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An Exploration of Dissociative Experiences and Affect Recognition in the
Experience of Early Psychosis.

Natalie Lowe

Thesis submitted in partial fulfilment for the requirements for the
degree of

Doctor of Clinical Psychology

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Declaration

This thesis has been written for submission as a partial fulfilment of the requirements for the Universities of Coventry and Warwick Clinical Psychology Doctorate Programme. This thesis is my own work, carried out under the supervision of Dr Susannah Ackner, Dr Lesley Pearson, Ms Jo Kucharska, Dr Anthony Colombo and Dr Ian Hume. The work within this thesis was influenced by my previous work experiences and discussions with my supervisory team. Authorship of published papers will be shared with supervisors. This thesis has not been submitted for a degree at any other institution.

The thesis chapters will be prepared for submission according to the criteria of the following journals:

Chapter I: Affect Perception in Early Psychosis: A Systematic Review and Methodological Critique. *Early Intervention in Psychiatry* (see Appendix A for author's publication guidelines);

Chapter II: An Understanding of Early Psychosis in the Context of Dissociative Experiences. *Psychosis: Psychological, Social and Integrative Approaches* (see Appendix B for author's publication guidelines);

Chapter III: "Parenthetical Considerations" – Reflections on the Experience of Undertaking Research in the Current NHS Climate. *Reflective Practice* (see Appendix C for author's publication guidelines).

Summary of Chapters

'The early phase of psychosis is understood to be formative in biological, psychological, and social terms, thus affording major opportunities for secondary prevention' (Birchwood & Fiorillo, 2000, p.182). The current thesis considers the experience of early psychosis and how variables of social cognition, trauma and dissociation, influence this crucial and formative period.

Chapter I presents a systematic literature review that explores affect perception in early psychosis. The review suggests the presence of an affect perception deficit in early psychosis, which may be more pronounced for perception of negative emotions. In exploring the nature and impact of an affect perception deficit in early psychosis, it is noted that further research is needed to fully understand the implications. However, affect perception deficit in early psychosis may be improved through psychological interventions.

Chapter II presents an empirical paper that explores the relationship between trauma, dissociation and early psychosis, and specifically whether dissociation mediates the relationship between experience of trauma and early psychosis. Results indicated that first episode psychosis clients reported significantly greater experiences of trauma and dissociation, and that correlations between trauma experiences and dissociative symptoms in the first episode psychosis group were stronger compared to a healthy control group. Furthermore, dissociation positively

mediated the relationship between experience of trauma and first episode psychosis. Results are discussed in relation to existing evidence and theoretical models. Considerations for future research and clinical implications are also discussed.

Chapter III presents a reflective paper, which considers the researcher's experiences of conducting research in the area of early psychosis. Particular attention is given to the discussion of ethical and methodological considerations in relation to undertaking research in the context of current NHS Early Intervention for Psychosis services.

Word count of thesis: 19389 (excluding tables, figures, references and appendices)

List of Abbreviations

DES	Dissociative Experiences Scale
DID	Dissociative Identity Disorder
DSM	Diagnostic and Statistical Manual of Mental Disorders
DUP	Duration of Untreated Psychosis
DOI	Duration of Illness
EA	Emotional Abuse
EN	Emotional Neglect
FEDT	Facial Emotion Discrimination Task
FEIT	Facial Emotion Identification Task
FEP	First Episode Psychosis
FES	First Episode Schizophrenia
IQ	Intellectual Quotient
MEP	Multiple Episode Psychosis
NPC	Non-Psychiatric Control
OPD	Other Psychotic Disorder
PA	Physical Abuse
PANSS	Positive and Negative Syndrome Scale
PN	Physical Neglect
PQ	Prodromal Questionnaire
PTSD	Post Traumatic Stress Disorder
RCT	Randomised Controlled Trial
RSQ	Recovery Style Questionnaire

SA	Sexual Abuse
SCIT	Social Cognition and Interaction Training
TADS	Trauma and Distress Scale
TN	Traumatogenic Neurodevelopmental Model
UHR	Ultra High Risk

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Chapter I: Literature Review

Affect Perception in Early Psychosis: A Systematic Review and Methodological Critique.

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(See Appendix A for author guidelines)

1.1. Abstract

Aims: The nature and impact of affect perception deficit across the developmental spectrum of psychotic disorders has become an increasing focus of empirical research. The aim of this paper is to critically review the literature on affect perception in early psychosis.

Method: English language articles were identified using PsycINFO, Medline Ovid, EBSCO, Scopus, Web of Science and reference lists of included studies. Peer reviewed articles published after 1990, which measured affect perception in early psychosis, were included. Data extraction and assessment of methodological quality was undertaken using structured frameworks.

Results: Eighteen studies were included; all studies used quantitative methods, assessing facial and vocal affect perception. One study evaluated a psychosocial rehabilitative intervention. The reviewed literature suggests the presence of an affect perception deficit in early psychosis, which is more pronounced for the perception of negative emotions.

Conclusions: Individuals experiencing early psychosis may be impaired in affect perception; however, further research is needed to explore the potential implications. Literature regarding the impact of functional outcomes in early psychosis is particularly limited. Affect perception deficit in early psychosis may be improved through psychological intervention.

Keywords: First Episode Psychosis, Early Psychosis, Affect Perception, Emotion Recognition, Review.

1.2. Introduction

Affect perception can be defined as the ability to infer emotional information, such as what another person is feeling, from facial expression and vocal inflections¹. Early psychosis is the stage at which an individual demonstrates their first symptoms of a psychotic episode; symptoms may include distorted contact with reality, delusions, hallucinations and thought disorder². For the purposes of the current review, early psychosis is defined as the phase encompassing the prodromal and critical period of psychosis³. The present review aims to consider whether there is a deficit in affect perception in early psychosis, specifically, whether individuals experiencing early psychosis are less able to perceive emotions from facial or vocal expressions. If so, a number of important questions arise: 1) Is a deficit in affect perception in some way related to the specific symptoms of early psychosis? 2) Does the presence of a deficit in affect perception impact on outcomes in early psychosis? And 3) In cases of early psychosis, can deficits in affect perception be treated through psychological interventions?

To fulfil these aims, the paper will first consider the broader research area of social cognition in psychosis, of which affect perception is one aspect. The justification for considering affect perception in early psychosis will also be explored. A methodological critique will then be followed by a critical and contextual review of the literature.

1.2.1. Cognition in Psychosis

The focal role of cognitive impairment in schizophrenia has long been acknowledged by empirical research^{4,5,6}. Research findings suggest memory, attention, motor skills, and executive functioning are cognitive skills affected⁴, all of which show progressive deterioration over the course of psychosis⁷. However, research also suggests that cognitive impairments predate the onset of psychotic symptoms in schizophrenia^{8,9}, supporting theories suggesting schizophrenia, and other psychoses, are neurodevelopmental in origin⁷. Cognitive difficulties may therefore reflect a trait marker of psychosis, rather than a direct sequelae of illness¹⁰. In support of this suggestion, cognitive dysfunction has been observed across the course of psychotic experiences. This includes individuals experiencing a first episode of psychosis (FEP)^{11,12} and those at ultra-high risk (UHR) of developing psychosis^{13,14}, in addition to those with chronic psychotic conditions. As such, improving cognition has been identified as a potential target for intervention across the lifetime of psychotic disorders, and a key target for intervention in schizophrenia¹⁵.

In seeking to address the implications of cognitive impairment in psychosis there has been increased research interest into the relationship between cognitive impairment and functional outcome. Research indicates that cognitive dysfunction in schizophrenia impacts negatively on functional outcome^{16,17}, with a potentially greater impact than psychotic symptomatology¹⁸.

To address the need for consensus on the specific domains of cognitive dysfunction in schizophrenia, the National Institute of Mental Health (NIMH) Measurement and Treatment Research to Improve Cognition in Schizophrenia (MATRICS), developed a cognitive battery for use in clinical trials¹⁹. The MATRICS cognitive battery consists of seven cognitive domains of interest in schizophrenia; notably, social cognition is a specific domain acknowledged. Social cognition is an area of cognitive functioning attracting growing research interest in psychosis. A 2011 review by Schmidt, Mueller and Roder²⁰ synthesised 15 research studies considering social cognition as a mediating factor between cognitive functioning and functional outcome in schizophrenia. Findings indicate that social cognition mediates an indirect relationship between cognition and functioning. Investigating psychological constructs, combining cognitive abilities in a social context, may be a logical progression for psychosis research²¹. Thus, recent research has begun to investigate beyond purely cognitive factors, to consider the related domain of social cognition.

1.2.2. Social Cognition in Psychosis

Social cognition refers to the cognitive processes that we apply to our social world, how we perceive, interpret and respond to information within our social context²². The significance of social cognition, and its potential impact upon functioning and outcomes in psychosis, has become a high priority area for psychosis research²³. Within social cognition, research has focussed upon the individual constructs of emotional processing, theory of mind, social perception, social knowledge and attribution bias²⁴⁻²⁸. In their review of social cognition in schizophrenia, Penn and

colleagues²⁹ synthesised studies that demonstrate individuals with schizophrenia experience a deficit in emotional processing and theory of mind. Furthermore, in their review of social cognition and functional outcome in schizophrenia (i.e. social behaviour, community presence and social skills) Couture, Penn and Roberts¹ conclude that specific aspects of social cognition are associated with specific functional outcomes. For example, social perception and emotional processing are related to social behaviour and community functioning, whereas theory of mind is associated with social skills. Intervention for social cognitive difficulties is a relatively recent venture of rehabilitative intervention in psychosis³⁰, but research suggests social cognition is responsive to interventions such as social cognitive training^{31,32}.

Literature considering the impact of social cognitive factors upon clinical symptoms of psychosis, provides a mixed picture³³⁻³⁵. For example, whilst it is intuitively reasonable to expect that there would be a relationship between deficits in theory of mind and persecutory delusions, few studies support this relationship³⁶. However, there are more consistent findings regarding the association between attributional bias and delusions^{37,38}. The importance of considering specific features of social cognition, and their relationship to clinical features and functional outcomes in psychosis, is clear.

1.2.3. Affect Perception

‘Emotion and psychosis are often very closely linked; however, the chains of cause and consequence have yet to be untangled’ (Fowler, Garety, & Kuipers³⁹, pp. 68). It is suggested that psychotic experiences, such as hallucinations and delusions, may exist on a continuum with non-clinical experiences^{40,41}. Cognitive models of psychosis highlight the role of emotional processes in symptom development and maintenance, and in the psychological reaction to psychotic experience^{42,43}.

Affect perception is an aspect of emotional processing that encompasses the identification of emotion through the sensory modalities and is considered a core component of social cognition⁴⁴. Research investigating affect perception in psychosis has found that individuals diagnosed with schizophrenia show deficits in the perception of facial⁴⁵ and vocal affect⁴⁶, and may demonstrate a reduced ability to integrate emotional information from these two sensory modalities²³. Furthermore, it has been noted that individuals at Ultra-High Risk (UHR) of developing psychosis also demonstrate deficits in affect recognition⁴⁷. Findings indicate that differences in emotional perception may be a marker of vulnerability to psychosis, and not a marker of a developing psychotic illness.⁴⁷

Research has further begun to elucidate the nature of affect perception deficits in psychotic disorders, suggesting that perception of specific emotions, particularly negative emotions, is more significantly affected^{48,49}. However, there is also evidence

to suggest that individuals with psychosis are more likely to attribute neutral expressions as being angry or disgusted^{50,51}. A recent review, considering affect recognition in the context of aggression in psychosis, highlights its importance, noting that differences in facial affect recognition may lead individuals to demonstrate an unempathic response or perceive threat from an ambiguous situation⁵².

Impaired affect perception is related to poor psychosocial functioning and quality of life in psychosis^{53, 54}. However, impairment may be moderated by illness-related variables such as age of onset, hospitalisation status, symptomology, medication use and current age⁵⁴. It is not yet established whether poorer affect perception represents a distinct impairment, or a secondary feature of global cognitive impairment⁴⁵. Research that attends to longitudinal factors (i.e. illness progression, long-term medication use) is essential to clarify the role of affect perception in psychosis. It is also noted that the majority of research investigating affect recognition, centres on the experience of individuals with a diagnosis of schizophrenia, however psychotic experiences span a continuum which include a wide range of diagnoses. The consideration of research representing samples with greater heterogeneity could potentially provide greater clarification of the role of affect perception in the experience of psychosis. Furthermore, studying affect perception across different phases of psychosis may help to differentiate whether it is a marker of vulnerability or severity⁵⁵, and substantiate neurodevelopmental models. The evaluation of research utilising samples of individuals experiencing a first episode of psychosis (FEP) may provide useful insight.

1.2.4. Early psychosis

The early phase of psychosis has been described as a critical period, influencing the long-term course of psychosis⁵⁶. Eighty percent of individuals experiencing a first episode of psychosis are aged between 16 and 30 years old, a critical time for intellectual and social development². Early Intervention services for young people experiencing their first episode of psychosis were developed in the 1990s. In the UK, the Department of Health's NHS Plan⁵⁷ established the creation of fifty early intervention in psychosis services over three years between 2000 and 2003. Services for early intervention in psychosis have now become an international priority⁵⁸. The establishment of early intervention services and the subsequent research that has arisen from the ethos of this social movement, has evidenced the importance of intervening in the early stages of psychosis.

1.2.5. Aims

The aim of the present review is to identify, and critically evaluate, research exploring affect perception in early psychosis. Specifically, the following issues will be considered: Do individuals experiencing early psychosis demonstrate impairment in affect perception? And if so, is a deficit in affect perception in some way related to the specific symptoms of early psychosis? Does the presence of a deficit in affect perception impact on outcomes in early psychosis? And in cases of early psychosis, can deficits in affect perception be treated through psychological interventions? To fulfil these aims, the present review will consider research undertaken since the

establishment of early intervention for psychosis services (1990 onwards) and will seek to achieve the following:

- 1) To provide a methodological critique of research articles reviewed;
- 2) To critically review established research regarding affect perception in early psychosis;
- 3) To contextually review the literature
- 4) To consider the clinical implications of the findings.

1.3. Method

1.3.1. Search Strategy

Search terms were informed by the question: 'What is the nature and impact of affect perception in early psychosis?'. Several search terms were identified, and synonyms generated for separate aspects of the proposed review question (see Table 1.)

1.3.2. Data Sources

The Cochrane Database of Systematic Reviews (CDSR) and Database of Abstracts of Reviews of Effects (DARE) were first searched to ensure that the proposed literature review was an original contribution to the literature of early psychosis. No similar reviews were identified.

Searches were carried out in PsycINFO, Medline Ovid, EBSCO, Scopus and Web of Science using the identified search terms (Table 1). Databases were searched on 1st February 2014. Databases were chosen to provide access to journals whose content reflected the nature of the present review. Search terms were entered by keyword only to maintain the consistency of searches and access relevant articles. Key journals including Early Intervention in Psychiatry, Schizophrenia Bulletin and Schizophrenia Research were also searched. References of eligible articles identified were also screened.

Table 1. *Search terms based upon question “What is the nature and impact of affect perception in early psychosis?”*

Concept:	1. Early psychosis	2.Social Cognition
Search term	Early Psychosis	Affect recognition
	First Episode Psychosis	Affect perception
Variations of search term	First episode psych*	Emotion recognition
	First episode Schizophrenia	Emotion perception
	First episode Schizo*	
Terms were combined using the Boolean operator “and”. * represents word truncation to capture variation in terminology.		

1.3.3. Study Selection

1.3.3.1. Inclusion Criteria

Studies were considered for inclusion if they:

- (i) Were published in a peer reviewed journal;
- (ii) Included participants who had experienced a clinically identifiable episode of psychosis (i.e. not 'at risk mental state' participants or samples based upon psychosis proneness);
- (iii) Were published from 1990 onwards;
- (iv) Included an affect/emotion perception measure or task as an individually measurable outcome.

1.3.3.2. Exclusion Criteria

Studies were excluded if:

- (i) The paper was a review, abstract, book chapter, commentary, letter, conference proceeding or discussion piece;
- (ii) It was not an English language paper;
- (iii) There was evidence of significant co-morbidities, the comparison of which was not an aim of the study;
- (iv) The primary focus of the study was physical or neurological (i.e. imaging studies, studies investigating the effects of anti-psychotic drugs)

1.3.4. Identification

Through initial searches of databases and journals of interest, 161 articles were identified. After duplicate removal, 107 articles remained. Titles and abstracts were screened against the inclusion and exclusion criteria and non-relevant articles excluded, generating 37 potential articles for inclusion.

1.3.5. Screening and Eligibility Checks

Full-text articles were then reviewed to assess eligibility for inclusion in the current review. Rigorous screening of the full texts revealed 17 articles suitable for inclusion. The reference lists of the 17 eligible articles were then screened; this process revealed a further 18 potential articles. Screening of full texts revealed 1 further study to be suitable. Therefore, a total of 18 articles were deemed suitable for inclusion in the present review. The process of study selection followed guidance from the PRISMA Statement⁵⁹; details of this process are outlined in Figure 1.

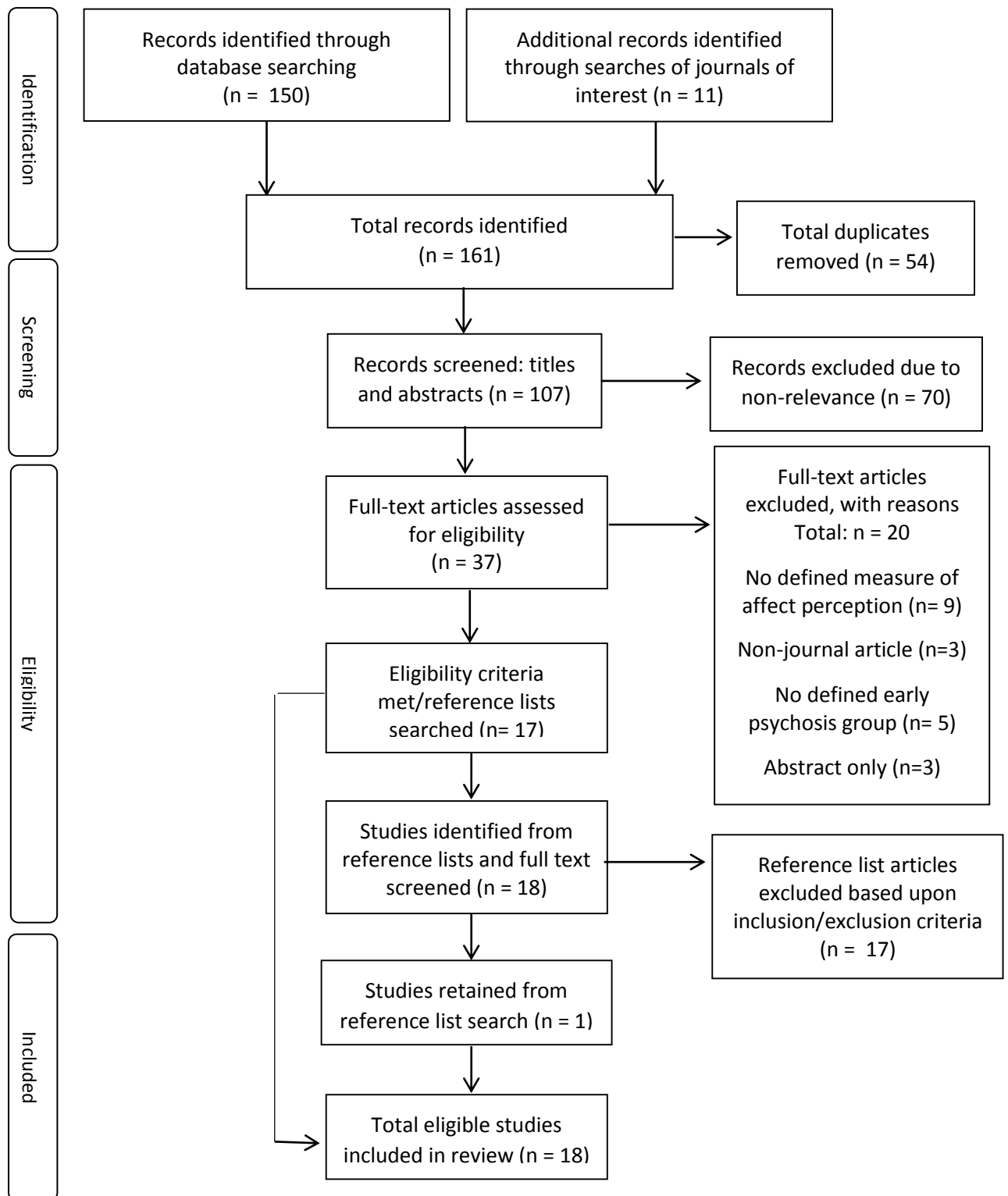


Figure 1: PRISMA Statement⁵⁹ flow diagram outlining the study selection process.

