setting the threshold higher when avoiding false positives is of paramount importance, and setting the threshold lower when avoiding false negatives is more important.

	Normal	Borderline	Abnormal
Parent Completed			
Total Difficulties Score	0 - 13	14 - 16	17 - 40
Emotional Symptoms Score	0 - 3	4	5 - 10
Conduct Problems Score	0 - 2	3	4 - 10
Hyperactivity Score	0 - 5	6	7 - 10
Peer Problems Score	0 - 2	3	4 - 10
Prosocial Behaviour Score	6 - 10	5	0 - 4
Teacher Completed			
Total Difficulties Score	0 - 11	12 - 15	16 - 40
Emotional Symptoms Score	0 - 4	5	6 - 10
Conduct Problems Score	0 - 2	3	4 - 10
Hyperactivity Score	0 - 5	6	7 - 10
Peer Problems Score	0 - 3	4	5 - 10
Prosocial Behaviour Score	6 - 10	5	0 - 4

Generating and Interpreting Impact Scores

When using a version of the SDQ that includes an "Impact Supplement", the items on overall distress and social impairment can be summed to generate an impact score that ranges from 0 to 10 for the parent-completed version and from 0-6 for the teacher-completed version.

	Not at all	Only a little	Quite a lot	A great deal
Parent report				
Difficulties upset or distress child	0	0	1	2
Interfere with HOME LIFE	0	0	1	2
Interfere with FRIENDSHIPS	0	0	1	2
Interfere with CLASSROOM LEARNING	0	0	1	2
Interfere with LEISURE ACTIVITIES	0	0	1	2
Teacher report				
Difficulties upset or distress child	0	0	1	2
Interfere with PEER RELATIONSHIPS	0	0	1	2
Interfere with CLASSROOM LEARNING	0	0	1	2

Responses to the questions on chronicity and burden to others are not included in the impact score. When respondents have answered "no" to the first question on the impact supplement (i.e. when they do not perceive the child as having any emotional or behavioural difficulties), they are not asked to complete the questions on resultant distress or impairment; the impact score is automatically scored zero in these circumstances.

Although the impact scores can be used as continuous variables, it is sometimes convenient to classify them as normal, borderline or abnormal: a total impact score of 2 or more is abnormal; a score of 1 is borderline; and a score of 0 is normal.

SDQ: Generating scores in SPSS

The scoring algorithm is based on the 25 variables plus impact items for each questionnaire. The algorithm expects to find these variables with specific names: the first letter of each variable name is 'p' for the parent SDQ, 's' for the self-report SDQ and 't' for the teacher SDQ. After this first letter, the variable names are as follows:

consid = Item 1 : considerate
restles = Item 2 : restless
somatic = Item 3 : somatic symptoms
shares = Item 4 : shares readily
tantrum = Item 5 : tempers
loner = Item 6 : solitary
obeys = Item 7 : obedient
worries = Item 8 : worries
caring = Item 9 : helpful if someone hurt
fidgety = Item 10 : fidgety
friend = Item 11 : has good friend
fight = Item 12 : fights or bullies
unhappy = Item 13 : unhappy
popular = Item 14 : generally liked
distrac = Item 15 : easily distracted
clingy = Item 16 : nervous in new situations
kind = Item 17 : kind to younger children
lies = Item 18 : lies or cheats
bullied = Item 19 : picked on or bullied
helpout = Item 20 : often volunteers
reflect = Item 21 : thinks before acting
steals = Item 22 : steals
oldbest = Item 23 : better with adults than with children
afraid = Item 24 : many fears
attends = Item 25 : good attention
ebddiff = Impact question: overall difficulties in at least one area
distres = Impact question: upset or distressed
imphome = Impact question: interferes with home life
impfrie = Impact question: interferes with friendships
impclas = Impact question: interferes with learning
impleis = Impact question: interferes with leisure

For each of these items, if the first response category (not true, no, not at all) has been selected, this is coded as zero, the next response category (somewhat true, yes-minor, just a little) is coded as one and so on.

For each informant, the algorithm generates six scores. The first letter of each derived variable is 'p' for parent-based scores, 's' for self-report-based scores and 't' for teacher-based scores. After this first letter, the names of the scores are as follows:

emotion = emotional symptoms
conduct = conduct problems
hyper = hyperactivity/inattention
peer = peer problems
prosoc = prosocial
ebdtot = total difficulties
impact = impact

*** Recoding variables and then scoring the parent SDQ scores

```
SET FORMAT=F8.0.
RECODE pobeys (0+2) (1+1) (2+0) (ELSE=SYSMIS) INTO qobeys .
EXECUTE .
RECODE pfriend (0+2) (1+1) (2+0) (ELSE=SYSMIS) INTO qfriend .
EXECUTE .
RECODE ppopular (0+2) (1+1) (2+0) (ELSE=SYSMIS) INTO qpopular .
EXECUTE .
RECODE prelect (0+2) (1+1) (2+0) (ELSE=SYSMIS) INTO qreflect .
EXECUTE .
RECODE pattends (0+2) (1+1) (2+0) (ELSE=SYSMIS) INTO qtattends .
```

```

EXECUTE .
RECODE pdistres (0=0) (1=0) (2=1) (3=2) (ELSE=SYSMIS) INTO qdistres .
EXECUTE .
RECODE piphone (0=0) (1=0) (2=1) (3=2) (ELSE=SYSMIS) INTO qiphone .
EXECUTE .
RECODE pmpfrie (0=0) (1=0) (2=1) (3=2) (ELSE=SYSMIS) INTO qmpfrie .
EXECUTE .
RECODE pmpclas (0=0) (1=0) (2=1) (3=2) (ELSE=SYSMIS) INTO qmpclas .
EXECUTE .
RECODE pmpleis (0=0) (1=0) (2=1) (3=2) (ELSE=SYSMIS) INTO qmpleis .
EXECUTE .

COMPUTE pemotion = RND(MEAN.3(psonatic.pvorries.punhappy.pclingy.pafraid) * 5) .
EXECUTE .
COMPUTE pconduct = RND(MEAN.3(ptentrum.qobeys.pfights.plies.psteals) * 5) .
EXECUTE .
COMPUTE phyper = RND(MEAN.3(prestles.pfidgety.pdistrac.qreflect.qattends) * 5) .
EXECUTE .
COMPUTE ppeer = RND(MEAN.3(ploner.qfriend.qpopular.pbullied.poldbest) * 5) .
EXECUTE .
COMPUTE pprosoc = RND(MEAN.3(pconsid.pshares.pcaring.pkind.phelpout) * 5) .
EXECUTE .
COMPUTE pebdtot = SUM.4(pemotion.pconduct.phyper.ppeer) .
EXECUTE .
COMPUTE pinspect = SUM.1(qdistres.qiphone.qmpfrie.qmpclas.qmpleis) .
IF (pebdtot=0) pinspect=0 .
EXECUTE .
DELETE VARIABLES qobeys qreflect qattends qfriend qpopular qdistres qiphone qmpfrie qmpclas qmpleis
.

*** Recoding variables and then scoring the self-report SDQ scores

SET FORMAT=F8.0.
RECODE sobeys (0=2) (1=1) (2=0) (ELSE=SYSMIS) INTO robeys .
EXECUTE .
RECODE sfriend (0=2) (1=1) (2=0) (ELSE=SYSMIS) INTO rfriender .
EXECUTE .
RECODE spopular (0=2) (1=1) (2=0) (ELSE=SYSMIS) INTO rpopular .
EXECUTE .
RECODE sreflect (0=2) (1=1) (2=0) (ELSE=SYSMIS) INTO rreflect .
EXECUTE .
RECODE sattends (0=2) (1=1) (2=0) (ELSE=SYSMIS) INTO rattends .
EXECUTE .
RECODE sdistres (0=0) (1=0) (2=1) (3=2) (ELSE=SYSMIS) INTO rdistres .
EXECUTE .
RECODE siphone (0=0) (1=0) (2=1) (3=2) (ELSE=SYSMIS) INTO riphone .
EXECUTE .
RECODE simpfrie (0=0) (1=0) (2=1) (3=2) (ELSE=SYSMIS) INTO rimpfrie .
EXECUTE .
RECODE simpcas (0=0) (1=0) (2=1) (3=2) (ELSE=SYSMIS) INTO rimpcas .
EXECUTE .
RECODE simpleis (0=0) (1=0) (2=1) (3=2) (ELSE=SYSMIS) INTO rimpleis .
EXECUTE .

COMPUTE semotion = RND(MEAN.3(ssonatic.svorries.sunhappy.sclingy.safraid) * 5) .
EXECUTE .
COMPUTE sconduct = RND(MEAN.3(stentrum.sobeys.sights.slies.ssteals) * 5) .
EXECUTE .
COMPUTE shyper = RND(MEAN.3(srestles.sfidgety.sdistrac.rreflect.rattends) * 5) .
EXECUTE .
COMPUTE speer = RND(MEAN.3(sloner.rfriender.rpopular.sbullied.soldbest) * 5) .
EXECUTE .
COMPUTE sprosoc = RND(MEAN.3(sconsid.sshares.scaring.skind.shelpout) * 5) .
EXECUTE .
COMPUTE sebdtot = SUM.4(semotion.sconduct.shyper.speer) .
EXECUTE .
COMPUTE sipsect = SUM.1(rdistres.riphone.rimpfrie.rimpcas.rimpleis) .
IF (sebdtot=0) sipsect=0 .
EXECUTE .
DELETE VARIABLES robeys rreflect rattends rfriender rpopular rdistres riphone rimpfrie rimpcas rimpleis
.

*** Recoding variables and then scoring the teacher SDQ scores

SET FORMAT=F8.0.
RECODE tobey (0=2) (1=1) (2=0) (ELSE=SYSMIS) INTO uobey .
EXECUTE .
RECODE tfriend (0=2) (1=1) (2=0) (ELSE=SYSMIS) INTO ufriend .
EXECUTE .
RECODE topopular (0=2) (1=1) (2=0) (ELSE=SYSMIS) INTO upopular .
EXECUTE .
RECODE treflect (0=2) (1=1) (2=0) (ELSE=SYSMIS) INTO ureflect .
EXECUTE .
RECODE tattends (0=2) (1=1) (2=0) (ELSE=SYSMIS) INTO uattends .
EXECUTE .
RECODE tdistres (0=0) (1=0) (2=1) (3=2) (ELSE=SYSMIS) INTO udistres .
EXECUTE .
RECODE tmpfrie (0=0) (1=0) (2=1) (3=2) (ELSE=SYSMIS) INTO umpfrie .
EXECUTE .

