Is shared misery double misery?

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ABSTRACT

The literature has shown strong associations between health, financial and social life events and mental health. However, no studies as yet have looked at the temporal nature of the effects of life events on stated mental health nor have they included the effects of the events befalling partners within a household. This paper looks at the spillover in mental health, measured with the SF-36 scale, from one partner to the other, using life events to identify this relationship. We propose a new model that allows for both a temporal spacing of effects (anticipation and adaptation) as well as a spillover factor, which we define as the degree to which the events that are experienced by the partner affect us in the same way as if these events were to happen to us. We use data from 51,380 person-year observations of the Household, Income and Labour Dynamics in Australia survey (2002–10) which consistently measures nine distinct events, including illnesses, social shocks and financial shocks. We find that the events befalling a partner on average have an effect about 15% as large as the effect of own events. We use the estimates to compute the compensation required to offset own and partner's life events. The methodology in this paper is potentially useful for estimating other spillover parameters such as the effects of others in the family or in the neighbourhood.

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1. Introduction

The literature on the link between life shocks and mental health has shown strong associations between financial hardship and depression (Bridges and Disney, 2010; Butterworth et al., 2009; Selenko and Batinic, 2011), lottery wins and mental wellbeing (Gardner and Oswald, 2007), strokes and depression (Bergensen et al., 2010), violence and mental health (Vinck and Pham, 2010), promotion and mental health (Boyce and Oswald, 2012), retirement and mental health (Lindeboom et al., 2002), and unemployment and mental health (Green, 2010; Mandal et al., 2011). However, no studies as yet have looked comprehensively at the temporal nature of the effects of life events on stated mental health, nor have they included the effects of the events befalling partners within a household, i.e. spillover effects.

The particular focus of this study is the spillover between partners in terms of mental health, measured by the SF-36 in a large longitudinal Australian panel. To isolate the spillovers from common shocks occurring to both, we look at nine life events that can befall the partner, such as promotions, sickness and the death of friends. We then look at the effects of these life events on the emotional wellbeing of the other, holding constant all the events and life circumstances befalling an individual him or herself.

Methodologically, we develop a new dynamic model to take into account that an individual will both anticipate and adapt to life events, and that life events do not happen with the same regularity to all people.

Spillover effects for stated mental health within the household have so far mainly been demonstrated with cross-sectional data and not in a dynamic setting. For instance, Kessler and McRae (1982) found a positive effect of wives' employment on men's psychological distress; Schwartz et al. (1991) found a positive correlation between individuals' average pain intensity and the depression their spouses suffer from; whilst Leonard and Cano (2006) found that chronic pain is associated with more suffering of both the patient and their partners. One obvious shortcoming of these studies is that they cannot distinguish whether the suffering of the partner is because of selection effects or causal effects. Selection effects are quite likely to be large since studies have found a strong correlation between spouses' wellbeing (Galbaut Du Fort et al., 1994): individuals with higher levels of wellbeing are more likely to match with each other.

The only longitudinal study we are aware of that looks at stated mental health and spillover effects is Siegel et al. (2004) who find that assortative matching can only partly explain the association between spousal baseline depressive symptoms and the depressive symptoms of the individual.

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In the literature that directly looks at the measure of stated mental health we will use in this paper (SF-36), little is known about anticipation and adaptation. We are thus at present not aware of any studies that have looked simultaneously at anticipation and adaptation effects of life events and stated mental health. Yet, anticipation and adaptation effects would seem very likely to be present in emotional wellbeing and hence affect estimates of any effects. Victimisation at work for instance, which is a precursor to job loss, is likely to trigger psychological stressors that will result in depression and anxiety even before an observed job loss (Vinck and Pham, 2010). The onset of a serious illness is likely to increase physical limitations and lower social functioning when it occurs but is also adapted to over time by adjustments in social roles and expectations (Lindeboom et al., 2002).

Whilst spillovers, anticipation effects and adaptation effects have not been well-studied in a dynamic context for mental health, more is known about them for life satisfaction, which is closely related to mental health, yet not quite the same. In recent years, *emotional wellbeing*, like mental health, has been distinguished from 'life satisfaction' and other reflective measures of wellbeing in that the former refers to 'the emotional quality of an individual's everyday experience' while the latter refers to individuals' thoughts on their life (Diener et al., 2010; Kahneman and Deaton, 2010; Knabe et al., 2010).

Findings on anticipation and adaptation effects from life events on life satisfaction vary across studies. Clark et al. (2008) use German panel data to demonstrate how life satisfaction is affected by both lags and leads of income, unemployment, disability, and other life shocks. Whilst Clark et al. (2008) find strong adaptation effects to income shocks, Powdthavee (2009a) finds no adaptation to severe disability in health satisfaction and significant lead effects to becoming disabled. Lucas and Clark (2006) find full adaptation to marriage, whilst Oswald and Gardner (2006) find full adaptation to divorce. Frijters et al. (2011) look at a wide array of life shocks in a single model, finding almost complete adaptation to all life events within two years after the event occurred. Uniquely, Frijters et al. (2011) also show strong anticipation effects, particularly of events that are quite predictable, such as having a baby or getting married.