1.3.6. Data Extraction

Following identification of eligible studies, a data extraction form was developed to assist extraction and record relevant information from articles (Appendix D). The data extraction form was adapted from the Population, Intervention/Phenomenon of Interest, Context, Outcome Framework (PICO) published by the Joanna Briggs Institute⁶⁰, and adapted for the specific requirements of the current review. Data extraction was performed by the author.

1.3.7. Quality Assessment

Prior to analysing results, studies were evaluated using a quality assessment tool to assess their methodological quality. Numerous frameworks have been developed to critically appraise research articles for the purposes of a systematic review (for examples see Caldwell, Henshaw, & Taylor⁶¹ Centre for Evidence-Based Mental Health⁶² Tate, et al⁶³ or Pluye, Gagnon, Griffiths, & Johnson-Lafleur⁶⁴). Quality frameworks help to minimise bias and ensure findings are reproducible⁶⁵; however there is no consensus on the most reliable or appropriate framework^{65,66}. In their 2011 review of critical appraisal tools, Crowe and Sheppard⁶⁷ emphasise the importance of the context of the review being conducted in the selection of a framework for assessing research quality. The present review considered the nature of eligible articles in the selection of a quality assessment framework. Research articles were solely quantitative in nature, utilising cross-sectional and longitudinal designs. The need for a quality assessment framework to robustly assess the methodological and statistical nature of articles, was considered necessary in the context of the current review.

1.3.7.1. Quality Assessment Framework

In consideration of the nature of articles identified in the current review, a novel framework was developed (Appendix E). This framework draws upon the guidance developed by Caldwell, Henshaw and Taylor⁶¹ and integrates suggestions from Crowe and Sheppard's⁶⁷ review. Additionally, the framework has been adapted to produce a numerical rating of quality. The rating criteria for the framework are outlined in table 2.

Table 2. *Outline of the rating criteria for the quality assessment framework*

Quality rating	Definition
2	All or most of the criteria has been met.
1	The criteria has partially been met.
0	The criteria has not been met

Research articles in the current review were not excluded on the basis of their quality ratings, rather ratings provided a method of regarding each study's quality when synthesising results.

The framework comprised a checklist of 29 criteria, scored by a quality rating (table 2). Each of the 18 studies were assessed and scored according to the checklist. A

subset of the studies were subjected to further independent assessment using the same quality framework by one co-author.

There were four sub-sections to the quality framework, namely introduction, method, results and discussion. A score was calculated for each of the four sub-sections, allowing the relative strengths of individual aspects of articles to be considered. The ratings of each article were totalled and calculated into a percentage score. Quality rating percentages of studies assessed ranged between 53-95% with a mean percentage quality rating of 76%. Higher scores indicated that studies were deemed to be of a greater quality. Quality rating percentages for each article are documented in Appendix F.

1.4. Results

1.4.1. Overview of reviewed studies

A summary of the design, measures and findings, of the eighteen studies included in the current review are provided in table 3. All studies reviewed employed a quantitative methodology. Fourteen studies employed a cross-sectional design, and varied between comparing groups of early psychosis participants with UHR groups, multiple episode psychosis (MEP) groups and non-psychiatric control (NPC) groups. Two studies compared affect perception ability of individuals with FEP to the ability of their relatives, namely, siblings and first-degree relatives who were carers. One study considered the impact of duration of untreated psychosis on affect perception

in early psychosis, and another considered the impact of co-morbidity. Four of the studies employed a prospective, longitudinal design. One study sought to evaluate an intervention for affect perception deficit in early psychosis. All eighteen studies included in this review utilised tasks assessing facial affect recognition; in addition, seven studies included supplemental tasks of affective prosody to assess vocal affect recognition.

Studies included in the present review were geographically diverse, including research from the UK, USA, Canada, Poland, Austria, Italy, Morocco, Pakistan, Hong Kong and Australia. The majority of studies recruited participants from services specialised for early psychosis, however, four studies recruited participants from generic psychiatric services, of which two included participants who were currently receiving in-patient care. Two studies conducted by Addington et al^{47,68} recruited participants from the PREDICT study, a multisite study investigating predictors of transition to psychosis.

As noted above, affect perception may be moderated by illness-related variables in psychosis⁵⁴; statistical analysis conducted by many authors, controlled for variables that may have impacted upon findings. Variables controlled for within analyses are shown in table 3.

The current review aimed to consider the nature of affect perception in early psychosis, search terms were not inclusive of additional variables. Therefore, only differences and correlates of affect perception are comprehensively discussed in this review. Additional variables are not conclusively represented in the included research, therefore cannot be fully discussed. The literature will be critiqued in consideration of the research questions outlined in the introductory paragraphs. The quality assessment framework facilitated a methodological critique of studies, which is reported throughout this review.

Table 3. *Overview of Reviewed Studies*

Authors and Year of publication	Analysis controlled for:	Sample	Study design and affect perception measure	Key findings of the study
Achim 2013 ⁶⁹	-Gender -Age -Education Level	- FES patients recruited from an Early Psychosis service in Quebec, Canada <i>n</i> = 59 (mean age = 25.7; 51 Males; 8 Females). Duration of psychosis M = 22 months. - NPC group <i>n</i> = 84 (mean age = 24.0; 58 men; 26 females)	- <i>Quantitative study</i> - <i>Cross-sectional design</i> - The Emotion Recognition Task (A facial affect recognition task)	- FES participants with co-morbid social anxiety disorder did not differ in emotion recognition compared to FES participants without co-morbid anxiety - Emotion recognition was not a significant predictor of social and occupational functioning - Social anxiety disorder did not moderate the relationship between emotion recognition and social and occupational functioning
Addington 2006 ⁷⁰	N/A	- FEP patients recruited from an Early Psychosis Programme in Calgary, Canada <i>n</i> = 50 (mean age = 25.1 years; 30 males; 20 females)	- <i>Quantitative study</i> - <i>Longitudinal design</i>	- No significant difference in facial emotion recognition between FEP and ME Schizophrenia groups at first assessment, or at one year follow up assessment

Authors and Year of publication	Analysis controlled for:	Sample	Study design and affect perception measure	Key findings of the study
		<p>NPC group $n = 55$ (mean age = 21.7; 33 males; 22 females); ME</p> <p>Schizophrenia outpatients (average 5 hospital admissions) $n = 53$ (mean age = 35.5; 38 male; 15 female)</p>	<p>- Facial Emotion Identification Test (FEIT)</p> <p>- Facial Emotion Discrimination Test (FEDT)</p>	<p>- Facial emotion recognition performance did not improve in the FEP group over time, despite an improvement in psychosis symptoms</p> <p>- There was a significant association between facial emotion recognition, cognition and social functioning across the one-year period.</p>
Addington et al 2008 ⁶⁸	- Age	<p>All patient groups were recruited from the PREDICT study at the University of Toronto, the University of North Carolina or Yale University.</p> <p>FEP group $n=50$ (mean age = 25.6; 30 males, 20 females)</p> <p>ME schizophrenia group $n = 53$ (mean age = 35.5; 38 males; 15</p>	<p>- <i>Quantitative study</i></p> <p>- <i>Cross-sectional design</i></p> <p>- Facial Emotion Identification Test (FEIT)</p> <p>- Facial Emotion Discrimination Test (FEDT)</p>	<p>- FEP group did not differ in emotion recognition ability compared to UHR and ME Schizophrenia groups</p> <p>- FEP group performed significantly worse on emotion recognition tasks compared to NPC group</p>

Authors and Year of publication	Analysis controlled for:	Sample	Study design and affect perception measure	Key findings of the study
		females); UHR group $n = 86$ (mean age = 19.2; 49 males; 37 females); NPC group $n = 55$ (mean age = 21.2; 33 males; 22 females)		
Addington 2012 ⁴⁷	N/A	All participants recruited from the PREDICT study, universities of North Carolina and Yale, USA, and Toronto, Canada. 172 UHR individuals and 100 help-seeking individuals. Of UHR group, 25 transitioned to FEP (mean age = 19.61; 13 males, 12 females)	<ul style="list-style-type: none"> - <i>Quantitative</i> - <i>Longitudinal</i> - Facial Emotion Identification Test (FEIT) - Facial Emotion Discrimination Test (FEDT) - Affective prosody task 	<ul style="list-style-type: none"> - within group comparison of those that transitioned to psychosis found that there was no difference in affect recognition scores between baseline and two year follow up - between group comparison of those who transitioned to psychosis and those that did not, found that there was no difference in affect recognition ability between groups - Affect recognition was not associated with positive symptoms of psychosis

Authors and Year of publication	Analysis controlled for:	Sample	Study design and affect perception measure	Key findings of the study
Amminger 2012a ⁴⁸	- Age - IQ - PANSS score	FES patients recruited from a specialised psychosis detection and treatment unit, Department of Child and Adolescent Psychiatry, Vienna, Austria. FES group $n = 30$ (mean age = 16.7; 18 males, 12 females) NPC group $n = 30$ (mean age = 15.6; 15 males, 15 females); UHR group $n = 79$ (mean age = 16.5; 26 males, 53 females)	- <i>Quantitative study</i> - <i>Cross-sectional design</i> - The Facial Emotion- Labelling Task - Affective prosody task	-FES group demonstrated an impaired ability for facial recognition of sadness and fear compared to the NPC group -FES group demonstrated an impaired ability for the vocal recognition of anger, compared to the NPC group -There was no significant correlation between positive and negative symptoms of psychosis and emotion recognition
Amminger 2012b ⁷¹	- Age - Gender	FES patients recruited from a specialised psychosis detection and treatment unit, Department of Child and Adolescent Psychiatry, Vienna,	- <i>Quantitative study</i> - <i>Cross-sectional design</i>	-FES group were impaired in facial and vocal affect recognition compared to the NPC group

Authors and Year of publication	Analysis controlled for:	Sample	Study design and affect perception measure	Key findings of the study
	- Education level	Austria. Current participants of a randomised control trial. FES group $n = 30$ (mean age = 16.7; 18 males, 12 females) NPC group $n = 30$ (mean age = 15.6; 15 males, 15 females); UHR group $n = 79$ (mean age = 16.5; 26 males, 53 females)	- The Facial Emotion- Labelling Task - Affective prosody task	
Bartholomeusz 2013 ⁷²	N/A	Participants for this intervention were recruited from an early psychosis service, Melbourne, Australia. They had been in the early intervention service ≤ 18 months.	- <i>Quantitative/Intervention study</i> - <i>Longitudinal design</i>	- Post intervention, participants showed a significant improvement for low intensity faces - Participants also improved in terms of social and occupational functioning

Authors and Year of publication	Analysis controlled for:	Sample	Study design and affect perception measure	Key findings of the study
		FEP group $n = 12$ (mean age = 21.6; 5 men, 7 women)	- Diagnostic Analysis of Non-verbal Accuracy 2 (DANVA-2)	
Bediou 2007 ⁷³	- Age - Education level	FES patients recruited from a psychiatric hospital, Marrakech, Morocco. FES group $n = 40$ (mean age = 27.3; 40 males) Non-affected siblings group $n = 30$ (mean age = 31.2; 30 males); NPC group $n = 26$ (mean age 24.3; 26 males)	- <i>Quantitative study</i> - <i>Longitudinal design</i> - Emotional facial expression recognition task - Facial gender recognition task	- FES group scored significantly lower on the task of emotion recognition at baseline and follow up compared to the NPC group - Facial affect recognition scores did not significantly change from baseline to follow up in the FES group, despite treatment and an improvement in positive and negative symptoms of psychosis

Authors and Year of publication	Analysis controlled for:	Sample	Study design and affect perception measure	Key findings of the study
Comparelli 2011 ⁷⁴	N/A	<p>FEP patients recruited from a hospital psychiatric department, Rome, Italy. FEP group $n=44$ (mean age = 25.2; 24 males, 20 females; mean DOI = 0.6 years)</p> <p>ME Psychosis group $n=38$ (mean age = 35.1; 24 males, 14 females; mean DOI 10.4 years); NPC group $n=40$</p> <p>- DSM-IV Diagnoses</p>	<p>- <i>Quantitative study</i></p> <p>- <i>Cross-sectional design</i></p> <p>- Facial Affect Recognition Test</p>	<p>- FEP group performed better on facial affect recognition than ME psychosis group, but worse than the NPC group</p> <p>- In the FEP group, facial affect recognition was not related to subjective perceptual disturbance, however this relationship did exist in the ME psychosis group</p>

Authors and Year of publication	Analysis controlled for:	Sample	Study design and affect perception measure	Key findings of the study
Comparelli 2013 ⁵⁵	<ul style="list-style-type: none"> - Age - Gender - Years of education - PANSS score 	<p>FES patients recruited from acute and outpatient services, Rome Italy. FES group $n = 50$ (mean age = 25.7; 38 males, 12 females)</p> <p>UHR group $n = 43$ (mean age = 23.5; 12 males, 31 females); ME Schizophrenia group $n = 44$ (mean age = 34.3; 29 males; 15 females)</p> <p>NPC group $n = 86$ (mean age 29.2; 40 males, 46 females)</p>	<ul style="list-style-type: none"> - <i>Quantitative study</i> - <i>Cross-sectional design</i> - Facial Affect Recognition test (FAR) with a 3 level expression grading corresponding to increasing levels of difficulty 	<ul style="list-style-type: none"> - FES group were less able to recognise facial sadness, disgust, anger and fear emotions, in comparison to the NPC group - There was no difference between the FES, ME Schizophrenia and UHR groups on tasks of facial affect recognition - Emotion recognition was not related to score on assessment of depression
Edwards 2001 ⁷⁵	<ul style="list-style-type: none"> - IQ 	<p>Participants recruited from an early intervention service, Melbourne, Australia; for all FEP patients, their first treated episode of psychosis.</p>	<ul style="list-style-type: none"> - <i>Quantitative study</i> - <i>Cross-sectional design</i> 	<ul style="list-style-type: none"> - FES and first episode OPD groups demonstrated deficits in the recognition of fear and sadness across facial and vocal affect perception tasks,

Authors and Year of publication	Analysis controlled for:	Sample	Study design and affect perception measure	Key findings of the study
		<p>FES group $n = 29$ (mean age = 22.31; 22 male, 7 female); First Episode Affective Psychosis group $n = 23$ (mean age = 22.43; 14 males; 9 females); First Episode OPD group $n = 28$ (mean age = 22.07; 20 males; 8 females)</p> <p>NPC group $n = 24$ (mean age = 21.50; 15 males; 9 females)</p>	<p>- Facial Affect Computer Task (FACT)</p> <p>- Affective prosody task</p> <p>- Semantic Differential Task (SDT)</p> <p>- Dissimilarity Ratings Task (DRT)</p>	<p>compared to the NPC and first episode affective psychosis groups</p> <p>- There were no differences between groups on emotional naming tasks i.e. SDT and DRT tasks, therefore differences in affect recognition are unlikely to reflect differences in the understanding of the meaning of emotional labels</p>
Kucharska-Pietura 2005 ⁷⁶	<p>- Age</p> <p>- Education</p> <p>- Mood</p>	<p>FES inpatients (clinically stable) recruited from a psychiatric hospital, Lublin, Poland. FES group $n = 50$ (mean age 23.1; 25 males, 25</p>	<p>- <i>Quantitative study</i></p> <p>- <i>Cross-sectional design</i></p>	<p>- FES group less impaired in facial and vocal affect recognition compared to ME Schizophrenia group</p> <p>- FES group more impaired in facial and vocal affect recognition than NPC group</p>

Authors and Year of publication	Analysis controlled for:	Sample	Study design and affect perception measure	Key findings of the study
		females; mean DOI = 2 years; ≤2 episodes of psychosis)	- The Facial Emotion Recognition Test (FERT) - Benton Facial Recognition Test - Voice Emotion Recognition Test (VERT)	- Emotion recognition did not relate to symptoms of psychosis, medication or current mood state
Leung 2011 ⁷⁷	- Depression - IQ - Antipsychotic medication use	FES patients recruited from Early Assessment Service for Young People with Psychosis, Hong Kong. Duration of untreated psychosis <2 years. FES group <i>n</i> = 50 (mean age = 20.7; 25 males, 25 females); NPC group <i>n</i> = 26 (mean age 21.7; 12 men, 14 women)	- <i>Quantitative study</i> - <i>Cross-sectional design</i> - Matsumoto and Ekman's Japanese and Caucasian Facial Expressions of Emotion (JACFEE)	- The FES group performed significantly worse on the facial affect emotion recognition task compared the NPC group - There was no difference in facial affect recognition abilities between the FES and ME Schizophrenia groups

Authors and Year of publication	Analysis controlled for:	Sample	Study design and affect perception measure	Key findings of the study
		- ME Schizophrenia group $n = 51$ (mean age = 43.5; 31 men, 20 women); NPC group $n = 28$ (mean age 44.8; 17 men, 11 women)		<ul style="list-style-type: none"> - The FES group were less able to identify facial emotions of surprise, fear and disgust compared to the NPC group - FES and NPC group both obtained 100% accuracy in identifying facial emotion of happiness - emotion recognition did not correlate with clinical variables
Malik 2010 ⁴⁹	- Symptom severity	FEP patients recruited from inpatient and outpatient departments of hospitals in Lahore and Faisalabad, Pakistan. FEP group $n = 60$ (mean age = 26; 41 men and 19 women). The FEP group were then separated into groups of short DUP ($n = 28$; 20	<ul style="list-style-type: none"> - <i>Quantitative study</i> - <i>Cross-sectional design</i> - Facially Expressed Emotion Labelling Test 	<ul style="list-style-type: none"> - Individuals with a longer DUP were less accurate on emotion recognition task than those with shorter DUP - Female participants were less accurate at identifying the facial expression of sadness compared to male participants

Authors and Year of publication	Analysis controlled for:	Sample	Study design and affect perception measure	Key findings of the study
		males, 8 females) and Long DUP ($n = 32$; 21 males, 11 females)	(FEEL) – translated into Urdu	- FEP patients with more severe psychosis symptoms showed a poorer ability to recognise angry facial expressions
Pinkham 2007 ⁷⁸	- Age - Education	FES outpatients recruited through Schizophrenia Treatment and Evaluation Program, University of North Carolina, USA. FES group (duration of illness < 5 years, mean = 2 years) $n = 21$ UHR group $n = 19$ (mean age = 21.74; 6 males, 13 females); ME Schizophrenia group $n = 28$ (mean age = 39.57; 14 males, 14 females); NPC group $n = 21$ (mean age = 27.62;	- <i>Quantitative study</i> - <i>Cross-sectional design</i> - Facial Emotion Identification Test (FEIT) - Facial Emotion Discrimination Test (FEDT)	- FES group performed significantly worse than the NPC and UHR groups on emotion identification task - FES group scored performed worse than the UHR group on the emotion discrimination task - Comparison of affect perception performance of those that transitioned to FEP and those that did not found no difference between groups

Authors and Year of publication	Analysis controlled for:	Sample	Study design and affect perception measure	Key findings of the study
		10 males, 11 females). Additional group of UHR participants who transitioned to psychosis during the study $n = 5$)		
Thompson 2012 ⁷⁹	<ul style="list-style-type: none"> - Age - Gender - IQ - Multiple Testing 	<p>FEP participants recruited from a youth mental health service, Melbourne, Australia. FEP group $n = 40$ (mean age 20.5; 25 males, 15 females)</p> <p>UHR group $n = 30$ (mean age = 19.1; 15 males, 15 females); NPC group $n = 30$ (mean age = 19.3; 12 males, 18 females)</p>	<ul style="list-style-type: none"> - <i>Quantitative study</i> - <i>Cross-sectional design</i> - Diagnostic Analysis of Non-verbal Accuracy 2 (DANVA-2) 	<ul style="list-style-type: none"> - FEP group performed worse on facial and vocal affect recognition tasks compared to the NPC group - No significant difference between the performance of the UHR group and FEP group

Authors and Year of publication	Analysis controlled for:	Sample	Study design and affect perception measure	Key findings of the study
Tomlinson 2013 ⁸⁰	N/A	FEP participants recruited from an early psychosis service, London, England. FEP group $n = 33$ (mean age = 23.7; 22 males, 11 females) Carers group $n = 24$ (mean age = 51.7; 4 males, 20 females)	- <i>Quantitative study</i> - <i>Cross-sectional design</i> - Facial Expressions of Emotions Stimuli Test	- Emotion recognition did not relate to psychosis symptoms, depression or anxiety in the FEP group - The FEP and Carer groups did not differ in emotion recognition ability - Emotion recognition was not related to the FEP/carer relationship
Tsui 2013 ⁸¹	- Sustained attention	FES patients were outpatients recruited from an early psychosis service, Hong Kong. FES $n = 36$ (mean age = 22.0; 18 males; 18 females; avg DUP = 22 months; avg DOI = 29.6 months)	- <i>Quantitative study</i> - <i>Cross-sectional design</i> - A facial emotion categorisation task (developed by the authors)	- FES group tended to categorise ambiguous facial expressions as happy instead of angry - Social context of facial stimuli did not impact upon the emotional categorisation performance

Authors and Year of publication	Analysis controlled for:	Sample	Study design and affect perception measure	Key findings of the study
		- NPC group $n = 43$ (mean age = 21.4; 16 males, 27 females)		

Key to acronyms: FEP – First Episode Psychosis; FES – First Episode Schizophrenia; ME – Multiple Episode; MEP – Multiple Episode Psychosis; UHR – Ultra High

Risk of Psychosis; NPC – Non-Psychiatric Controls; OPD – Other Psychotic Disorder; DUP – Duration of Untreated Psychosis; DOI – Duration of illness.

