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How Is Personality Related to Well-Being in Older and Younger Adults? The Role of Psychological Flexibility

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Abstract

Objectives. Personality is known to be a reliable predictor of well-being. However, it is rather difficult to influence the personality of individuals in order to improve their well-being. Therefore, it is important to examine possible underlying mechanisms or indirect effects. Consequently, the aim of the current study was to investigate whether psychological flexibility is a mechanism explaining the relationship between personality and well-being. Given the evidence that age-related differences exist in personality, flexibility, and well-being, we also investigated whether our indirect effects model differed in both older and younger adults.

Design. We used a cross-sectional design.

Setting. Participants were asked to fill in questionnaires at home.

Participants. We recruited 138 younger (25-50 years) and 120 older (65+) adults from a community-dwelling population.

Measurements. Self-report questionnaires were used to assess (mal)adaptive personality traits (Big Five), psychological flexibility, and affective and general subjective well-being.

Results. Similar indirect effects were found in older and younger adults: Psychological flexibility is a mechanism explaining the link between personality and well-being. In nearly half of the models, psychological flexibility even fully accounted for the effect of personality on well-being.

Conclusion. These results have important implications for clinical practice, since psychological flexibility, contrary to personality traits, is malleable. Interventions to increase psychological flexibility already exist and are validated in both older and younger samples. They may hold promise to improve well-being.

Keywords: Personality; Psychological Flexibility; Subjective Well-Being; Ageing; Indirect Effects, Older Adults.

Running title: Personality, psychological flexibility, well-being

How Is Personality Related to Well-Being in Older and Younger Adults? The Role of Psychological Flexibility

One of the most important and most investigated predictors of subjective well-being is personality (e.g. Soto, 2015; Steel *et al.,* 2008). Because it would be rather difficult to change the personality of individuals in order to try to improve their well-being, it is important to examine the mechanisms underlying the link between personality and well-being.

Psychological flexibility is the ability to be open and accept present experiences, which makes it possible to recognize the options one has and to flexibly choose to act in a way that is consistent with one's own values and to adapt to what is required in that situation (Hayes *et al.*, 2006). It is a concept derived from Acceptance and Commitment Therapy (ACT; Hayes *et al.*, 1999), in which an important goal is to increase psychological flexibility. Contrary to personality traits, which have a genetic basis, psychological flexibility is considered to be an ability, which can be learned and is consequently more changeable (e.g. Boelen and Reijntjes, 2008).

We examined whether psychological flexibility could be a mechanism explaining the link between personality and well-being. Given that correlations have been found between flexibility and personality (e.g. Gloster *et al.*, 2011) and between psychological flexibility and subjective well-being (e.g. Fledderus *et al.*, 2010), this would be very plausible. If this would be the case, existing validated interventions to enhance well-being through improving psychological flexibility (e.g. ACT, mindfulness) could be readily implemented. Given the evidence that both well-being (e.g. English and Carstensen, 2014) and personality traits (e.g. Debast *et al.*, 2014) slightly change with ageing, both older (65+) and younger adults (25-50 years) were included in our study. Regarding age-related changes in flexibility there has been some discussion in the literature. Based on results of several studies it has been argued that older adults would become more rigid and less flexible in handling their emotions by using self-protective strategies (such as only focusing on positive information and ignoring negative stimuli; Labouvie-Vief, 2003). On the other hand, Mahoney and colleagues (2015)

found that older adults score lower on experiential avoidance (avoiding negative thoughts and feelings), which is the opposite of psychological flexibility, and higher on mindfulness (accepting psychological distress, which allows to consider all options available and be more flexible in behavior) compared to younger adult students (see also Raes *et al.*, 2015).

Personality and Subjective Well-Being.

The most investigated traits in relation to well-being are neuroticism and extraversion, since theoretically, they have the strongest associations with respectively negative and positive affect (see Gray's reinforcement sensitivity theory, 1970). However, the other three Big Five personality traits have also been related to well-being. People scoring higher on openness would be more open and have more attention for both positive and negative stimuli, leading to higher scores on both positive and negative affect, but no effect on general life satisfaction (given that positive and negative affect counterbalance each other; McCrae and Costa, 1991). Agreeableness and conscientiousness have been hypothesized to have indirect effects on well-being: they foster positive experiences in respectively social and achievements situations, which leads to higher life satisfaction and more positive affect (McCrae and Costa, 1991; Soto, 2015).

