

Does your partner's personality affect your health? Actor and partner effects of the Big Five personality traits

Abstract

The Big Five personality traits are powerful predictors of health and longevity. However, few studies have addressed partner effects of personality on health, whereby the personalities of people close to us affect our health. The current study examined the partner effects of Big Five traits on health behaviours, mood, and quality of life in romantic couples. Here, 182 romantic couples (N = 364 participants; $M_{age} = 35.7$ years) completed self-report measures of the Big Five (TIPI), health behaviours (GPHB), mood (DASS-21) and quality of life (WHOQOL-BREF). Data were analysed using the Actor-Partner Interdependence Model and showed significant partner effects of conscientiousness on quality of life. No other partner effects of the Big Five were found. These findings suggest that there are specific, focussed associations between health and a romantic partner's personality.

A recent meta-synthesis indicates that the Big Five traits are moderately associated with overall health, with larger effects for agreeableness, conscientiousness, and neuroticism than either extraversion or openness to experience (Strickhouser, Zell, & Krizan, 2017). Conscientiousness has been consistently shown to have a positive impact on health, predicting positive health behaviours (Bogg & Roberts, 2004), physical health (Sutin, Stephan, & Terracciano, 2018), and increased longevity (Kern & Friedman, 2008). In contrast, neuroticism is associated with poor health outcomes, including all-cause mortality (Ó Súilleabháin & Hughes, 2018). These intrapersonal effects of the Big Five on health are well established but less research has examined the interpersonal effects of personality on health, whereby the personalities of people close to us affect our health (Zayas, Shoda, & Ayduk, 2002). Zayas et al. outline a personality-in-context framework, which suggests that our thoughts, emotions, and behaviours are the product of the interpersonal system that we are part of, rather than solely the result of our own personality.

Roberts et al. (2009) conducted one of the first studies to demonstrate partner effects of conscientiousness. Nickel, Iveniuk and Roberts (2017) replicated these results. They found that those with partners with higher levels of conscientiousness reported better subjective health and fewer physical limitations. The authors referred to this effect as compensatory conscientiousness, as partner conscientiousness predicted health outcomes above and beyond the individual's own level of conscientiousness. There are several potential explanations for this effect. Partners high in conscientiousness may provide their partners with useful health-related reminders, for example to take medication, or to attend the doctor. In addition, they may also be reliable and consistent providers of social support for their partner. Recently, Gray and Pinchot (2018) examined both the actor (intrapersonal) and partner effects of the Big Five on general health. They found partner effects for neuroticism, which was associated with poorer partner health, and for extraversion, which was associated with better partner health. The present study extends the work of Gray and Pinchot (2018) by assessing a wider range of health outcomes in order to undertake a more

comprehensive assessment of the association between partner Big Five personality factors and health. Specifically, we include measures of quality of life, health behaviours, depression, anxiety and stress.

Method

Participants and procedure

There were 182 romantically involved heterosexual couples, with an age range of 18-78 ($M = 35.7$, $SD = 12.79$). Participants were members of the general public recruited in couples from visitor attractions in Scotland. Inclusion criteria were that couples had to have been in a relationship for a minimum of six months. The mean length of relationship was 10 years and 9 months ($M = 131.2$ months, $SD = 121.11$). Informed consent was obtained from eligible participants and each member of the couple was given a questionnaire to complete (independent of their partner), in the presence of the researcher. Ethical approval was obtained prior to testing.