1.4.2. Is there a deficit in affect perception in early psychosis?

Studies investigating facial affect perception in early psychosis indicate that, compared to non-psychiatric controls (NPC), individuals in the early stages of psychosis demonstrate a generalised deficit in the ability to recognise facial expressions of emotion^{48,68,70,71,73,74,75-79}. Evidence of an affect perception deficit in early psychosis is further supported by studies utilising tasks of affective prosody, which indicate that individuals with early psychosis are less able to correctly identify vocally expressed emotions^{47,71,75,76,79}. Edwards et al⁷⁵ draw attention to the variation in affect perception deficit across different diagnostic groups of people with early psychosis. Findings indicate that individuals diagnosed with first episode affective psychoses are less impaired in affect perception ability than those diagnosed with first episode schizophrenia (FES) or other psychotic disorders. This suggests that affect perception might not be a deficit of early psychosis per se, but a deficit relating to elements of specific psychotic diagnoses.

Specificity of affect perception deficit in early psychosis was considered by a number of authors. In addition to affect perception tasks, Bediou⁷³ and Edwards et al⁷⁵ employed supplemental tasks of facial gender recognition and emotional naming respectively. Bediou⁷³ found no difference between groups on facial gender recognition, despite a difference in facial affect recognition, suggesting a specific impairment of emotional processing rather than facial processing in early psychosis. However, it should be noted that all groups in this study performed better on the gender recognition tasks, suggesting difference in task complexity. Edwards et al⁷⁵

found that groups did not differ on an emotional naming task, suggesting that group differences in affect perception are unlikely to reflect differences in understanding the meaning of emotional labels. Research reviewed does not categorically conclude that affect perception is a specific deficit, rather than a component of more generalised deficit in early psychosis. However, findings suggest an inclination towards a specificity of affect perception deficit, particularly of facial affect recognition, in early psychosis. Further research, particularly of studies employing differential design methods, are essential to understand the specificity of affect perception deficit in early psychosis.

1.4.2.1. Affect recognition in first episode psychosis compared to other stages of psychosis

In addition to comparisons with NPC groups, studies included in the present review varied between comparing groups of early psychosis participants with groups of individuals at ultra-high risk (UHR) of psychosis and multiple episode psychosis (MEP) or chronic psychosis groups. Comparison of groups across different stages of psychosis permits the study of affect perception across the developmental spectrum of psychotic disorders. In relation to FEP, comparison of UHR and MEP groups facilitates exploration of potential change in affect recognition at the advent of overt psychotic experience, and consideration of whether difficulties grow in magnitude alongside illness progression. Research questions of this nature may yield significant clinical application and will be discussed further throughout this review.

Cross-sectional studies, comparing MEP and FEP groups on tasks of affect perception primarily report that both first, and multiple, episode psychosis groups experience an equivalence of deficit in affect perception ability across groups^{48,55,70,68,77,78}. Findings suggest that there is no progression of affect perception deficit over the course of psychosis, despite factors such as duration of illness and medication use. However, studies conducted by Kucharska-Pietura et al⁷⁶ and Comparelli et al⁷⁴ contradict the above findings, both reporting a greater deficit in affect perception in MEP groups compared to FEP groups. The findings of Kucharska-Pietura et al's⁷⁶ study are particularly compelling, as this study utilised three separate measures of facial affect perception in addition to a measure of vocal affect perception. Consistently across tasks, multiple episode groups demonstrated poorer ability to accurately identify emotions, compared to participants in the early stages of psychosis. Kucharska-Pietura et al⁷⁶ and Comparelli et al's⁷⁴ findings suggest that affect perception deficits are a marker of illness progression, in contrast to findings of other studies included in this review which suggest that affect perception is a stable, trait marker of psychosis. Consideration of the methodological diversity of studies may provide insight into the discrepancy in findings. Of particular interest is the variability between affect perception tasks and demographics of diagnostic groups across studies, which will be discussed in greater detail later in this review.

Fewer cross-sectional studies compared affect perception performance of UHR and FEP groups, however, the studies that did encountered similar discrepancies in findings. Three studies reported no difference in the performance of UHR and FEP

groups on vocal and facial affect perception tasks^{47,55,68}, suggesting that individuals at risk of developing psychosis, experience a similar deficit in affect perception to individuals experiencing first symptoms of psychosis. Two studies by Amminger et al⁴⁸ also employed a UHR comparison group, however, did not report a comparison of UHR and FEP group performance. Consideration of findings from Amminger et al's studies⁴⁸, indicate that both UHR and FEP groups were impaired on tasks of affect recognition compared to controls, with the magnitude of statistical findings indicating that a deficit was similar across the two groups. These findings suggest that a deficit in affect perception may exist before the onset of distinct psychotic symptoms. However, in contrast Pinkham et al⁷⁸ found that individuals at UHR of psychosis performed better on tasks of facial affect perception compared to individuals with FEP. The authors conclude that an affect perception deficit may not be a vulnerability marker for psychosis, but a first episode of psychosis may represent a critical point at which affect perception deficits emerge.

1.4.2.2. A neurodevelopmental deficit

Neurodevelopmental models of psychosis suggest that cognitive impairments, including social cognitive impairments, may predate the onset of psychotic symptoms⁷, and may therefore reflect a trait marker of psychosis, rather than a direct sequelae of illness¹⁰. Studies included in the current review largely support neurodevelopmental theories of psychosis, indicating that the social cognitive ability of affect perception may be impaired in individuals at risk of later developing psychosis, before the onset of psychotic symptoms^{47,55,68}. Furthermore, research

comparing affect perception in chronic psychosis to first episode indicates that there is no progression of deficit over the course of psychosis. Findings suggest that affect perception represents a trait marker of psychosis, that is unaffected by the onset of psychotic symptoms, and factors of illness progression. In addition to studies comparing affect perception in defined psychosis groups, the present review included two studies that included comparison groups of siblings⁷³ and first-degree relative carers⁸⁰. Tomlinson et al⁸⁰ found that first degree relatives of individuals experiencing early psychosis, did not differ in affect perception ability compared to their relative who had experienced FEP. Although there was no control group against which to compare affect perception performance, comparison of mean scores to expected performance, indicated that both individuals experiencing early psychosis and their first-degree relatives, demonstrated a deficit in affect perception. Bediou et al⁷³, compared the performance of an FEP group, a sibling group and a NPC group on a task of facial emotion perception. Findings indicated a continuum of difficulty, with FEP patients experiencing greater difficulty than siblings, and siblings experiencing greater difficulty than healthy controls⁷³. Findings indicate that affect perception may serve as a trait marker of familial vulnerability to psychosis, supporting neurodevelopmental models of psychosis.

However, there were a number of studies included in the current review that found a difference in affect perception deficit across different stages of psychosis, thereby questioning its position as a trait marker. In consideration of these diverse findings, it is important to note the methodological features of studies included in this review.

Across studies included, differing tasks of affect perception were utilised. The possibility of a discrepancy in findings between studies, resulting from differences in the sensitivity of affect perception tasks utilised, must be considered as a potential factor. Furthermore, though most studies included DSM diagnostic criteria for group definitions, across studies, first and multiple episode groups differed with regards to duration of illness, age, psychosis symptoms, anti-psychotic medication, duration of untreated psychosis and hospital status. These factors may be particularly prominent in light of the findings from Edwards et al's⁷⁵ study, which found a differential deficit in early psychosis across categories of diagnostic groups.

As noted in many of these cross-sectional studies, the need for prospective, longitudinal research is fundamental if we are to effectively consider the position of affect perception as a trait marker for psychosis. Research would entail observation of individuals at UHR for psychosis who later make transition to FEP. In the present review, four studies employed longitudinal research designs, two of which considered the transition from UHR to FEP, which will now be discussed.

1.4.2.3. Longitudinal studies

Addington et al's⁴⁷ and Pinkham et al's⁷⁸ studies, reported findings of UHR participants that transitioned to psychosis over the course of the study. Consideration of these results are particularly interesting, as Addington et al⁴⁷ report no difference in affect perception ability between FEP and UHR groups, whereas

Pinkham et al⁷⁸ report that UHR individuals were less impaired in affect perception compared to those experiencing early psychosis.

Addington et al⁴⁷ observed a group of UHR individuals over a period of two years. Twenty-five of the 172 participants recruited at initial assessment later transitioned to psychosis. Comparison of affect perception ability in the two groups found no differences between affect perception ability in those who transitioned to psychosis, and those who did not. Furthermore, for individuals that transitioned to psychosis during the study, there were no differences between affect perception scores at assessment and scores at two year follow up. These findings indicate that transition to psychosis did not correspond with a decline or improvement in affect perception. The authors conclude that although affect perception may be indicative of vulnerability to psychosis, it may not be a marker of developing a psychotic disorder.

A descriptive analysis conducted by Pinkham et al⁷⁸ demonstrated similar findings, comparing five UHR participants who transitioned to psychosis during the period of their study. A comparison of affect perception scores between the five participants who transitioned to psychosis, and fourteen participants that did not, indicated that there was no distinguishable difference between the mean affect perception performances of the two groups. Findings indicate that those who transitioned from UHR to FEP during the course of the study, performed better on affect perception tasks compared to the existing FEP group. It is important to note however, the methodological limitations of Pinkham et al's⁷⁸ study. Firstly, descriptive analyses

conducted on data of those who transitioned to psychosis were not planned contrasts; participants included in the supplemental analysis were those who transitioned to psychosis over the course of the study, for which a time frame is not reported. It is possible that Pinkham et al's⁷⁸ findings were based upon data obtained in a far shorter period than Addington et al's study⁴⁷, which completed a planned, two-year follow up. Furthermore, Pinkham et al's⁷⁸ findings were based upon a small sample, and statistically, were notably underpowered. In addition, a further methodological concern is that both studies considered only an average score of affect perception performance. Although a generalised deficit in affect perception may not be a marker of developing psychotic disorder, it may be beneficial to consider whether deficit in the perception of specific emotions may serve as a marker of developing a psychotic disorder.

1.4.2.4. Differential Deficit in Affect Perception

Seven of the studies reviewed investigated the possibility of a differential deficit in affect perception in early psychosis. These studies support an understanding of whether individuals experiencing early psychosis face deficits in the perception of specific emotions, across both vocal and facial task modalities. Findings of these studies indicate that FEP participants experienced a greater difficulty in the perception of fear^{48,55,73,75-77}, sadness^{48,55,75,76}, disgust^{55,73,77}, anger^{48,73,81} and surprise⁷⁷. Deficit in fear and sadness perception in particular, achieved strong statistical significance amongst studies^{48,55} indicating that perception of these emotions was a notable deficit in early psychosis. These results are supported by the

findings of studies utilising both facial and vocal affect tasks; both Edwards et al⁷⁵ and Amminger et al⁴⁸ found that individuals with early psychosis were less able to recognise vocal and facial expressions of fear and sadness, indicating congruence between the two modalities. These findings indicate that a deficit in affect perception in the early stages of psychosis, may be specific to negative emotions.

Kucharska-Pietura et al⁷⁶ however, did not report a deficit of negative emotion perception, their findings indicated a global deficit of emotion perception, but noted that individuals experiencing early psychosis were relatively less impaired at recognising 'happiness'. The further five studies considering deficit of specific emotion found that individuals experiencing early psychosis were equivalent in their recognition of happiness to healthy controls^{48,56,75,77,81}. Leung et al⁷⁷ used a unique task design utilising a happy – angry continuum, asking participants to indicate which emotion, happy or angry, best represented the facial expression stimuli shown to them. Results of the study indicated that FEP participants tended to perceive ambiguous facial expressions as happy; the authors conclude that FEP individuals were either more sensitive in perceiving happy facial expressions, or less sensitive in perceiving angry facial expressions, but that the existing literature appears to support the latter explanation. However, as noted in Edwards et al⁷⁵, it is important to consider the suggestion that the recognition of facial and vocal sadness in general, may be more difficult, whereas recognition of happiness, especially in facial expressions, may be more simple⁴⁸.

Findings of studies included in the present review indicate that individuals with early psychosis experience greater difficulty in identifying negative emotions, but that perception of positive emotions such as happiness, are less disrupted. Difficulties of this nature in early psychosis could be related to disrupted emotional regulation⁸¹, particularly the inhibition of emotional response through suppression⁸², the use of which has been suggested as a common emotional regulatory process in psychotic disorders such as schizophrenia⁸³.

1.4.3. Is a deficit in affect perception related to the specific symptoms of early psychosis?

In consideration of the deficits in affect perception reported in early psychosis, it seems intuitive to consider the ways in which affect perception difficulties may relate to, and influence, the early experience of psychosis. Numerous studies included in the present review considered the relationship between affect perception and symptoms of psychosis, namely, whether a deficit in affect perception related to positive and negative symptoms of psychosis.

Cross-sectional studies failed to find a relationship between affect recognition and symptoms of psychosis in correlational analyses^{47,48,76,77,80}. Furthermore, despite differences in psychotic symptom severity between groups of UHR, FEP and MEP, there was no reported difference in affect perception performance^{48,55,68,70}. Longitudinal studies conducted by Addington⁴⁷ and Bediou⁷³, found that, despite

improvement in psychotic symptoms between baseline and follow-up, there was no change in affect perception ability for early psychosis groups. A positive relationship between variables was however identified by Edwards et al⁷⁵. In their study of affect perception across three early psychosis diagnostic groups, they reported a significant relationship between negative psychotic symptoms and affect perception. However, findings were not consistent across the diagnostic groups, or across affect perception tasks, and there was little statistical strength in correlations. Inconsistency across the diagnostic groups, one of which was an affective psychosis group, again highlights the potential impact factors such as medication, number of hospital admissions or duration of illness may have upon affect perception. Leung et al⁷⁷ investigated these factors but found that facial affect perception did not relate to age of onset, number of admissions, duration of illness or anti-psychotic medication dosages. In summary, these findings indicate that affect perception may not significantly relate to symptoms of psychosis in early psychosis. Findings may therefore support neurodevelopmental models of psychosis, which propose an underlying deficit in affect perception, independent of changes relating to the experience of psychosis.

1.4.3.1. Co-morbidity and Affect Perception

Individuals with psychosis experience notable rates of co-morbid anxiety and depression⁸⁴, it is also considered that experience of low and anxious moods affect emotion-related cognitive processes such as affect perception⁸⁵. In the present review, five studies included a measure of low mood in their analysis, four of which investigated the relationship between affect perception and current mood

status^{73,76,77,80}. Across all studies, there was no significant relationship reported between affect perception and low mood; supplemental analyses controlling for the potential confounding effects of low mood also indicated that mood did not significantly influence affect perception in early psychosis. Findings suggest that affect perception deficits in early psychosis exist independently of mood state.

A study conducted by Achim et al⁶⁹ considered the impact of co-morbidity in early schizophrenia, specifically this study examined how co-morbid social anxiety disorder affects social cognitive deficits in schizophrenia. Comparing groups of individuals with early schizophrenia, with and without co-morbid social anxiety disorder, Achim et al⁶⁹ reported no difference in affect perception performance between groups, suggesting that affect perception does not relate to difficulties with social anxiety in early schizophrenia. However, this study also failed to find a difference between the performance of clinical groups and NPC, a finding that is generally consistent amongst affect perception studies, suggesting a lack of sensitivity on the affect recognition task⁶⁹.

1.4.3.2. Duration of untreated psychosis

A study undertaken by Malik et al⁴⁹ sought to investigate the impact of duration of untreated psychosis (DUP) upon affect perception, in individuals experiencing FEP. The authors note that without an understanding of the impact of DUP, it is difficult to compare patient groups across social cognition studies. Utilising a task of

facial affect recognition, Malik et al⁴⁹ found that individuals with extended DUP showed poorer performance on facial affect recognition, compared to those with shorter DUP. Findings were particularly pertinent for emotions of anger, surprise and sadness. In addition, consistent with aforementioned findings of affect perception deficit in early psychosis, participants were less able to perceive negative emotions than positive emotions. The limitations of this study include the lack of a non-psychiatric control group against which to compare clinical group performance, and the cultural validity of the affect recognition task, which although translated to Urdu, used pictographic stimuli of Japanese and Caucasian actors. The findings of this study are interesting, particularly in light of other studies which propose affect perception is unrelated to symptoms of psychosis; this suggests that other factors relating to DUP may contribute to a further detriment in affect perception. It would be interesting to consider the nature of the relationship between deteriorated affect perception and extended DUP. Specifically, to consider whether extended DUP worsens affect perception deficit, or whether an affect perception deficit influences an individual's functioning, i.e. in relationships or social contexts, that it extends DUP. The clinical implications of such research may yield benefits by improved initiatives to reduce DUP, or provide further support for the need to intervene early at the first signs of psychosis.

1.4.4. Does the presence of a deficit in affect perception impact on outcomes in early psychosis?

Despite the acknowledgement in many of the studies reviewed, of the potential impact that affect perception may have upon a person's quality of life, social abilities and functional outcomes, few of the studies employed a measure relating to functioning, and only a small proportion considered the relationship between affect perception and functioning. Achim et al's study⁶⁹ considered the impact of affect perception on a measure of social and occupational functioning, but failed to find a direct relationship between these two factors. Addington et al's study⁷⁰ included a self-report measure of quality of life, and reported that despite an improvement in quality of life assessment between baseline and one-year follow up, there was no parallel improvement in affect perception, suggesting no concurrent association between the two factors. Pinkham et al⁷⁸ compared affect perception and social skill as separate variables, across the course of psychotic disorders, concluding that there was no difference between MEP and FEP groups on either measure of affect perception or social functioning. Nevertheless, this study did not specifically consider the statistical relationship between the two variables, thereby restricting conclusions that can be extrapolated. As mentioned previously, many of the studies reviewed, acknowledged the importance of the influence of affect perception on functional outcomes in psychosis, however consideration of this influence in early psychosis requires further research attention for firmer conclusions to be drawn. It is noted in the present review, that Addington et al⁷⁰ explored this relationship further, by a mediational analysis, to consider if affect perception mediates the relationship between cognition and social functioning in psychosis. Findings of this analysis

indicated that affect perception did partially mediate the relationship between cognition and social functioning, and that the mediational role became stronger at one year follow up. The results of this mediational analysis are to some degree confounded by the method used to conduct this analysis, which saw first, and multi, episode psychosis groups being combined. Therefore, the potentially mediating role of affect perception between cognition and social functioning in early psychosis cannot be conclusively or comprehensively discussed. Future research of this kind may benefit from separation of these diagnostic groups, to consider whether the influence of affect perception on social functioning is present at onset and whether it develops over the duration of illness.

1.4.5. Can deficits in affect perception be treated through psychological interventions in early psychosis?

In the present review, one study considered the potential for remediation of an affect perception deficit in early psychosis. An intervention study, conducted by Bartholomeusz et al⁷² considered the feasibility and impact of a Social Cognition and Interaction Training (SCIT) program on twelve individuals with first episode of psychosis. Following the ten-week SCIT program, participants demonstrated a significant improvement in the perception of subtle facial emotions, in addition to trend level improvements in vocal affect recognition. Furthermore, participants demonstrated significant improvements in social and occupational functioning. The authors note the validity of providing a SCIT intervention in the early phase of psychosis, with the rationale that greater neuroplasticity during this phase of life

lends itself to the increased possibility of preventing additional disability⁷². Although based upon a small sample, results of this study highlight the potential for improvement where affect perception deficits exist, findings that are supported by results of SCIT interventions in more chronic phases of psychosis^{31,32}.

1.5. Conclusion – Summary of key findings

In summary, the reviewed literature suggests the presence of a deficit in both vocal and facial affect perception in the early phases of psychosis, and that this deficit is generally more specific for negative emotions, particularly fear and sadness. Fitting with neurodevelopmental models of psychosis, studies indicate that an affect perception deficit may be present before the full expression of a psychotic disorder, and may not vary over time or symptom severity. However, factors connected to duration of untreated psychosis may relate to the subsequent severity of affect perception deficit in early psychosis. Despite acknowledgement of the potential impact affect perception may have upon functional outcomes in early psychosis, the lack of specific investigation into this relationship in the literature presented, makes it difficult to draw conclusions about the nature of this influence. Finally, although research into SCIT in early psychosis is in its initial stages, the results of an intervention study indicate that affect perception ability can improve through psychological intervention.