Empirical evidence has shown that associations between the Big Five traits and subjective well-being are largely in the expected directions in both younger (e.g. Steel *et al.*, 2008) and older adults (e.g. Harris *et al.*, 2016). Moreover, longitudinal studies have shown that neuroticism has the strongest effects on well-being (especially on negative affect), followed by extraversion (especially on positive affect), then conscientiousness and agreeableness, but not openness (Soto, 2015; Tauber *et al.*, 2016). Although it has been widely suggested that the causal relationship runs from personality to well-being, both studies also found reciprocal causal influences between well-being and personality. However, Tauber *et al*. (2016) indicated that personality had a higher level of stability than life satisfaction, and they and Soto (2015) could demonstrate that the influence of personality on well-being is somewhat stronger than the influence of well-being on traits.

Psychological Flexibility and Subjective Well-Being.

Most of the research on psychological flexibility has been conducted within the context of Acceptance and Commitment therapy (ACT; Hayes *et al.*, 1999) or mindfulness-based therapy. It is known that an absence of flexibility, or the presence of rigidity, is related to a variety of psychopathologies, such as depression, anxiety, obsessive compulsive disorder, personality disorders, etc. (e.g. Kashdan and Rottenberg, 2010; Smout *et al.*, 2012). Several studies have shown that these interventions, aimed at improving psychological flexibility, lead to reductions in anxiety, depression, and chronic pain, among others, in younger (e.g. Fledderus *et al.*, 2013; Smout *et al.*, 2012) and older adults (e.g. Helmes and Ward, 2017; Mathur *et al.*, 2016; Scott *et al.*, 2017). Moreover, psychological flexibility has been related to improved well-being in younger (e.g. Fledderus *et al.*, 2010) and older adults (e.g. Butler and Ciarrochi, 2007).

Personality and Psychological Flexibility.

Theoretically, four of the Big Five personality traits have been suggested to be important for psychological flexibility (Kashdan and Rottenberg, 2010). Neuroticism would be negatively related to psychological flexibility, given that people scoring high on this trait have the tendency to be preoccupied with negative emotions, which exhausts them and makes them less able to adapt their behavior to the situation. Extraversion on the other hand is intertwined with experiencing positive affect (e.g. Gray, 1970) and studies have shown that induction of positive emotions leads to an increased openness in thoughts and behaviors (e.g. Estrada *et al.*, 1997). Next, as mentioned before, psychological flexibility is defined as having an open mindset in order to choose adaptive behavior, thus it seems obvious that openness to experience would be positively related to psychological flexibility. Finally, conscientiousness would be related to higher psychological flexibility, given that people scoring higher on this trait have more self-control, which is an asset to modifying cognitive and behavioral tendencies in order to keep an open mindset and choose adaptive behavior.

Kashdan and Rottenberg (2010) consider agreeableness to be a less relevant trait in relationship to psychological flexibility.

A small amount of studies in younger adult samples have empirically investigated these relationships and have shown that relationships between psychological flexibility and the Big Five traits are mostly in line with the theoretical suggestions of Kashdan and Rottenberg (2010). Neuroticism and conscientiousness had the most consistent and strong relationships (Bond *et al.*, 2013; study 3; Gámez *et al.*, 2011; Gloster *et al.*, 2011; Latzman and Masuda, 2013), while extraversion was only in two out of four studies significantly related to psychological flexibility (Gámez *et al.*, 2011; Gloster *et al.*, 2011). Openness (Gloster *et al.*, 2011; Latzman and Masuda, 2013) and agreeableness (Gámez *et al.*, 2011; Latzman and Masuda, 2013) only showed small associations with flexibility. The finding on openness is perhaps the most surprising one, given the theoretical conceptualizations. It is however important to notice that the Big Five trait "openness to experience" (Costa and McCrae, 1992) is comprised of six different facets of which only one concerns emotions. Moreover, the questionnaires used in these studies (and our own) do not entail all six facets, but are more focused on openness to intellectual ideas or aesthetics. Psychological flexibility on the other hand is mainly focused on emotional openness. To our knowledge, no studies exist concerning the relationship between personality and psychological flexibility in older adults.

Current Study.

The first aim of the current study was to explore whether psychological flexibility could be an intermediate factor in the relationship between personality and subjective well-being. Our second aim was to investigate whether age group would be a moderator in this model. Consistent with previous research concerning personality and its relationship with flexibility and well-being (e.g. Soto, 2015), the Big Five personality traits were assessed. In order to keep the study concise and straightforward, it was decided to only focus on those traits that have shown the most consistent and strongest relationships with both psychological flexibility

and well-being in the literature, namely neuroticism, extraversion, and conscientiousness (e.g. Gloster *et al.*, 2011; Steel *et al.*, 2008). Additionally, more maladaptive traits were included, namely negative emotionality, low positive emotionality (or introversion), and disconstraint. Given that these traits are related to personality disorders and thus heightened rigidity (Van der Heijden *et al*., 2013), it could be expected that they have stronger and negative relationships with psychological flexibility.

