

University of Warwick institutional repository

This paper is made available online in accordance with publisher policies. Please scroll down to view the document itself. Please refer to the repository record for this item and our policy information available from the repository home page for further information.

To see the final version of this paper please visit the publisher's website. Access to the published version may require a subscription.

Authors:	Christopher J. Boyce and Alex M. Wood
Title:	Money or Mental Health: The Cost of Alleviating Psychological Distress with Monetary Compensation versus Psychological Therapy
Year of publication:	2009
Link to published version:	http://dx.doi.org/10.1017/S1744133109990326
Publisher statement:	None

**Money or Mental Health: The Cost of Alleviating Psychological Distress with
Monetary Compensation versus Psychological Therapy**

Christopher J. Boyce

Department of Psychology, University of Warwick

Email: c.j.boyce@warwick.ac.uk

Alex M. Wood

School of Psychology, University of Manchester

Email: alex.wood@manchester.ac.uk

Reference: Boyce, C. J. & Wood, A. M., (forthcoming) Money or Mental Health: The Cost of Alleviating Psychological Distress with Monetary Compensation versus Psychological Therapy, *Health Economics, Policy and Law*

This article is the copyright of Cambridge University Press and can be viewed online at [Cambridge Journals Online](http://journals.cambridge.org/action/login) - <http://journals.cambridge.org/action/login>

Abstract

Money is the default way in which intangible losses, such as pain and suffering, are currently valued and compensated in law courts. Economists have suggested that subjective well-being regressions can be used to guide compensation payouts for psychological distress following traumatic life events. We bring together studies from law, economic, psychology and medical journals to show that alleviating psychological distress through psychological therapy could be at least 32 times more cost effective than financial compensation. This result is not only important for law courts but has important implications for public health. Mental health is deteriorating across the world – improvements to mental health care might be a more efficient way to increase the health and happiness of our nations than pure income growth.

Corresponding author: c.j.boyce@warwick.ac.uk

Address: Department of Psychology, University of Warwick, Coventry CV4 7AL.

Telephone: (+44) 024765 23158

Fax: (+44) 024765 24225

Acknowledgements: For helpful discussions and comments the authors are grateful to Gordon Brown, Anna Cunningham, Stephen Joseph, Andrew Oswald, Paul Raffield and two anonymous referees. The Economic and Social Research Council (ESRC) provided research support. The usual disclaimer applies.

Putting a price tag on “pain and suffering” seems an impossible task but judges in law courts are regularly expected to make such decisions. Equating money with an intangible loss may seem peculiar but in tort law an individual who has suffered should, as nearly as possible, be restored to the same position had they not sustained some wrong (Lunney & Oliphant, 2008). In law courts monetary compensation is the expected remedy and there are established monetary guidelines to compensate for the “pain and suffering” of various injuries (Mackay et al., 2006). In the UK, the Fatal Accidents Act 1976 provides a one off payment for the “bereavement” of family members. Economists have developed a method to place monetary values on various life events (Blanchflower & Oswald, 2004, Ferrer-i-Carbonell & van Praag, 2002, Powdthavee, 2008). It has further been suggested that such monetary values could be offered as compensation to help overcome psychological distress after particularly traumatic life events (Oswald & Powdthavee, 2008a, Oswald & Powdthavee, 2008b). The economists’ calculations would suggest that court settlements would need to be much higher than present to fully compensate an individual. The high monetary values reflect money’s ineffectiveness at compensating someone for pain and suffering.

We assess the evidence across law, economic, psychology and medical journals and suggest psychological therapy as an alternative. Psychological therapy would be substantially more cost effective than financial compensation at alleviating psychological distress. We extend our argument beyond the law courts and suggest that money’s low importance in achieving mental health has important implications for public health. National happiness levels have remained flat in developed countries in spite of large economic gains. Mental health, on the other hand, appears to have been deteriorating across the world for some time and is estimated to deteriorate still

further (Michaud et al., 2001). The comprehensiveness and accessibility of mental health services, in particular the provision of psychological therapies in publicly funded services, have regularly been questioned. Increasing the investment in mental health and generally broadening access therefore might be a more efficient way to increase the health and happiness of our nations than pure income growth.