1.5.1. Critique

Specific methodological constraints of the literature reviewed have been addressed throughout, however, there are numerous specific considerations observed through the collation of data that merit attention.

A key consideration, when attempting to collate the findings of affect perception studies, is attention to the heterogeneity of tasks employed to assess affect perception. In studies included in the present review, a diversity of tasks were employed to assess affect recognition. Many studies employed a facial emotion recognition test based upon Ekman and Friesen's⁸⁶ theory of six basic emotions (happiness, sadness, anger, fear, disgust and surprise)^{47,48,55,59,68,75,76}. In a number of studies, facial emotion recognition tasks were reproduced for purposes of the study, or were novel designs. The relative inconsistency of affect perception tasks utilised across studies, is a notable limitation of the research findings, through introduction of confounding variables of stimulus exposure and response time, response format, number and nature of emotions examined and stimulus complexity factors. Methodological limitations related to experimental tasks have been noted by two previous reviews of affect perception in schizophrenia^{46, 87}; such methodological constraints appear to be a confounding factor within the early psychosis affect perception literature also.

Affect perception deficit is a difficulty of social cognition, however tasks to assess affect perception in the studies reviewed, were all laboratory-based experiments, questioning the ecological validity of results. Furthermore, as noted in Tsui et al⁸¹ the lack of contextual information in affect perception tasks is a further barrier to the ecological validity of findings. The relatively small sample sizes used in many of the studies, and scarcity of power analyses reported, may restrict the generalizability of findings.

The variability between clinical groups, and between clinical and comparison groups, provide further hindrance in the collation of findings. As noted in Edwards et al⁷⁵, affect perception deficit may differ across diagnostic groups of psychosis. Variability in psychotic diagnoses, of both FEP and MEP, is a factor that may confound the findings of many studies included in the current review. Furthermore, clinical groups differed in relation to age, IQ, gender, DUP, DOI and anti-psychotic medication use. Without further exploration of the potential impact of these diverse factors on affect perception, it is difficult to interpret the impact they may have upon the findings of studies reviewed. Of particular significance to research in early psychosis, is consideration of how we are defining this group for the purposes of research. Many of the included studies described their early psychosis groups as “first episode psychosis”, however, upon further inspection, there was considerable difference in group definition, with regard to DOI, number of episodes experienced, and whether individuals were in acute or remission phases. Again, it is difficult to understand the

impact this diversity may have upon findings, without understanding, how such factors relate to affect perception.

Articles included in the current review were biased in terms of participant demographics, towards samples of predominantly male participants. 15 of the studies included in the current review had a greater proportion of male to female participants across their patient and control groups, one of which was based on a sample of male participants exclusively. Research suggests that gender differences may exist in emotion perception abilities between males and females in the general population, with men generally performing less well on tasks of facial and vocal emotion recognition^{88,89,90}. Research undertaken with individuals experiencing psychosis further supports a difference in emotion perception ability between genders^{91,92} (Weiss and Kohler, 2007; Vaskin, 2007). Furthermore, a recent meta-analysis considering facial emotion perception in Schizophrenia⁹³ (Kohler et al 2009), found that having greater numbers of male participants in control groups, was associated with a decrease in the impairment of facial emotion recognition found in individuals with schizophrenia. It is therefore important to note, that for studies investigating affect perception ability, gender differences across both patient and control groups may act as a confound variable. The bias towards greater number of male participants in studies included in the current review is a notable consideration and potential limitation of the reviews findings.

As noted previously, despite acknowledgement by many studies of the importance of social cognition in functional outcomes in psychosis, relatively few employed measures of functioning or considered the potential relationship between affect perception and functioning. Measures of functioning were generally of self-report format, and measured generic global functioning. Social functioning difficulties are considered a hallmark of psychosis, which, like affect perception deficit, may precede the onset of psychotic symptoms⁹⁴. Consideration of this relationship in future research may be key to understanding the functional impact of affect perception difficulties in psychosis, however, there is a need to contemplate the method by which functioning is measured, and whether global functioning and self-report measures permit clinically valuable data to be generated.

1.5.2. Clinical Implications

In the context of social interactions, individuals with early psychosis may respond in an incongruent way to the emotional states of others; a differential deficit in the perception of emotions such as sadness and anger may influence an individual's relationships or propensity to be involved in unsafe interactions. An affect perception deficit may also have implications for specific positive symptoms, particularly paranoia and hallucinations. Inaccurate decoding of emotions may serve as a building block for delusions^{36,48} and emotional aspects of speech may be disrupted in individuals prone to auditory hallucinations⁹⁵, potentially increasing vulnerability to experience auditory hallucinations⁹⁶. Affect perception may therefore influence the development and experience of positive symptoms of early psychosis.

An understanding of the differential deficit in affect perception may also help us to understand the associated social difficulties of early psychosis. The potential impact of affect perception on social functioning may help us to improve understanding and highlight areas for intervention in early psychosis services. Findings indicate that there is potential for affect perception deficit to be improved through psychological interventions in early psychosis, and that interventions are well received⁷². The negative impact of extended DUP on affect perception also provides further support for the provision of early intervention in psychosis.

1.5.3. Limitations of the present review

A degree of bias may exist in the literature reviewed here due to the exclusion criteria and process used to select studies. The present work did not review neurological studies, another substantial field of social cognition research, as there was not the scope to sufficiently review the substantial body of research literature that has developed in this area^{88,97}. Furthermore, the present review only included English language articles which may have resulted in the exclusion of relevant research published in other languages. Studies included were exclusively selected from peer-reviewed journals, with the intention of ensuring rigorous quality of included studies. However, the publication bias that may have resulted from the selection criteria must be acknowledged, potentially resulting in an over-estimation of the deficit in affect perception in early psychosis.

1.5.4. Recommendations for future research

The methodological critique highlights the need for differential and longitudinal designs in future research considering affect perception in early psychosis. Differential designs may help to verify whether affect perception deficit is specific, or a generalised deficit in early psychosis. Furthermore, longitudinal studies are needed to consider changes in affect perception deficit over the developmental course of psychotic disorders, and how a deficit may correlate with other longitudinal factors such as symptoms, medication and social functioning. Longitudinal studies may substantiate how affect perception deficits contribute to the development of positive symptoms of psychosis. A further recommendation for future research is to develop greater consistency across affect perception tasks; development of the MATRICS cognitive battery¹⁹ may help to facilitate the consistency of future social cognitive research.

Wider exploration of the relationship between affect perception and functioning, particularly social functioning, in early psychosis is essential in both empirical research and clinical practice. Furthermore, creation, and evaluation, of interventions for affect perception deficits are a notable consideration for future research.

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Chapter II: Empirical Paper

An Understanding of Early Psychosis in the Context of Dissociative Experiences

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2.1. Abstract

Background: The experience of trauma is related to the development of both dissociative and psychotic symptoms. Recent research has sought to investigate the nature of the relationship between trauma, dissociation and psychosis, noting the potentially mediating role of dissociation in the relationship between experience of trauma and symptoms of psychosis.

Aims: The current study built upon recent research by investigating the nature of the relationship between trauma and dissociation in early psychosis. Specifically, the current study investigates whether dissociation mediates the relationship between experiences of trauma and experiences of early psychosis

Method: Patients with first episode psychosis ($n=20$) and non-psychiatric controls ($n=30$) completed fixed response quantitative questionnaire measures of dissociation and trauma experiences. The first episode psychosis group also completed a measure of psychosis recovery style.

Results: Relative to the control group, the FEP group reported significantly higher: 1) Experiences of trauma; 2) Dissociative tendencies; and 3) Correlational levels between trauma experiences and dissociative symptoms. Dissociation positively mediated the relationship between experience of trauma and first episode psychosis. However, dissociative symptoms were not correlated with recovery style in early psychosis.

Conclusions: Findings replicate the association between trauma and dissociative symptoms in individuals who have experienced psychosis. Findings also provide

further support of the mediating role of dissociation in the trauma and psychosis relationship.

Keywords *Trauma; First Episode Psychosis; Dissociation; Recovery Style.*

2.2. Introduction

This paper explores the proposed relationships between trauma, dissociation and psychosis, which over recent years have become a focus of research and clinical interest. The context of the current research will consider trauma as adverse life events experienced throughout lifetime, with particular attention to adverse life events experienced during childhood and adolescence. Five sub-groups of trauma, namely physical abuse (PA), sexual abuse (SA), emotional abuse (EA), physical neglect (PN), and emotional neglect (EN), will be considered in this paper. Dissociation has been defined as the 'lack of normal integration of thoughts, feelings, and experiences into the stream of consciousness and memory' (Bernstein & Putnam, 1986, p. 727). Psychosis is characterised by experiences of delusions, hallucinations, disorganised thinking, disturbed motor behaviour and negative symptoms (American Psychiatric Association, 2013). The current research will specifically consider the experience of early or first episode psychosis, which is defined as the phase encompassing the prodromal and critical period of psychosis (McGorry, Killackey & Yung, 2008).

A review of the literature in relation to trauma, psychosis and dissociation will first be presented. Theoretical models of concepts and of proposed relationships between concepts will be explored throughout this paper. The rationale for, and aims of, the current research will then be described, with subsequent presentation and discussion of the findings.

2.2.1. Dissociation

Persistent interest in dissociative experiences has been evidenced through both clinical practice and academic research history. It was Janet, in the late 19th Century who first suggested that traumatic stresses have the ability to disrupt the mind's integrative capacity, leading to the disconnection and isolation of certain psychological regulating systems (Van Der Hart & Horst, 1989). Modern perspectives on dissociation maintain much of its early theoretical foundation; however, contemporary thought suggests a continuum model from mild, normative dissociative experiences, to more severe and disruptive forms (Vermetten, Dorahy & Spiegel, 2007). The recently published Diagnostic and Statistical Manual (DSM-V; American Psychiatric Association, 2013) defines dissociation as a disruption and discontinuity of the usually integrated functions of consciousness, memory, identity, emotion and perception. Manifestation of symptoms may include attentional absorption, depersonalisation (a sense of detachment from one's own body), derealisation (a sense of unreality about the external world), identity confusion and amnesia (Longden, Madill & Waterman, 2012). It has been suggested that symptoms of dissociation represent a continuum, from milder attentional absorption, to more severe pathology of disrupted identity and amnesia (Fonagy & Target, 1995) which are archetypal phenomena of Dissociative Identity Disorder (DID) (Dell, 2006).

The term dissociation has been used to describe a diversity of processes and phenomena across clinical and non-clinical populations. This diversity, and lack of specificity with regards to terminology has led some authors to question the

etiological similarities of dissociative processes (Giesbrecht, Lynn, Lilienfeld & Merckelbach, 2008), thereby questioning the continuum model of dissociation (Cardena, 1994; Jureidini, 2004). The more widely encompassing view of dissociation has attracted criticism for being too inclusive and diverse (Van Der Hart, Nijenhuis, Steele & Brown, 2004; Vogel & Braungardt et al., 2013). Holmes et al. (2005), instead suggest a dichotomy between two qualitatively different conceptualisations of dissociation in the research literature. They suggest a difference in kind, rather than degree of symptoms of dissociation in the 'Bipartite Model' of dissociation (Holmes et al., 2005). Namely, detachment dissociation, characterised by symptoms of depersonalisation and derealisation, and compartmentalisation dissociation, characterised by disrupted integration and amnesia. Notably, in the domain of psychosis research, specific psychosis symptoms may relate to separate subgroups of dissociation. For example, Vogel et al., (2013) found that positive symptoms of psychosis were related to detachment dissociation, whereas negative symptoms relate to compartmentalisation dissociation. It may therefore be seen as beneficial to consider specific symptoms of dissociation relative to the bipartite model in the experience of psychosis.

Clinically significant levels of dissociation have been noted in general population surveys (Waller & Ross, 1997; Maaranen et al., 2005; Sar, Akyuz & Dougan, 2007), and lifetime prevalence rates of approximately 10% have been suggested (Elmore, 2000). However, surveys of psychiatric populations yield far greater rates of dissociative pathology (Gast, Rodewald, Nickel & Emrich, 2001; Francia-Martinez, de

Torres, Alvarado, Martinez-Taboas & Sayers, 2003; Foote et al., 2006). Despite acknowledgement of greater dissociative symptoms in clinical populations, under-diagnosis and misdiagnosis of dissociative disorders continues in mental health settings (Francia-Martinez et al., 2003; Foote et al., 2006; Moskowitz, 2011). Under identification of clinical levels of dissociation in our client groups' may have important implications. For example, Foote, Smolin, Neft, and Lipschitz, (2008) found that dissociation was strongly associated with self-harm and suicidality. This association was, above other diagnoses (i.e. Borderline Personality Disorder) the strongest predictor of multiple suicide attempts. Aquarone and Hughes (2006) report that greater dissociation is related to more frequent hospital re-admissions. Furthermore, dissociation may be a critical mediator of risk-taking behaviour in individuals who have experienced childhood sexual abuse (Kisiel & Lyons, 2001). In the context of mental health difficulties, dissociation may affect recovery, and from a service level perspective, may have implications for understanding and managing risk.

2.2.2. Trauma and dissociation

From its initial conception, dissociation has been associated with experiences of trauma (Moskowitz, Schäfer & Dorahy, 2008), particularly the experience of trauma during childhood (Lipschitz & Kaplan et al., 1996; Chu & Frey et al., 1999; Sar, Islam & Ozturk, 2009). The influence of trauma on the development of dissociation is often presented as an incontrovertible fact in the research literature (Giesbrecht, Lynn, Lilienfeld & Merckelbach, 2008). "It is the motivation for the defensive exclusion of

experience from the autobiographical narrative, that links dissociation to the experience of trauma” (Fonagy & Target, 1995; p.2). A widely accepted concept suggests that dissociation acts as a psychological defence mechanism, mobilised to protect an individual from the impact of overwhelming trauma (Perry, Pollard, Blakley, Baker & Vigilante, 1995; Gershuny & Thayer, 1999; Thomas, 2003; Aquarone & Hughes, 2006). Traumatogenic models of dissociation hold that dissociation is an adaptive response to threat or danger, supporting survival in the face of traumatic events; Dalenberg et al., 2012). Once employed as a coping mechanism, it is proposed that dissociation can become an automatic and habitual response to stress (Giesbrecht, Lynn, Lilienfeld & Merckelbach, 2008).

The relationship between traumatic experiences and pathological dissociation is well-established (Putnam, 1995; Irwin, 1999). Individuals with dissociative disorders often report a history of past trauma, particularly experiences of trauma during childhood (Coons, 1994; Nijenhuis, et al., 1998; Macfie, Cicchetti, & Toth, 2001; Chu, et al., 1999). Research further indicates that patients with the most clinically pronounced and disruptive form of dissociation, DID, report histories of childhood physical and sexual abuse (Ross, Anderson, Heber & Norton, 1990; Ellason, Ross, & Fuchs, 1996; Nijenhuis et al., 1998). However, the link between trauma and dissociation is not limited to research of the dissociative disorders. Research further supports the relationship between trauma and dissociative symptoms in other psychiatric populations (Schafer et al., 2010; Werner & Griffin, 2012; Evren et al.,

2013; Braehler et al., 2013) and in general population samples (Mulder, Beautrais, Joyce & Fergusson, 1998).

Nonetheless, the unequivocal relationship between experience of trauma and dissociation has been questioned by observation that traumatic experience is not always antecedent to dissociative experience (Merckelbach & Muris, 2001). For example, Vogel et al., (2006) found that individuals with schizophrenia who had not experienced trauma were more dissociative than healthy controls, suggesting that schizophrenia may be related to dissociation independently of trauma experience. The suggestion of the relationship between mental health difficulties and dissociation, independent of trauma, may certainly be supported by findings of a high degree of dissociative phenomena amongst individuals experiencing various mental health difficulties (Prohl, Resch, Parzer, & Brunner, 2001; Modestin, Lotscher, & Erni, 2002; Aquarone & Hughes, 2006; Evren, et al., 2008). However, there is need to consider the prevalence of trauma, and the correlation between trauma and dissociation within samples of individuals with mental health difficulties, before the relationship between dissociation and psychopathology can be explored independent of trauma. Further questions are raised by findings that dissociation is related to high levels of peritraumatic distress post-trauma, thereby questioning the suggestion that dissociation is a protective mechanism against the impact of trauma (Fikretoglu et al., 2006). It has instead been suggested that dissociation may be viewed as epiphenomena, mediated by concurrent psychopathological distress (Vogel et al., 2009). The ways in which dissociative symptoms contribute to, and

possibly maintain psychological difficulties of mental health disorders, warrants further research attention.

2.2.3. Trauma and Psychosis

It is widely acknowledged that the experience of trauma, particularly during childhood, is associated with the later development of mental health difficulties (Ackner, Skeate, Patterson & Neal, 2013; Carr, Martins, Stingel, Lemgruber & Juruena, 2013; Maschi, Baer, Morrissey & Moreno, 2013). In particular, a great deal of research has focussed upon the experience of childhood trauma and the later development of psychosis (Cutajar et al., 2010; Sahin et al., 2013). A recent meta-analytic review found that individuals with psychosis were 2.72 times more likely to have experienced childhood adversity than those without psychosis, concluding that childhood adversity is strongly linked to increased risk for psychosis (Varese et al., 2012). Two further studies report a dose-response effect between childhood traumas and psychotic experiences, indicating that risk of psychosis increases with increased frequency of abuse experienced (Janssen et al., 2004; Bentall, Wickham, Shevlin & Varese, 2012). Furthermore, childhood trauma potentially influences the nature of psychotic experiences in adulthood (Vogel et al., 2009). For example, emotional abuse is related to the experience of persecutory delusions (Ashcroft, Kingdon & Chadwick, 2012), whilst sexual and physical abuse is related to the experience of hallucinations (Read & Argyle, 1999; Morrison & Petersen, 2003; Read, Agar, Argyle & Aderhold, 2003).

In their seminal paper considering early trauma and Schizophrenia, Read et al., (2001) present a traumatogenic neurodevelopmental (TN) model of schizophrenia, noting the potential effects that traumatic experiences may have upon the developing brain in terms of structure, function and cognition. However, there is also suggestion that the relationship between trauma and the later development of psychotic symptoms, including those experienced by individuals with a diagnosis of Schizophrenia, may be mediated by trauma related variables (Read, Os, Morrison & Ross, 2005). Dissociation is one such variable that has been identified as a potentially mediating factor, and will now be considered.

2.2.4. Trauma, dissociation and psychosis

Though currently considered as two separate disorders, historical comprehension of dissociation and psychosis was not so disconnected. Understandings of dissociation and psychosis, particularly the emerging concept of schizophrenia were merged in the late nineteenth and early twentieth century before disconnecting once more (Moskowitz, Schäfer & Dorahy, 2008). Furthermore, original conceptions of Dementia Praecox, the experience now understood as Schizophrenia, were originally infused with dissociative constructs (Moskowitz, 2011). Over recent years there has been a re-emergence of thought questioning the distinction between concepts of dissociation and psychosis, particularly with regard to the experience of auditory hallucinations (Longden, Madill & Waterman, 2012; Moskowitz & Corstens, 2007; Moskowitz, 2011). Numerous studies report an association between dissociative symptoms and psychosis symptoms (Startup, 1999; Ross & Keyes, 2004; Kilcommons

& Morrison, 2005; Moskowitz, Barker-Collo & Ellson, 2005; Varese, Udachina, Myin-Germeys, Oorschot & Bentall, 2011). Expanding upon this, both Longdon et al., (2012) and Moskowitz and Corsten (2007) argue that auditory hallucinations, even in the context of psychosis, are best understood as dissociative experiences. The paradigmatic shift from a largely accepted biological understanding of psychotic disorders such as schizophrenia could have considerable significances for both theoretical understanding and clinical intervention (Moskowitz, 2011).

Experience of trauma, particularly in early childhood, is associated with the development of both dissociative and psychotic experiences. As noted in Read et al., (2001) rather than separating the sequelae of traumatic experiences into diagnostic categories it may be more productive to view them as interacting components of long-term processes. Accordingly, many recent research studies have considered the interactional relationship between trauma, dissociation and psychosis. Research undertaken utilising samples of psychosis patients indicate that there is a positive relationship between the experience of trauma and dissociative symptoms for individuals experiencing psychosis (Ross & Keyes, 2004; Vogel et al., 2009; Schafer et al., 2012; Perona-Garcelan et al., 2012; Braehler et al., 2013; Perona-Garcelan et al., 2014). This relationship may be particularly strong for those who have experienced physical neglect (Vogel et al., 2009; Schafer et al., 2006), emotional abuse (Holowka, King, Saheb, Pukall & Brunet, 2003; Schafer et al., 2006) and sexual abuse (Offen, Waller & Thomas, 2003; Schafer et al., 2012). Furthermore, the relationship between trauma and dissociation may be stronger for individuals with psychosis compared to

non-psychiatric controls (Braehler et al., 2013). Allen, Coyne and Console (1997) suggest that dissociation may link trauma and psychosis by destabilising an individual's grounding in their external world and creating an internal sense of disconnection, confusion, and disorientation. The impact of dissociative experiences may therefore leave a person vulnerable to psychotic experiences. The need for further research in this area is fundamental to elucidate the relationship between these three factors.