Measures

Socio-demographic variables were collected and participants completed several self-report measures. The Ten Item Personality Inventory (TIPI; Gosling et al., 2003) was used to assess The Big Five. This brief measure consists of two items per dimension of extraversion, agreeableness, conscientiousness, emotional stability, and openness, with higher scores reflecting higher levels of each dimension. Health behaviours were assessed using The General Preventive Health Behaviours Checklist (Amir, 1987). This checklist asks participants to state how often they engage in 28 health behaviours (e.g. “get enough exercise” and “get enough sleep”), with higher scores indicate greater engagement with healthy behaviours ($\alpha = .76$). We measured quality of life using the World Health

Organisation's Quality of Life Questionnaire (WHOQOL-BREF; The WHOQOL Group, 1996). This 26-item measure of quality of life encompasses physical, psychological, social, and environmental aspects and higher scores reflect better quality of life ($\alpha = .87$). Finally, mood was assessed using The Depression, Anxiety and Stress Scale (DASS-21; Lovibond & Lovibond, 1995), which is a 21-item measure of negative emotions, consisting of 7 items per subscale of depression, anxiety, and stress. Higher scores indicating higher levels of negative emotions, and the DASS-21 has good internal consistency ($\alpha_{\text{depression}} = .84$; $\alpha_{\text{anxiety}} = .78$; $\alpha_{\text{stress}} = .80$).

Statistical Analysis

Correlation analyses were performed to examine the associations between Big Five factors and health. The Actor Partner Interdependence Model (APIM) was carried out in AMOS (v24) using full-information maximum likelihood (FIML) to handle missing data. The APIM models the dyadic relationships between variables and examines the association between a person's own personality on their own health (actor effect), and the simultaneous association of the person's personality with their partner's health (partner effect) (Kenny, Kashy, & Cook, 2006). We used distinguishable dyads whereby gender was used as the distinguishing factor. Big Five factors were entered as predictors and health behaviours, mood, and quality of life as outcomes. Age was entered as a covariate. An example of the APIM model, showing the associations between conscientiousness and quality of life, is shown in Figure 1.

Insert Figure 1 here

Results

Correlations and descriptive statistics for the Big Five personality traits and health are shown in Table 1. Across the correlation analyses, we have adjusted the significance level to correct for multiple testing. To achieve this, we have moved from 95% to 99% ($p < .01$ rather

than $p < .05$). Based on this, significant partner correlations for the Big Five were observed for conscientiousness. Higher levels of conscientiousness in the male partner were associated with better quality of life in their female partner. In addition, higher levels of female conscientiousness was associated with better health behaviours in their male partners. However, there were no partner correlations for openness, extraversion, agreeableness, or emotional stability.

Insert Table 1 here

The correlation analysis revealed significant partner correlations for conscientiousness with quality of life and health behaviours. Therefore, two APIM models were estimated to assess whether these partner effects were still significant when actor effects were also taken into consideration (see Table 2). There were significant male ($\beta=.40$, $p<.001$) and female ($\beta=.25$, $p<.001$) actor effects of conscientiousness on quality of life. In addition, there were also significant male ($\beta=.15$, $p=.044$) and female ($\beta=.14$, $p=.045$) partner effects of conscientiousness on quality of life. The model for the effects of conscientiousness on health behaviours showed significant male ($\beta=.34$, $p<.001$) and female ($\beta=.36$, $p<.001$) actor effects, but no significant partner effects. We also ran an APIM on conscientiousness and quality of life while controlling for partner health behaviours, but found it had no effect.

Insert Table 2 here

Discussion

The present study extends previous research by examining the actor and partner effects of the Big Five on quality of life, health behaviours, depression, anxiety and stress. We found a pattern of correlations between actor personality traits and actor outcomes, similar to those which have been found in previous research. For example, conscientiousness and emotional stability were associated with better health. The correlation analysis also showed significant male partner effects of conscientiousness on female quality of life. In addition, higher levels of female conscientiousness was associated with better health behaviours in their male

partners. However, the correlation analysis showed no partner effects for openness, extraversion, agreeableness, or emotional stability. Similarly, Nickel et al. (2017) found no actor effects for extraversion, openness or agreeableness. However, Nickel et al. (2017), and Gray and Pinchot (2018) have identified partner effects for neuroticism. These studies found that higher levels of neuroticism in one partner had a negative impact on their partner's health, including increased symptoms of depression. Therefore, the lack of partner effect of emotional stability on health observed in the current study is inconsistent with the literature. One potential explanation for this is that previous studies involved older samples than we had in the present study. The relationship between partner neuroticism and health may be stronger in adults who have been in a relationship for a longer time and who have more health problems (Roberts et al., 2009).