```

```

RECODE tinspcles {0=0} {1=0} {2=1} {3=2} (ELSE=SYSMIS) INTO uinspcles .
EXECUTE .

COMPUTE temotion = RND(MEAN.3(tsomatic.tworries.tunhappy.tclingy.tafraid) * 5) .
EXECUTE .
COMPUTE tconduct = RND(MEAN.3(ttantrum.uobeys.tfights.tlies.tsteals) * 5) .
EXECUTE .
COMPUTE thyper = RND(MEAN.3(trestles.tfidgety.tdistrac.ureflect.uattends) * 5) .
EXECUTE .
COMPUTE tpeer = RND(MEAN.3(tloner.ufriend.upopular.tbullied.toldbest) * 5) .
EXECUTE .
COMPUTE tprosoc = RND(MEAN.3(tconsid.tshares.tcaring.tkind.thelpout) * 5) .
EXECUTE .
COMPUTE tebdtot = SUM.4(temotion.tconduct.thyper.tpeer) .
EXECUTE .
COMPUTE tinspect = SUM.1(u-distres.uinspfrie.uinspcles) .
EXECUTE .
IF (tebddiff=0) tinspect=0 .
EXECUTE .
DELETE VARIABLES uobeys ureflect uattends ufriend upopular u-distres uinspfrie uinspcles .

```

Last modified: 17/10/06

APPENDIX 24: SUGGESTIONS ON DEALING WITH MISSING DATA FOR THE CHILDREN'S AGGRESSION SCALE-PARENT (CAS-P) – PERSONAL COMMUNICATION

From: O.Mitrofan@warwick.ac.uk
To: jeffrey.halperin@qc.cuny.edu
Date: 18/03/2009
Subject: Missing data CAS-P

Dear Professor Halperin

I am writing in relation to the Children Aggression Scale – Parent (CAS-P). I am a PhD student at the Health Sciences Research Institute, University of Warwick, UK. I have previously contacted you regarding my wish to use the CAS-P within my PhD research study. My study is about associations between watching television or playing computer games and aggression in children aged 7 to 11 years attending Child and Adolescent Mental Health Services (CAMHS).

With your permission, I have successfully used the CAS-P in my data collection and I am currently in the process of data analysis. I have followed the given instructions for scoring but I have encountered the problem of missing data. In a few cases the respondent did not answer one or several items, for instance one answer missing for Verbal Aggression and two missing for Provoked Physical Aggression. I am not sure what I need to do in terms of scoring in such cases. I would be very grateful if you could advise me on procedures of handling missing data for CAS-P. Should you wish more information regarding my research study please contact me using the contact details below.

Thank you
Oana

Dr Oana Mitrofan (nee Dinca)
University of Warwick CV4 7AL

From: jeffrey.halperin@qc.cuny.edu
To: O.Mitrofan@warwick.ac.uk
Date: 20/03/2009
Subject: Re: Missing data CAS-P

Missing data is always a big problem. I guess the first step, if possible, is to go back to the person (perhaps via telephone) and see if they can give you an answer to that item. Assuming that isn't possible, I would suggest that what you do depends on how many and which items are missing. If on the Verbal scale, one or two items are missing, I would probably fill them in with the mean response for that subscale (rounded to a whole number). If more than 2 or perhaps 3 items are missing, I would consider the subscale invalid.

For the objects and animals scale, if more than one item is missing, I would consider it invalid since the entire subscale has only 4 items. Again use the mean for one missing item.

For the physical aggression subscales, I think it depends on which items are missing and in the context. For example, if items 17-20 (or 23-26) are "never", then 21 and 22 (27,28) should be 'never' even if left out. If there is frequent fighting, then the latter items get harder to make a rule for and you might have to eliminate the subscale. You should know that these are "rules" that make sense to me, but they are not based on any empirical data that I have. Good luck!

Jeff
Jeffrey M. Halperin, Ph.D.
Email: jeffrey.halperin@qc.cuny.edu

APPENDIX 25
INTERVIEW GUIDE FOR CHILDREN

**PHASE II: QUALITATIVE STUDY OF CHILD AND PARENT VIEWS ON
ASSOCIATION BETWEEN EXHIBITED AGGRESSION AND VIEWED
AGGRESSION
INTERVIEW WITH CHILD PARTICIPANT
– INTERVIEW GUIDE –**

PREFACE

I want us to talk about things you have seen on television, in video games or somewhere else.

Nobody else will know that you and I have talked about these things. The only thing is that if I think that someone hurt you, I would need to talk to someone about keeping you safe. I might speak to your parents and maybe the person you have been seeing at the [enter name of appropriate CAMHS].

When there is parental consent to interview the child alone: Your mum/dad doesn't mind me talking to you alone. She/he is at an agreed place nearby and will come anytime you want. Are you happy with that?

While we talk I'll use this voice recorder. It will help me remember the things you tell me. Are you happy with that?

We will talk for about half an hour. We will take a break of about 10 minutes anytime you want.

In case of the parent/carer being present, the interviewer will say to him/her:
'Your presence is very important as you may help your child understand the questions I ask him/her and you may help me understand your child's responses, if necessary. But I would like to ask you not to answer the questions or express your own views during the child interview as you will be able to do so when interviewed yourself'.

Picture set to be used as prompts consists of:

1. *Pictures illustrating aggression*
 - a. *Verbal aggression picture set consisting of pictures showing:*
 - i. *someone shouting at someone else (picture 1)*
 - b. *Physical aggression picture set consisting of pictures showing:*
 - i. *someone throwing something at someone else (picture 2)*
 - ii. *someone hitting someone else really hard (picture 3)*
 - iii. *someone stabbing someone else with a knife (picture 4)*
 - iv. *someone shooting someone else (picture 5)*
 - c. *Symbolic aggression picture set consisting of pictures showing:*
 - i. *someone chasing someone else (picture 6)*
 - ii. *someone pointing a knife or a gun at someone else (picture 7)*

- d. Animal and object aggression picture set consisting of pictures showing:
 - i. someone breaking things (picture 8)
 - ii. someone being cruel to an animal (picture 9)
2. Pictures from children's television programmes
3. Pictures showing video game screenshots/game logos
4. Pictures showing children's movies

I want you to tell me about the programmes you like to watch on TV.

1. What is your favourite TV programme?

Prompts:

What do you like about name of the programme?

What sorts of things happen in this programme?

What happened in the last episode of name of the programme?

Who are the 'goodies' and the 'baddies' in name of the programme?

What do the 'goodies' do?

What do the 'baddies' do?

Who is your favourite character?

What do you like about name of favourite character?

Do you like to do things you saw in name of the programme? For instance when you play with your friends.

Do you ever pretend to be name of favourite character?

Is there something you don't like in name of the programme?

Is there something you don't like about name of favourite character?

2. Do you have a second favourite TV programme?

Same prompts as above.

3. Are there things on TV that scare you?

4. Are there things you like watching on TV but the grown-ups won't let you?

Prompts:

Do you know what happens in this programme?

Do you know why grown-ups don't like you watching this programme? What do you think about that?

Who do you think should be allowed to watch these programmes?

When do you think grown-ups will let you watch these programmes?

Now, I want you to tell me about the video games you play. Video games are games like Gameboy or Nintendo, or games that could be played on Playstation or X-Box, on a computer, on internet, or on a mobile phone.

5. What is your favourite video game?

Prompts:

What do you like about name of the game?

What sorts of things happen in this game?

Who are the 'goodies' and the 'baddies' in name of the game?

Who is your favourite character?

What do you like about name of favourite character?

Do you like to do things you saw in name of the game? For instance when you play with your friends.

Do you ever pretend to be name of favourite character?

Is there something you don't like in name of the game?

Is there something you don't like about name of favourite character?

6. Do you have a second favourite video game?

Same prompts as above.

7. Is there a game you don't like to play?

Prompts:

What happens in this game?

Why you don't like it?

8. Are there things in video games that scare you?

9. Are there games you like playing but the grown-ups won't let you?

Prompts:

Do you know what happens in this game?

Do you know why grown-ups don't like you playing this game? What do you think about that?

Who do you think should be allowed to play these games?

When do you think grown-ups will let you play these games?

Now, I would like to show you some pictures. (*The child will be shown the pictures illustrating aggression, one picture at a time*)

10. What is happening in this picture?

What would you call this?

Picture 5

Picture 1

Picture 6

Picture 2

Picture 7

Picture 3

Picture 8

Picture 4

Picture 9

11. Have you ever seen these things happening?

Prompts:

a) Have you ever seen these things at home?

b) Have you ever seen these things at school?

- c) Have you ever seen these things in the playground?
- d) Have you ever seen these things on the street?
- e) Have you ever seen these things on TV?
- f) Have you ever seen these things in video games?
- g) Have you ever seen these things in movies? Like movies on videos or DVDs or at the cinema.
- h) Have you seen these things on the internet?
- i) Have you seen these things in books?
- j) Have you seen these things in magazines?

12. How do you feel when you see these things?

Prompts:

Do you feel sad?

Do you feel angry?

Do you feel excited?

Do you feel scared?

13. Do children do these things after they see them? What do you think?

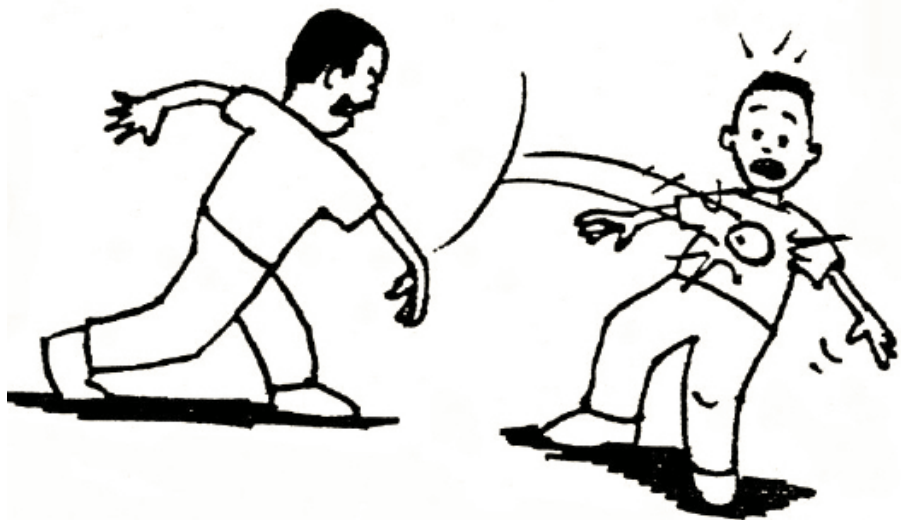
14. Have you ever done these things after seeing them?

Well, we talked about a lot of interesting things today. Is there anything else you want to tell me about what you have seen on the television or in these sorts of games? Thank you very much for your help today.