Money - a common metric for valuing life events and the movement towards compensation

Monetary values have been calculated across numerous areas of life including; marriage (Blanchflower & Oswald, 2004), social relationships (Powdthavee, 2008), the fear of crime (Moore & Shepherd, 2006), noise (Van Praag & Baarsma, 2005), health (Ferrer-i-Carbonell & van Praag, 2002) and disabilities (Oswald & Powdthavee, 2008b). The income equivalences attached to such events are typically large. For example, the value of a marriage is estimated to be equivalent to having an extra \$100,000 (around £70,000 at today's exchange rate) each year (Blanchflower & Oswald, 2004). Such values have been calculated using subjective well-being data and computation is relatively simple. The average impact of some life event on an individual's wellbeing can be determined statistically across a large sample. This impact is then compared to the effect that income has on an individual's well-being. Typically, a one standard deviation rise in income would be expected to induce a rise in well-being of between 0.17 and 0.21 standard deviations (Lucas & Dyrenforth, 2006). By comparing the two effects researchers can estimate how much extra income an individual would need on average to achieve an equivalent level of well-being as the life event.

Compensation for injustices is an important aspect of society. In tort cases, particularly those involving psychological distress, judges are commonly faced with the dilemma of awarding compensation to restore an individual to the position they were before any injustice took place. Such a decision is mostly subjective, arbitrary and normally takes the form of a one off monetary payment (Mackay et al., 2006). Some researchers have suggested that the psychological impact of particularly traumatic life events can be evaluated in purely financial terms (Clark & Oswald, 2002). With the aim of alleviating psychological distress recent studies have suggested that such figures could be useful in a court of law to guide compensation payouts for individuals who have lost family members (Oswald & Powdthavee, 2008a) or become disabled (Oswald & Powdthavee, 2008b).

Such events can devastate the lives of individuals and the sums suggested to help alleviate the psychological distress are large; much larger than those presently awarded by courts. For example, were an individual to lose a partner, then it is suggested that a compensation amount ranging from £114,000 to £206,000 per annum would be needed to overcome psychological distress. For the loss of a child, individuals would require anything from £89,000 to £140,000 to compensate (Oswald & Powdthavee, 2008a). In the UK the Fatal Accidents Act 1976 recommends a substantially lower payout of just £10,000. If such a financial compensatory argument were extended to unemployment, which is well known to have deep psychological effects beyond the simple loss of income (Darity & Goldsmith, 1996), the income equivalence of psychological distress alone would be in the region of £34,000 to £59,000 per annum (Oswald & Powdthavee, 2008a).

The clinical and cost effectiveness of psychological therapy

Researchers have assessed the clinical and cost effectiveness of various treatments for depressed patients (Bower et al., 2000, Ward et al., 2000). The effectiveness of general practitioner care with both cognitive-behaviour therapy (CBT) and non-directive counselling were all compared. Over twelve months all treatments reduced average depression levels by at least one and a half standard deviations. The average total cost, which even included indirect costs such as work time lost, was less than £1,500. In fact, the improvement was achieved by both CBT and non-directive counselling within the first four months at a total cost of less than £800.

A cost effectiveness comparison between psychological therapy and direct financial compensation

Comparing the cost effectiveness of psychotherapy and direct financial compensation in alleviating individuals from severe psychological distress has not been carried out before. There are several ways in which the costs between psychological therapy and direct financial compensation can be compared using the studies already outlined. Oswald and Powdthavee (2008a) estimate that the average psychological impact of losing a partner is about one standard deviation. They suggest that the individual would need to be compensated with at least £114,000. Pro-rata it would cost less than £600 to help the individual adjust to such a difficult life event using psychological therapy. Similarly for unemployment, which has deep psychological consequences, it would be more cost effective to provide individuals with psychological therapy (around £100-£200 pro rata) to overcome their loss of purpose in life and help them back to work rather than solely offering financial compensation.

