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Personality and health satisfaction

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ABSTRACT

In this paper we explore how personality and gender influence how individuals cope with illness. Unsurprisingly, illness has a negative effect on an individual's health satisfaction, but the strength differs by gender, personality and the presence of multiple physical illnesses. Men with multiple physical illnesses are more adversely affected than those with a single physical illness; women are not. Women with high levels of agreeableness or low levels of conscientiousness are less adversely affected by the incidence of mental illness than typical women. We find no evidence that personality matters for how men cope with illness.

1. Introduction

Economic studies that look at subjective well-being typically focus on how and why life circumstances such as income, employment status, marital status and educational attainment affect an individual's life satisfaction.[1] While such studies provide valuable insights on the average effects of life changes, they often find substantial variability in the way individuals react to life events (Bonanno, 2004; Boyce and Wood, 2011a). Failing to account for sources of individual heterogeneity provides an incomplete picture which can lead to public policies that ignore potential distributional impacts on well-being that have misguided impacts. For example Binder and Coad (2011) argue that policy founded on average effects could lead to small increments in well-being for a large portion of a population at the expense of large decrements in well-being for a small subset of the population. In this vein, Clark et al. (2005) showed that money can buy happiness, but the effect is concentrated among those who are already highly satisfied; when someone is dissatisfied, money has a low marginal effect on their subjective well-being. Budria (2013) explored the relationship between subjective well-being and income using relative rather than absolute income and also uncovered significant individual heterogeneity; having a low relative income had a strong impact on those with low subjective well-being but only a small effect on those with high subjective well-being. Clark et al. (2005) suggest that such heterogeneity could help explain voting behavior and preferences for income redistribution.

While these papers identify individual heterogeneity, they often do not explain why it exists. Binder and Coad (2011), for example, find that income, health status and social factors are more important for those in lower quantiles of happiness compared to those with higher levels of happiness. While they argue that their findings may be useful to alleviate the unhappy people at the low end of the scale, they admit that happy people "can be found in all situations in life, with little that links them together. Their happiness does not seem to be affected by the external factors identified (in their paper), but may come from other sources yet to be uncovered." In this paper we take a step toward identifying sources of individual heterogeneity by focusing on the link between physical or mental illnesses and health satisfaction and asking whether gender and personality can explain how people cope with becoming ill.

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[1] There are different self-reported measures of subjective well-being in the literature such as moment-to-moment emotions or feelings, health status, and cognitive evaluations of various life domains (Lucas and Diener, 2009). In this paper we specifically focus on a cognitive evaluation of one's overall health, i.e. health satisfaction.

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Much previous research has shown that personality affects subjective well-being (Myers and Diener, 1995; Rammstedt, 2007; Heady, 2008; Steel et al., 2008). Bonnano (2004) suggested that personality characteristics such as hardiness, positive emotions and self-enhancement can promote resilience, helping people to cope with life events without experiencing major disruptions in normal functioning. In fact, specific personality traits may play an important role in moderating the impact of life events like marriage, childbirth, unemployment and widowhood on individuals' well-being (Yap, Anusic and Lucas, 2012; Soto and Luhmann, 2013), an impact known as a "person-environment" interaction (Yap, Anusic and Lucas, 2012).

Nonetheless, studies investigating the well-being effect of interactions between life events, socio-economic characteristics and personality "remain rare" (Soto and Luhmann, 2013, p. 51). Until now, such interactions have mostly been studied in the context of unemployment (Boyce, Wood and Brown, 2010) and income (Boyce and Wood, 2011b; Budria and Ferrer-i-Carbonell, 2012; Soto and Luhmann, 2013). In relation to health satisfaction, there is but one prior study (Boyce and Wood, 2011a) that is closely related. They showed that individuals who score high on agreeableness may adapt more quickly and fully to the negative effects implied by the onset of disability. In this paper we broaden this focus, exploring how personality affects overall health satisfaction when an individual is faced with physical or mental illnesses.

To test if personality matters in how people cope with illness we draw data on health satisfaction from the British Household Panel Survey (BHPS), a nation-wide longitudinal data set from the United Kingdom. Following Bowles, Gintis and Osborne (2001) and Boyce and Wood (2011a), we take into account that the onset of illness may change personality and only use in our analysis respondents for whom we have pre-illness personality. Because individual heterogeneity comprises a large portion (44–52%) of the variation in well-being (Lykken and Telegen, 1996) we use panel data methods (fixed effects and first differences) to identify the relationship between illness and health satisfaction. An advantage we have with our data are specific measures of personality, allowing us to separate personality from other effects when a person becomes ill, potentially providing valuable insights in how people cope with illness. Our model can therefore be interpreted in terms of distinct subgroups of individuals within the population, who may differ in their ability to cope with illness.