2.2.4.1. Dissociation as mediating variable between trauma and psychosis

As previously noted, it has been suggested that the relationship between trauma and psychosis could be mediated by dissociative processes (Moskowitz & Corstens, 2007; Moskowitz, Read, Farrelly, Rudegeair & Williams, 2009; Anketell et al., 2010). A number of recent studies support this proposed relationship. Perona-Garcelán et al., (2012) found that in a sample of patients with psychosis, dissociation mediated the relationship between childhood trauma and hallucinations, but not delusions. These findings are further supported by Varese, Barkus and Bentall (2012) who found that dissociation mediated the relationship between trauma and hallucination proneness across Schizophrenia and non-psychiatric groups; dissociative mediation was particularly strong for experience of sexual abuse and hallucination proneness. Furthermore, in a general population study, Perona-Garcelán et al., (2014) reported that absorption and depersonalisation, which are considered to be specific aspects of dissociation, mediated the relationship between childhood trauma and hallucination proneness.

The potentially mediating role of dissociation between trauma and psychosis symptoms is attracting growing corroboration through empirical research. There are presently a limited number of studies that have investigated this phenomenon, which thus far are restricted to the investigation of mainly hallucinations and hallucination proneness. Furthermore, few studies investigating the relationship between trauma, dissociation and psychosis have utilised comparison groups, or have based findings upon samples of non-clinical populations. The assumed link between these factors requires further investigation in populations of individuals with psychosis. Furthermore, it may be opportune to consider how relationships between factors differ across psychosis and non-clinical populations, and whether dissociation mediates the relationship between trauma and the later development of psychosis *per se*.

2.2.5. Psychological Adjustment to Early Psychosis

An individual's adjustment to their first experience of psychosis is understood to be critical and formative, but remains poorly understood (Jackson & Iqbal, 2000). Whilst some individuals adjust relatively well to the psychological impact of experiencing psychosis, others may go on to develop symptoms of depression, Post Traumatic Stress Disorder (PTSD) or suicidality (Jackson, et al., 2009 see also Birchwood, Fowler, & Jackson, 2000). It is therefore of foremost interest to identify prognostic factors that could be addressed through therapeutic interventions in the early stages of psychosis (Sorbara, Liraud, Assens, Abalan & Verdoux, 2003).

McGlashan and colleagues (McGlashan, Levy & Carpenter Jr, 1975; McGlashan, 1987) proposed that during psychological adjustment to psychosis, individuals adopt either a “sealing over” or “integration” style to recovery. An “integrative” recovery is characterised by an individual’s awareness of continuity between their mental activity and personality prior to, during and after the psychotic episode. In contrast, individuals who adopt a “sealing-over” approach to recovery tend to isolate their psychotic experience and suppress memory of the event; cause is considered separate to personal problems, and individuals are disinclined to explore the meaning of the experience (McGlashan, 1987). “Psychotic experiences and symptoms are isolated from non-psychotic mental events and then made unavailable by both conscious suppression and repression” (McGlashan, Levy & Carpenter Jr, 1975, p.1269).

Although research has not yet conclusively distinguished why some individuals adopt an integration and others a sealing over approach to recovery, Drayton, Birchwood and Trower (1998) found that sealing over was associated with moderate to severe levels of co-morbid depression, early experiences of insecure attachment and negative self-evaluation. They further argue that sealing over is an adaptive but ineffective strategy for coping with the trauma of psychosis and may be a method adopted by individuals whose psychological resources to process a traumatic event such as psychosis, are impoverished. Sealing over is generally associated with poorer social functioning and quality of life and higher levels of depression, further supporting suggestion of lowered personal resilience in adapting to the experience

of psychosis (Tait, Birchwood, & Trower, 2004). Recovery style has important implications for service provision; recovery style has also been found to relate to service engagement, where 'sealing over' is implicated in low service engagement (Tait, Birchwood, & Trower, 2003) which consequently affects prognosis and illness chronicity in early psychosis (Lecomte, et al., 2008).

2.2.6. The present study

Dissociative symptoms have been found to a greater degree in individuals experiencing many different mental health difficulties. However, research has not yet investigated the prevalence rates of dissociation in individuals experiencing first symptoms of psychosis. At a service level, under identification of dissociative symptomology in individuals accessing services could have important clinical implications, as elevated levels of dissociation have been related to an increased clinical risk, a factor of considerable importance within Early Intervention for Psychosis services.

Given the well-considered role of dissociation as a protective factor, it may be opportune to consider whether dissociation operates as a coping mechanism, as individuals assimilate and adapt to their first experience of psychosis. 'Sealing over' and 'integration' have been proposed as two distinct ways in which an individual copes with their psychotic experience, each differentially impacting upon recovery and engagement with mental health services. This observation poses the question,

are dissociative experiences related to an individual's coping style as they adapt to their first experience of psychosis?

The relational interplay between trauma and psychotic experience is both complex and multifaceted (Ross, 2004). Current research and theoretical consideration, proposes a mediating role for dissociative processes in the relationship between trauma and hallucinatory experiences (Morrison, Frame, & Larkin, 2003), however previous research has not investigated the potentially mediating role of dissociation between experience of trauma and psychosis experience per se. This suggested relationship is noted in figure 2. The potentially mediating role of dissociation in the relationship between trauma and psychosis warrants further research attention to clarify this hypothesis. As noted in a review undertaken by Berry et al., (2013) psychosis symptoms and hospitalisations are related to post-traumatic stress disorder (PTSD) which in turn is related to dissociative experiences (Ozer, Best, Lipsey & Weiss, 2008). The complex associations between variables of trauma, dissociation, and psychosis, is likely protracted in the experience chronic psychosis, with greater frequency of hospital admissions (Varese et al., 2012) and potentially confounding factors of duration of illness and longer-term antipsychotic medication use. In the present research, it was therefore considered opportune to investigate the relationship between trauma, dissociation and psychosis in a sample of individuals

experiencing early or first episode psychosis, recruited from Early Intervention for Psychosis services.

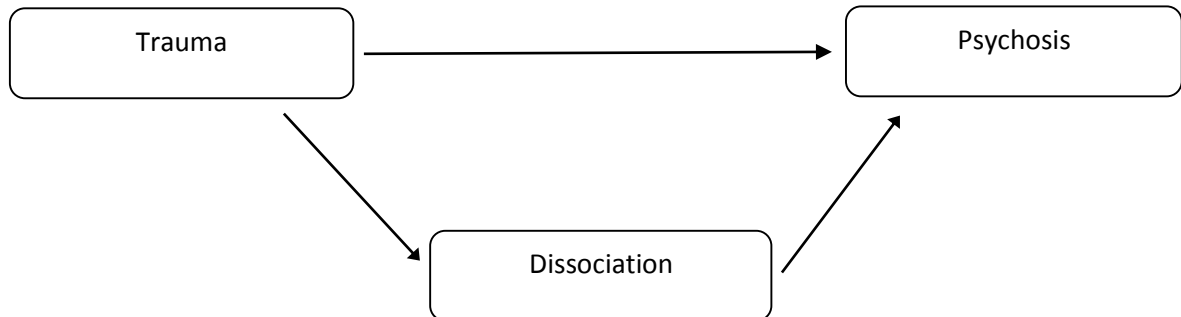


Figure 2: Proposed relationships between trauma, dissociation and psychosis.

2.2.7. Aims

The aim of the proposed research is to investigate the prevalence and effect of dissociative experiences amongst individuals accessing services for FEP. The study aims to consider the prevalence and nature of traumatic experiences and dissociative symptoms for individuals experiencing FEP, and non-psychiatric controls (NPC) and how the relationship between these two variables may differ across groups. The research additionally seeks clarification on the potentially mediating role of dissociation between the experience of trauma and later development of psychosis. Lastly, the research aims to consider the relationship between dissociative symptoms and recovery style of individuals experiencing FEP.

2.2.8. Hypotheses

- 1) Individuals with FEP will report more experiences of lifetime trauma than healthy controls;
- 2) Individuals with FEP will report significantly more dissociative symptoms than healthy controls and will demonstrate greater prevalence of clinical levels of dissociative symptoms compared to controls;
- 3) There will be a stronger positive relationship between trauma experience and dissociation symptoms in the FEP group compared to the NPC group;
- 4) Dissociation will mediate the relationship between the experience of trauma and experience of FEP.

The current study will also consider the following exploratory question:

Are dissociative symptoms related to recovery style in first episode psychosis?

2.3. Method

2.3.1. Design

The current study used a quasi-experimental design. A non-probability sample design and purposive method of sampling was employed. Individual structured interviews, designed to collect quantitative, fixed-response data were conducted with each participant.

2.3.2. Participants

Twenty participants (16 Males, 4 females) with FEP were recruited from Early Intervention for Psychosis Services across three NHS sites; Worcestershire Health and Care NHS Trust, Black Country Partnership NHS Foundation Trust and Coventry and Warwickshire Partnership NHS Trust. Ages ranged from 19 - 31 ($M = 24.85$, $SD = 3.62$). All participants had received a diagnosis of FEP, and were current patients of Early Intervention for Psychosis services. No participants met diagnostic criteria for Affective Disorder.

Thirty NPC participants (14 males, 16 females) also participated in the study. Ages ranged from 18 - 34 ($M = 24.87$, $SD = 4.54$). The control group were an opportunity sample of students' recruited from the Universities of Coventry and Warwick as well as through the researchers' personal and professional contacts. Participant group demographics are shown in Table 4.

2.3.2.1. Estimation of Required Sample Size

Calculations to estimate the required statistical power to observe a medium effect size, and to estimate the required sample size to observe effects was first undertaken. Cohen (1992) suggests that for a between groups analysis, with a medium effect size at power = .80 and where $\alpha = .05$, $n = 64$. Therefore the optimal number of participants required to achieve statistical power in the between groups analyses of the present study is 64 participants.

To calculate the sample size required for the mediation analysis, the present study was also guided the principles of a 'maximum likelihood' estimation which suggests that minimum sample size is considered by the ratio of cases to the number of model parameters that require statistical estimates (Kline, 2011). An ideal sample size to parameters ratio would be 20:1; however, a ratio of 10:1 provides an adequate sample size. According to these principles the mediation analysis conducted in the present study required a minimum sample size of 30 participants, and an optimal sample size of 60 participants.

2.3.3. Measures

2.3.3.1. Dissociation

The *Dissociative Experiences Scale II* (DES II; Carlson & Putnam, 1993) was used to measure dissociative symptoms (Appendix G). The DES II is a self-report questionnaire designed to measure dissociative symptoms in both clinical and non-clinical populations. The scale consists of 28 items; respondents indicate the extent to which they have experienced each symptom on a corresponding scale. The DES II provides scores on three indices including absorption, depersonalisation/derealisation and amnesia. Scores above 30 on the DES II indicate dissociative symptoms of a clinically significant level. The DES II has been found to have good reliability, validity and internal consistency (Bernstein & Putnam, 1986).

2.3.3.2. Trauma

The Trauma and Distress Scale (TADS; Patterson et al., 2002) was used to measure past experience of trauma (Appendix H). The TADS is a 43 item self-report questionnaire that asks respondents to rate statements on life experiences on a five point likert scale and incorporates five subscales relating to childhood trauma: emotional abuse (EA), physical abuse (PA), sexual abuse (SA), emotional neglect (EN) and physical neglect (PN). The TADS has been employed in research within community and clinical samples, and has been deemed to have good face validity and test re-test reliability (Matti et al., 2008).

2.3.3.3. Recovery Style

In the FEP group, recovery style was measured through use of the *Recovery Style Questionnaire* (RSQ; Drayton, Birchwood, & Trower, 1998). The RSQ (Appendix I) is a 39-item self-report measure, designed to reflect categories consistent with recovery styles identified by McGlashan et al., (1975) in response to the experience of psychosis. Four recovery styles can be classified through the questionnaire: integration, mixed picture in which integration predominates, mixed picture in which sealing over predominates and sealing over. Higher scores on the questionnaire indicate sealing over and lower scores, integration. The RSQ has been shown to have excellent psychometric properties and was validated against the interview version (Drayton, Birchwood, & Trower, 1998).

2.3.3.4. Screening for Psychotic Symptoms

The NPC group were screened for psychosis symptoms and psychosis risk through use of the *Prodromal Questionnaire* (PQ-16; Ising et al, 2012; Appendix J). The PQ-16 is a brief version of the original 92 item Prodromal Questionnaire (PQ; Loewy et al., 2005). The PQ-16 is a sixteen item self-report measure. The PQ-16 is intended to screen for subclinical psychotic symptoms that may indicate an increased risk of psychotic disorder or “at risk mental state”. The questionnaire is composed of 14 positive and 2 negative symptoms of psychosis, plus follow-up questions about subsequent distress experienced. A cut-off of six or more symptoms on the PQ-16 has a high true positive rate (87%) and high specificity (87%) for differentiating risk of psychosis. FEP participants had all received a diagnosis of first episode psychosis, which was confirmed in initial meetings with Case Managers.

2.3.4. Procedure

Ethical approval was granted by Coventry University (Appendix L) and NHS Research Ethics Committee (Appendix M). Approval was further granted by individual Research and Development Departments of Worcestershire Health and Care NHS Trust, Black Country Partnership NHS Foundation Trust and Coventry and Warwickshire Partnership NHS Trust (Appendix N-P). The study adhered to the British Psychological Society’s Code of Human Research Ethics (2010). All participants were informed of the confidential nature of the study and of their right to decline participation or withdraw from the study at any time. Participants were given a minimum 24 hours to consider whether they wished to participate. Each participant signed a consent

form to evidence his or her informed consent to participate in the research. Demographic data was collected during participants meetings with the researcher (see Appendix K for participant demographic questionnaire). Participants' data was given a unique identifying code to preserve confidentiality and permit organisation of the data.

Patients of Early Intervention Psychosis services were identified through meetings between the researcher and service Case Managers. Potential participants were then approached by Case Managers who provided information about the study. Individuals who expressed interest in participating in the study then met with the researcher for an individual research interview, at which, the DES II, TADS and RSQ were administered. Participants of the NPC group were approached by the researcher, and provided with information about the study. Individuals who consented to participate in the study then met with the researcher who administered the DES II, TADS and PQ-16. NPC participants with a score of >6 on the PQ-16 measure were to be excluded from the study as this score indicates increased risk of psychotic disorder. However, no NPC participants scored above six on the PQ-16 in the current study; therefore, no NPC participants were excluded from the analyses. Research interviews for both FEP and NPC groups were of approximately 45 minutes duration.

2.3.5. Data Analysis

Statistical analyses were conducted using IBM SPSS Statistics package version 22. All tests performed were two tailed and α was set at $p \leq 0.05$.

A Kolmogorov-Smirnov test for normality indicated that TADS $D(50) = 0.147$, $p = < .01$ and DES $D(50) = 0.197$, $p = < .001$ scores were significant, demonstrating non-normal distribution of data. Assumptions for parametric data were not met; therefore, non-parametric tests of data were performed for comparative and correlational analyses. For the purposes of mediation analysis, a logistic regression analysis does not make any assumptions of normality, linearity, and homogeneity of variance for variables (Howell, 2002) and was therefore considered an appropriate method for exploration of mediating effects.

For purposes of mediation analysis, Baron and Kenny (1986) propose four, requisite assumptions for testing mediation through regression analysis. Specifically, the independent variable must affect the dependent variable, the independent variable must affect the mediator, the mediator must affect the dependent variable and lastly, that the effect of the independent variable on the dependent variable must be reduced or nullified after controlling for the mediator. The present data met these four assumptions; therefore, a mediation analysis was performed through a regression analysis.

2.4. Results

Prior to analysing data for the hypotheses of this study, an analysis of the equivalence of FEP and NPC groups in terms of age, gender and educational years was undertaken. There was no significant difference in age between groups $U = 283.50$, $z = -.33$, $p = .743$. Groups differed in total educational years $U = 191.50$, $z = -2.17$, $p = <.05$ and gender $\chi^2(1, N = 50) = 5.56$, $p < .05$. See Table 4 for group demographics.

Table 4. Participant demographic data

	FEP Group <i>N</i> = 20	NPC Group <i>N</i> = 30
Gender: Male / Female	16/4	14/16
Age: <i>M</i> (SD)	24.85 (3.62)	24.87 (4.54)
Age: Range	19-31	18-34
Educational years: <i>M</i> (SD)	15.15 (1.95)	16.13 (2.34)
Ethnicity: (%)	White British (75%) White Other (15%) Black British (5%) Asian British (5%)	White British (73%) White Other (10%) Black British (7%) Asian British (3%) White Irish (3%) Chinese (3%)

2.4.1. Group Comparisons

Between group Mann-Whitney U tests were performed to determine whether there were significant differences between those that had experienced FEP and the NPC group on measures of both trauma and dissociation. Table 5 presents descriptive statistics and results of the Mann-Whitney U tests for these measures and their subscales.

Results indicate that the FEP group scored more highly on measures of TADS Total, Emotional Abuse, Emotional Neglect, Physical Abuse, Physical Neglect, DES total, Amnesia, Depersonalisation/Derealisation and Absorption compared to the NPC group.

Table 5. Mann Whitney U calculations for between group comparisons

	Group	Median (Inter Quartile Range)	Z	Sig.
TADS Total	FEP	32.30 (17.50-42.00)	-3.69	P<.001
	Control	14.00 (6.00-20.75)		
Emotional Abuse	FEP	3.00 (3.00-5.00)	-2.17	P<.05
	Control	1.50 (0.00-3.00)		
Emotional Neglect	FEP	4.00 (1.25-7.50)	-2.26	P<.05
	Control	1.00 (0.00-3.25)		
Sexual Abuse	FEP	0.00 (0.00-0.00)	-1.45	P=.15 [†]
	Control	0.00 (0.00-0.00)		
Physical Abuse	FEP	2.50 (0.25-4.00)	-4.28	P<.001
	Control	0.00 (0.00-0.00)		
Physical Neglect	FEP	3.00 (1.00-4.00)	-3.12	P<.01
	Control	1.00 (0.00-2.00)		
DES Total	FEP	38.00 (22.25-72.00)	-3.55	P<.001
	Control	16.00 (9.50-23.25)		
Amnesia	FEP	4.00 (0.00-10.75)	-2.55	P<.01
	Control	1.00 (0.00-2.00)		
Depersonalisation/Derealisation	FEP	7.50 (3.00-10.75)	-5.62	P<.001
	Control	0.00 (0.00-0.00)		
Absorption	FEP	14.00 (7.25-24.00)	-2.49	P<.05
	Control	8.00 (5.00-12.00)		

[†] denotes result not significant

2.4.2. Correlational analyses

Two-tailed Spearman's rho correlations were performed to explore the associations between experience of various traumas and dissociative symptoms in both the FEP and NPC groups (Table 6 & 7). Results indicate that experience of trauma was associated with greater overall dissociation symptom severity in the FEP group only. There was also a significant positive correlation between overall dissociative symptoms and emotional neglect, physical abuse and physical neglect in the FEP group. Amnesia symptoms were positively correlated with physical neglect in the FEP group and emotional abuse in the NPC group. Depersonalisation/derealisation symptoms were positively correlated with overall experience of trauma and physical neglect in the FEP group, and physical abuse in the NPC group. Absorption symptoms were positively correlated with overall trauma experience, emotional neglect, physical abuse and physical neglect in the FEP group only.

Further to correlational analyses, Z scores were calculated to determine the difference between groups in terms of their correlation strengths between TADS and DES II subscales (Table 8). Findings indicated that there was a significantly stronger relationship in the FEP group compared to the NPC group for variables of amnesia and physical neglect, amnesia and physical abuse, absorption and overall trauma experience, absorption and emotional neglect, absorption and emotional abuse and absorption and physical neglect.

Table 6. Spearman's rho correlations of DES II and TADS scores for FEP group

	DES II Total	Amnesia	Depersonalisation/ Derealisation	Absorption
TADS Total	.639**	.277	.462*	.700*
Emotional Abuse	.276	-.016	.204	.731
Emotional Neglect	.485*	.102	.369	.540*
Sexual Abuse	.213	.087	.173	.214
Physical Abuse	.534*	.404	.410	.505*
Physical Neglect	.710**	.497*	.448*	.724**

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

Table 7. Spearman's rho correlations of DES II and TADS scores for control group

	DES II Total	Amnesia	Depersonalisation/ Derealisation	Absorption
TADS Total	.189	0.319	.028	.075
Emotional Abuse	.134	0.405*	.109	.087
Emotional Neglect	.314	.073	.033	.014
Sexual Abuse	.161	.250	-.083	-.054
Physical Abuse	.206	-.229	.426*	.093
Physical Neglect	.224	.005	.177	.238

*Correlation is significant at the 0.05 level (2-tailed).