To measure psychological flexibility, we used two questionnaires: The Acceptance and Action Questionnaire II (AAQ-II; Bond *et al.*, 2011) and the 'Flexibility Index Test-60' (FIT-60; Batink *et al.*, 2012). We chose the AAQ-II because this is the most often used questionnaire in previous research (e.g. Gloster *et al*., 2011), although it only assesses two of the aspects of psychological flexibility (acceptance and action), whereas psychological flexibility as defined in Acceptance and Commitment Therapy (ACT) is a broader construct, existing of six components (acceptance, cognitive defusion, being present, self as context, values, and committed action). Therefore, we also included the FIT-60, although it is a less known and less validated measure of psychological flexibility.

As described in Diener *et al*. (1999) subjective well-being consists of both affective well-being (positive and negative affect) and life satisfaction. Often, very limited inventories – even 1-item formats – have been used to measure life satisfaction, which has already been indicated as an important limitation (e.g. Tauber *et al.*, 2016). Therefore, in this study we used a broader questionnaire, namely the World Health Organization Quality of Life – Bref questionnaire (WHOQOL-BREF; WHOQOL group, 1996), which is more comprehensive and measures four aspects of general well-being: physical, psychological, social, and satisfaction with one's environment. For affective well-being the Positive and Negative Affect Schedule (PANAS; Watson *et al.*, 1988) was chosen, which is one of the most often used questionnaires to assess positive and negative affect (Steel *et al*., 2008).

Based on the currently available literature, we hypothesized that psychological flexibility would have an indirect effect on the relationship between personality and well-being in both age groups. We expected neuroticism, negative emotionality, low positive

emotionality and disconstraint to have a negative relation with psychological flexibility and consequently a negative relation with subjective well-being. Furthermore, we hypothesized that extraversion and conscientiousness would have a positive relation with psychological flexibility and consequently a positive relation with subjective well-being. Concerning age-related differences, although age-differences were found in the separate variables in the literature, former studies found similar relationships between personality and well-being (Soto, 2015; Harris *et al.*, 2016), and psychological flexibility and well-being (Fledderus *et al.*, 2010; Butler and Ciarrochi, 2007). However, age differences in the relationships between personality traits and psychological flexibility have not yet been investigated. Thus, although we do not anticipate age-differences, so far there is no empirical evidence available.

Method

Participants

The total Dutch-speaking community sample consisted of 138 younger (25-50 years) and 120 older (65+) adults[2]. Forty younger and 41 older adults were participants of another experiment[2] (in which 120 participants were included, recruited with flyers, advertisement, through social media, in recreational clubs and at educational centers for seniors) who were asked whether they would be willing to fill in additional questionnaires at home for the current study. Additionally, 98 younger and 79 older participants were collected through snowball-sampling. We excluded nine participants who reported a presence of psychological illnesses during the last five years, twelve due to invalid MMPI-2-RF profiles (see materials) and one participant scored too low on the Mini Mental State Examination (MMSE, see materials). Analyses with the AAQ-II and the PANAS were performed with the remaining 129 younger adults (*M*age = 37.47, *SD* = 8.86, *range* = 25-50) and 107 older adults (*M*age = 73.36, *SD* = 7.40, *range* = 65-94). Because some participants forgot to fill in the backside of the questionnaires, analyses with the FIT-60 and WHOQOL-Bref were performed with respectively 124 and 121 younger adults, and 107 and 103 older adults. Demographics and descriptive variables can be found in Table 1. Our sample was higher educated than the

general population (Statistics Belgium, 2016) and the younger adult group contained a larger number of women than men. All participants were Caucasian.

Materials

Questionnaires

Mini-Mental State Examination (MMSE). The MMSE (Folstein *et al.*, 1975; Dutch version: Kok and Verhey, 2002) is a standardized interview used to screen for cognitive impairment (e.g. mild dementia) in the older adult group. Older adults scoring lower than 27 were excluded, following the cut-off currently used in research (O'Bryant *et al.*, 2008).

Big Five Inventory (BFI). The BFI (John and Srivastava, 1999; Dutch version: Denissen *et al.*, 2008) consists of 44 statements that have to be answered on a 5-point Likert scale ranging from 'totally disagree' to 'totally agree'. All scales were corrected for acquiescence (Rammstedt and Farmer, 2013). In the study's sample, good to acceptable internal consistencies were found for all BFI scales: neuroticism, extraversion, and conscientiousness (younger adults: Cronbach's α = resp.: .80, .84, .76; older adults: .80, .71, .73).