In the APIM analyses, we found partner effects of conscientiousness on quality of life in males and females, showing that having a partner who is high in conscientiousness is beneficial for the individual's quality of life. The APIM analysis did not show any partner effects of conscientiousness on the other health outcomes. This partner effect of conscientiousness is consistent with the literature, specifically that individuals who had partners with higher levels of conscientiousness reported better subjective health and fewer physical limitations (Nickel et al., 2017; Roberts et al., 2009).

The present study was limited by a cross-sectional design and use of self-report measures of health. In addition, the representativeness of our sample may be limited as our participants were recruited from visitor attractions. Furthermore, we utilised a brief measure of personality (the TIPI) in the current study meaning that we are unable to look at particular personality facets. In addition, briefer personality measures may not be as valid and reliable as longer inventories. Future research should include non-heterosexual participants and use prospective designs to untangle the causal relationship between partner personality and health. Objective measures of health outcomes should also be included. It would also be of

interest to examine the influence of relationship quality on the association between partner personality and health.

The current study highlights the importance of considering the interpersonal associations between personality in health, particularly for conscientiousness. We identified partner effects for conscientiousness on quality of life in both males and females. These findings extend previous research which has found evidence for compensatory conscientiousness on subjective health and physical limitations.

References

- Amir, D. (1987). Preventive behaviour and health status among the elderly. *Psychology and Health, 1*, 353-77. <https://doi.org/10.1080/08870448708400337>
- Bogg, T., & Roberts, B. W. (2004). Conscientiousness and health-related behaviors: A meta-analysis of the leading behavioral contributors to mortality. *Psychological Bulletin, 130*, 887–919. <https://doi.org/10.1037/0033-2909.130.6.887>
- Gosling, S. D., Rentfrow, P. J., & Swann, W. B., Jr. (2003). A Very Brief Measure of the Big Five Personality Domains. *Journal of Research in Personality, 37*, 504-528. [https://doi.org/10.1016/S0092-6566\(03\)00046-1](https://doi.org/10.1016/S0092-6566(03)00046-1)
- Gray, J.S., & Pinchot, J.J. (2018). Predicting health from self and partner personality. *Personality and Individual Differences, 121*, 48-51. <https://doi.org/10.1016/j.paid.2017.09.019>.
- Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic data analysis* (1st ed.). New York, NY: Guilford.
- Kern, M.L., & Friedman, H.S. (2008). Do conscientious individuals live longer? A quantitative review. *Health Psychology, 27*, 505–512. <https://doi.org/10.1037/0278-6133.27.5.505>
- Lovibond, S.H., & Lovibond, P.F. (1995). *Manual for the Depression Anxiety Stress Scales*. (2nd. Ed.) Sydney: Psychology Foundation.

Nickel, L. B., Iveniuk, J., & Roberts, B. W. (2017). Compensatory conscientiousness redux: A direct replication of Roberts, Smith, Jackson, and Edmonds (2009). *Social Psychological and Personality Science*, 8, 29-35. <https://doi.org/10.1177/1948550616662026>

Ó Súilleabháin, P. S., & Hughes, B. M. (2018). Neuroticism predicts all-cause mortality over 19-years: The moderating effects on functional status, and the angiotensin-converting enzyme. *Journal of Psychosomatic Research*, 110, 32-37.

<https://doi.org/10.1016/j.jpsychores.2018.04.013>

Roberts, B. W., Smith, J., Jackson, J. J., & Edmonds, G. (2009). Compensatory conscientiousness and health in older couples. *Psychological Science*, 20, 553–559.

<https://doi.org/10.1111/j.1467-92802009.02339.x>

Strickhouser, J. E., Zell, E., & Krizan, Z. (2017). Does personality predict health and well-being? A metasynthesis. *Health Psychology*, 36, 797. <https://doi.org/10.1037/hea0000475>

Sutin, A. R., Stephan, Y., & Terracciano, A. (2018). Facets of conscientiousness and objective markers of health status. *Psychology and Health*, 2, 1-16.