To compare the costs in another way; psychological therapy alleviates psychological distress by one and a half standard deviations at a cost of £800 over 4 months. To achieve a one and a half standard deviation reduction in psychological distress using money alone would require (based on estimates in Oswald and Powdthavee (2008a) and dependent on the statistical technique) somewhere in the region of £179,000 to £292,000 of extra income every year. This illustrates that the alleviation of severe psychological distress could be worth at least £179,000 of extra income each year and suggests that financial compensation is an inefficient way of helping individuals overcome distress.

The wide disparity between the effects of psychological therapy and income arises out of the poor ability of income to improve mental health. However, income's effect on psychological distress in studies such as Oswald and Powdthavee (2008a) is likely to be under estimated. More realistic income effects can be obtained by allocating income randomly to individuals and observing the effects on individuals' lives. Such an experiment is not possible but researchers have analyzed longitudinally the effect of medium sized lottery wins on psychological distress. An average lottery or pool win of £4,300 is found to bring approximately a quarter of a standard deviation improvement to mental health two years after the win (Gardner & Oswald, 2007). This suggests that even when the best income-psychological distress estimates are considered (Gardner & Oswald, 2007), psychological therapy is still calculated to be at least 32 times more cost effective than financial compensation. This figure is large and places huge questions on the use of income as an effective compensation method.

Our argument is not without its limitations. There are of course inherent difficulties in making inferences across studies and just like the proponents of the use

of monetary compensation it is necessary to draw some conclusions from one group of individuals to another¹. The evidence on the cost-effectiveness of psychological therapy is not based exclusively on individuals experiencing loss as a result of a devastating life event. Some psychological distress will undoubtedly follow from the loss of a loved one but one may question whether, what could be considered a fairly normal response, would benefit from psychological therapy. This perhaps calls into question the purpose of psychological treatment more generally. One view of psychological therapy is that mental health is a continuum and that everyone, no matter their level of psychological distress, can benefit from psychological therapy. Under this view any psychological distress would be viewed as mental disorder and therefore treatable. Another viewpoint is that mental disorder is dichotomous, in that individuals either have mental disorder or do not. This view suggests that mental disorder is the presence of distorted thought processes that can result in protracted psychological distress. In this latter view the psychological distress that arises as a normal reaction to loss might not be seen as directly treatable. However, it is likely that, without adequate support, some unnecessary mental disorder will arise from the loss. Therapy should aim to avert such mental disorder. Additionally, even if there were a substantial cost difference in helping individuals with loss and those with mental disorders, the cost-effectiveness comparison figure calculated earlier should be high enough to absorb any extra expense.

A further issue that requires some discussion is the process of adaptation.

People adapt to many of life's events (Brickman et al., 1978, Clark et al., 2008) and some individuals will naturally return to their baseline level of psychological

¹ The argument for using subjective well-being measures to calculate monetary compensation levels must necessarily assume that the effect of income on psychological distress, based on estimates from the entire sample, will be the same for the small sub-sample who have recently lost a family member

functioning given time. If individuals adapt anyway then an argument could be made against the use of psychological therapy. The same argument, however, could be made against the use of monetary compensation, the current default method of addressing loss. In any case individuals do not always fully adapt and even if they did resources should be used in the most efficient manner to relieve psychological distress in the interim. Oswald and Powdthavee (2008b) address the issue of adaptation and as such suggest that annual compensatory amounts should be reduced each year. Similarly, psychological therapy could be proportionally reduced to help with the lower levels of distress in later years after an event. However, it may turn out that psychological therapy, focusing directly on psychological distress, speeds up the process of adaptation and may even mean therapy is unnecessary in later years.

Practical implications of our argument – for judges

In tort law an individual who has suffered should, as nearly as possible, be restored to the same position had they not sustained some wrong. The loss of future earnings must undoubtedly be compensated financially. The evidence suggests that following a devastating life event an individual is likely to experience an adverse psychological reaction and our concern is with the efficiency of compensating such an intangible and fairly normal psychological reaction financially. Currently monetary compensation seems to be unquestionably taken in law courts as the only way of helping an individual overcome psychological distress after a traumatic event. The values currently offered as compensation are arbitrary (Mackay et al., 2006) and, according to economists' subjective well-being equations, should actually be much higher (Oswald & Powdthavee, 2008a, Oswald & Powdthavee, 2008b). Rather than

giving individuals more income to cope with distress it seems sensible to consider other alternatives such as psychological therapy.

