Short Communication

Predicting health from self and partner personality

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ABSTRACT

The prediction of general health has been a consistent goal for personality researchers. Past research has found that healthier individuals tend to be less Neurotic, and higher in Conscientiousness, Extraversion and Agreeableness. Less studied has been the possibility of interpersonal associations between one's own personality and the health of a close other. The present study utilized the British House Panel Survey ($N = 3175$ couples) to examine both actor and partner effects of personality on health. Supporting previous research, individuals who reported less Neuroticism and higher Conscientiousness and Extraversion also reported greater health. Partner effects were less prevalent and only present for Neuroticism, Extraversion and Openness. The magnitude of actor and partner effects did not differ between males and females. The present results suggest that an interpersonal account of traits is needed to understand the relationship between personality and health.

Personality psychology has found an increasing role in predicting psychological well-being (Hayes & Joseph, 2003; Steel, Schmidt, & Shultz, 2008). Past research suggests that those higher in Agreeableness, Conscientiousness, and Extraversion, as well as lower in Neuroticism, tend to report greater levels of psychological well-being (Diener, Sandvik, Pavot, & Fujita, 1992; Steel et al., 2008). In addition to psychological well-being, the relationship between personality and physical health has also received considerable attention (Friedman & Kern, 2014). Previous research has suggested that Neuroticism is negatively associated with physical health (Friedman & Kern, 2014; Lahey, 2009). Conscientiousness has also been linked to greater physical health and longevity (Friedman, Kern, Hampson, & Duckworth, 2014). Less consistent results have been found with the three remaining Big Five traits of Agreeableness, Extraversion, and Openness. However, one recent large scale study has suggested that Extraversion and Agreeableness are both positively associated with general health (Atherton, Robins, Rentfrow, & Lamb, 2014).

A promising avenue of personality trait research is the consideration of one's personal relationships and the way in which romantic partners can influence important outcomes of romantic partners. The personality traits of one's partner have been used to predict life satisfaction, relationship satisfaction, and work performance (Dyrenforth, Kashy, Donnellan, & Lucas, 2010; Malouff, Thorsteinsson, Schutte, Bhullar, & Rooke, 2010; Solomon & Jackson, 2014). The examination of partner personality and individual outcomes has illuminated interpersonal processes and provided evidence that many individual outcomes, such as psychological well-being, are inherently interpersonal

(Orth, 2013; Robins, Caspi, & Moffitt, 2000). Given the salience of health in everyday life (Pligt & De Vries, 1998), this interpersonal association of traits and outcomes should be extended to health outcomes as well.

Despite growing interest in interpersonal process of personality, partner associations of personality and health remain relatively unknown, but there is reason to believe that partner personality is associated with health. First, the well-established link between personality suggests that particular behaviors mediate the relationship between personality and health. For example, the more rigorous adherence to medical and exercise routines partly explains why more conscientiousness people report better health (Bogg & Roberts, 2004; Roberts, Walton, & Bogg, 2005). Partners provide an important source of social support when it comes to self-improvement and health, this added support can help facilitate greater health (Overall, Fletcher, & Simpson, 2010). Because close others are likely to exert some degree of influence on each other, we would predict that personality traits of one partner are associated with the health of the partner being influenced. This study seeks to examine this association between the personality of one's partner and health outcomes.

The present study will extend previous research by examining the association between personality and health using an explicitly interpersonal approach. Using a large sample, we will examine the association that the Big Five of both oneself and one's partner with general health. The association between personality and health will be examined using the Actor-Partner Interdependence Model using latent variables. Furthermore, the possibility of gender moderating the

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association between personality and health is also examined.

1. Methods

The data used came from the 2005 wave of data collection of the British Household Panel Survey (BHPS; University of Essex, 2008). Subjects were included in the analysis if they reported currently being married and their spouse was also a part of the survey. Because both members of a married couple were included in the analyses, there are an equal number of men and included in the sample. The final sample included 3175 couples. Even using the couple as the unit of analysis (Cook & Kenny, 2005), this study is sufficiently powered to find small effects. Data were restricted to opposite-sex couples because of the additional difficulties of analyzing data from both same-sex and opposite-sex couples (Woody & Sadler, 2005).

Data collected during this wave of assessment included fifteen items assessing the Big Five personality traits of Agreeableness, Conscientiousness, Openness, Neuroticism and Extraversion (see Donnellan & Lucas, 2008 & Dyrenforth et al., 2010 for similar uses of these data). Each trait was assessed with three items, with all but Openness to Experience having one reversed scored item. Items assessing the Big Five was on a seven-point scale (1 = "Does not apply" to 7 = "Applies perfectly"), with higher scores indicating greater levels of the trait. Personal health was assessed using the General Health Questionnaire (GHQ; Goldberg & Williams, 1988). The GHQ is a twelve-item scale in which participants rate various problems with the health (i.e. "Problems overcoming difficulties"). Because higher scores on this raw metric reflect poorer health, scores were reversed coded so that high scores indicate better health.