Table 8. Z score comparisons of FEP and control group correlations

	DES II Total	Amnesia	Depersonalisation/ Derealisation	Absorption
TADS Total	-1.83	.105	-.69	-2.56**
Emotional Abuse	-.48	1.34	-.31	-2.72**
Emotional Neglect	-.66	-.09	-1.14	-1.91*
Sexual Abuse	-.17	.54	-.83	-.88
Physical Abuse	-1.25	-2.14*	.06	-1.49
Physical Neglect	-2.13*	-1.75*	-0.98	-2.17*

*Z score is significant at the 0.05 level (2-tailed).

**Z score is significant at the 0.01 level (2-tailed).

2.4.3. Mediation Analysis

Analysis was performed using both SPSS 22.0 and MPlus 7.0 to determine whether dissociation significantly mediates the relationship between experience of trauma and later development of psychosis. The mediation models with path coefficients are presented in Figure 3. There was a significant positive direct relationship between experience of trauma and FEP ($p = .045$ two-tailed). There was a significant positive relationship between experience of trauma and dissociation ($p < .001$ two-tailed) and a significant positive relationship between dissociation and FEP ($p = .023$ two-tailed).

A Sobel z-test revealed that dissociation had a significant mediating effect on the relationship between trauma and FEP: $z = 1.96$, $p = .05$ (two-tailed).

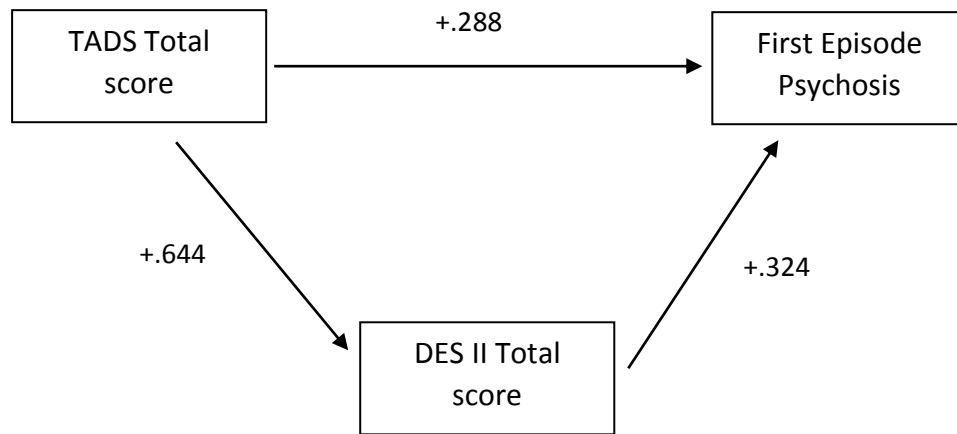


Figure 3. Mediation model between TADS score, DES II score and FEP.

2.4.4. Dissociation Prevalence

Of the 20 FEP participants, 13 (65%) reported clinically significant symptoms of dissociation (i.e. a score of >30 on the DES II). Two (7%) of the 30 control group participants reported clinically significant symptoms of dissociation.

2.4.5. Recovery Style

Spearman's rho correlational analyses was undertaken to determine whether recovery style was associated with dissociative symptoms. RSQ score was not associated with DES II total score ($r_s(18) = 0.22$, $p = .34$), or DES II subscales of amnesia ($r_s(18) = 0.17$, $p = .48$), depersonalisation/derealisation ($r_s(18) = 0.12$, $p = .61$), and absorption ($r_s(18) = 0.17$, $p = .48$).

2.5. Discussion

This study aimed to consider the relationship between trauma, dissociation and psychosis in an FEP sample and a comparative NPC group. Based upon the literature reviewed, the present study aimed to consider whether the nature of the relationship between trauma and dissociation differed between FEP and NPC groups, and whether trauma mediated the relationship between trauma and the experience of FEP.

Comparative analysis of groups confirmed that FEP participants reported more severe dissociative symptoms than NPC controls. This difference was noted for all subscales of the dissociation measure with FEP participants reporting more severe amnesia, depersonalisation/derealisation and absorption symptoms than controls. These findings are in concordance with co-morbidity surveys which suggest that psychiatric populations demonstrate greater dissociative symptoms compared to non-clinical populations (Gast, Rodewald, Nickel & Emrich, 2001; Francia-Martinez et al., 2003; Foote et al., 2006). Furthermore, the FEP group reported greater trauma experiences, specifically for emotional abuse and neglect, and physical abuse and neglect compared to controls. Again, findings are consistent with research that suggests a greater prevalence of traumatic experiences for individuals who have experienced psychosis (Varese et al., 2012).

The current study failed to find a significant difference between FEP and NPC groups for reported experience of sexual abuse; these results are contrary to research that indicates that sexual abuse may relate to the later development of psychosis (Cutajar et al., 2010; Sahin et al., 2013). Inspection of results indicates that there were very few reports of experiences of sexual abuse across both FEP and NPC groups. The potential for under-reporting of sexual abuse in this study must be considered, potentially influenced by the method of data collection, namely quantitative research interviews. Research also indicates a significant under-reporting of childhood sexual abuse by young adults (Fergusson, Horwood & Woodward, 2000). Furthermore, the sample of the current research was predominantly male, and it is understood that males are less likely to report experiences of sexual abuse (Ullman & Filipas, 2005; Sorsoli, Kia-Keating & Grossman, 2008). Therefore, present findings may have been influenced by the decreased likelihood of sexual abuse being reported.

2.5.1. Correlational Analyses

Correlational analyses were conducted to investigate the association between trauma and dissociation variables between groups. Correlational analyses indicated that for the FEP group, experience of trauma related to more severe dissociative symptoms which is consistent with previous findings (Braehler et al., 2013). Although a positive trend was noted in the NPC group between experience of trauma and dissociative symptoms, this association did not reach statistical significance. For the FEP group, emotional neglect, physical abuse and physical neglect were all associated

with more severe dissociative symptoms, again, associations that were not matched by the NPC group. Supplemental analyses were undertaken to consider whether the strength of relationship between trauma experience and dissociation symptoms differed significantly between groups. Findings indicated that overall experience of trauma and specifically emotional abuse, emotional neglect, and physical neglect were more strongly associated with symptoms of absorption in the FEP group than the NPC group. Furthermore, physical abuse and physical neglect were more strongly related to amnesia symptom severity in the FEP group compared to the NPC group. These findings suggest that traumatic experiences may have a differential impact on the severity of dissociative symptoms in different populations. Specifically, that individuals with psychosis may experience greater dissociative symptoms, particularly amnesia and absorption, following traumatic experience compared to individuals without psychosis. However, the proximal and distal interactions of traumatic experiences with other factors such as, genetics, illicit drug use, co-morbidity etc. cannot be excluded from the current findings.

A particularly interesting finding of the present study is the notable impact of physical neglect upon symptoms of dissociation in the FEP group. Experience of physical neglect indicated more severe dissociative tendencies across all dissociation subgroups, relationships that were not matched in the NPC group. Previous research has noted elevated levels of physical neglect experience in psychotic disorders such as Schizophrenia (Holowka, King, Saheb, Pukall & Brunet, 2003; Vogel, 2009), which is further associated with increased disability (Gil et al., 2009). Findings of the present

study suggest a specific relationship between physical neglect and dissociative experiences in early psychosis.

Much research links the experience of both dissociation and psychosis to the experience of traumatic abuse, particularly during childhood (Startup, 1999; Chu, Frey, Ganzel & Matthews, 1999; Sar, Islam & Ozturk, 2009; Cutajar et al., 2010; Ashcroft, Kingdon & Chadwick, 2012; Ackner, Skeate, Patterson & Neal, 2013). However, an interesting consideration of the present study is the relationship between experiences of neglect, dissociation and psychosis. Experiences of physical and emotional neglect were greater in the FEP group compared to NPC group. Furthermore, emotional and physical neglect had a stronger association with dissociative symptoms in the FEP group compared to NPC group. These findings highlight the importance of experiences of physical and emotional neglect in dissociation and psychosis; future research may benefit from further consideration of how neglect may impact upon dissociation and trauma, potentially through attachment-based trauma (Liotti, 2006; Read & Gumley, 2008).

2.5.2. Prevalence of clinically significant dissociative symptoms

Sixty-five percent of the FEP group reported clinically significant levels of dissociative symptoms, compared to only seven percent of the NPC group. Prevalence rates within the NPC group are consistent with surveys that suggest a 10% lifetime prevalence rate of dissociative disorders (Elmore, 2000). Findings of this study

indicate the notable incidence of pathological levels of dissociation in FEP samples, which is in accordance with research suggesting greater dissociative pathology in psychiatric samples (Gast, Rodewald, Nickel & Emrich, 2001; Francia-Martinez et al., 2003; Foote et al., 2006). These findings may have important clinical implications, and highlight the importance of awareness of, and assessment of, dissociative symptoms in people first accessing services for experience of psychosis.

2.5.3. Mediation Analyses

Previous research findings indicate that dissociation may mediate the relationship between experience of trauma and hallucinatory experiences of psychosis. The present study, aimed to consider the potentially mediating role between the experience of trauma and the later experience of FEP. Mediation analyses confirmed the role of dissociation as a mediator between trauma and FEP. Allen, Coyne and Console (1997) suggested that dissociation leaves an individual vulnerable to the experience of psychosis. Findings of the present study may support this understanding, indicating that dissociation mediates the relationship between trauma and FEP compared to controls. However, findings from the present study must be interpreted with caution due to limitations such as samples size and measures employed, which will be further explored later in this discussion.

2.5.4. Recovery Style

Lastly, given the understanding of recovery style as a method by which an individual adapts to their experience of psychosis (Drayton, Birchwood & Trower, 1998) the relationship between dissociative symptoms and recovery style was investigated in the FEP group. There were no significant findings from this analysis. However it must be noted, that this was a stable group of participants, mostly integrative in their recovery style, which may have influenced the non-significant findings. Furthermore, the small sample size of the current research suggests that it may be difficult to draw firm conclusions from this analysis.

2.5.5. Theoretical Models

A number of theoretical models were outlined in the introductory paragraphs of the present study that considered the proposed relationships between variables of trauma, dissociation and psychosis. Consideration of how the current findings may support or refute proposed theoretical models will now be discussed.

The Bipartite Model of dissociation proposes two qualitatively separate groups of dissociative experiences, detachment dissociation, characterised by symptoms of depersonalisation and derealisation, and compartmentalisation dissociation, characterised by disrupted integration and amnesia. The current study utilised the DES II measure, which conceptualises separate subgroups of depersonalisation/derealisation and amnesia consistent with detachment and

compartmentalisation dissociation concepts. In the current study, the FEP group reported greater symptoms of depersonalisation/derealisation and amnesia compared to controls, therefore there was not a qualitative difference between groups with respect to the bipartite model. The current findings suggest a greater prevalence of dissociative symptoms generally in the FEP group compared to controls. These findings are perhaps more consistent with the continuum model of dissociation which suggests that dissociative experiences exist upon a scale from milder to more severe. However, it is emphasised that this is a tentative suggestion. As noted in a study by Vogel et al., (2013) detachment and compartmentalisation concepts of dissociation may be associated with different psychotic experiences, and the nature of specific psychotic symptoms were not measured in the current study. The current study may therefore be limited by the absence of exploring further variables that may elucidate the qualitative differences within and between groups in relation to dissociation.

The TN model of schizophrenia, suggests that experience of trauma, especially in childhood, may affect the developing brain in terms of structure, function and cognition. The current study did not specifically investigate trauma in a participant sample of individuals diagnosed with schizophrenia. However, participants in the current study had diagnoses of FEP including schizophrenia, and findings indicated a positive correlation between the experience of trauma and the experience of FEP. Although it is not possible to delineate causal effect through this correlational analysis, findings indicate that experience of trauma and FEP were related.

Furthermore, consideration of the correlational analyses between groups suggest that trauma is differentially related to dissociation between FEP and controls. If dissociation is viewed as a response to trauma, then findings pose the question, is there a difference in the ways that those with psychosis respond to trauma, and is this related to the sequelae of structural, functional and cognitive changes following trauma? It is not within the scope of the current findings to support or refute the TN model; however, findings may propose interesting questions to be considered in future research that may be suitably understood in relation to aspects of the TN model.

Previous research has suggested that dissociation may be more usefully understood as epiphenomena, related to psychopathological distress, rather than direct sequelae of trauma experience. Findings of the current study suggest that those who had experienced greater trauma also reported more dissociative symptoms, indicating that trauma and dissociation were related variables. Furthermore, recovery style, which can be viewed as the way in which an individual adapts to their experience of psychosis, was unrelated to dissociation, which may suggest that dissociative symptoms are unrelated to people's responses to their psychotic experiences. However, this is not to say that current findings refute suggestion that dissociation is related to psychopathological distress. Although a measure of how an individual adapts to their experience of psychosis, the RSQ is not a validated measure of psychopathological distress. It may be important to understand from

future research how distress resulting from psychotic experiences relates to dissociative experiences, utilising reliable and validated measures of distress.

Lastly, it has been suggested that the relationship between trauma and psychotic experiences may be mediated by dissociative symptoms. The current study supports previous findings of a dissociative mediator in the relationship between trauma and psychosis, but also builds upon previous findings, suggesting that dissociation mediates the relationship between trauma and FEP *per se*. The current findings support the understanding that dissociation may have an important role in governing the relationship between trauma and psychosis.

2.6. Study Limitations

In the present study, the DES II scale was employed to assess dissociative symptoms across both FEP and NPC groups. The DES II is a widely used assessment measure for dissociation in both research and clinical contexts. However, the DES II has been criticised for its overemphasis of absorption symptoms, and lack of sensitivity to other aspects of dissociation (Bernstein, Ellason, Ross & Vanderlinden, 2001). Furthermore, the phenomenological overlap between item measures on the DES II and the nature of psychotic experiences, particularly hallucinations, are a potentially confounding variable of its validity, anecdotally noted by numerous FEP participants who participated in the current study. Validity and reliability of dissociation measures are further compounded by the lack of specificity in the definition of dissociation that

complicates the current research literature. Until assessment methodology and the concept of dissociation are clearly defined, it may be difficult to investigate relationship between psychosis and dissociation (Ross, 2008).

As noted in the results of this study, there were significant differences amongst participant groups with regards to educational years and gender. It is not fully understood what impact these differences may have upon results, though Braehler et al., (2013) suggest a gender difference in the relationship between trauma and dissociation. Namely, that males demonstrate a stronger association between physical neglect and dissociation than females. Furthermore, as previously noted, the proximal and distal interactions of traumatic experiences with other extraneous factors cannot be excluded from the current findings. Duration of illness and duration of untreated psychosis were also factors not accounted for in the current research, and may have impacted on the current findings also. Exploration of trauma, dissociation and psychosis relationships in future research may benefit from the consideration of such factors and the possible interactions that may exist with such variables.

A notable limitation of the current study relates to the small sample size, particularly of the FEP group. The current study recruited FEP participants across five Early Intervention for Psychosis services, in three NHS trusts. Recruitment of clinical participants was a difficulty encountered by the study, potentially influenced by the nature of variables being explored and of trying to marry research aims with the

current climate of NHS services. The potential bias in the data resultant from these difficulties, in combination with the limited sample size may infer that these results are difficult to generalise to the experiences of others facing first episode psychosis. Furthermore, the small sample size prevented further exploration of the mediational relationship between trauma, dissociation and psychosis. In essence, instability in the statistical analysis created by the small number of FEP participants prevented exploration of whether specific traumatic experiences and specific dissociative symptoms were a truer model of the mediating relationship.

Previous research suggests that dissociation mediates the relationship between trauma and hallucinatory experiences (Moskowitz & Corstens, 2007; Moskowitz, Read, Farrelly, Rudegeair & Williams, 2009; Varese, Barkus & Bentall, 2012). However, the current study did not measure specific psychosis symptoms; only the experience of first episode psychosis per se. Assessment of current experience of psychotic symptoms may have provided a further richness to this data, particularly the mediational analysis.

2.7. Clinical Implications

The current study, replicates the association between trauma experiences and dissociation in a FEP group (Braehler et al., 2013), and further emphasises the importance of considering traumatic experiences and dissociative symptoms when people are first accessing support for the symptoms of psychosis. Given the high

levels of clinically significant dissociative symptoms in FEP clients, and the supportive evidence of dissociation mediating the trauma psychosis relationship, at a service level, it may be appropriate to first consider whether reported symptoms of psychosis are better understood as dissociative or psychotic. The present study supplements a vast body of research findings, which suggest increased experiences of traumatic abuse particularly during childhood in people with psychosis. Previous research indicates that clients' history of abuse may remain unidentified by mental health services and staff (Wurr & Partridge, 1996; Becker-Blease & Freyd, 2006; Read, McGregor, Coggan & Thomas, 2006; Read, Hammersley & Rudegeair, 2007). As noted in Read et al., (2005), at a service level we must learn to ask people presenting with symptoms of psychosis about experiences of abuse and trauma, and respond to disclosures in an appropriate and supportive way.

Studies demonstrating the benefits of psychological interventions for both trauma experience and dissociative symptoms are abundant in the research literature (Seidler & Wagner, 2006; Lev-Wiesel, 2008; Roberts, Kitchiner, Kenardy & Bisson, 2009; Brand, Classen, McNary & Zaveri, 2009). Given the increased prevalence of trauma experiences and dissociative tendencies in individuals experiencing early psychosis, it may be pertinent to adjunct current treatment interventions with psychological treatments aimed at addressing past experience of trauma and reducing dissociative symptoms. In a recent study, Perona-Garcelan et al., (2014) noted the incongruence between the concept of dissociation and mindfulness, finding that individuals with greater dissociative symptoms were less likely to use

mindfulness skills. A recent meta-analysis notes the potential effectiveness of mindfulness-based interventions in psychosis (Khoury, Lecomte, Gaudiano & Paquin, 2013); Early Intervention for Psychosis (EIP) services may benefit from the use of mindfulness interventions, which could help to decrease dissociative experiences, and consequently influence psychotic experiences.

2.8. Future Research Recommendations

Future research may wish to further consider the mediational role of specific symptoms of dissociation, between the experience of trauma and later development of psychosis. Further consideration of specific symptoms of early psychosis may further elucidate the mechanisms underlying this relationship. The current study identified the important role of experiences of neglect and the development of dissociative symptoms in an FEP population. Future consideration of neglect experiences, and specifically how neglect relates to attachment-based trauma in FEP is a further research recommendation. In the current study, numerous research participants anecdotally noted how the DES II measure did not represent their experiences of feeling detached and disconnected. Limitations of the DES II measure have already been noted, and future research utilising different measures of dissociation to investigate the trauma, dissociation, psychosis link are warranted. It is also suggested that employing qualitative research methods to explore the conceptual base of dissociation in psychosis, could provide further understanding of the complex relationship here investigated. The findings of the current study support previous evidence of a relationship between trauma and dissociation in psychosis.

However, future research may also benefit from consideration of how dissociation relates to concurrent psychopathological distress in those experiencing psychosis, and whether there is a difference in the relationship between distress and dissociation in those that have experienced trauma, and those that have not.

Finally, studies considering the impact of psychological interventions to address trauma experience and reduce dissociative symptoms are warranted from future research. Following a recent publication considering the relationship between dissociation and mindfulness (Perona-Garcelan et al., 2014), psychological interventions utilising mindfulness techniques may be a particularly interesting area for future research

2.9. Conclusion

Findings of the current study support previous findings of greater traumatic experiences and dissociative tendencies in individuals who have experienced psychosis. They also provide further support for the association between experience of trauma and dissociative symptoms in an early psychosis sample. The current research extends previous mediational analyses to a clinical sample of individuals experiencing early psychosis, supplementing previous findings that suggest a mediating role for dissociation in the relationship between trauma and psychosis.

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Chapter III

“Parenthetical Considerations” – Reflections on the Experience of Undertaking Research in the Current NHS Climate.

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(See Appendix C for author guidelines)

3.1 Abstract

The following paper provides a reflective account of a Trainee Clinical Psychologist's experience of undertaking research for her doctoral thesis. This reflective piece will consider the experiences of the author in undertaking an empirical research study in the area of early psychosis. Particular attention is given to the undertaking of applied research in the context of the current NHS.

Keywords: Reflection, Early Psychosis, Early Intervention for Psychosis services, NHS Services.