Pictures illustrating aggression



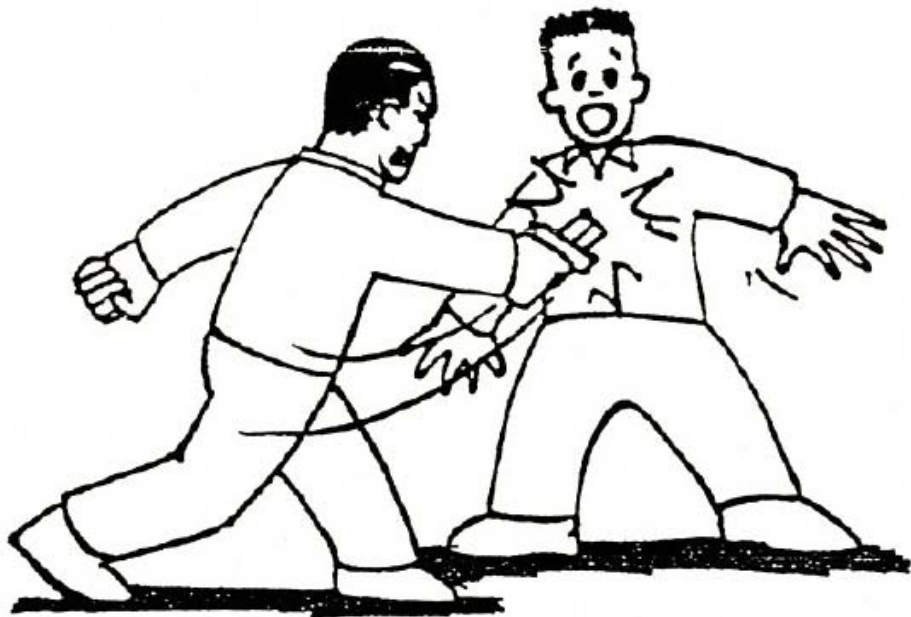
1. Picture taken from the Violence Exposure Scale-Revised (Fox and Leavitt, 1995) Artwork by Samuel Goldstein.



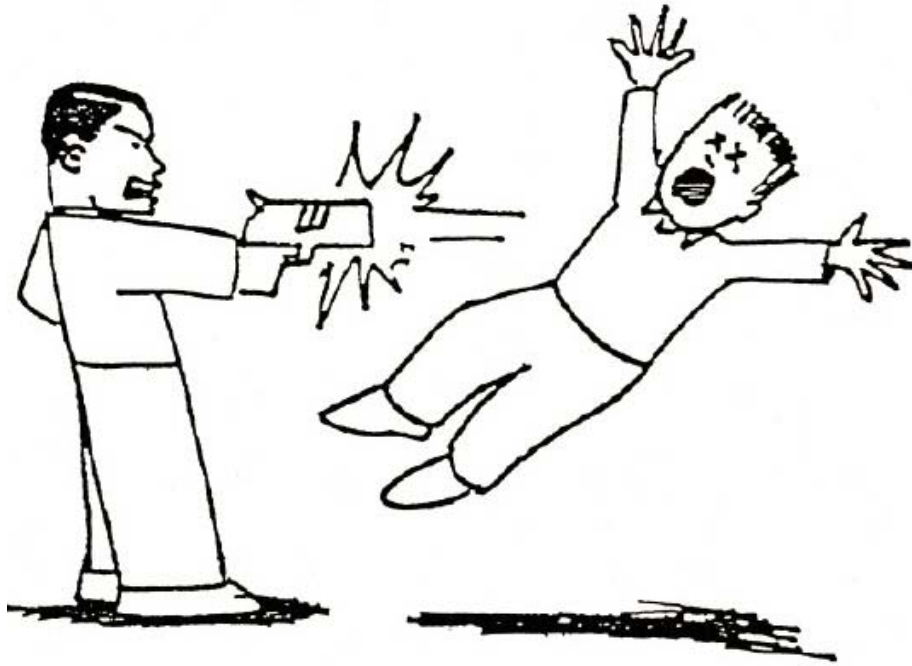
2. Picture taken from the Violence Exposure Scale-Revised (Fox and Leavitt, 1995) Artwork by Samuel Goldstein.



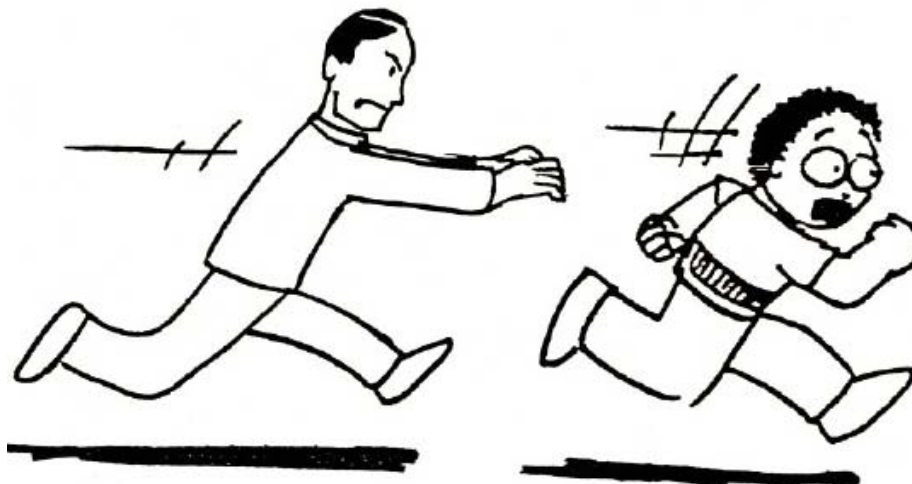
3. Picture taken from the Violence Exposure Scale-Revised (Fox and Leavitt, 1995) Artwork by Samuel Goldstein.



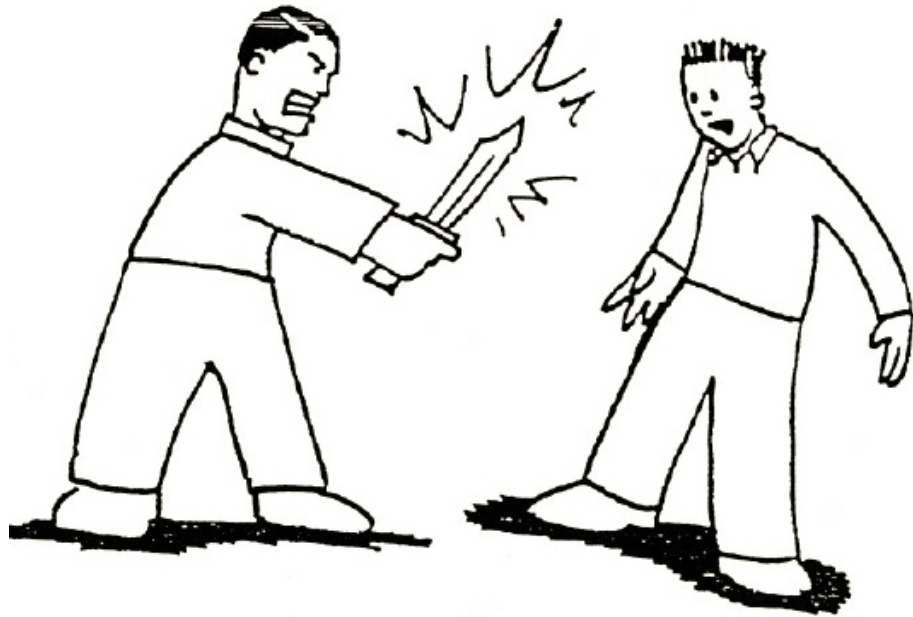
4. Picture taken from the Violence Exposure Scale-Revised (Fox and Leavitt, 1995) Artwork by Samuel Goldstein.



5. Picture taken from the Violence Exposure Scale-Revised (Fox and Leavitt, 1995) Artwork by Samuel Goldstein.



6. Picture taken from the Violence Exposure Scale-Revised (Fox and Leavitt, 1995) Artwork by Samuel Goldstein.



7. Picture taken from the Violence Exposure Scale-Revised (Fox and Leavitt, 1995) Artwork by Samuel Goldstein.



8. Picture taken from <http://www.cs.princeton.edu/~chazelle/pics/smash.jpg> on 13/04/2007



9. Picture taken from <http://www.bbc.co.uk/cbbc/cartoons/tv/watchmychops/index.shtml> on 16/02/2007

Pictures from children's television programmes



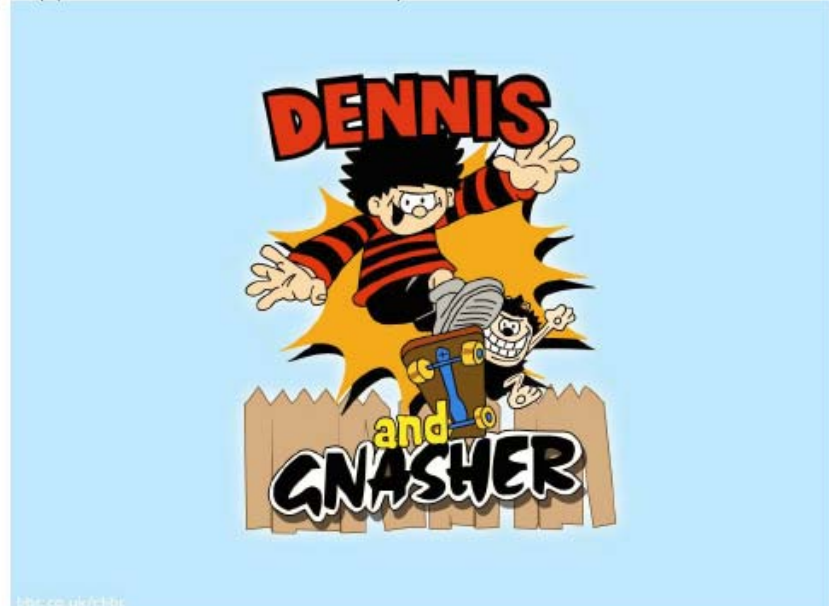
Scooby-Doo, Cartoon Network. Picture taken from <http://upload.wikimedia.org/wikipedia/en/9/9a/Scooby-gang-1969.jpg> on 22/04/2007



The Powerpuff Girls, Cartoon Network. Picture taken from <http://www.internationalhero.co.uk/p/powpuff1.jpg> on 22/04/2007



Astro Boy Wallpaper, The CBBC Channel. Picture taken from <http://www.bbc.co.uk/cbbc/cartoons/tv/astro/index.shtml> on 22/04/2007



Dennis the Menace, the CBBC Channel. Picture taken from <http://www.bbc.co.uk/cbbc/cartoons/tv/dennis/index.shtml> on 22/04/2007



Watch my chops, the CBBC Channel. Picture taken from <http://www.bbc.co.uk/cbbc/cartoons/tv/watchmychops/index.shtml> on 22/04/2007



The Simpsons, ITV London. Picture taken from http://www.tvblanket.com/image/simpsons_tv_show.JPG on 22/04/2007



Teenage Mutant Ninja Turtles, the CITV Channel. Picture taken from <http://www.citv.co.uk/page.asp?partid=7> on 22/04/2007



The Amazing Adrenalini Brothers, the CITV Channel. Picture taken from <http://www.citv.co.uk/page.asp?partid=137> on 22/04/2007

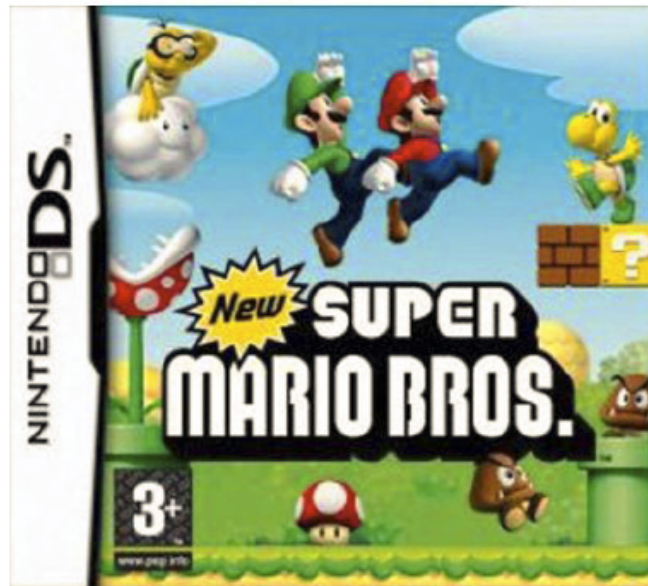


Kim possible, the Disney Channel. Picture taken from <http://tv.disney.go.com/disneychannel/kimpossible/downloads/index.html> on 22/04/2007