Can bestowing an individual with money really be expected to help an individual with psychological distress after a traumatic life event? As a compensatory device, money, like most things, can never truly fulfil such a role. The purpose of financial compensation, however, is to alleviate an individual's psychological distress by helping them to find enjoyment elsewhere. Thus, if a tool is judged by its ability to alleviate an individual's psychological distress then the answer may be found in medical research. We have shown that psychological therapy could be much more cost effective than financial compensation. We are not claiming that psychological therapy will entirely prevent what could be considered as a normal adverse psychological reaction but therapy may provide some short term relief. Moreover such devastating life events if not adequately dealt with may lead to maladaptive thoughts and result in undue distress. It is unlikely that financial compensation will protect against such maladaptive thinking.

On punitive grounds we are not necessarily suggesting that large court payouts are not justified². However, we are suggesting that the sums currently offered may not be the best way to help the injured party overcome any psychological distress unless it is decreed, in the best interests of the injured party, that the money gets spent on some form of psychological therapy. There is currently no legal obligation for individuals to undertake steps to alleviate their psychological distress. However, there is some legal support in New Zealand for an increased use of psychological therapy to help individuals overcome psychological distress that occurs due to the actions of a third

² There are several theories concerning the purpose of tort, these include; deterrence, corrective justice, risk allocation and distribution of loss. Some, depending on the legal system, would argue that retribution also plays an important part

party. The Injury Prevention, Rehabilitation and Compensation Act of 2001 requires that the cost of psychological therapy be borne by the state.

Financial compensation may not even have the causal effect on a traumatized individual in the way that economists suggest. Additionally, individuals are likely to be unequally affected by financial compensation, for example due to the diminishing marginal utility of income wealthier individuals may require even more income to replenish lost well-being. Financial compensation seems like a poor device for alleviating psychological distress. In contrast psychological therapy does not attempt to act as compensation but instead focuses directly on helping individuals to overcome their loss. Psychological therapy acknowledges that trauma is person dependent and is therefore effective, inexpensive and compassionate.

Practical implications of our argument – for policy makers and society

We believe our argument has important implications for public health. The high levels of financial compensation that economists suggest help to highlight how inefficient money is at alleviating psychological distress and generally improving individual well-being. Economists are puzzled as to why developed societies are becoming no happier in spite of large income gains (Easterlin, 1995). However, in 1999 unipolar major depression was the fifth leading cause of the disease burden and by 2020 major depression is expected to rise to the second biggest burden (Michaud et al., 2001). These conflicting findings, along with the evidence presented here, indicate that although income growth may provide some benefit to well-being, the greatest benefit to the health and happiness of our nations could come from improving access to mental health care.

Our argument, although clearly comparing across studies and extending from the law courts to wider society, adds a new perspective to public health debate on mental health. Regarding the UK's National Health Service, Richard Layard (2006) has suggested that the cost of helping individuals overcome mental health issues using psychological therapy more than outweighs the money saved from reducing the individuals on benefits who are incapacitated by their mental health. Our argument adds further support for increasing the availability of mental health resources by instead suggesting that mental health in its own right is something to be valued alongside economic progress. The importance of improving mental health for national well-being needs to be further recognized and policy makers must consider improving mental health care further. Individuals are also probably not fully aware of the powerful effects that good psychological therapy can have on their mental health and general well-being. It needs to be understood that aspiring to good mental health can often be more important than aspiring to high income for well-being. Since individuals are unlikely to unilaterally invest in their own mental health there is a strong case for public provision.