3.2 Introduction

The following paper will explore my experience of completing a piece of research as part of my Clinical Psychology Doctorate thesis. In particular, this paper will consider themes relating to the undertaking of research in the context of current NHS Early Intervention for Psychosis (EIP) services. The term 'parenthetical considerations' is taken from du Preez (2008), who defines this concept as "a consideration of issues not sufficiently critical to the argument of a thesis to be included in the main body, yet containing background and contextual information that *demand*s a place, albeit in parentheses" (du Preez, 2008 p.3). This paper aims to consider the parenthetical considerations of my thesis project. Specifically this reflective account considers how my personal experiences, thoughts, feelings and opinions came to shape the nature of the current thesis, and how, in turn, undertaking this project affected me personally, and in my role as a trainee clinical psychologist.

3.3. Starting Something New

In respect of time, no knowledge of ours is antecedent to experience,
but begins with it (Kant, 1787 in Kant et al., 1955 p.20).

When considering the point at which the initial ideas for this research began, it is interesting to note that my first thoughts were influenced by opinions that far predated clinical psychology doctoral training. Prior to gaining a place on clinical training, I worked in various clinical and research roles trying to strike a balance between the requisite clinical and research experience needed to gain entry to the course. In one particular role, I worked as a research assistant on a national research project

investigating social and biological origins of mental health difficulties. My position involved travelling around the country to interview research participants in their homes with semi-structured measures that asked about experiences of mental health difficulties, including psychotic experiences, adverse life events and genetic influences. In undertaking this research I was fascinated by each individual's opinion on where they felt that their difficulties originated from, but somewhat more so by how they believed the findings of this research would help them and others with comparable experiences. So many people I met during this work were convinced of the link between adverse life experiences and the later mental health difficulties that they experienced. However, with this acknowledgement, people then appeared to divide into two separate groups. One group expressed views consistent with acceptance, that understanding why this had happened would provide them with the answers that they were looking for from the project. The other group of people, however, wanted to know what could then be done with that knowledge, for example in terms of prevention and intervention. I feel that it was in meeting this group of people, that the beginnings of my own research project began to surface.

I have always held a fervent interest in the area of psychosis. Experiences from both my personal and professional life have influenced my interest in psychotic experiences and the extensive impact that they may have upon an individual's life. In particular, through this project, I wanted to consider the inception of psychotic experiences, and encouraged by the promise of a clinical placement working in Early Intervention for Psychosis (EIP) services, I resolved to undertake a piece of research

in this fascinating area. Based upon my previous research experiences noted above, from the outset of the current project, I was driven by the aspiration to produce a research project that was relevant, both theoretically and clinically, to EIP services and to the individuals who access these services. However, upon commencing this task I was overwhelmed by the amount of research that had been undertaken in this area, and by its diversity. I quickly began to feel overwhelmed by the task ahead of me.

In an effort to progress my early ideas, I arranged to meet with professionals working within EIP services, to draw upon their experiences in developing my ideas further. During meetings, we discussed what EIP services and staff may benefit from through research, and furthermore, what would be achievable in terms of the current project. It was through these discussions and further reading that I became aware of the fascinating area of dissociation and psychosis, particularly the phenomenological overlap between concepts, and of the impact that this may have at a service level. Furthermore, developing an awareness of context, including challenges to original assumptions about psychotic experiences (see Bentall, 1993; Moskowitz et al., 2009; Longden, Madill & Waterman, 2012) and proposed changes to the imminent DSM V (American Psychiatric Association, 2013) enhanced my interest in this contemporary topic. I felt instantly drawn towards research in this area, an enthusiasm encouraged by the interest that supervisors and individuals working in EIP services also expressed. Through this process I have learned that, for me, applied research is best conceptualised as a bottom-up process, taking inspiration from the current

contextual climate and forming ideas, by considering clinical and contextual influences. Through this reflection, I am encouraged by the prospect of what a future career in clinical psychology may offer, and where research ideas, generated from clinical work, may take me.

3.4. Ethical Considerations

My research considered the relationships between experiences of adverse life events, dissociation and psychosis. Given the nature of this research, I felt that I understood from the outset, the ethical implications of undertaking a project of this type. However, as I soon came to learn, further ethical dilemmas emerged as I conducted this research, which were unprecedented by my previous experiences.

3.4.1. Do No Harm

I understood from previous research undertakings the challenge faced when asking people to recall negative experiences that they may have encountered during their lifetime. I feel that the sense of guilt that follows this process is quite specific to the research context. Dissimilar to my clinical role, as a researcher, I was asking participants to provide this information with a view to enhance theoretical knowledge, but was unable to personally provide that person with on-going support in a therapeutic role. At times during meetings with participants, I faced the dilemma of wanting to understand a person's experience, but simultaneously hoping, that in gaining this understanding, I would not cause harm to that person. This concern was

exacerbated by acknowledgement that any negative consequences experienced as a result of taking part in the research, would return to the EIP services that had been so indispensable in helping me to undertake this research. In the formation of this research, I had thought much about the ethical considerations for research participants. However, ethical considerations with regards to the EIP services and their staff, especially in the current context of the NHS climate, were those that I gained a greater appreciation of during this process.

I feel that the contextual climate of the NHS services, and of EIP services specifically, had a considerable impact upon my experience in conducting this research, and potentially of the research findings the project produced. In considering my thoughts and feelings throughout the research process I am struck by the frequency with which my concerns about burdening services and individual staff members surfaced. These feelings were set against a background of experience working within NHS services, hearing of the difficulties, and experiencing the anxieties that structural changes and funding cutbacks had created over recent years. I feel that this context shaped the way in which I worked upon this project immensely. I realise that I was, at times, reticent to take up too much of people's time, or be too demanding on issues of recruitment. I believe that I was always trying to strike a balance between being an effective researcher and a considerate colleague. Occasional difficulties experienced in gaining this balance may have affected the project, especially with regard to participant recruitment. I expect that this difficulty is an implicit aspect of

the current scientific-practitioner role, and one that I must learn to balance in future projects of this type.

3.4.2. Vicarious traumatisatation

In an article discussing therapists' reactions to hearing clients' traumatic experiences, McCann and Pearlman (1990) introduced the term "vicarious traumatisatation". They note the profound impact that learning of the clients' traumatic experiences may have upon the therapist, and specifically how this may interact with, and affect, the therapists' cognitive schemas, memory systems and beliefs. Following a number of research interviews, I noted feelings of a negative nature, which were at times incongruent to the interaction I had had with the research participant. Notably, I sometimes felt a sense of anxiety following a research interview. I think that often, the negative life experiences that were being discussed impacted negatively upon my sense of feeling safe in the world, and that this may have raised my feelings of anxiety post-interview. Furthermore, my feelings of anxiety may have emerged from the countertransference, as the experiences discussed during interviews were likely anxiety provoking to those who participated. I sensed that, in some interviews, there may have been adverse life experiences endured by the participant that remained unsaid, and in the countertransference I was experiencing the anxiety felt by the participant in holding back these experiences. In considering ways in which to prevent vicarious traumatisatation Trippany, Kress and Wilcoxon (2004) note the importance of caseload, supervision and personal coping styles. Throughout my time undertaking research interviews, I endeavoured to limit the potential for vicarious

traumatisation, and found personal support as well as clinical supervision invaluable in this respect.

3.5. Methodological Concerns

In attempting to achieve a balance between research aims and 'real world research' there were numerous changes made to the current project. For example, in the initial development of ideas I was intent upon including a measure of current psychosis symptoms. However, applicable measures of psychosis symptoms are mostly interview based and time consuming. This issue is of particular significance to EIP services where engagement issues, and potential difficulties relating to cognition, may influence the nature of research undertaken. A number of EIP staff noted that many potential participants would not wish to, or would not feel able to, take part if such lengthy research measures were employed. I was therefore faced with the dilemma of obtaining a longed for richness of data through lengthy research measures, or creating a research project that was more accessible to a greater number of clients. With guidance from those working in the area of early psychosis, I resolved to choose the latter option. I feel that this was the correct decision for my research at the time, because as I would soon find out, the difficulties of participant recruitment in EIP services would have a sustained impact upon how my research proceeded.

Issues relating to recruitment were a noted difficulty of my research. In recruiting participants who had experienced their first episode of psychosis (FEP) from numerous services, I noted a disparity between services in how the project was accepted and the impact this had upon recruitment. I feel that the nature of the current project may have discouraged numerous EIP clients from participating in the current research; the difficulties of discussing experiences of trauma and psychosis may have discouraged participation. However, I feel there were also difficulties relating to gatekeeping of frontline EIP service staff that impacted on recruitment. Gatekeeping is the process of permitting or rejecting access to something or someone (Lee, 2004) which in the context of mental health research may imply that frontline staff can allow or deny access to participants despite ethical and managerial approval for a project (Allbutt & Masters, 2010). During the undertaking of my research, I feel that staff may have been reluctant to ask some EIP clients to take part, and that this was likely to be influenced by their understanding of that person's past traumas or by their wish to limit disruption to the stability of that person's mental health. Ultimately, I believe that EIP service staff may have refrained from asking some clients patients to take part, in an effort to protect them in some way. Throughout this project, concerns relating to recruitment were an anxiety for me. However, despite my academic understanding that gatekeeping in mental health research may prevent clients from expressing their experiences and views, and create bias in research data, I am overall inclined to respect the actions of the EIP service staff. Through discussion with case managers during participant recruitment, I was made aware of numerous reasons for their hesitancy in asking some clients to participate in the study. Reasons included concerns about current mental state and

potential relapse, existing engagement difficulties and the potentially negative impact participation may have upon engagement with the team. In addition, sensitivity regarding life stressors and the fact that some clients were currently addressing issues relating to trauma in psychological therapy may have influenced the case managers asking their clients to participate in the study. I felt that it was important to respect the clinical judgement of the clinicians supporting potential participants in this regard. I feel that this process has made me more aware of the impact of research design and methodology upon research procedure.

3.6. Conclusion - Generating an Alternative Story

‘a great deal of lived experience inevitably falls outside the dominant stories’

(White & Epston, 1990 p. 15)

I have observed throughout the writing of this paper, that in documenting my thoughts, feelings and experiences in undertaking this research, my narrative has been somewhat problem saturated. I feel that towards the latter months of undertaking this project, my feelings towards this thesis and its impact, became more negative and this is something I am keen to address in the final paragraphs of this reflective piece. Whilst undertaking a clinical placement as part of my Clinical Psychology Doctorate, I had the opportunity to learn about Narrative Therapy. In a recent seminar session, I reviewed this therapeutic model and during this process began to reflect upon the story I held about undertaking this research. Narrative therapy considers the dominant stories that we tell about our lives, and helps us to

consider the alternative stories we may have neglected (Morgan, 2000). A key skill in narrative therapy is in externalising difficulties, so that the effects of difficulties can be observed (White & Epston, 1990). Here, I externalise my research project, to examine the impact it has had upon my life personally and professionally.

During the period of time that 'the research' has been in my life, my feelings have constantly fluctuated between positive and negative. At times, the research made me feel anxious and disillusioned with my progress, I sometimes felt that I could never make the research into what I wanted it to be. During the time that it has been in my life, it has affected my relationships as it has needed much attention, and even when it has not been with me it has taken up space in my mind. Over recent months, it has felt that the research has grown in dominance, taking up increasing amounts of my time and energy, feeling endless. However, as I progress toward the end of my time with the research, and in writing this reflective report, I am encouraged to think of the alternative story of its being. At times, it has felt exciting to be with the research, it has been interesting and a new venture, of which I have not experienced before. The research has taken me to new places, and introduced me to new people; I have had the opportunity to share in people's stories about their lives and this has been a privilege. The research has made me consider my perspective on mental health difficulties, and changed my existing knowledge considerably, leading me to consider the multiple elements that may contribute to mental health difficulties such as psychosis. Lastly, the research has made me aware that, despite its challenges, the scientific-practitioner role is achievable for me. It has made me aware of how I can

balance the roles of researcher and clinician, and has increased my confidence in pursuing research aims in a clinical context. I feel that in recognising these gains, ultimately, the research has brought me closer to the clinical psychologist I wish to be in the future.

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Early Intervention in Psychiatry

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1 Vega KJ, Pina I, Krevsky B. Heart transplantation is associated with an increased risk for pancreatobiliary disease. *Ann Intern Med* 1996; 124: 980–83.

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2 Ringsven MK, Bond D. *Gerontology and Leadership Skills for Nurses*, 2nd edn. Albany, NY: Delmar Publishers, 1996.

Chapter in a Book

3 Phillips SJ, Whisnant JP. Hypertension and stroke. In: Laragh JH, Brenner BM, eds. *Hypertension: Pathophysiology, Diagnosis, and Management*, 2nd edn. New York: Raven Press, 1995; 465–78.

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Psychosis

Psychological, Social and Integrative Approaches

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Last updated 25/03/2014

Appendix D: Data Extraction Form

Author(s):

Study Title:

Population

N:

Age range:

Gender:

Other demographic data:

Diagnosis:

Comorbidity:

Medication(s):

Intervention/phenomenon of interest

Phenomenon of interest:

Study aims:

Hypotheses:

Context

Setting details:

Geographical details:

Outcomes

Measures employed:

Description of measure:

Results (narrative):

Results statistical:

Potential confounding variables/study limitations:

Study design

Design details:

Appendix E: Quality Assessment Framework

1. Literature review comprehensive and up-to-date?
2. Rational clearly described?
3. Research aims clearly stated?
4. Variables of interest described?
5. Study design reported?
6. Design rational evident?
7. Ethical issues identified and addressed?
8. Method appropriate to question?
9. Population identified?
10. Excluded/lost to follow up information provided?
11. Sample adequately described?
12. Sample representative of population?
13. Exclusion/inclusion criteria described?
14. Recognised measure of clinical diagnosis for FEP?
15. Adequate control group?
16. Participant selection described?
17. Procedure adequately described?
18. Method of data collection reliable and valid?
19. Standardised measure of affect perception?
20. Method of data analysis reliable and valid?
21. Findings clearly stated?
22. Effect size provided?
23. Statistical method appropriate?
24. Potential confounding variables identified?
25. Comprehensive discussion?
26. Strengths and limitations identified?

- 27. Justifiable conclusions?
- 28. Generalisability of results discussed?
- 29. Declaration of conflict of interest?

Appendix F: Quality Assessment Framework Ratings

First author and year of study	Achim 2013	Addington 2006	Addington 2008	Addington 2012	Amminger 2012a	Amminger 2012b	Bartholomeusz 2013	Bediou 2007	Comparelli 2011	Comparelli 2013	Edwards 2001	Kucharska-pietura 2005	Leung 2011	Malik 2010	pinkham 2007	Thompson 2012	Tomlison 2012	Tsui 2013
1. Literature review comprehensive and up-to-date	2	2	0	1	2	1	1	1	1	1	2	1	1	1	2	2	2	2
2. Rational clearly described	2	2	1	2	2	2	2	1	1	1	2	1	2	1	2	2	2	2
3. Research aims clearly stated	2	2	1	1	2	1	2	1	1	2	2	2	0	1	2	2	2	2
4. Variables of interest described	2	1	0	1	2	1	1	1	1	1	2	0	1	2	2	1	2	2
Introduction sub-score:	8	7	2	5	8	5	6	4	4	5	8	4	5	5	8	7	8	8
5. Study design reported	1	2	2	2	2	2	1	1	1	2	1	2	1	0	2	1	2	1
6. Design rational evident	2	2	1	2	2	2	1	1	0	1	2	1	0	1	1	1	2	1

7. Ethical issues identified and addressed	1	1	1	2	1	1	1	1	1	1	1	1	1	1	0	1	1	1
8. Method appropriate to question	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2
9. Population identified	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
10. Excluded/lost to follow up information provided	2	2	0	2	0	1	2	0	0	2	2	2	0	0	0	2	2	0
11. Sample adequately described	2	2	2	2	2	2	2	1	2	2	2	2	2	1	2	2	2	2
12. Sample representative of population	1	2	2	2	2	2	1	1	2	2	2	1	2	2	1	2	2	1
13. Exclusion/inclusion criteria described	2	2	0	1	2	2	2	0	2	2	2	2	2	0	2	2	0	2
14. Recognised measure of clinical diagnosis for FEP	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	0	2
15. Adequate control group	2	2	2	1	2	2	0	1	2	2	2	2	1	0	2	2	0	2

16. Participant selection described	2	1	1	2	2	2	2	1	1	2	2	1	1	1	2	2	2	1
17. Procedure adequately described	1	2	2	2	2	1	2	1	1	2	2	1	1	2	1	1	1	2
18. Method of data collection reliable and valid	2	2	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2	1
19. Standardised measure of affect perception	2	2	2	2	2	2	2	2	2	1	2	1	2	2	2	2	2	2
Methods sub-score:	25	28	23	29	27	27	24	18	21	26	34	24	20	18	23	25	22	22
20. Method of data analysis reliable and valid	1	2	2	1	2	2	2	2	1	2	2	2	2	2	2	2	2	2
21. Findings clearly stated	2	2	1	2	2	2	2	1	1	2	2	2	2	2	2	2	2	2
22. Effect size provided	0	0	0	0	2	0	2	0	0	2	0	0	0	0	1	2	0	0
23. Statistical method appropriate	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2
Results sub-score:	5	6	5	5	8	6	8	5	3	8	6	6	6	6	7	8	6	6

24. Potential confounding variables identified	2	2	0	0	2	2	2	1	1	1	1	1	0	2	2	1	2	2
25. Comprehensive discussion	2	1	1	1	2	1	2	1	1	2	2	2	1	1	2	1	2	2
26. Strengths and limitations identified	2	2	2	2	2	2	1	0	2	2	1	2	2	2	2	2	2	2
27. Justifiable conclusions	1	1	1	2	2	1	1	2	1	2	2	2	1	1	2	2	2	2
28. Generalisability of results discussed	1	2	1	0	1	2	0	0	1	1	1	2	0	1	1	2	2	2
29. Declaration of conflict of interest	2	0	0	2	1	1	0	0	1	2	0	0	0	0	0	2	1	2
Discussion sub-score:	10	8	5	7	10	9	6	4	7	10	7	8	4	7	9	10	11	12
Total score and percentage:	48	49	35	46	53	47	44	31	34	49	55	42	35	36	47	50	47	48
	83%	84%	60%	79%	91%	81%	76%	53%	59%	84%	95%	72%	60%	62%	81%	86%	81%	83%

Appendix G: Dissociative Experiences Scale (DES II)

Dissociative Experiences Scale-II (DES-II)
Eve Bernstein Carlson, Ph.D. & Frank W. Putnam, M.D.

Directions: This questionnaire consists of twenty-eight questions about experiences that you may have in your daily life. We are interested in how often you have these experiences. It is important, however, that your answers show how often these experiences happen to you when you are not under the influence of alcohol or drugs. To answer the questions, please determine to what degree the experience described in the question applies to you, and circle the number to show what percentage of the time you have the experience.