Our analysis rejects the hypothesis of 'homogeneous' coping behavior across subgroups of individuals. Unsurprisingly, illness exerts a strongly negative effect on an individual's health satisfaction. However, the magnitude of this effect depends upon a number of person-specific characteristics: gender, the type and number of illnesses, and some specific pre-illness personality characteristics. This suggests that individual differences affect how individuals cope with illness, providing new insights for researchers interested in well-being aspects of health.

The paper is structured as follows. Section 2 briefly reviews earlier research on personality, especially how it relates to health. Section 3 discusses our empirical model and strategy. Section 4 describes the data. Section 5 presents the results, and Section 6 discusses how they relate to previous research. Section 7 considers alternative ways in which our analysis may be extended, checks for robustness of our results, and highlights possible limitations. Section 8 concludes.

2. Background, previous findings and expectations

Research in personality has a long history starting with the work of Allport (1937). Since then the study of personality has been developed into a systematic way of understanding individual differences. One of the main models for studying personality is the Big Five factor model (McCrae and Costa, 1987; Goldberg, 1993). The Big Five construct supplies a unifying framework for understanding individual differences in terms of personality characteristics, although we note that it has not been accepted universally (e.g. Block, 2001, 2010). A review of the Big Five model can be found in John and Srivastava (1999). Within the Big Five model there are five broad personality dimensions: agreeableness, conscientiousness, extraversion, neuroticism and openness.

Earlier studies suggest that only three of the Big Five personality dimensions, neuroticism, conscientiousness and agreeableness, are relevant to health and health-related behaviors (Skinner, Hampson and Fife-Schaw, 2002; Ingledew and Brunning, 1999; Lemos-Giráldez and Fidalgo-Aliste, 1997). This allows us to hypothesize what could be the specific role of these three personality traits when people confront being ill, potentially providing new insights into whether distinct subgroups of individuals can cope with illness better than others.

Neuroticism reflects the tendency to be tense and anxious. Past research indicates that neuroticism is associated with greater worry about health. Individuals with high neuroticism tend to report more frequent and severe symptoms, greater emotional distress, as well as a lower level of overall health (e.g. Skinner, Hampson and Fife-Schaw, 2002). Given these findings, neuroticism might negatively moderate the link between illness and health satisfaction, a hypothesis that also appears to be consistent with evidence from laboratory studies where people are exposed to aversive or rewarding stimuli. Such studies have consistently shown that neuroticism is associated with greater sensitivity to negative stimuli (e.g. Gross, Sutton and Ketelaar, 1998; Larsen and Ketelaar, 1991).

Conscientiousness describes the attribute of self-control, the need of achievement, order and persistence. Previous research indicates that conscientiousness is closely linked with health and health-related behaviors. It has been shown that conscientiousness predicts active problem-focused coping behavior (Watson and Hubbard, 1996) and better self-care in patients diagnosed with type-1 diabetes (Christensen, Moran and Wiebe, 1999). Lemos-Giráldez and Fidalgo-Aliste (1997) found evidence in support of better self-care for people high in conscientiousness through the adoption of better health habits and attitudes. Contrary to these positive effects, however, Wiebe and Christensen (1997) showed that hemodialysis patients who scored high in conscientiousness had poor adherence to prescribed treatments. Overall, there are mixed findings regarding the link between conscientiousness and health-related behaviors, dampening any expectations about a possible moderating effect of conscientiousness on the impact of illness on health satisfaction.

Agreeableness relates to the quality of relationships (DeNeve and Cooper, 1998; Berry, Willingham and Thayer, 2000). Agreeable individuals are more likely than typical individuals to establish and develop better friendships. These individuals in turn may receive stronger social support, which is conducive to healthy psychological functioning, especially following the onset of an illness. We therefore expect that agreeableness could positively moderate the relationship between illness and health satisfaction. Consistent with this hypothesis, Boyce and Wood (2011a) showed that individuals who score high on agreeableness may adapt more quickly and fully to the negative effects implied by the onset of disability.

3. Model and estimation

Let HS_{it} be health satisfaction, where i denotes the set of individuals who are observed at different time-points, t. The linear fixed effects model is given by

$$HS_{it} = \mu_t + \beta \boldsymbol{h}_{it} + \theta \boldsymbol{x}_{it} + \gamma \boldsymbol{z}_i + a_i + \varepsilon_{it} \quad (1)$$

where μ_t is an intercept, $\boldsymbol{h}_{it}$ is a vector of variables related to different health conditions which may vary over time and $\boldsymbol{x}_{it}$ is a vector of other time-varying predictor variables. The vector $\boldsymbol{z}_i$ is a set of