References

- Blanchflower, D.G. & Oswald, A.J. (2004) Well-being over time in Britain and the USA, *Journal of Public Economics*, 88(7-8), pp. 1359-1386.
- Bower, P., Byford, S., Sibbald, B., Ward, E., King, M., Lloyd, R. & Gabbay, M. (2000) Randomised controlled trial of non-directive counselling, cognitive-behaviour therapy, and usual general practitioner care for patients with depression. II: Cost effectiveness, *British Medical Journal*, 321(7273), pp. 1389-1392.
- Brickman, P., Coates, D. & Janoffbulman, R. (1978) Lottery winners and accident victims - is happiness relative?, *Journal of Personality and Social Psychology*, 36(8), pp. 917-927.
- Clark, A.E., Diener, E., Georgellis, Y. & Lucas, R.E. (2008) Lags and leads in life satisfaction: A test of the baseline hypothesis, *Economic Journal*, 118(529), pp. F222-F243.
- Clark, A.E. & Oswald, A.J. (2002) A simple statistical method for measuring how life events affect happiness, *International Journal of Epidemiology*, 31(6), pp. 1139-1144.
- Darity, W. & Goldsmith, A.H. (1996) Social psychology, unemployment and macroeconomics, *Journal of Economic Perspectives*, 10(1), pp. 121-140.
- Easterlin, R.A. (1995) Will raising the incomes of all increase the happiness of all?, *Journal of Economic Behavior & Organization*, 27(1), pp. 35-47.
- Ferrer-i-Carbonell, A. & van Praag, B.M.S. (2002) The subjective costs of health losses due to chronic diseases. An alternative model for monetary appraisal, *Health Economics*, 11(8), pp. 709-722.
- Gardner, J. & Oswald, A.J. (2007) Money and mental wellbeing: A longitudinal study of medium-sized lottery wins, *Journal of Health Economics*, 26(1), pp. 49-60.
- Layard, R. (2006) Health policy - The case for psychological treatment centres, *British Medical Journal*, 332(7548), pp. 1030-1032.
- Lucas, R.E. & Dyrenforth, P.S. (2006) Does the existence of social relationships matter for subjective well-being?, in: E.J. Finkel & K.D. Vohs (Eds) *Self and relationships: Connecting intrapersonal and interpersonal processes* (New York, NY: Guildford Press).
- Lunney, M. & Oliphant, K. (2008) *Tort Law: Text and Materials* (New York, Oxford University Press).

- Mackay, J., Bruffell, M., Cherry, J., Hughes, A. & Tillett, M. (2006) *Guidelines for the assessment of general damages in personal injury cases* (New York, Oxford University Press).
- Michaud, C.M., Murray, C.J.L. & Bloom, B.R. (2001) Burden of disease: Implications for future research, *JAMA-Journal of the American Medical Association*, 285(5), pp. 535-539.
- Moore, S. & Shepherd, J.P. (2006) The cost of fear: shadow pricing the intangible costs of crime, *Applied Economics*, 38(3), pp. 293-300.
- Oswald, A.J. & Powdthavee, N. (2008a) Death, happiness, and the calculation of compensatory damages, *Journal of Legal Studies*, 37, pp. S217-S251.
- Oswald, A.J. & Powdthavee, N. (2008b) Does happiness adapt? A longitudinal study of disability with implications for economists and judges, *Journal of Public Economics*, 92(5-6), pp. 1061-1077.
- Powdthavee, N. (2008) Putting a price tag on friends, relatives, and neighbours: Using surveys of life satisfaction to value social relationships, *Journal of Socio-Economics*, 37, pp. 22.
- Van Praag, B.M.S. & Baarsma, B.E. (2005) Using happiness surveys to value intangibles: The case of airport noise, *Economic Journal*, 115(500), pp. 224-246.
- Ward, E., King, M., Lloyd, M., Bower, P., Sibbald, B., Farrelly, S., Gabbay, M., Tarrier, N. & Addington-Hall, J. (2000) Randomised controlled trial of non-directive counselling, cognitive-behaviour therapy, and usual general practitioner care for patients with depression. I: Clinical effectiveness, *British Medical Journal*, 321(7273), pp. 1383-1388.