Minnesota Multiphasic Personality Inventory-2-Restructured Form (MMPI-2-RF). The MMPI-2-RF (Ben-Porath and Tellegen, 2008; Dutch version: Van der Heijden *et al*., 2013) consists of 338 'agree'/'do not agree' statements and measures personality and psychopathology. A profile was valid on basis of the following criteria: TRIN < 80, VRIN < 80, F < 110, Fp < 100, L < 80 and K < 75[1] (Van der Heijden, et al., 2013, pp. 36-50). For this study the Personality Psychopathology Five revised scales (PSY-5-r; Harkness and McNulty, 2007) were used. The scales negative emotionality and low positive emotionality/introversion had good to acceptable internal consistencies in our sample (younger adults: Cronbach's α = resp.: .81, and .78; older adults: .71, and .65). The scale disconstraint showed a good

Cronbach's alpha in the younger adults group (.77), but a low consistency in the older adults group (.56) and was consequently not used in the analyses.

Acceptance and Action Questionnaire-2 (AAQ-II). The AAQ-II (Bond *et al*., 2011; Dutch version: Jacobs *et al.*, 2008) was used to measure psychological flexibility. It comprises seven statements that can be answered on a 7-point Likert scale, ranging from 'never true' to 'always true'. In this study, the AAQ-II has a good internal consistency in the younger and older age group (respectively Cronbach's α = .90 and .88).

Flexibiliteits Index Test [Flexibility Index Test] (FIT-60). The FIT-60 (Batink *et al*., 2012) is a Dutch questionnaire which measures psychological flexibility. It consists of 60 items that have to be answered on a 7-point Likert scale, ranging from 'totally disagree' to 'totally agree'. Cronbach's alphas were good for the total scale for both the younger (.93) and older adult group (.87).

Positive and Negative Affect Schedule (PANAS). The PANAS (Watson *et al.*, 1988; Dutch version: Engelen *et al.*, 2006) was used to measure affective well-being, namely positive (PA) and negative affect (NA). It consists of 20 adjectives. Participants have to indicate to what extent the emotion is generally applicable to them on a 5-point Likert scale, ranging from 'very little' to 'very much'. Both scales had high internal consistencies (resp. younger adults: .88 and .90; older adults: .89 and .84). Because we wanted to keep the analyses concise, we decided to combine the PA and NA into a positive affect balance scale (Diener, 2000), by calculating the ratio (PA/(PA + NA), analogue to Schwartz *et al.* (2002). Because some information is lost by using a global score, results with separate PA and NA can be found in Appendix.

World Health Organization Quality of Life – short version (WHOQOL-Bref). The WHOQOL (WHOQOL group, 1996; Dutch version: de Vries and Van Heck, 1996) assesses

general well-being (total WHOQOL score), and has four subscales: physical health, psychological well-being, social relationships, and environment. It comprises 26 items that are measured on a 5-point Likert scale. The total WHOQOL scale had good Cronbach's alpha's (younger adults: .92; older adults: .89).

Procedure

All participants gave written informed consent before entering the study. The 81 participants who were also participating in the experimental study[3] had already filled in the personality questionnaires at home and the older adults already completed a MMSE interview as part of the previous study. Thereafter they received the flexibility and well-being questionnaires with stamped envelope to fill in at home. The additional 177 participants received all questionnaires at once to fill in at home. The older adults completed an MMSE interview before filling in the questionnaires. Participants could contact the leading researcher when they had further questions or remarks.

Statistical Analyses

Database and syntax will be made open access on https://osf.io/ub8hx when accepted for publication. All data appear normally distributed (younger adults: skewness < 1.04, kurtosis < 2.14; older adults: skewness < .745; kurtosis < .913), so parametric tests were applied. Zero-order correlations between all variables can be found in Table 2. First, we investigated whether personality (independent variable) has an indirect effect on subjective well-being (dependent variable) through psychological flexibility (intermediate variable; see Figure 1). This was assessed by implementing the PROCESS macro with a stepwise approach using multiple regression analysis (Hayes, 2013). Model number four of this macro was used to perform simple indirect analyses. The a-path of Figure 1 represents the effect of personality on psychological flexibility. Path b is the effect of psychological flexibility on well-being. The total effect of personality on well-being, is represented through path c, which can be split up in the direct (path c') and the indirect (c – c') effect (see Table 3; results on the full

model can be found in Appendix published as supplementary material online attached to the electronic version of this paper at https://www.cambridge.org/core/journals/international-psychogeriatrics). Path c' is the direct effect of personality on well-being, controlled for psychological flexibility and path c – c' is the indirect effect of personality running through psychological flexibility. If path c' and c – c' are significant, personality has both direct and indirect links with well-being through its effect on psychological flexibility. However, if path c – c' is significant, but c' is not, it indicates a full indirect effect, which means that psychological flexibility can fully explain the link between personality and subjective well-being. As proposed by Preacher and Hayes (2008), an accelerated-bias-corrected bootstrapping method with 5000 estimates was used, to investigate whether the indirect effect was significantly different from zero. Confidence intervals for all effects were calculated. If this interval includes zero, effects are not significant.