Spider-Man, Jetix. Picture taken from <http://www.jetix.co.uk/> on 22/04/2007

Pictures showing video game screenshots/game logos



New Super Mario Bros. (Nintendo DS)



Pokémon Ranger (Nintendo DS)



Lego Star Wars II: The Original Trilogy (PS2)

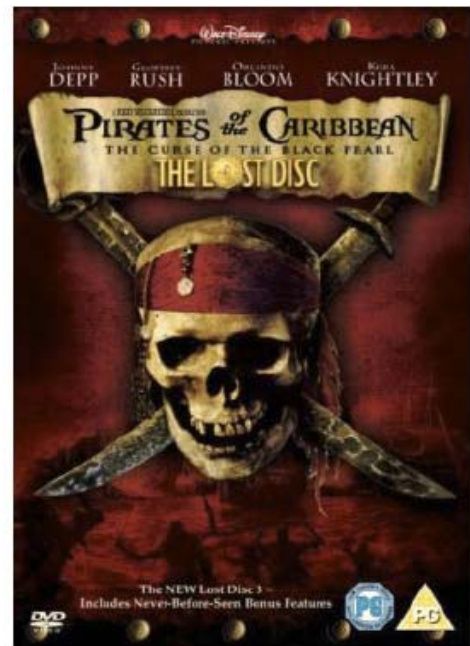
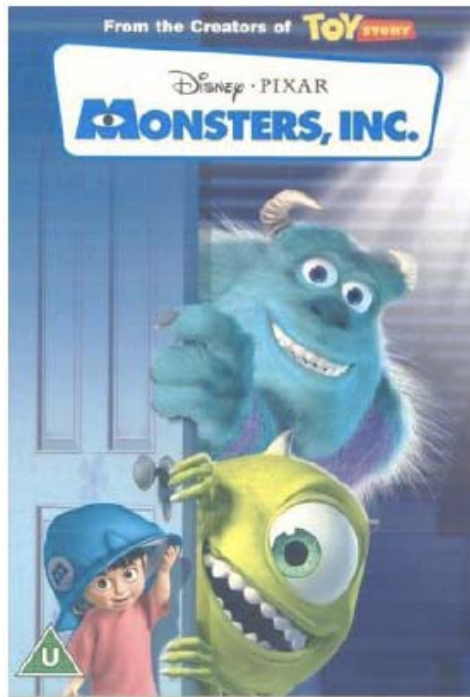
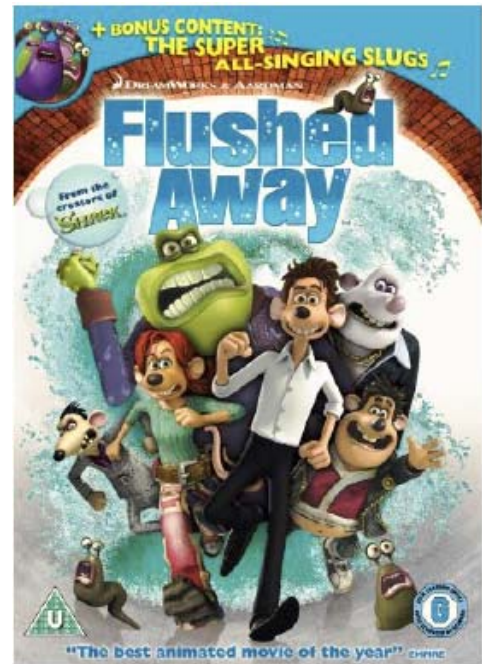
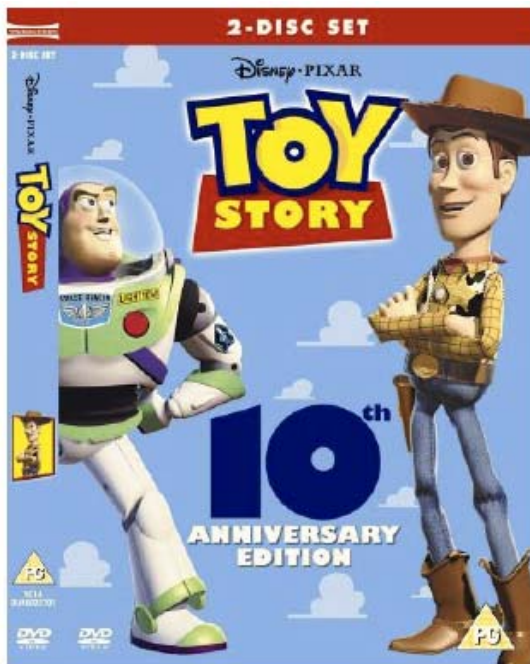


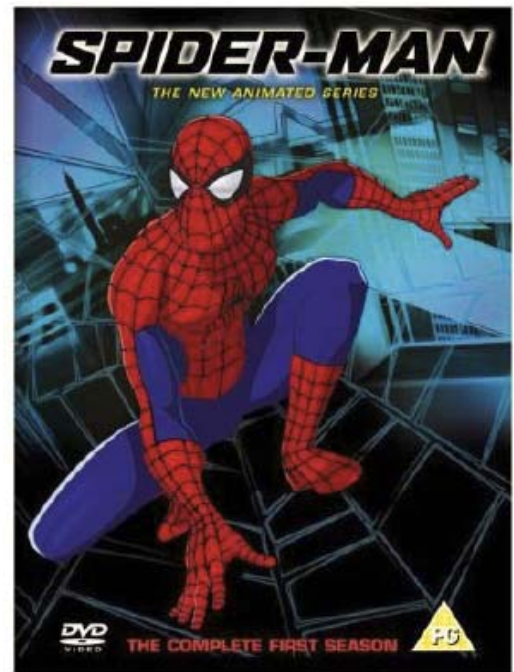
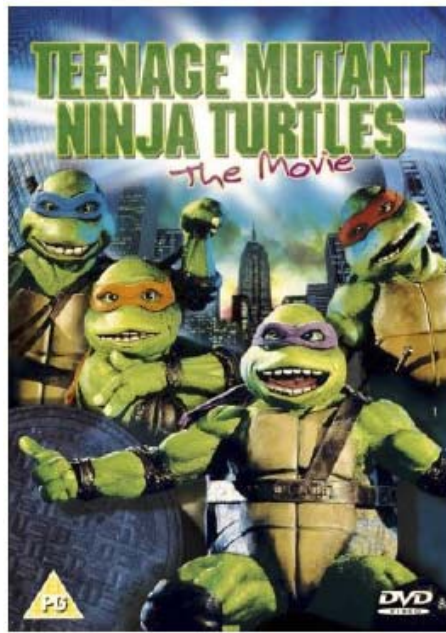
Sonic Rivals (PSP)



Ratchet & Clank 2: Locked & Loaded

Pictures showing children's movies





APPENDIX 26
INTERVIEW GUIDE FOR CARERS

**PHASE II: QUALITATIVE STUDY OF CHILD AND PARENT VIEWS ON
ASSOCIATION BETWEEN EXHIBITED AGGRESSION AND VIEWED
AGGRESSION
INTERVIEW WITH MAIN CARER
— INTERVIEW GUIDE —**

PREFACE

Thank you very much for allowing me to have this discussion with you today. I would very much like to find out what you think about aggression in your child's life. Your views will be highly useful because the results of this study will help mental health professionals to give parents or carers like yourself advice on how to better manage children's aggressive behaviour.

Everything you tell me will be kept confidential. The only thing is that if I think that your child has been hurt, I would need to talk to the person seeing your child at the [enter name of appropriate CAMHS] about keeping your child safe.

Everything related to your identity will be concealed.

I am not in a position to influence the treatment your child receives at the [enter name of appropriate CAMHS]. If you have any issues related to your child's treatment, then please contact the clinician who is seeing your child at the [enter name of appropriate CAMHS].

During the interview I will ask questions about several issues. Please feel free to ask me questions anytime during the interview. The interview will take about one hour. We will take a break of about 10 minutes anytime you want.

During the interview I would like to take notes and to record our discussion using a voice recorder. Is this alright?

Now, before we start, do you have any questions?

I would like to find out about the television programmes your child watches.

- 1. What does your child like watching on TV?**
- 2. Why do you think your child likes watching this/these programme(s)?**
- 3. Are there things your child does not like watching on TV?**
- 4. Why do you think your child does not like watching this/these programme(s)?**
- 5. Are there any rules about your child's watching TV?**

Prompts:

Is your child allowed to watch any TV programme? Or certain programmes only?

When your child is watching TV, is an adult present in the room?

We've been talking about the TV programmes your child watches and I noticed you have/have not mentioned something/anything about seeing aggression or violence or some harmful things. I am particularly interested in aggression or aggressive behaviour. For me, when I say aggression or aggressive behaviour I mean things like:

- a. shouting or swearing at someone else, saying hurtful things to someone else, verbally threatening to hurt someone else
 - b. pushing or hitting someone else, hurting or even killing someone else while fighting or by using a weapon (such as a knife or a gun)
 - c. chasing someone else, making threatening gestures at someone else, threatening someone else with a weapon (such as a knife or a gun)
 - d. breaking things (such as chairs, doors, etc.), destroying someone else's property
 - e. being cruel to animals
- 6. Are there any other things you would think of as aggression or aggressive behaviours?**

- 7. Do you think your child sees aggression on TV?**

Prompts:

Could you tell me about one such TV programme?

Do you think your child sees aggression often on TV?

Now, I would like you to tell me about the video games your child plays. Video games are games like Gameboy or Nintendo, or games that someone could play on Playstation, X-Box, on a computer, on internet, or on a mobile phone.

- 8. What video games does your child like to play?**
- 9. Why do you think your child likes to play these games?**

10. Are there games your child doesn't like to play?

11. Are there any rules about your child's playing video games?

Prompts:

Is your child allowed to play any video game? Or certain games only?

When your child is playing a video game, is an adult present in the room?

Now, I would like us to talk again about aggression. I noticed you have/have not mentioned something/anything about seeing aggression in video games. I would like to know what you think about aggression in video games that children may see.

12. Do you think your child sees aggression in video games?

Prompts:

Could you tell me about one such video game?

Do you think your child sees aggression often in video games?

So far, we've been talking about TV programmes and video games and your child's seeing aggression in these programmes and games. Now, I would like to ask you about any other parts of your child's life where he/she may see aggression.

13. Where else do you think your child sees aggression?

Prompts:

Do you think your child sees aggression at home?

Do you think your child sees aggression at school?

Do you think your child sees aggression in the playground?

Do you think your child sees aggression on the street?