The literature on spillovers in happiness is also limited to just two recent studies: Powdthavee (2009b) uses data from the British Household Panel Survey (BHPS) and finds that the life satisfaction of a respondent *i* positively depends on the life satisfaction of the partner, whilst Schwarze and Winkelmann (2011) show an overspill between the happiness of parents and the happiness of their children.

Yet, we would expect the dynamics of mental health to be different than the dynamics of life evaluation. Measures of cognitive wellbeing such as life satisfaction have been argued to be affected by focussing effects, that is when individuals are asked about how satisfied they are with their lives or how happy they are, their attention is drawn to their relative standing in the distribution of material wellbeing rather than their feelings (Kahneman et al., 2006). For instance, Knabe et al. (2010) found that unemployed people report a lower life satisfaction, but yet spent their day doing more positively experienced activities than at work. Their explanation was that employment remains the benchmark to which individuals compare their own achievement, which lead people to evaluate their lives as worse, even if working 'gives more unpleasant feelings than not working' (Knabe et al., 2010). Hence, measures of day-to-day or recent experiences such as the SF-36 are less affected by relative comparisons.[1] As such, it is reasonable to

expect that the day-to-day measures would adapt quicker to life events and be more affected by the actual time spent in various activities. For instance, Kahneman and Deaton (2010) found that income and education are more closely related to life evaluation while health, caregiving, loneliness, and smoking are relatively stronger predictors of daily emotions. The advantage of studying emotional wellbeing, these authors argue, is that they are less affected by cognitive fallacies in which vivid experiences (like the last remembered one) gain more weight than their actual effect on everyday living. Mental wellbeing in this context is then an alternative measure of 'the good life' and thus an object of policy.

The current study then adds to the literature in three distinct ways. Firstly, we combine the effects of many life events on stated mental health simultaneously in a single model that explicitly allows for selection effects, anticipation effects, and adaptation effects. Secondly, we extend existing statistical models to include social externalities within the household. Finally, we derive a novel way of estimating the shadow cost of the life events on mental health, and show what contribution the life events of the partners make to this shadow cost.

The issue of intra-family spillovers in mental health is particularly important for the health cost-benefit literature. The level of spillovers between partners is important for policy in that it tells us about the social multiplier of the health benefits befalling an individual, which can be used to quantify the level of monetary compensation to one partner needed to compensate for the damages caused to another. This social multiplier also matters in litigation cases.

On a related note, for the purpose of identifying spillovers relevant to cost-benefit analysis, a wide range of underlying causal mechanisms amount to the same thing. The spillover might hence be in the form of a direct emotional altruism response to the suffering and pleasures of the other partner, which is the usual interpretation of cross-effects in economics (Becker, 1974; Chiappori et al., 1993; Jacobson, 2000). If the effect runs via changes in household time-allocation or changes in the level of unobserved consumption that partners bestow on each other, then this is equally valid from a cost-benefit point of view. The main avenue that has to be ruled out is that the results are driven by selection effects.

The rest of the paper is organised as follows. Section 2 introduces the Household, Income and Labour Dynamics in Australia (HILDA) survey from which we can use nine waves. Section 3 introduces household decision models and maps them into empirical equations on the effects of life events of partners on the mental health of the individual: we estimate the level of spillover between partners. Section 4 presents the empirical results. Section 5 presents estimates for the valuation of own life events and the partners' life events. Section 6 concludes.

2. Data and definitions

We employ data from Waves 2–10 of the HILDA survey, covering the years 2002–2010. The HILDA survey is a multidisciplinary database first conducted in 2001 on a representative Australian sample of 7682 households and 19,914 individuals aged 15 and more. It has a wide array of health, job, wealth, and household related information. This paper uses non-identifiable unit record HILDA data and ethics approval to use the data for the purposes of the present research was obtained from Griffith University.

We consider all individuals who completed a Self-Completion Questionnaire (SCQ) relating to life events and mental health in Waves 2 to 10 inclusive. We do not use data from Wave 1 since life-event questions were included only from Wave 2 onwards. In order to study spillovers between partners, we restrict our study sample to individuals i) who completed a SCQ, ii) who are married or are in

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[1] It is an open question as to whether policy should deal with individuals' experiences as they reflect on them or as they experience them. In democratic practise, it is the reflective individual that votes and hence counts more, but this still includes a role for the choosing individual consenting to have his actual experiences be a matter of policy, leading it to be important to study both.