For our second research question, we investigated whether age was a moderator on our indirect effect analyses. The same macro was applied and the same steps were performed. The only exception was that this time, model 59 of the macro was used to perform moderated indirect effect analyses with 'age group' (younger adults = 0; older adults = 1) as the moderator on the whole model (see Figure 1). For our research question, we were interested in whether age has an effect on the indirect effect of personality on well-being, through flexibility (path c – c'), which could be interpreted from the index of the moderated indirect effect (Table 4; results on the full model can be found in Appendix published as supplementary material online attached to the electronic version of this paper at https://www.cambridge.org/core/journals/international-psychogeriatrics). This is a test of equality of the conditional indirect effects in the two groups, so when the confidence interval includes zero, age has no significant effect, and the indirect effects are the same in both groups. If this is not the case, and the indirect effects thus differs between age groups, simple indirect effect analyses were performed in each age group separately.

Results

Simple Indirect Effect Model

The relationship between nearly all personality traits with well-being were found to run through its effect on psychological flexibility (see Table 3). The only exception was that psychological flexibility, measured with the AAQ-II, was not a significant intermediate factor between low positive emotionality and both positive affect balance and life satisfaction. Half of the models were even full indirect effects, meaning that the link between personality and well-being ran fully through psychological flexibility.

Moderated Indirect Effect Model

No age effects were found on the indirect effects (path c – c') of personality on well-being through psychological flexibility. Consequently, no separate simple indirect effect models needed to be calculated (see Table 4).

Discussion

Our aim was to explore whether psychological flexibility could be a mechanism explaining the link between personality and well-being and to verify whether this effect would be similar in older versus younger adults. As expected, our findings indicate that personality indeed has an indirect effect on well-being through psychological flexibility in both age groups. Moreover, the direct link between neuroticism, extraversion, and conscientiousness and life satisfaction disappeared when controlling for flexibility, as did the direct link of conscientiousness with positive affect balance. The same was true for negative emotionality and life satisfaction, and low positive emotionality and both measures of well-being, but only when controlling for flexibility measured by the FIT-60. This demonstrates that psychological flexibility is a very important construct through which these traits may have an influence on well-being. Only two analyses were not significant: psychological flexibility measured by the AAQ-II was not a significant intermediate factor between low positive emotionality and both measures of subjective well-being. However, when flexibility was measured with the FIT-60, it was a significant intermediate factor in these relationships. A probable explanation is that

the FIT-60 is a broader measure of psychological flexibility and that aspects other than acceptation (e.g. being present in the here and now, cognitive defusion…) play a more important role in the relationship between low positive emotionality and subjective well-being. Age was not found to be a significant moderator on these indirect effect models.

The fact that there is a substantial effect size (see Table 3) is potentially clinically relevant. However, making a statement on the meaning of the magnitude of this effect size warrants caution, given that the meaning of effect sizes in indirect effect analysis depends on the specific model and the other parameters in the model, and to what you compare it too (see Hayes, 2013, pp. 184 - 192). To further investigate clinical relevance, longitudinal and intervention studies in clinical samples would be needed (see section: Limitations and Further Directions). Nevertheless, although our research question was mainly theoretical and applied in a healthy sample, it may have important implications for clinical practice. It is long known that certain traits are closely related to well-being and our results reveal one of the processes linking personality and well-being. Both personality and psychological flexibility are rather stable constructs (e.g. resp. Tauber *et al*., 2016; Bond and Bunce, 2003), but whereas it is more unlikely to fundamentally change an individual's personality, psychological flexibility can be improved when specifically targeted, such as by ACT interventions (Flaxman *et al.*, 2013). This speaks to the possibility to improve well-being by working on elevating psychological flexibility instead of trying to adapt ones' personality. The effectiveness of ACT and mindfulness based interventions has been widely established in both younger and older populations (e.g. resp. Fledderus *et al*., 2010; Butler and Ciarrochi, 2007) and in both clinical (e.g. Mathur *et al.*, 2016) and community-dwelling populations (e.g. Brinkborg *et al.*, 2011), and can consequently be readily implemented. A next step could then be to investigate whether these interventions need to be adapted to individual differences. For example, if it is known that people scoring higher on negative emotionality have low flexibility in both age groups, they may have more room for improvement in psychological flexibility than for example people scoring higher on conscientiousness or extraversion, who tend to have higher flexibility already.

Limitations and Future Directions

An important limitation of this study is that all the data were cross-sectional, which warrants caution to draw causal conclusions, although our aim was not to investigate causality. Given that personality was found to be a more stable construct than well-being (e.g. Tauber *et al*., 2016) and the main aim of this study was to investigate processes through which personality relates to well-being, indirect effect analyses were performed, hypothesizing that the link would run from personality to psychological flexibility to subjective well-being. Results of the present study indeed confirmed this hypothesis, but do not preclude reciprocal influences, as have been found with subjective well-being and personality, although this direction – subjective well-being influencing personality -, was found to be somewhat weaker than personality influencing well-being (e.g. Soto, 2015). Besides longitudinal studies to investigate natural changes and influences, it might be interesting to also examine the effect of interventions (e.g. ACT) to heighten psychological flexibility on both personality and well-being to get a better view on the reciprocal influences during treatment.