Do you think your child sees aggression in movies other than those on TV?

For instance, movies on videos, or DVDs, or at the cinema?

Do you think your child sees aggression on the Internet?

Do you think your child sees aggression in books or magazines?

14. How do you think your child feels when he/she sees aggression?

Prompts:

Does he/she feel scared?

Does he/she feel angry?

Does he/she feel excited?

Does he/she feel sad?

Now, I would like you to think about possible causes of aggression.

15. What do you think causes aggressive behaviour in children?

Prompts:

Do you think seeing aggression is one of the causes of aggressive behaviour in children? Have you noticed this in your child?

Do you think watching TV is in some way related to aggressive behaviour in children? In what way? Have you noticed this in your child?

Do you think playing video games is in some way related to aggressive behaviour in children? In what way? Have you noticed this in your child?

What about seeing aggression on TV? Does this have any effect on your child?

What about seeing aggression in video games? Does this have any effect on your child?

Well, we have covered a lot of interesting issues today. Is there anything else you would like to tell me about children's aggression, or think that I should have asked?

Thank you very much for your help today. Everything you told me is highly valuable to my research. I shall leave you my contact details in case there is anything else you would like to ask me about the research.

APPENDIX 27

Transcription & Coding Confidentiality Form

Project title: **Aggression in Children Attending CAMHS & Aggression in TV&VG**

Researcher's name: **Oana Mitrofan**

The tape and/or video you are transcribing or coding has been collected as part of a research project. Tapes and videos may contain information of a very personal nature, which should be kept confidential and not disclosed to others. Maintaining this confidentiality is of utmost importance to the University, the participants and the Research Ethics Committees who have approved this research.

We would like you to agree not to disclose any information you may hear on the tape or video to others, to keep the tape or video in a secure place where it can not be heard by other people, and to show your transcription or coding only to the relevant individuals who are involved in the research project. If you find that anyone speaking on a tape or video is known to you, we would like you to stop transcription or coding work on that tape or video immediately.

Declaration

I understand that:

1. I will discuss the content of the tape only with the individuals involved in the research project
2. I will keep the tape in a secure place where it cannot be heard by others
3. I will treat the transcription of the tape as confidential information
4. If the person being interviewed on the tapes is known to me I will undertake no further transcription work on the tape

I agree to act according to the above constraints

Your name _____

Signature _____

Date _____

Occasionally, the conversations on tapes can be distressing to hear. If you should find it upsetting, please speak to the researcher.

APPENDIX 28

**Is Aggression in Children with Behavioural and
Emotional Difficulties Associated with Television
Viewing and Video Game Playing? A systematic review
(Mitrofan et al., 2009)**

Is aggression in children with behavioural and emotional difficulties associated with television viewing and video game playing? A systematic review

O. Mitrofan,* M. Paul* and N. Spencer†

*Health Sciences Research Institute, Medical School, University of Warwick, and

†School of Health and Social Studies, University of Warwick, Coventry, UK

Accepted for publication 26 September 2008

Abstract

Background Possible associations between television viewing and video game playing and children's aggression have become public health concerns. We did a systematic review of studies that examined such associations, focussing on children and young people with behavioural and emotional difficulties, who are thought to be more susceptible.

Methods We did computer-assisted searches of health and social science databases, gateways, publications from relevant organizations and for grey literature; scanned bibliographies; hand-searched key journals; and corresponded with authors. We critically appraised all studies.

Results A total of 12 studies: three experiments with children with behavioural and emotional difficulties found increased aggression after watching aggressive as opposed to low-aggressive content television programmes, one found the opposite and two no clear effect, one found such children no more likely than controls to imitate aggressive television characters. One case-control study and one survey found that children and young people with behavioural and emotional difficulties watched more television than controls; another did not. Two studies found that children and young people with behavioural and emotional difficulties viewed more hours of aggressive television programmes than controls. One study on video game use found that young people with behavioural and emotional difficulties viewed more minutes of violence and played longer than controls. In a qualitative study children with behavioural and emotional difficulties, but not their parents, did not associate watching television with aggression. All studies had significant methodological flaws. None was based on power calculations.

Conclusion This systematic review found insufficient, contradictory and methodologically flawed evidence on the association between television viewing and video game playing and aggression in children and young people with behavioural and emotional difficulties. If public health advice is to be evidence-based, good quality research is needed.

Keywords

child, aggression,
systematic review,
television, video game

Correspondence:

Oana Mitrofan, Health
Sciences Research
Institute, Medical School
Building, University of
Warwick, Coventry CV4
7AL, UK
E-mail:
O.Mitrofan@warwick.ac.uk

Introduction

There is worldwide public health concern at increases in aggressive behaviours and acts of violence by children and young

people (World Health Organization 2002). Health professionals sometimes give advice, including psycho-education about contributory environmental factors, on managing aggression in children and young people. Professional organizations, such as

the American Academy of Pediatrics (2000), have drawn attention to possible links between viewing violence within entertainment media, such as television and video games, and such behaviour.

Existing research has investigated the effects of passive viewing of violence in television programmes and films (Wood *et al.* 1991; Paik & Comstock 1994; Savage 2004) and the effects of newer, interactive media such as video games (Anderson & Bushman 2001; Bensley & van Eeywyk 2001; Sherry 2001; Anderson 2004). In a recent review, Byron (Department for Children, Schools and Families & Department for Culture, Media and Sport 2008) discussed the inconclusive nature of research on associations between the violent content of video games and children's aggressive behaviour and advised researchers to consider 'at risk' groups of children. Browne and Hamilton-Giachritsis (2005) argued that there is consistent evidence linking viewing and interacting with violent images in television, film and video games with aggression, but only in relation to young children and mainly in the short term. They proposed that there may be mediating factors, including mental health problems. Most previous systematic and meta-analytic reviews have only considered age and gender as possible mediating variables (Paik & Comstock 1994; Anderson & Bushman 2001; Bensley & van Eeywyk 2001; Sherry 2001; Anderson 2004). Early research suggested that both aggressive content (Leyens *et al.* 1975; Dorr & Kovacic 1980; Huesmann *et al.* 1984) and amount of violent material watched (Gadow & Sprafkin 1993) were of relevance. We therefore undertook a systematic review to collate and

determine the quality of research on associations between aggressive content and amount of television viewing or video games playing and aggression in children and young people with behavioural and emotional difficulties.

Methods

Terminology

Children and young people cover individuals aged 18 years or less. The term video games is used to cover a spectrum of products, also called electronic or computer games, played on different platforms (e.g. game consoles, computers, the Internet and mobile phones).

Aggression is a complex phenomenon, not clearly distinguished from violence, with many subtypes (Connor 2002; Anderson *et al.* 2003). We focused on overt or direct, other-directed aggression and its sub-categories (Fig. 1) because of its high validity and potentially significant life consequences (Connor 2002).

We use aggression as a synonym for a variety of terms including violence, behavioural problems, challenging behaviour, antisocial behaviour and social, emotional and behavioural problems. These terms are used in educational contexts (school and educational research) and health contexts (health care and health research).

Behavioural and emotional difficulties include conditions that fulfil psychiatric diagnostic criteria for behavioural and

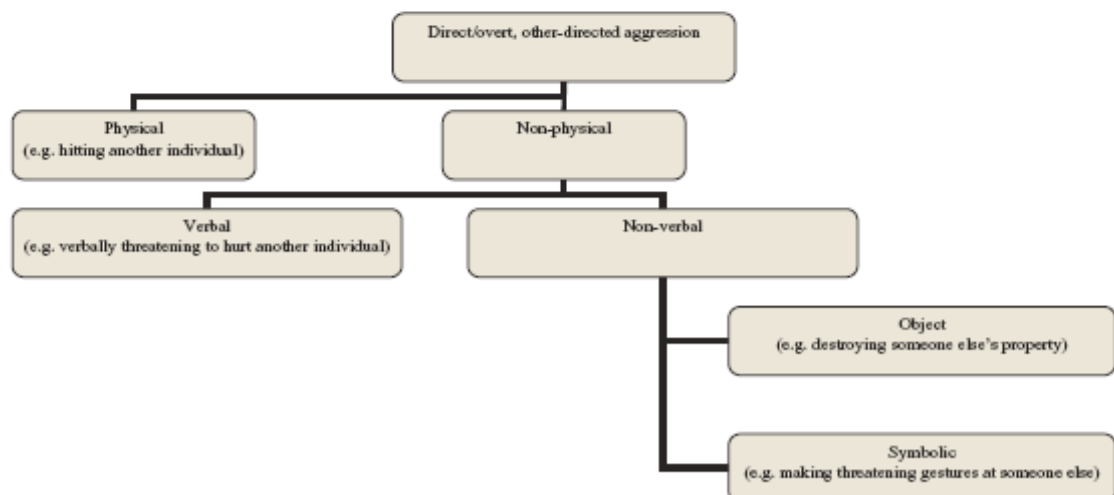


Figure 1. Subtypes of direct/overt, other-directed aggression.

emotional disorders or disruptive behaviour disorders (International Classification of Diseases-10, World Health Organization 1992; Diagnostic and Statistical Manual-IV, American Psychiatric Association 2000) and national, legal, or organizational criteria for children and young people with social, emotional and behavioural special educational needs. Here, behavioural and emotional difficulties exclude other psychiatric conditions (e.g. psychoses, mental retardation/learning disability, pervasive developmental, eating and substance use disorders).

Inclusion and exclusion criteria

We included quantitative and qualitative studies investigating associations between aggressive content and amount of television viewing and video game playing and aggression in children and young people with behavioural and emotional difficulties (as defined above). Studies examining aggression-related phenomena (e.g. thoughts, feelings or mood) were excluded.

Search strategy

We searched computerized health and social science databases and gateways of published literature up to 6 May 2006: MEDLINE (from 1966), PsycINFO (from 1987), ASSIA (from 1987), EMBASE (from 1980), CINAHL (from 1982), Cochrane Library (from 1998), Child Data (from 1990), SOSIG, British Library, Google Scholar and Zetoc (from 1993). We used combinations of key words relating to television and video game (e.g. 'media', 'television', 'electronic game*', 'video game*', 'computer game*', 'virtual reality'); children and young people (e.g. 'child*', 'adolesc*', 'young people'); aggression and behavioural and emotional difficulties (e.g. 'aggress*', 'behav*', 'emotion*', 'antisocial', 'violence', 'conduct', 'hyperkinetic', 'attent*', 'oppositional defiant', 'mental health', 'development*', 'psych*', 'delinquen*'). No language restrictions were applied. Full search strategies are available from the authors.

The following organizations' publications were electronically searched: American Academy of Child and Adolescent Psychiatry, International Association of Child and Adolescent Psychiatry and Allied Disciplines, European Society of Child and Adolescent Psychiatry, Association for Child and Adolescent Mental Health, American Psychological Association, British Psychological Society, British Sociological Association, National Association for Special Education Needs and National Foundation for Educational Research. The following key journals were hand searched: *Journal of Child Psychology and Psychiatry, and Allied Disciplines* [vol. 1–47(5) minus vol. 35, 44(8)], *Emotional and Behavioural Difficulties* [vol. 1–11(1)], *Journal of Special Education* (vol. 14–25), *Special Education* (vol. 53–62), *Special*

Education – Forward Trends (vol. 1–11), *British Journal of Special Education* [vol. 12–33(1) minus vol. 21, 22, 25], *Communication Research* (vol. 1–8, 21), *Critical Studies in Mass Communication* (vol. 12–16) and *Critical Studies in Media Communication* (vol. 17–22).