<https://doi.org/10.1080/08870446.2018.1464165>

The WHOQOL Group. (1996). *WHOQOL: Introduction, administration, scoring and generic version of assessment*. Geneva: World Health Organisation.

Zayas, V., Shoda, Y., & Ayduk, O.N. (2002). Personality in context: An interpersonal systems perspective. *Journal of Personality*, 70, 851-900. [https://doi.org/10.1111/1467-](https://doi.org/10.1111/1467-6494.05026)

[6494.05026](https://doi.org/10.1111/1467-6494.05026)

Table 1: Descriptive statistics and correlations for Big Five personality traits and health outcomes

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Male Openness	-	.132	.254**	-.044	.167*	-.014	.023	-.049	-.085	-.055	.071	.106	-.174*	.070	-.106	.123	-.111	.082	.159*	.018
2. Male Conscientiousness		-	-.023	.007	.222*	.166*	.198*	.092	.187*	.147	.382**	.140	-.296**	-.099	-.219**	-.032	-.209**	-.072	.415**	.201**
3. Male Extraversion			-	.074	.152*	.072	-.063	-.011	.010	.028	-.102	-.070	-.203**	-.118	-.079	-.065	-.128	-.126	.243**	.084
4. Male Agreeableness				-	.237**	-.031	-.101	-.100	.152*	-.080	.033	.057	-.189*	-.027	-.143	.047	-.322**	.053	-.011	.008
5. Male Emotional Stability					-	.052	.100	-.081	.013	-.153*	.175*	-.073	-.466**	-.028	-.382**	.040	-.580**	.024	.458**	-.056
6. Female Openness						-	.059	.412**	.273**	.196**	-.054	.181*	-.082	-.091	-.013	-.047	-.010	-.107	.150	.191*
7. Female Conscientiousness							-	.007	.118	.168*	.203**	.399**	-.061	-.190*	-.169*	-.121	-.091	-.151*	.196*	.277*
8. Female Extraversion								-	.042	.203**	.004	.035	-.036	-.154*	.046	-.081	.081	-.036	.077	.267**
9. Female Agreeableness									-	.351**	-.011	.228**	-.032	-.149*	.018	-.036	.089	-.183*	.060	.213**
10. Female Emotional Stability										-	.139	.296**	.005	-.357**	.093	-.437**	.042	-.469**	.021	.424**
11. Male Health Behaviours											-	.236**	-.256**	-.095	-.150*	-.008	-.169*	-.072	.335**	.140
12. Female Health Behaviours												-	.009	-.274**	-.096	-.206**	.039	-.407**	.097	.411**
13. Male Depression													-	.190*	.530**	.031	.663**	.043	-.641**	-.128
14. Female Depression														-	.131	.524**	.160*	.645**	-.236**	-.524**
15. Male Anxiety															-	.144	.611**	.074	-.445**	-.120
16. Female Anxiety																-	.040	.640**	-.048	-.380**
17. Male Stress																	-	.032	-.466**	-.084
18. Female Stress																		-	-.137	-.514**
19. Male QoL																			-	.290**
20. Female QoL																				-
M	4.97	4.97	4.16	4.53	5.18	5.11	5.27	4.56	5.00	4.28	31.17	32.29	6.54	6.06	5.06	6.34	10.66	12.26	95.42	93.60

SD 1.12 1.31 1.55 1.16 1.11 1.09 1.22 1.46 1.11 1.40 6.76 6.98 6.60 6.85 6.05 6.94 7.36 8.16 10.38 11.24

Note: * p<.05, ** p<.01

Table 2. Actor and Partner Effects of Conscientiousness on health outcomes

Effect	Standardised Beta
Conscientiousness → Quality of Life (Male Actor)	.40***
Conscientiousness → Quality of Life (Male Partner)	.15*
Conscientiousness → Quality of Life (Female Actor)	.25***
Conscientiousness → Quality of Life (Female Partner)	.14*
Conscientiousness → Health Behaviours (Male Actor)	.34***
Conscientiousness → Health Behaviours (Male Partner)	.03
Conscientiousness → Health Behaviours (Female Actor)	.36***
Conscientiousness → Health Behaviours (Female Partner)	.10