Further, although often full indirect effects were found, an extensive part of the analyses showed that the relationships between personality characteristics and subjective well-being only partially runs through psychological flexibility. So, although working on psychological flexibility might strongly improve well-being, it may not be the only way in which these personality traits have an influence on well-being. Future research could thus be performed to investigate other possible mechanisms through which personality may have an indirect effect on well-being.

Conclusion

An important amount of variance in the relationship between personality and subjective well-being seems to be explained by psychological flexibility in both younger and older adults. Although replication studies and longitudinal designs are warranted, this first

study is highly important given the implications concerning interventions, for example to improve subjective well-being in individuals prone to experiencing negative feelings. Existing and validated treatments, such as ACT or mindfulness, could easily be implemented in younger and older adults to improve psychological flexibility and consequently improve well-being and increase happiness.

Footnotes

[1]Variable Response Inconsistency (VRIN-r), True Response Inconsistency (TRIN-r), Infrequency (F-r), Infrequency-psychopathology (Fp-r), Uncommon Virtues (L-r; Lie scale) and Adjustment Validity (K-r; Defensiveness scale).

[2]Given that we aimed to find meaningful effects and wanted to keep the study clear and concise, we only included those Big Five traits that were most consistently and with the largest effect sizes related to subjective well-being (between nearly medium and large effect sizes; e.g. Harris *et al.*, 2016; Soto, 2015; Steel *et al*., 2008) and psychological flexibility (medium to large correlations; Gloster *et al*., 2011; Latzman and Masuda, 2013). Sample size was estimated using power analyses based on model simulations. This indicated that with a total sample size of 120 participants we have a power of .79 to find significant ($p < .05$) indirect effects. Given that we also wanted to test moderation by age, we aimed for a sample of 120 participants per age group.

[3]Steenhaut, P., Demeyer, I., De Raedt, R. and Rossi, G. (2017). The Role of Personality in the Assessment of Subjective and Physiological Emotional Reactivity: A Comparison Between Younger and Older Adults. Assessment, 25, 285-301. doi: 10.1177/1073191117719510

Conflict of Interest

None.

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Description of Authors' Roles

All authors were involved in study and analysis design, and assisted in writing the paper. P. Steenhaut was additionally responsible for collecting the data or supervising data collection, and performing the statistical analyses.

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References

Batink, T., Jansen, G. and Mey, H. R. A. de (2012). De Flexibiliteits Index Test (FIT-60): Een beknopte beschrijving. [The Flexibility Index Test (FIT-60): A concise description.] GZ-Psychologie, 5, 18-21. doi:10.1007/s41480-012-0043-x.

Ben-Porath, Y.S. and Tellegen, A. (2008). MMPI-2-RF (Minnesota Multiphasic Personality Inventory-2-Restructured Form) manual for administration, scoring, and interpretation. Minneapolis: University of Minnesota Press.

Boelen, P. A. and Reijntjes, A. (2008). Measuring Experiential Avoidance: Reliability and Validity of the Dutch 9-item Acceptance and Action Questionnaire (AAQ). *Journal of Psychopathology and Behavioral Assessment, 30,* 241-251. doi:10.1007/s10862-008-9082-4.

Bond, F. W. and Bunce, D. (2003). The role of acceptance and job control in mental health, job satisfaction, and work performance. Journal of Applied Psychology, 88, 1057-1067. doi:10.1037/0021-9010.88.6.1057.

Bond, F. W *et al.* (2011). Preliminary psychometric properties of the Acceptance and Action Questionnaire–II: A revised measure of psychological flexibility and acceptance. Behavior Therapy, 42, 676–688. doi:10.1016/j.beth.2011.03.007.

Bond, Lloyd and Guenole (2013). The work-related acceptance and action questionnaire: Initial psychometric findings and their implications for measuring psychological flexibility in specific contexts. *Journal of Occupational and Organizational Psychology, 86,* 331-347. doi:10.1111/joop.12001.

Brinkborg, H., Michanek, J., Hesser, H. and Berglund, G. (2011). Acceptance and commitment therapy for the treatment of stress among social workers: A randomized controlled trial. Behaviour Research and Therapy, 49, 389-398. doi:10.1016/j.brat.2011.03.009.

Butler, J. and Ciarrochi, J. (2007). Psychological acceptance and quality of life in the elderly. Qual Life Res, 16, 607-615. Doi:10.1007/s11136-006-9149-1.