Unpublished studies were sought by using computer-assisted searches of Grey Net, International Journal of Grey Literature, Research Findings Register, National Electronic Library for Health, Conference Paper Index, Sociological Abstracts, Index to Theses and Dissertation Abstracts. A secondary search involved scanning reference lists and corresponding with authors.

Data extraction and quality assessment

We developed structured proforma for assessing eligibility, extracting relevant data and assessing the methodological quality of quantitative and qualitative studies based on general and specific guidelines. The proforma for quantitative studies included common quality criteria for quantitative studies and specific criteria for assessing validity in experimental studies, case-control studies, cohort studies and cross-sectional surveys (Table 1).

Two investigators independently reviewed all studies. Results were compared and discrepancies resolved by the third investigator. Following recommendations for systematic reviews (Alderson *et al.* 2005), we chose not to use a numerical quality scoring system, but to investigate any influence of methodological quality on study findings.

Results

Studies identified

Of the 50 identified abstracts, 48 full papers were obtained. Twelve studies met inclusion criteria (see Table 2). The main reasons for exclusion were that studies did not examine aggression *per se* (i.e. investigated cognitive, emotional, physiological or neurological responses to, or perceptions of the reality of, viewed material), or study samples inextricably mixed children and young people with behavioural and emotional difficulties and those with other conditions. Where papers reported studies on multiple but separable samples, we appraised sections related to participants with behavioural and emotional difficulties (Sprafkin & Gadow 1988). Three papers reported two separate studies each (Sprafkin & Gadow 1986; Gadow & Sprafkin 1987; Gadow *et al.* 1987). All studies were conducted in the USA except two in Germany (Hässler *et al.* 1993; Möller-Nehring *et al.* 1998).

Table 1. Quality assessment criteria (Based on Critical Appraisal Skills Programme 2004; Ajetunmbi 2002; Horsburgh 2003; Jones *et al.* 2003; Dixon-Woods *et al.* 2004; Harden *et al.* 2004; Alderson *et al.* 2005; Côté & Turgeon 2005)

Quality assessment criteria
Common criteria for quantitative studies
Appropriate study design for research question/study aim
Adequate sample size [i.e. sufficiently powered (between 80% and 90%) at a conventional level of significance ($P \leq 0.05$ or <0.01)]
Clearly described characteristics of participants (demographic characteristics, condition/diagnostic)
Valid measures
Reliable measures
Appropriate statistical methods
Additional sources of bias identified
Additional sources of bias addressed
Additional specific criteria for experimental studies
Clearly defined inclusion criteria (e.g. diagnostic criteria)
Clearly defined exclusion criteria
Random allocation
Blinding (of outcome evaluators)
Dropouts clearly described
Dropouts accounted for
Additional specific criteria for observational, case-control studies
Cases representative of chosen population
Reliable system for selecting all cases
Matched groups
Similar measures in cases and controls
Additional specific criteria for observational, cohort studies
Cohort representative of chosen population
Adequate follow-up period
Additional specific criteria for observational, cross-sectional surveys
Appropriate type of survey
No systematic differences between respondents and non-respondents
Efforts made to ensure better response
Criteria for qualitative research
Appropriate study design to research question
Appropriate selection of participants and setting to research question
Appropriate data collection to research question
Relationship between researcher and participants including researcher's own views and roles adequately considered
Appropriate data analysis to research question
Attempts made to establish validity of findings
Attempts made to establish reliability of findings
Sufficient original data included to mediate between evidence and interpretation
Sources of bias identified
Sources of bias addressed

Effects of television viewing on behaviour

Seven experimental studies investigated the immediate effects of viewing aggressive as opposed to low- or non-aggressive television programmes on the behaviour of children and young people with behavioural and emotional difficulties. They were conducted in school settings (field experiments) (Gadow *et al.* 1987; Gadow & Sprafkin 1987; Sprafkin *et al.* 1988) or

experimentally constructed settings (laboratory-based experiments) (Walters & Willows 1968; Sprafkin & Gadow 1988).

In relation to pre-school children with behavioural and emotional difficulties: one study found that viewing cartoons, regardless of their content, increased non-physical aggression but discouraged playful physical aggression and non-compliance (Gadow *et al.* 1987 study B). Another similar study, however, found no such effects (Gadow *et al.* 1987 study A).

In relation to primary school children with behavioural and emotional difficulties, some studies found that watching aggressive cartoons increased physical aggression and appropriate social interaction (Gadow & Sprafkin 1987 study A) and non-compliance (Gadow & Sprafkin 1987 study B) post-viewing and induced more non-compliance than low-aggression cartoons (Gadow & Sprafkin 1987 study B). Watching low-aggression cartoons, however, decreased physical aggression post-viewing and induced lower levels of physical and non-physical aggression than watching aggressive cartoons (Gadow & Sprafkin 1987 study B). Contrastingly, Sprafkin and colleagues (1988) found that watching low-aggression cartoons increased physical and non-physical aggression post-viewing and induced more physical aggression than watching aggressive cartoons. Sprafkin and Gadow (1988) indicated that viewing aggressive, as opposed to low-aggression cartoons made children more willing to inflict harm against another child in situations in which there were no deterrents for such behaviour and no opportunities for peer retaliation. Walters and Willows (1968) found that primary school-aged children with behavioural and emotional difficulties were not more likely to imitate an aggressive television character compared with their peers without behavioural and emotional difficulties.

Amount and aggressive content of television viewing and video game playing

Compared with their peers without behavioural and emotional difficulties, primary school-aged children with behavioural and emotional difficulties, completing a child-report measure in a case-control study, reported viewing more hours of television on average per week (25.18 cf. 21.25, $P < 0.01$) and more hours of programmes with aggressive content [cartoons (6.13 cf. 5.00, $P < 0.05$) and crime dramas (10.24 cf. 6.93, $P < 0.001$)] (Sprafkin & Gadow 1986). Children with behavioural and emotional difficulties named significantly more crime dramas as favourites and maintained their preference for cartoons, unlike their peers without behavioural and emotional difficulties.

In another case-control study, the scores of young people with behavioural and emotional difficulties indicated higher

Table 2. Characteristics of the included studies

Study ID and type	Study participants: number; age; gender; ethnicity; IQ; main condition (criteria, number); associated conditions (if any, number). Setting	TV/VC intervention/ variable (number)	Behaviour outcome/ variable	Participants' views
Experimental studies (field)				
Gadow and colleagues (1987) (study A)	9; 3.2–5.1 years; 8 boys, 1 girl; all white; mean IQ = 115.1; ED (US Federal Register). Public school for ED children	Experimental viewing high-aggression cartoons* in classroom (9) Control: viewing low-aggression cartoons* in classroom (9)	Observed behaviourst, 2 classroom settings (structured activity, free play) – measured by the Code for Observing Social Activity	
Gadow and colleagues (1987) (study B)	14; 2.6–5.5 years; 12 boys, 2 girls; all white; mean IQ = 111.2; ED (US Federal Register). Public school for ED children	Experimental viewing high-aggression cartoons* in classroom (14) Control: viewing low-aggression cartoons* in classroom (14)	Observed behaviourst, 1 classroom setting (free play) – measured by the Code for Observing Social Activity	
Gadow and Sprafkin (1987) (study A)	11; 8.6–12.1 years; 5 boys, 6 girls; 10 white, 1 black; mean IQ = 94.4; ED (US Federal Register). Public school for ED children	Experimental viewing high-aggression cartoons* in classroom (11) Control: viewing low-aggression cartoons* in classroom (11)	Observed behaviourst, 2 school settings (lunchroom, recess) – measured by the Code for Observing Social Activity	
Gadow and Sprafkin (1987) (study B)	9; 5.7–8.3 years; 7 boys, 2 girls; all white; mean IQ = 93.6; ED (US Federal Register); infantile autism (DSM III, 1). Public school for ED children	Experimental viewing high-aggression cartoons* in classroom (9) Control: viewing low-aggression cartoons* in classroom (9)	Observed behaviourst, 2 school settings (lunchroom, recess) – measured by the Code for Observing Social Activity	
Sprafkin and colleagues (1988)	26; 6–9 years; 20 boys, 6 girls; white: black: Hispanic = 70%: 20%: 10%; mean IQ = 89.5; ED (US Federal Register). Public school for ED children	Experimental viewing high-aggression cartoons* in classroom (26) Control: viewing low-aggression cartoons* in classroom (26)	Observed behaviourst, 2 school settings (lunchroom, recess) – measured by the Code for Observing Social Activity	
Experimental studies (laboratory-based)				
Sprafkin and Gadow (1988)	15; 5–10 years; 14 boys, 1 girl; white: black: Hispanic = 92%: 5%: 3% (aggregated data for ED and learning disabled); mean IQ = 97; ED (US Federal Register). University research site; participants recruited from public school for ED (and learning disabled) children	Experimental viewing high-aggression cartoons* in experimentally constructed viewing room (no number specified) Control: viewing low-aggression cartoons* in experimentally constructed viewing room (no number specified)	Aggression – measured by the Help-Hurt Game (number of seconds of pressing the Help or the Hurt button meaning helping to win a game or hurting a fictitious, but believed to be real, child) in experimentally constructed game room	
Walters and Willows (1968)	24; 7 years 4 months–11 years 10 months; all boys; no data for ethnicity; IQ = 8.2–136; ED (character disorder; behaviour disorder; personality disorder as reported in hospital records). University research site; participants recruited from short-term residential treatment centre	Experimental 1: viewing in experimentally constructed viewing room a film depicting an adult female model acting aggressively in relation to play materials in experimental room (24) Experimental 2: viewing in experimentally constructed viewing room a film depicting an adult female model acting nonaggressively in relation to play materials in experimental room (24) Control: viewing in experimentally constructed viewing room a film depicting no model (12)	Aggressive and non-aggressive behaviours in relation to play materials in experimental room – measured by direct observation	