Note * $p < .05$, ** $p < .01$, *** $p < .001$

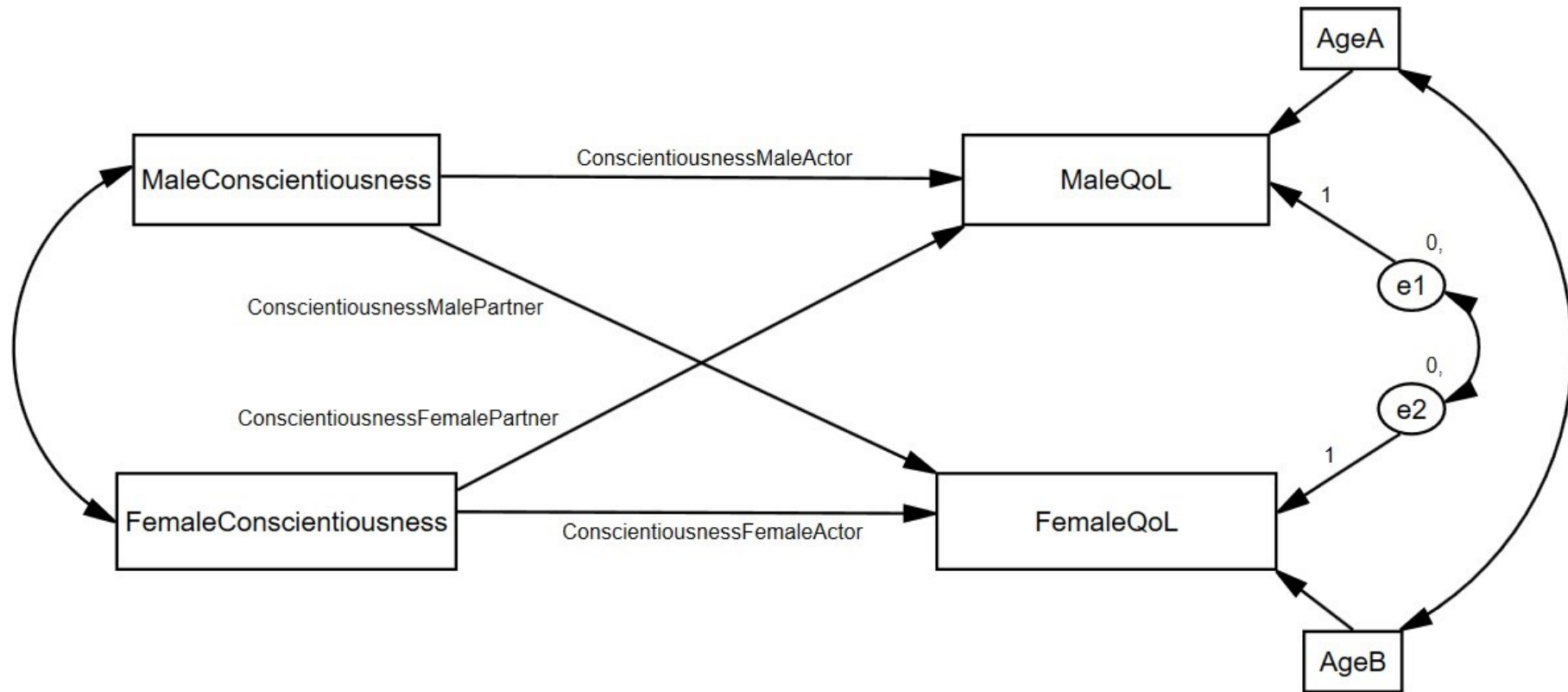


Figure 1. APIM for the effects of conscientiousness on quality of life