Camus, A. (1976). In “Intuitions” (October, 1932), published in Youtful Writings (2nd Ed.). New York: Knopf.

Costa, P. T. Jr. and McCrae, R. R. (1992). The Five-Factor Model of Personality and its Relevance to Personality Disorders. *Journal of Personality Disorders, 6,* 343-359. doi:10.1521/pedi.1992.6.4.343.

Debast, I. *et al.*, 2014. Personality Traits and Personality Disorders in Late Middle and Old Age: Do They Remain Stable? A Literature Review. Clinical Gerontologist, 37, 253-271. doi:10.1080/07317115.2014.885917.

Denissen, J.J.A., Geenen, R., van Aken, M.A.G., Gosling, S.D. and Potter, J. (2008). Development and Validation of a Dutch Translation of the Big Five Inventory (BFI). Journal of Personality Assessment, 90, 152-157. doi:10.1080/00223890701845229.

de Vries, J. and Van Heck, G. L. (1996). De Nederlandse versie van de WHOQOL-Bref [The Dutch version of the WHOQOL-Bref]. Tilburg University, Tilburg.

Diener, E. (2000). Subjective Well-Being. The Science of Happiness and a Proposal for a National Index. American Psychologist, 55, 34-43. doi:10.1037//003-066X.55.1.34.

Diener, E., Suh, E. M., Lucas, R. E. and Smith, H. L. (1999). Subjective Well-Being: Three Decades of Progress. Psychological Bulletin, 125, 276-302. doi:10.1037/0033-2909.125.2.276.

Engelen, U., De Peuter, S., Victoir, A., Van Diest, I. and Van den Bergh, O. (2006). Verdere validering van de Positive and Negative Affect Schedule (PANAS) en vergelijking van twee Nederlandstalige versies. [Further validation of the Positive and Negative Affect Schedule (PANAS) and comparison of two Dutch versions.] Gedrag en gezondheid, 34, 61-70. doi:10.1007/BF03087979.

English, T. and Carstensen, L. (2014). Emotional experience in the mornings and the evenings: consideration of age differences in specific emotions by time of day. Frontiers in Psychology, 5, article 185. doi:10.3389/fpsyg.2014.00185.

Estrada, C. A., Isen, A. M. and Young, M. J. (1997). Positive Affect Facilitates Integration of Information and Decreases Anchoring in Reasoning among Physicians.

Organizational Behavior and Human Decision Processes, 72, 117-135. doi:10.1006/obhd.1997.2734.

Flaxman, P. E., Bond, F. W. and Livheim, F. (2013). The Mindful and Effective Employee: An Acceptance and Commitment Therapy Training Manual for Improving Well-Being and Performance. Oakland: New Harbinger Publications.

Fledderus, M., Bohlmeijer, E. T., Fox, J.-P., Schreurs, K. M. G. and Spinhoven, P. (2013). The role of psychological flexibility in a self-help acceptance and commitment therapy intervention for psychological distress in a randomized controlled trial. *Behaviour Research and Therapy, 51,* 142-151. doi:10.1016/j.brat.2012.11.007.

Fledderus, M., Bohlmeijer, E. T., Smit, F. and Westerhof, G. J. (2010). Mental Health Promotion as a New Goal in Public Mental Health Care: A Randomized Controlled Trial of an Intervention Enhancing Psychological Flexibility. American Journal of Public Health, 100, 2372-2378. doi:10.2105/AJPH.2010.196196.

Folstein, M.F., Folstein, S.E. and McHugh, P.R. (1975). Mini-Mental state: A practical method for grading the cognitive state of patients for the clinician. Journal of Psychiatric Research, 12, 189–198.

Gámez, W., Chmielewski, M., Kotov, R., Ruggero, C. and Watson, D. (2011). Development of a Measure of Experiential Avoidance: The Multidimensional Experiential Avoidance Questionnaire. *Psychological Assessment, 23,* 692-713. doi:10.1037/a0023242.

Gloster, A. T., Klotsche, J., Chaker, S., Hummel, K. V, and Hoyer, J. (2011). Assessing Psychological Flexibility: What Does It Add Above and Beyond Existing Constructs? Psychological Assessment, 23, 970-982. doi:10.1037/a0024135.

Gray, J. A. (1970). The Psychophysiological Basis of Introversion-Extraversion. *Behav. Res. & Therapy, 8,* 249-266. Doi:10.1016/0005-7967(70)90069-0.

Harkness, A.R. and McNulty, J.L. (2007). Restructured versions of the MMPI-2 Personality Psychopathology Five (PSY-5) scales. Paper presented at the annual meeting of the American Psychological Association, San Francisco.