Table 2. Continued

Study ID and type	Study participants: number, age, gender, ethnicity, IQ, main condition (criteria, number); associated conditions (criteria, number), Setting	TV/VG intervention/ variable (number)	Behaviour outcome/ variable	Participants views
Case-control studies				
Sproffkin and Gadow (1986)	42; 7.5–13 years; all boys; no data for ethnicity; mean IQ = 89.9; ED (US Federal Register), Public school for ED children 42; 7.5–13 years; all boys; no data for ethnicity; mean IQ = 111.82; non-ED; Regular school	Amount (number of hours per week) and content (programme type) of TV viewing – measured by the Television Diary (child-report); children selected the TV programmes watched during 2 time blocks [evening (8:00–11:00 PM) every day of the week and after school (3:00–7:00 PM) Monday–Friday] from the programmes listed on the Diary [8 types of programmes (crime drama, non-time drama, situation comedy, cartoon, soap opera and news/documentary) based on programme description in TV Guide]; TV-viewing estimates derived by summing the duration of the selected programmes.	School type attendance	
Kronenberg and colleagues (2005)	27; 13–17 years; 21 boys, 6 girls; 11 white, 13 African American; 3 mixed; mean IQ = 96.7; DBD-AF (DSM-IV); CD (23), ODD (40); AD-HD (ID 54-N; 15); DD (DSM-IV; 6); AD (DSM-IV; 6); ED (DSM-IV; 5); EsD (DSM-IV; 2); University research site; participants recruited from schools, clinics, community organizations 27; 13–17 years; 21 boys, 6 girls; 11 white, 14 African American; 2 mixed; mean IQ = 98.8; no DSM-IV diagnosis; no contact with a mental health professional for treatment of a behavioural/emotional problem within the past 3 years. University research site; participants recruited from school, clinics, community organizations	Amount (number of minutes) per day every week) and violent content (defined as injury (i.e. depiction of a person being injured) and graphic injury (i.e. depiction of an injury showing blood, loss of body parts or similar graphic physical damage)) of TV viewing and VG playing – measured by the Media Exposure Measure (adolescent- and parent-report). Estimates of exposure to violence derived from: number of minutes of viewing injury and graphic injury in TV programmes/VG viewed/played each day of the past week; number of hours per week over past year of TV viewing/VG playing multiplied by proportion of viewing injury and graphic injury in TV programmes/VG viewed/played over past year.	Diagnostic category – measured by diagnostic instruments (Kiddie-SADS and Adolescent Symptom Inventory-4)	

Study	Sample	Amount (number of hours per day) of TV viewing – measured by parental interview	Diagnostic category – measured by clinical assessment, diagnostic instruments	Views of behavioural effects of TV viewing – data collected through child and parent questionnaires
Cross-sectional surveys Möller-Nehring and colleagues (1998)	235; mean age = 11.4 years; no data for gender, ethnicity and IQ; CD, hyperkinetic CD, MD/CE (ICD-10) 324; mean age = 9.5 years; no data for gender, ethnicity and IQ; no psychiatric diagnosis (ICD-10) 517; mean age = 11.7 years; no data for gender, ethnicity and IQ; other psychiatric diagnosis (ICD-10). Child psychiatry outpatient/inpatient clinic			
Hässler and colleagues (1993)	25; 5–19 years; no data for gender, ethnicity and IQ; CD, HD, MD/CE (ICD-10) 34; 5–19 years; no data for gender, ethnicity and IQ; other psychiatric diagnosis (ICD-10). Child psychiatry and neurology inpatient clinic	Amount (number of hours per day) of TV viewing – measured by child and parent questionnaires	Diagnostic category – measured by diagnostic instruments	Views of behavioural effects of TV viewing – data collected through child and parent questionnaires
Qualitative studies Lowdermilk (2004)	6; primary school-aged; no data for gender, ethnicity and IQ; ED (US Individuals with Disabilities Education Act Amendments of 1997, verification of diagnosis by the school campus administrator); MFD (no specified criteria). Special education school	TV consumption – data collected through face-to-face interviews TV characters' behaviour – data collected through viewing and coding of TV programmes	Observed behaviours, school settings – data collected through direct observation	Views of influence of TV consumption on students' behaviour – data collected through face-to-face interviews with students and teachers

TV, television; Vg, video game; IQ, intelligence quotient; ED, emotional disturbance/disorder; ICD, International Classification of Diseases; DSM, Diagnostic and Statistical Manual of Mental Disorders; DBD-AF, disruptive behaviour disorder with aggressive features; CD, conduct disorder; ODD, oppositional defiant disorder; ADHD, attention-deficit/hyperactivity disorder; DD, dysthymic disorder; AD, anxiety disorder; SD, somatization disorder; EAD, eating disorder; HD, hyperkinetic disorder; MDC/CE, mixed disorder of conduct and emotions; MPD, multiple personality disorder
*The cartoon programmes were content analysed for the presence of physical aggression (e.g. hitting, pushing, fighting), non-physical aggression (i.e. verbal (e.g. verbal threats, name-calling), object (e.g. damaging an object) and symbolic (e.g. making threatening gestures)), immature behaviour (e.g. sulking, showing off), autism (i.e. specific acts of helping, sharing or cooperating), appropriate social interaction and activity level.
†Classroom behaviours: negative (i.e. protested by playmate) physical aggression (e.g. hitting, pushing, fighting), playful (i.e. received approvingly by playmate) physical aggression, non-physical aggression (i.e. verbal (e.g. verbal threats, name-calling), object (e.g. making threatening gestures)), non-compliance (e.g. failure to comply with adult request, breaking a rule), immature behaviour (e.g. sulking, showing off) and socially appropriate behaviour (e.g. cooperative play, helping another child).

exposure to violence in television programmes (parent-report) and video games (young person- and parent-report) compared with peers without behavioural and emotional difficulties (Kronenberg *et al.* 2005). Young people with behavioural and emotional difficulties exposed to more television violence were also likely to be exposed to more video game violence. The amount of television watched by young people with behavioural and emotional difficulties (young person- and parent-report) did not differ significantly from that watched by their peers without behavioural and emotional difficulties (average of 2–3 h per day over a year). Young people with behavioural and emotional difficulties reported more minutes of video game playing per day, over a year, than their peers without behavioural and emotional difficulties (30–60 cf. 10–15, $P < 0.02$).

A parent survey indicated that children and young people with behavioural and emotional difficulties watched television for more hours a day, on average, than those with other or no psychiatric diagnoses (3.4 cf. 2.2 cf. 1.8, $P < 0.00005$) (Möller-Nehring *et al.* 1998). A parent and child survey (primary and secondary school-aged children and young people) in the same context, however, found no such difference (Hässler *et al.* 1993).

Views of children and young people and their parents/carers

Hässler and colleagues (1993) found that parents of children and young people with behavioural and emotional difficulties thought symptoms such as aggression and anxiety were caused by watching television. Their children did not and also did not perceive themselves as aggressive. Children with or without behavioural and emotional difficulties, especially those who watched mainly action films, thrillers and horror films, associated watching television with insomnia, nightmares, restlessness and headaches.

Lowdermilk's (2004) qualitative study found a difference between the antisocial classroom behaviours of primary school children with behavioural and emotional difficulties on one hand and the content, and children's interpretation of the content, of their favourite television programmes on the other. These children stated they preferred television programmes rated as positive and family-friendly and did not perceive their classroom behaviours, which were assessed as predominantly physically and verbally aggressive, as the result of imitating television characters. In contrast, their teachers believed that watching television negatively affected students' behaviour, although they were unable to give examples of this influence.

Quality assessment

Quantitative studies: general criteria

All quantitative studies except one (Möller-Nehring *et al.* 1998) had relatively small sample sizes (between 9 and 84, mean = 34.1). No power calculations or confidence intervals for study findings were specified, therefore, it was not possible to exclude Type II errors in any of these studies. The validity of outcome/variable measures was unclear in all studies. Only two studies (Walters & Willows 1968; Sprafkin & Gadow 1986) provided data on reliability of outcome and/or variable measures. Most studies did not use random sampling, creating possible selection bias. Participants generally attended a particular school, class (Sprafkin & Gadow 1986, 1988; Gadow & Sprafkin 1987; Gadow *et al.* 1987; Sprafkin *et al.* 1988) or hospital ward (Walters & Willows 1968) or were self-selected (Kronenberg *et al.* 2005). In studies conducted in educational contexts (Sprafkin & Gadow 1986, 1988; Gadow & Sprafkin 1987; Gadow *et al.* 1987; Sprafkin *et al.* 1988) children within each school may have been studied more than once, using similar methods (part of same research programme).

Possible biasing factors taken into account, but not found to be significant, were different levels of attention paid to aggressive and control cartoons (Gadow *et al.* 1987 study B; Sprafkin *et al.* 1988), the behavioural state of participants prior to viewing cartoons (Gadow & Sprafkin 1987 study B; Sprafkin *et al.* 1988) and the order of presentation of aggressive and control cartoons (Gadow & Sprafkin 1987 study B). Attempts to limit recall bias in the observational studies included using multiple ways of measuring exposure to television and video game violence (e.g. over the previous week and past year) (Kronenberg *et al.* 2005) and multiple respondents (children and young people and parents) (Hässler *et al.* 1993; Kronenberg *et al.* 2005).

Experimental studies

All experimental studies defined inclusion criteria, except for one (Walters & Willows 1968) that failed to adequately describe criteria for 'emotional disturbance'. None defined exclusion criteria (Walters & Willows 1968; Gadow & Sprafkin 1987; Gadow *et al.* 1987; Sprafkin & Gadow 1988; Sprafkin *et al.* 1988). In all experiments, outcome evaluators were 'blind' to the programme viewed but in one study (Walters & Willows 1968) it was unclear whether they were 'blind' to participants' condition (i.e. with or without behavioural and emotional difficulties). Authors did not clearly describe attrition or measures to counteract attrition. The laboratory-based experiments randomly allocated

participants to groups matched by gender, age and IQ, but the exact randomization procedure was not described (Walters & Willows 1968; Sprafkin & Gadow 1988).

Case-control studies

The case-control study groups were matched by age, gender and IQ (Kronenberger *et al.* 2005) or age and gender alone (Sprafkin & Gadow 1986); however, it was unclear whether cases were representative of the target population and whether valid sampling strategies were used in both these studies. It was unclear whether there were systematic differences between respondents and non-respondents in the cross-sectional surveys and whether efforts were made to maximise response rates (Hässler *et al.* 1993; Möller-Nehring *et al.* 1998).

Quantitative studies: overall

In summary, methodological problems with the quantitative studies included them being possibly underpowered, using non-validated measures, whose reliability was not reported and inadequately addressing possible biasing variables. Findings of studies conducted within so specific an educational context (Sprafkin & Gadow 1986, 1988; Gadow & Sprafkin 1987; Gadow *et al.* 1987; Sprafkin *et al.* 1988), specific health contexts (Walters & Willows 1968; Hässler *et al.* 1993; Möller-Nehring *et al.* 1998; Kronenberger *et al.* 2005) and laboratory-based experiments (Walters & Willows 1968; Sprafkin & Gadow 1988) may have limited generalizability to children and young people with behavioural and emotional difficulties seen in mental health services worldwide.

Qualitative study

Lowdermilk (2004) used convenience sampling and sample size was not justified. Potential bias related to the researcher's views and roles were not critically examined. No attempts were made to establish the validity or reliability of findings (e.g. through triangulation). Insufficient original data were included to allow differences between evidence and interpretation to be distinguished.

Discussion

This systematic review focused on collating and determining the quality of existing evidence on any association between the aggressive content and amount of television viewing and video game playing and aggression in children and young people with

behavioural and emotional difficulties. We identified only 12 studies, none of which were randomized controlled trials. Critical appraisal indicated that all studies had significant flaws and thus, overall, the quality of evidence is poor.

Summarizing findings, in relation to video game playing, only one case-control study of 27 self-selected, non-randomly recruited aggressive 13–17-year-olds (Kronenberger *et al.* 2005) was identified. This study found that young people with behavioural and emotional difficulties viewed statistically significantly more minutes of violence than non-aggressive peers, matched by age, gender and IQ; however, the study measure was not validated and this limits the quality of this evidence.