For example: 0% 10 20 30 40 50 60 70 80 90 100%

(Never)

(Always)

1. Some people have the experience of driving or riding in a car or bus or subway and suddenly realizing that they don't remember what has happened during all or part of the trip. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

2. Some people find that sometimes they are listening to someone talk and they suddenly realize that they did not hear part or all of what was said. Circle the number to show what percentage of the time this happens to you. 0% 10 20 30 40 50 60 70 80 90 100%

3. Some people have the experience of finding themselves in a place and have no idea how they got there.

Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

4. Some people have the experience of finding themselves dressed in clothes that they don't remember putting on. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

5. Some people have the experience of finding new things among their belongings that they do not remember buying. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

6. Some people sometimes find that they are approached by people that they do not know, who call them by another name or insist that they have met them before. Circle the number to show what percentage of the time this happens to you 0% 10 20 30 40 50 60 70 80 90 100%

7. Some people sometimes have the experience of feeling as though they are standing next to themselves or watching themselves do something and they

actually see themselves as if they were looking at another person. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

8. Some people are told that they sometimes do not recognize friends of family members. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

9. Some people find that they have no memory for some important events in their lives (for example, a wedding or graduation). Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

10. Some people have the experience of being accused of lying when they do not think that they have lied.

Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

11. Some people have the experience of looking in a mirror and not recognizing themselves. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

12. Some people have the experience of feeling that other people, objects, and the world around them are not real. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

13. Some people have the experience of feeling that their body does not seem to belong to them. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

14. Some people have the experience of sometimes remembering a past event so vividly that they feel as if they were reliving that event. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

15. Some people have the experience of not being sure whether things that they remember happening really did happen or whether they just dreamed them. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

16. Some people have the experience of being in a familiar place but finding it strange and unfamiliar. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

17. Some people find that when they are watching television or a movie they become so absorbed in the story that they are unaware of other events happening

around them. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

18. Some people find that they become so involved in a fantasy or daydream that it feels as though it were really happening to them. Circle the number to show what percentage of the time this happens to you. 0% 10 20 30 40 50 60 70 80 90 100%

19. Some people find that they sometimes are able to ignore pain. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

20. Some people find that they sometimes sit staring off into space, thinking of nothing, and are not aware of the passage of time. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

21. Some people sometimes find that when they are alone they talk out loud to themselves. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

22. Some people find that in one situation they may act so differently compared with another situation that they feel almost as if they were two different people. Circle the number to show what percentage of the time this happens to you. 0% 10 20 30 40 50 60 70 80 90 100%

23. Some people sometimes find that in certain situations they are able to do things with amazing ease and spontaneity that would usually be difficult for them (for example, sports, work, social situations, etc.). Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

24. Some people sometimes find that they cannot remember whether they have done something or have just thought about doing that thing (for example, not knowing whether they have just mailed a letter or have just thought about mailing it). Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

25. Some people find evidence that they have done things that they do not remember doing. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

26. Some people sometimes find writings, drawings, or notes among their belongings that they must have done but cannot remember doing. Circle the number to show what percentage of the time this happens to you. 0% 10 20 30 40 50 60 70 80 90 100%

27. Some people sometimes find that they hear voices inside their head that tell them to do things or comment on things that they are doing. Circle the number to show what percentage of the time this happens to you. 0% 10 20 30 40 50 60 70 80 90 100%

28. Some people sometimes feel as if they are looking at the world through a fog, so that people and objects appear far away or unclear. Circle the number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

Dissociative Experiences Scale II (DES II) Description and Interpretation

Description: The Dissociative Experiences Scale II (DES II) is a copyright-free, screening instrument. According to its authors, Carlson and Putnam, "it is a brief, self-report measure of the frequency of dissociative experiences. The scale was developed to provide a reliable, valid, and convenient way to quantify dissociative experiences. A response scale that allows subject to quantify their experiences for each item was used so that scores could reflect a wider range of dissociative symptomatology than possible using a dichotomous (yes/no) format." (see Dissociation 6 (1): 16-23)

Interpretation: The Dissociative Experiences Scale II (DES II): When scoring, drop the zero on the percentage e.g. 30%=3; 80%=8 then add up single digits for client score Mean DES Scores Across Populations for Various Studies

General Adult Population	5.4
Anxiety Disorders	7.0
Affective Disorders	9.35
Eating Disorders	15.8
Late Adolescence	16.6
Schizophrenia	15.4
Borderline Personality Disorder	19.2
PTSD	31
Dissociative Disorder (NOS)	36
Dissociative Identity Disorder (MPD)	48

Items from the DES for Each of the Three Main Factors of Dissociation:

Amnesia Factor: This factor measures memory loss, i.e., not knowing how you got somewhere, being dressed in clothes you don't remember putting on, finding new things among belongings you don't remember buying, not recognizing friends or family members, finding evidence of having done things you don't remember doing, finding writings, drawings or notes you must have done but don't remember doing. **Items — 3, 4, 5, 8, 25, 26.**

Depersonalization/Derealization Factor: Depersonalization is characterized by the recurrent experience of feeling detached from one's self and mental processes or a sense of unreality of the self. Items relating to this factor include feeling that you are standing next to yourself or watching yourself do something and seeing yourself as if you were looking at another person, feeling your body does not belong to you, and looking in a mirror and not recognizing yourself. Derealization is the sense of a loss of reality of the immediate environment. These items include feeling that other people, objects, and the world around them is not real, hearing voices inside your head that tell you to do things or comment on things you are doing, and feeling like you are looking at the world through a fog, so that people and objects appear far away or unclear. **Items — 7, 11, 12, 13, 27, 28.**

Absorption Factor: This factor includes being so preoccupied or absorbed by something that you are distracted from what is going on around you. The absorption primarily has to do with one's traumatic experiences. Items of this factor include realizing that you did not hear part or all of what was said by another, remembering a past event so vividly that you feel as if you are reliving the event, not being sure whether things that they remember happening really did happen or whether they just dreamed them, when you are watching television or a movie you become so absorbed in the story you are unaware of other events happening around you, becoming so involved in a fantasy or daydream that it feels as though it were really happening to you, and sometimes sitting, staring off into space, thinking of nothing, and being unaware of the passage of time.

Items — 2, 14, 15, 17, 18, 20.

Instructions

These questions ask about personal experiences you may have had in your life so far.

Many questions refer to '**when you were young**', this means the period of your life when you were growing up and before you left school. When we talk about '**parents**' this means the adults who had the main responsibility for your upbringing as a child and teenager.

If your parents behaved differently, please answer the questions thinking about the parent whose behaviour was worse.

Read each item carefully and tick the box that most accurately describes the experience from your point of view. **Please answer all the questions as honestly as you can.**

Thank you for your time.

		Never	Rarely	Some- times	Often	Nearly Always
1	When I was young, I felt safe and protected by somebody.					
2	When I was young, I was often hungry.					
3	I was bullied at school.					
4	I often had to wear ragged or dirty clothes to school.					
5	When I was young, I felt valued or important.					
6	My parents/caregivers were often drunk, stoned or wasted.					
7	I have been bullied at work.					
8	My family were emotionally warm and loving.					
9	When I was young, I was hit so hard that it left marks, cuts or bruises.					
10	I felt rejected by my parents/caregivers.					
11	When I was young, there was an adult I could confide in.					
12	When I was young, I was humiliated by people in my family.					
13	When I was young, my family looked after each other.					
14	I believe that I am bad person.					
15	I believe that somebody died because of me.					
16	I have experienced serious physical assault.					
17	Adults (like teachers, doctors or nurses) noticed cuts, bruises or marks from when I was beaten.					
18	My childhood was perfect.					
19	I am bothered by a very shameful secret.					
20	I think I was physically abused when I was young.					
21	I respect myself.					
22	When I was young, someone touched me or tried to make me touch them in a sexual way.					
23	I have had experiences that I feel very guilty about.					
24	I have been involved in life threatening situations.					

25	I was forced to keep secrets about someone sexually interfering with me when I was young.					
26	When I was young, I felt hated by a member or members of my family.					
27	My family was the greatest ever.					
28	Other people have acted badly because of me.					
29	When I was young, I felt like the odd one out in my family.					
30	I have experienced sexual assault.					
31	If I needed treatment someone would always take me to see a doctor or nurse when I was young.					
32	I feel that I was put down, criticized and made to feel inferior when I was young.					
33	Someone sexually molested me when I was young.					
34	I feel responsible for harm or injury to another person.					
35	When I was young, I had friends I could talk to about personal problems					
36	I have experienced harassment/persecution from other ethnic groups.					
37	I did well at school.					
38	I have experienced the loss of somebody who was very important to me.					
39	I believe that I do not deserve to do well in life.					
40	My family was supportive and encouraging when I was young.					
41	I believe that I was sexually abused when I was young.					
42	I felt afraid of someone in my family.					
43	When I was young I could make friends easily.					

Appendix I: The Recovery Style Questionnaire

The Recovery Style Questionnaire (RSQ)

Written below are a list of statements about your illness. Please read them carefully and tick the box to show if you agree or disagree.

	Agree	Disagree
1. There was a gradual build-up to me becoming ill.		
2. My illness is not part of my personality.		
3. I am responsible for what I think when I am ill.		
4. I am not interested in my illness.		
5. My illness taught me new things about myself.		
6. I need help to solve the problems caused by my illness.		
7. My illness was caused by my difficulties in coping with life.		
8. I have had a nervous breakdown.		
9. I can see positive aspects to my illness.		
10. My illness has had a strong impact on my life.		
11. I am not frightened of mental illness.		
12. I liked some of the experiences I had when I was ill.		
13. My illness has helped me find a more satisfying life.		
14. My illness came on suddenly and went suddenly.		
15. My illness is part of me.		
16. I am not responsible for my actions when I am ill.		
17. I am curious about my illness.		
18. I understand myself better because of my illness.		
19. I can manage the problems caused by my illness, alone.		
20. Others are to blame for my illness		
21. I have had a medical illness.		
22. Nothing good came from my illness.		
23. My illness has had little effect on my life.		
24. I am frightened of mental illness.		
25. I didn't like any of the unusual experiences I had when I was ill.		
26. It's hard to find satisfaction with life, since I was ill.		
27. My illness came on very suddenly.		
28. My illness is alien to me.		
29. I am responsible for my thoughts and feelings when I am ill.		
30. I don't care about my illness, now that I am well.		
31. I want to be the person I was before my illness.		
32. Others can help me solve my problems.		
33. My illness was caused by stress in my life.		
34. I have suffered an emotional breakdown.		
35. Being ill had good parts too.		
36. I'm not really interested in my illness.		
37. I liked some of the unusual ideas I had when I was ill.		
38. My life is more satisfying since my illness.		
39. My attitude to mental illness is better now, than before I was ill.		

Appendix J: The Prodromal Questionnaire (PQ-16)

Please read the following statements, and answer whether you feel that this statement is true or false of your experience in daily life. If you answer true to any of the statements, please indicate the level of distress that you experienced as a result.

			If TRUE: how much distress did you experience?			
			No	Mild	Moderate	Severe
1.	I feel uninterested in the things I used to enjoy.	<input type="checkbox"/> True <input type="checkbox"/> False	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
2.	I often seem to live through events exactly as they happened before (déjà vu).	<input type="checkbox"/> True <input type="checkbox"/> False	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
3.	I sometimes smell or taste things that other people can't smell or taste.	<input type="checkbox"/> True <input type="checkbox"/> False	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
4.	I often hear unusual sounds like banging, clicking, hissing, clapping or ringing in my ears.	<input type="checkbox"/> True <input type="checkbox"/> False	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
5.	I have been confused at times whether something I experienced was real or imaginary.	<input type="checkbox"/> True <input type="checkbox"/> False	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
6.	When I look at a person, or look at myself in a mirror, I have seen the face change right before my eyes.	<input type="checkbox"/> True <input type="checkbox"/> False	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
7.	I get extremely anxious when meeting people for the first time.	<input type="checkbox"/> True <input type="checkbox"/> False	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
8.	I have seen things that other people apparently can't see.	<input type="checkbox"/> True <input type="checkbox"/> False	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
9.	My thoughts are sometimes so strong that I can almost hear them.	<input type="checkbox"/> True <input type="checkbox"/> False	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
10.	I sometimes see special meanings in advertisements, shop windows, or in the way things are arranged around me.	<input type="checkbox"/> True <input type="checkbox"/> False	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
11.	Sometimes I have felt that I'm not in control of my own ideas or thoughts.	<input type="checkbox"/> True <input type="checkbox"/> False	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
12.	Sometimes I feel suddenly distracted by distant sounds that I am not normally aware of.	<input type="checkbox"/> True <input type="checkbox"/> False	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
13.	I have heard things other people can't hear like voices of people whispering or talking.	<input type="checkbox"/> True <input type="checkbox"/> False	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
14.	I often feel that others have it in for me.	<input type="checkbox"/> True <input type="checkbox"/> False	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
15.	I have had the sense that some person or force is around me, even though I could not see anyone.	<input type="checkbox"/> True <input type="checkbox"/> False	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
16.	I feel that parts of my body have changed in some way, or that parts of my body are working differently than before.	<input type="checkbox"/> True <input type="checkbox"/> False	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3

Appendix K: Participant Demographic Questionnaire

Date: _____

Participant number: _____ **Age:** _____

Gender: 1 Male ☐
 2 Female ☐

Ethnicity: (Please Circle)

- | | |
|--|---------------------------|
| 1- Not Known | 2- White British |
| 3- White Irish | 4- White Other |
| 5- Mixed White & Black Caribbean
African | 6- Mixed White & Black |
| 7- Mixed White & Asian | 8- Mixed Other |
| 9- Asian/ Asian British- Indian
Pakistani | 10- Asian/ Asian British- |
| 11- Asian/ Asian British- Bangladeshi
Other | 12- Asian/ Asian British- |
| 13- Black/ Black British Caribbean
African | 14- Black/ Black British |
| 15- Black/ Black British Other | 16- Chinese |
| 17- Any Other Ethnic Group | 18- Welsh |
| 19- Not Stated | |
| 20- Other (specify) _____ | |

Current Living Situation: (Please Circle)

- 0-Living with family members
- 1-Living alone-independent accommodation
- 2-Living with partner
- 3-Living with friends / house sharing
- 4-Supported housing
- 5-Unsupported housing
- 6- Supported hostel
- 7-NFA (No Fixed Abode)
- 8-Unsupported hostel

Current employment status: (Please circle)

- | | |
|-----------------------------------|---------------------------------------|
| 0 Unemployed – available for work | 1 Unemployed – not available for work |
| 2 Student – full time course | 3 Student – part time course |
| 4 Work – full time | 5 Work – part time |
| 6 Home worker | 7 Other |
| 999 – Not known | |

Education:

Number years of schooling and higher education (including university)

What age were you when you finished full-time education?
Years old (if still in full time education state N/A)

Current Education Course (state e.g. GNVQ / Diploma) _____
 p/t or f/t?

Highest qualification achieved:

- 1 No formal qualifications ☐
- 2 GCSE ☐

- 3 Vocational qualification e.g. BTEC, NVQ ☐
- 4 A /AS level ☐
- 5 Degree or HND ☐
- 6 Postgraduate qualifications ☐ state type:
-

Medication:

Appendix L: Coventry University Ethical Approval Letter

Wednesday, 04 September 2013

QRS/Ethics/Sponsorlet

TO WHOM IT MAY CONCERN

Dear Sir/Madam

Researcher's name:	Natalie Lowe
Project Reference:	P9891
Project Title:	An Understanding of Early Psychosis in the Context of Dissociative Experience.

The above named student has successfully completed the Coventry University Ethical Approval process for her project to proceed.

I should like to confirm that Coventry University is happy to act as the sole sponsor for this student and attach details of our Public Liability Insurance documentation.

With kind regards

Yours faithfully



Professor Ian Marshall

Deputy Vice-Chancellor, Academic

Enc



Health Research Authority

NRES Committee West Midlands - Solihull

East Midlands REC Centre

The Old Chapel

Royal Standard Place

Nottingham

NG1 6FS

Tele

phone: 0115 8839435 11 November 2013

Dear Miss Lowe

Study title:	An Understanding of Early Psychosis in the Context of Dissociative Experiences.
REC reference:	13/WM/0409
IRAS project ID:	121967

Thank you for your letter of 20 October 2013, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by a sub-committee

We plan to publish your research summary wording for the above study on the NRES website, together with your contact details, unless you expressly withhold permission to do so. Publication will be no earlier than three months from the date of this favourable opinion letter. Should you wish to provide a substitute contact point, require further information, or wish to withhold permission to publish, please contact the REC Manager, Wendy Rees NRESCommittee.WestMidlands-Solihull@nhs.net.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Ethical review of research sites

NHS sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Non-NHS sites

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at <http://www.rdforum.nhs.uk>.

Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of approvals from host organisations

Registration of Clinical Trials

All clinical trials (defined as the first four categories on the IRAS filter page) must be registered on a publically accessible database within 6 weeks of recruitment of the first participant (for medical device studies, within the timeline determined by the current registration and publication trees).

There is no requirement to separately notify the REC but you should do so at the earliest opportunity e.g when submitting an amendment. We will audit the registration details as part of the annual progress reporting process.

To ensure transparency in research, we strongly recommend that all research is registered but for non clinical trials this is not currently mandatory.

If a sponsor wishes to contest the need for registration they should contact Catherine Blewett (catherineblewett@nhs.net), the HRA does not, however, expect exceptions to be made. Guidance on where to register is provided within IRAS.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Covering Letter		
Evidence of insurance or indemnity	AON - Indemnity	01 July 2013
Evidence of insurance or indemnity	AON - Liability	01 July 2013
Evidence of insurance or indemnity	Allianz	01 August 2013
Investigator CV	Natalie Lowe	12 September 2013
Letter from Sponsor		04 September 2013
Other: CV - Dr Susannah Ackner		17 September 2013
Other: CV - Jo Kucharska		10 May 2012
Other: CV - Dr Lesley Pearson		
Other: Letter of Interest	1	12 September 2013
Other: Ethics Feedback form		22 September 2013
Other: Debrief Sheet (Tracked and Clean)	1.1	31 October 2013
Participant Consent Form: Tracked and Clean	1.1	31 October 2013
Participant Information Sheet: Tracked and Clean	1.1	31 October 2013

Protocol	1	01 October 2012
Questionnaire: Dissociative Experiences Scale II		
Questionnaire: Service Engagement Scale		
Questionnaire: The Recovery Style Questionnaire		
Questionnaire: Positive and Negative Syndrome Scale		
Questionnaire: TADS (Tracked and Clean)	1.3	
REC application	121967/504165/1/983	20 September 2013
Referees or other scientific critique report		22 September 2013
Response to Request for Further Information	Letter from Natalie Lowe	20 October 2013

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Reporting requirements

The attached document “*After ethical review – guidance for researchers*” gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

Feedback

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

Further information is available at National Research Ethics Service website > After Review

13/WM/0409	Please quote this number on all correspondence
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We are pleased to welcome researchers and R & D staff at our NRES committee members' training days – see details at <http://www.hra.nhs.uk/hra-training/>

With the Committee's best wishes for the success of this project.

Yours sincerely




pp: Dr Rex J Polson Chair

Email: NRESCommittee.WestMidlands-Solihull@nhs.net

Enclosures: "After ethical review – guidance for researchers"

Copy to: Ms Samantha Whitby, Quality & Safety Team

Worcestershire Health and Care 
NHS Trust

Research & Development
Worcestershire Health and Care NHS Trust
Isaac Maddox House
Shrub Hill Road
Worcester
WR4 9RW

Tel: 01905 681514

Samantha.Whitby@hacw.nhs.uk
www.hacw.nhs.uk

Our Ref: 13_118b_NP

09 April 2014

Dear Natalie,

Thank you for your research application entitled **An Understanding of Early Psychosis in the Context of Dissociative Experiences**.

I take great pleasure in informing you that your application was granted approval by the Research and Development Group, on behalf of Worcestershire Health and Care NHS Trust on 18 October 2013.

Please accept this letter as official confirmation of local Trust Approval.

I should like to take this opportunity to wish you well with your research, and look forward to seeing your final report and recommendations.

If I can be of further assistance please do not hesitate to contact me.

Yours sincerely,



Yours sincerely

Sam Whitby
Audit, Research & Clinical Effectiveness Manager

Chairman: Chris Burdon
Chief Executive: Sarah Dugan

Appendix O: Black Country Partnership NHS Foundation Trust -R&D Department letter of approval



Maple Room
The Beeches
Penn Hospital Site
Penn Road
Wolverhampton
WV1 1PE

28th February 2014

Dear Natalie

Name of project - Experience of Dissociation in Early Psychosis.

REC Ref. No. 13/WM/0409

I am writing to inform you that the Black Country Partnership NHS Foundation Trust's Research and Development Group has approved your study and hereby gives local R&D approval for your research to begin, on the basis of your research application and proposal approved by NRES Committee West Midlands – Solihull.


Approval is subject to adherence to the conditions set out by the ethics committee in their letter to you dated 11 November 2013. Should you fail to adhere to these conditions or deviate from the protocol reviewed by the ethics committee, then local approval for this study will be withdrawn. Permission to conduct research is also conditional on the research

being conducted in accordance with the Department of Health's Research Governance Framework for Health and Social Care.

I would like to wish you every success with your research and look forward to receiving a copy of your completed report in the future.

Yours sincerely

pp.

A handwritten signature in purple ink, appearing to read 'Sue Marshall', is shown on a light blue background.

Sue Marshall

Director for Children & Young People's Services



West Midlands (South) Comprehensive Local Research Network
Fourth Floor, West Wing (ACF10002)
University Hospitals Coventry & Warwickshire NHS Trust
University Hospital
Clifford Bridge Road
Coventry
CV2 2DX

20th December 2013

Ms N Lowe
Universities of Coventry and Warwick
Clinical Psychology Doctorate
James Starkey Building
Coventry University
Priory Street
Coventry
CV1 5FB

Dear Ms Lowe

**Project Title: An Understanding of Early Psychosis in the Context of
Dissociative Experiences**
R&D Ref: PAR031013
REC Ref: 13/WM/0409

I am pleased to inform you that the R&D review of the above project is complete, and NHS permission has been granted for the study at Coventry and Warwickshire Partnership NHS Trust. The details of your study have now been entered onto the Trust's database.

The permission has been granted on the basis described in the application form, protocol and supporting documentation. The documents reviewed were:

Document	Version	Date
REC Favourable Opinion Letter		11/11/2013
Protocol	1	01/10/2012
Letter of Interest	1	12/09/2013
Participant Information Sheet	1.1	31/10/2013
Consent Form	1.1	31/10/2013
Debrief Sheet	1.1	31/10/2013
TADS	1.3	
Dissociative Experiences Scale II		
PANNS Scoring Criteria		
Recovery Style Questionnaire		
Service Engagement Scale		

All research must be managed in accordance with the requirements of the Department of Health's Research Governance Framework (RGF), to ICH-GCP