An Actor-Partner Interdependence Model (APIM; Ledermann & Kenny, 2017) was constructed so that husband and wives' health was predicted from husband and wife personality (see Fig. 1). This model allows for the examination of partner personality and own health while simultaneously controlling for one's own personality. Latent variables were constructed for both Big Five and general health. A latent variable approach is appropriate for the present study because short items (such as a three-item measure of Agreeableness) are susceptible to low reliability and high amounts of measurement error (Bollen, 2002). Latent variable models allow for the modeling of measurement error and can provide more accurate estimates of the parameters of interest. The paths from one's own personality to one's health are labeled "actor effects" in the APIM model, whereas paths from the

Table 1
Results of APIM models predicting health from actor and partner Big Five.

Trait	Actor effect		Partner effect		χ^2 change
	Parameter	95% CI	Parameter	95% CI	
Neuroticism	− 0.442	− 0.454, − 0.430	− 0.055	− 0.077, − 0.033	0.86
Extraversion	0.176	0.142, 0.210	0.044	0.012, 0.076	1.37
Openness	0.109	0.077, 0.141	0.050	0.018, 0.082	4.68
Agreeableness	− 0.073	− 0.103, − 0.043	− 0.004	− 0.031, 0.023	1.08
Conscientiousness	0.153	0.121, 0.185	0.021	− 0.013, 0.055	3.97

Note. N = 3175 couples. χ^2 change is the value on two degrees of freedom when constraining actor and partner effects to equality across genders.

personality of one's partner to one's own health is labeled as a "partner effect." To test for equal actor and partner effects across genders, these two paths were constrained to equality and this constraint was kept if the model showed a nonsignificant decrease in model fit.

2. Results

Table 1 shows the results of the APIM using latent variables. All values presented are standardized coefficients and 95% confidence intervals were constructed around all model parameters. All five personality traits showed a significant actor effect. Consistent with previous research, Conscientiousness, Extraversion, and Openness were positively related to general health. Neuroticism and Agreeableness were both negatively related to general health. The partner effects were smaller in magnitude, as both partner Conscientiousness and partner Agreeableness were unrelated to one's own general health. Partner effects of personality were detected for Neuroticism, Extraversion and Openness, with Neuroticism being negatively related to general. The results of the partner effects point to the importance of considering interpersonal dynamics when discussing personality and health. Lastly, for each of the Big Five traits actor and partner effect paths were constrained to be equal and the two models compared, this test amounts to testing significance of the interaction between gender and both actor and partner effects. Significant decreases in model fit would suggest that actor and partner effects differ across men and women
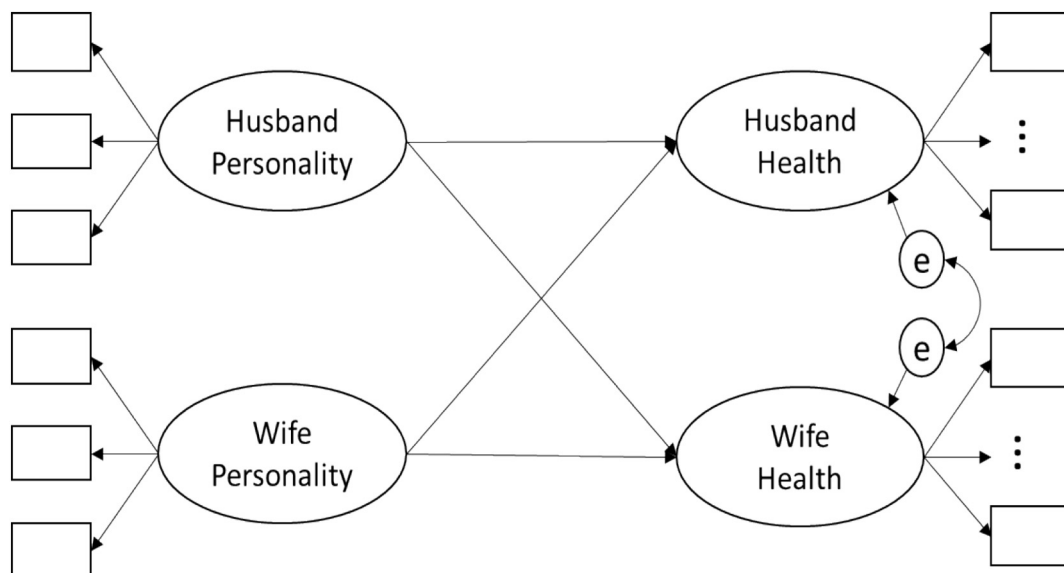

Fig. 1. Actor Partner Interdependence model predicting health from personality.