When considering whether children and young people with behavioural and emotional difficulties watched more television than those with other psychiatric disorders or no disorder, we found studies from health and educational contexts. The evidence is equivocal (Sprafkin & Gadow 1986; Hässler *et al.* 1993; Möller-Nehring *et al.* 1998; Kronenberger *et al.* 2005).

The evidence on any association between watching aggressive content in television programmes is contradictory. Two observational studies found statistically significant evidence that children and young people with behavioural and emotional difficulties watched more hours of programmes with aggressive content, as reported by children (Sprafkin & Gadow 1986) and parents (Kronenberger *et al.* 2005), but neither study measure was validated. Contrastingly, the views of children and young people with behavioural and emotional difficulties did not indicate a preference for aggressive television content and did not support an association between television viewing and aggression (Hässler *et al.* 1993; Lowdermilk 2004), although parental views did (Hässler *et al.* 1993). It is also important to note that the number of television channels and programme content have changed significantly since the majority of these studies were undertaken, limiting their current generalizability.

Our findings cohere with the last (non-systematic) review focussing on children and young people with behavioural and emotional difficulties (Gadow & Sprafkin 1993), i.e. that there is insufficient and contradictory research evidence supporting relation to any association between aggression seen on television and subsequent aggressive behaviour. These findings contrast with meta-analyses of research on the general population (children and young people and adults), which have found such an association (Wood *et al.* 1991; Paik & Comstock 1994).

As previously noted by Jordan (2006), we found no existing standard measure of television viewing/ video game playing. Many measures used in the studies we identified were not tested

for validity or reliability. Both issues undermine the quality and comparability of existing evidence.

Our systematic review had some limitations: we had no access to PsycEXTRA (a gray literature database of the American Psychological Association), hand searching was limited to available local library issues, and full data for one unpublished study (Kelly E., Sprafkin J. & Gadow D. unpublished manuscript) could not be obtained (confirmed by authors).

Overall, there are only a few, methodologically flawed studies in this area. There is therefore a need for rigorous qualitative and quantitative research, especially adequately powered studies, and the development of valid and reliable measures. The need for accuracy and completeness in the reporting of studies is also key. We recognize, however, that the complexity of investigating aggression and amount and content of media consumption seems almost limitless. The methodological challenges of designing and conducting studies on any association are significant and compounded, when considering children and young people with behavioural and emotional difficulties, by ethical deliberations associated with a dually vulnerable population. Individual practitioners and professional bodies should take both the paucity of evidence and the difficulties of doing such research into account when advising families or the public.

Key messages

- There are no randomized, controlled trials on any association between the aggressive content and amount of television watched or video games played and aggression in children and young people with behavioural and emotional difficulties.
- The quality and findings of the 12 studies identified by this systematic review do not enable the giving of evidence-based advice about the effects of watching aggression on television or in video games on the behaviour of children and young people with behavioural and emotional difficulties.
- Undertaking research in this area is complex and difficult, especially as there are no regularly used valid and reliable measures.
- Good quality quantitative and qualitative research will need to be completed if we are to have an evidence base that justifies telling children and young people with behavioural and emotional difficulties that they should watch less aggression on television or in the video games they play.

Acknowledgements

We would like to thank Diane Clay for helping with the search strategy, Antje Lindenmeyer for assisting with translations and Joyce Sprafkin and Kenneth D Gadow for providing additional study data.

References

- Ajetunmbi, O. (2002) *Making Sense of Critical Appraisal*. Arnold, London, UK.
- Alderson, P., Green, S. & Higgins, J. P. T. (eds) (2005) *Cochrane reviewers' handbook 4.2.2* [updated May 2005]. In: *The Cochrane Library*, issue 3 (eds P. Alderson, S. Green & J. P. T. Higgins), pp. 49–60. John Wiley and Sons, Chichester, UK.
- American Academy of Pediatrics (2000) Media Matters. Joint Statement on the Impact of Entertainment Violence on Children. Congressional Public Health Summit July 26, 2000. Available at: <http://www.aap.org/advocacy/releases/jstntevc.htm> (accessed from 28 November 2006).
- American Psychiatric Association (2000) *Diagnostic and Statistical Manual of Mental Disorders*, 4th edn, DSM-IV-TR (text revision). American Psychiatric Association, Washington, DC, USA.
- Anderson, C. (2004) An update on the effects of playing violent video games. *Journal of Adolescence*, 27, 113–22.
- Anderson, C. A. & Bushman, B. J. (2001) Effects of violent video games on aggressive behavior, aggressive cognition, aggressive affect, physiological arousal, and prosocial behavior: a meta-analytic review of the scientific literature. *Psychological Science*, 12, 353–359.
- Anderson, C. A., Berkowitz, L., Donnerstein, E., Huesmann, L. R., Johnson, J. D., Linz, D., Malamuth, N. M. & Wartella, E. (2003) The influence of media violence on youth. *Psychological Science in the Public Interest*, 4, 81–110.
- Bensley, L. & van Eeywyk, J. (2001) Video-games and real-life aggression: review of the literature. *Journal of Adolescent Health*, 29, 244–57.
- Browne, K. D. & Hamilton-Giachritsis, C. (2005) The influence of violent media on children and adolescents: a public-health approach. *The Lancet*, 365, 702–10.
- Connor, D. F. (2002) *Aggression and Antisocial Behaviour in Children and Adolescents: Research and Treatment*. The Guilford Press, New York, NY, USA.
- Côté, L. & Turgeon, J. (2005) Appraising qualitative research articles in medicine and medical education. *Medical Teacher*, 27, 71–75.
- Critical Appraisal Skills Programme (2004) Appraisal tools. Available at: <http://www.phru.nhs.uk/Pages/PHD/resources.htm> (accessed from 9 June 2006).
- Department for Children, Schools and Families & Department for Culture, Media and Sport (2008). *Byron Review. Children and New Technology. Safer Children in a Digital World: Full Report*. Available at: <http://www.dfes.gov.uk/byronreview/> (accessed from 16 April 2008).

- Dixon-Woods, M., Straw, R. L., Agarwal, S. & Smith, J. A. (2004) The problem of appraising qualitative research. *Quality and Safety in Health Care*, 13, 223–225.
- Dorr, A. & Kovacic, P. (1980) Some of the people some of the time – but which people? Television violence and its effects. In: *Children and the Faces of Television: Teaching, Violence, Selling* (eds E. L. Palmer & A. Dorr), pp. 183–199. Academic Press, New York, NY, USA.
- Gadow, K. D. & Sprafkin, J. (1987) Effects of viewing high versus low aggression cartoons on emotionally disturbed children. *Journal of Pediatric Psychology*, 12, 413–427.
- Gadow, K. D. & Sprafkin, J. (1993) Television 'violence' and children with emotional and behavioural disorders. *Journal of Emotional and Behavioral Disorders*, 1, 54–63.
- Gadow, K. D., Sprafkin, J. & Ficarrotto, T. J. (1987) Effects of viewing aggression-laden cartoons on preschool-aged emotionally disturbed children. *Child Psychiatry and Human Development*, 17, 257–274.
- Harden, A., Garcia, J., Oliver, S., Rees, R., Shepherd, J., Brunton, G. & Oakley, A. (2004) Applying systematic review methods to studies of people's views: an example from public health research. *Journal of Epidemiology and Community Health*, 58, 794–800.
- Hässler, F., Gierow, B., Tilch, P. & Langemann, I. (1993) [Television behavior of a pediatric and adolescent psychiatric patient population]. [German]. *Pediatric und Grenzgebiete*, 31, 363–369.
- Horsburgh, D. (2003) Evaluation of qualitative research. *Journal of Clinical Nursing*, 12, 307–312.
- Huesmann, L. R., Lagerspetz, K. & Eron, L. D. (1984) Intervening variables in the TV-violence-aggression relation: evidence from two countries. *Developmental Psychology*, 20, 746–75.
- Jones, S. R., Carley, S. & Harrison, M. (2003) An introduction to power and sample size estimation. *Emergency Medicine Journal*, 20, 453–458.
- Jordan, A. B. (2006) Exploring the impact of media on children. *Archives of Pediatrics and Adolescent Medicine*, 160, 446–447.
- Kronenberg, W. G., Mathews, V. P., Dunn, D. W., Wang, Y., Wood, E. A., Larsen, J. J., Rembusch, M. E., Lowe, M. J., Giauque, A. L. & Lurito, J. T. (2005) Media violence exposure in aggressive and control adolescents: differences in self- and parent-reported exposure to violence on television and in video games. *Aggressive behavior*, 31, 201–216.
- Leyens, J. P., Camino, L., Parke, R. D. & Berkowitz, L. (1975) Effects of movie violence on aggression in a field setting as a function of group dominance and cohesion. *Journal of Personality and Social Psychology*, 32, 340–366.
- Lowdermilk, J. L. (2004) *A deconstruction and qualitative analysis of the consumption of traditional entertainment media by elementary-aged children diagnosed with emotional disorders*. Dissertation-Abstracts-International: Section A, 65/08, 2950.
- Möller-Nehring, E., Moach, A., Castell, R., Weigel, A. & Meyer, M. (1998) [Conditions facilitating social disorder in children and adolescents in a clinic referred sample]. [German]. *Praxis der Kinderpsychologie und Kinderpsychiatrie*, 47, 36–47.
- Paik, H. & Comstock, G. (1994) The effects of television violence on antisocial behavior: a meta-analysis. *Communication Research*, 21, 516–546.
- Savage, J. (2004) Does viewing violent media really cause criminal violence? A methodological review. *Aggression and Violent Behavior*, 10, 99–128.
- Sherry, L. (2001) The effects of violent video games on aggression: a meta-analysis. *Human Communication Research*, 27, 409–431.
- Sprafkin, J. & Gadow, K. D. (1986) Television viewing habits of emotionally disturbed, learning disabled, and mentally retarded children. *Journal of Applied Developmental Psychology*, 7, 45–59.
- Sprafkin, J. & Gadow, K. D. (1988) The immediate impact of aggressive cartoons on emotionally disturbed and learning disabled children. *The Journal of Genetic Psychology*, 149, 35–44.
- Sprafkin, J., Gadow, K. D. & Grayson, P. (1988) Effects of cartoons on emotionally disturbed children's social behavior in school settings. *Journal of Child Psychology*, 29, 91–99.
- Walters, R. H. & Willows, D. C. (1968) Imitative behavior of disturbed and non-disturbed children following exposure to aggressive and nonaggressive models. *Child Development*, 39, 79–89.
- Wood, W., Wong, F. Y. & Chachere, J. G. (1991) Effects of media violence on viewers' aggression in unconstrained social interactions. *Psychological Bulletin*, 109, 371–383.
- World Health Organization (1992) *The ICD-10 Classification of Mental and Behavioural Disorders: Clinical Descriptions and Diagnostic Guidelines*. World Health Organization, Geneva, Switzerland.
- World Health Organization (2002) *Youth Violence*. Available at: http://www.who.int/entity/violence_injury_prevention/violence/world_report/factsheets/en/youthviolencefacts.pdf (accessed from 9 October 2006).