Harris, M. A., Brett, C. E., Starr, J. M., Deary, I. J. and Johnson, W. (2016). Personality and Other Lifelong Influences on Older-Age Health and Wellbeing: Preliminary Findings in Two Scottish Samples. European Journal of Personality, 30, 438-455. doi: 10.1002/per.2068.

Hayes, A. (2013). Introduction to mediation, moderation, and conditional process analysis. A Regression-Based Approach. New York: Guilford Press.

Hayes, S. C., Luoma, J. B., Bond, F. W. and Lillis, J. (2006). Acceptance and Commitment Therapy: Model, process and outcomes. Behaviour Research and Therapy, 44, 1-25. doi:10.1016/j.brat.2005.06.006.

Hayes, S. C., Strosahl, K. and Wilson, K. G. (1999). Acceptance and Commitment Therapy: An experiential approach to behavior change. New York: Guilford Press.

Helmes, E. and Ward, B. G. (2017). Mindfulness-based cognitive therapy for anxiety symptoms in older adults in residential care. *Aging and Mental Health, 21,* 272-278. doi:10.1080/13607863.2015.1111862.

Jacobs, N., Kleen, M., De Groot, F. and A-Tjak, J. (2008). Het meten van experiëntiële vermijding. De Nederlandstalige versie van de Acceptance and Action Questionnaire-II (AAQ-II). [The measurement of experiential avoidance. The Dutch version of the Acceptance and Action Questionnaire-II (AAQ-II)]. Gedragstherapie, 41, 349-361.

John, O. P. and Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin and O. P. John (Eds.), Handbook of personality: Theory and research (pp. 102-138). New York: Guilford Press.

Kashdan, T. B. and Rottenberg, J. (2010). Psychological Flexibility as a Fundamental Aspect of Health. *Clin Psychol Rev., 30,* 865-878. doi:10.1016/j.cpr.2010.03.001.

Kok, R. and Verhey, F. (2002). Gestandaardiseerde versie van de Mini-Mental State Examination [Standardized version of the Mini-Mental State Examination] (Folstein et al., 1975).

Labouvie-Vief, G. (2003). Dynamic Integration: Affect, Cognition, and the Self in Adulthood. Current Directions in Psychological Science, 12, 201-206. doi: 10.1046/j.0963-7214.2003.01262.x.

Latzman, R. D. and Masuda, A. (2013). Examining mindfulness and psychological inflexibility within the framework of Big Five personality. Personality and Individual Differences, 55, 129-134. doi:10.1016/j.paid.2013.02.019.

Mahoney, C. T., Segal, D. L. and Coolidge, F. L. 2015. Anxiety Sensitivity, Experiential Avoidance and Mindfulness Among Younger and Older Adults: Age Differences in Risk Factors for Anxiety Symptoms. The International Journal of Aging and Human Development, 81, 217-240. doi:10.1177/0091415015621309.

Mathur, S., Sharma, M. P. and Bharath, S. (2016). Mindfulness-based cognitive therapy in patients with late-life depression: A case series. International Journal of Yoga, 9, 168-172. doi: 10.4103/0973-6131.183711.

McCrae, R. R. and Costa, P. T. (1991). Adding Liebe und Arbeit – The Full 5-Factor Model and Well-Being. *Personality and Social Psychology Bulletin, 17,* 227-232. doi:10.1177/014616729101700217.

O'Bryant, S.E. *et al.* (2008). Detecting Dementia with the Mini-Mental State Examination (MMSE) in Highly Educated Individuals. Archives of Neurology, 65, 963-967. doi:10.1001/archneur.65.7.963.

Preacher, K. J. and Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. Behavior Research Methods, 40, 879-891. doi:10.3758/BRM.40.3.879.

Raes, A.K., Bruyneel, L., Loeys, T., Moerkerke, B. and De Raedt, R. (2015). Mindful attention and awareness mediates the association between age and negative affect. Journals of Gerontology Series B-Psychological Sciences and Social Sciences, 70, 179-188. doi:10.1093/geronb/gbt074.

Rammstedt, B. and Farmer, R.F. (2013). The Impact of Acquiescence on the Evaluation of Personality Structure. Psychological Assessment, 25, 1137-1145. doi:10.1037/a0033323.

Scott, W., Daly, A., Yu, L. and McCracken, L. M. (2017). Treatment of Chronic Pain for Adults 65 and Over: Analyses of Outcomes and Changes in Psychological Flexibility Following Interdisciplinary Acceptance and Commitment Therapy (ACT). *Pain Medicine, 18,* 252-264. doi:10.1093/pm/pnw073.

Smout, M. F., Hayes, L., Atkins, P. W. B., Klausen, J. and Duguid, J. E. (2012). The empirically supported status of acceptance and commitment therapy: An update. *Clinical Psychologist, 16,* 97-109. doi:10.111/j.1742-9552.2012.00051.x.

Soto, C. J. (2015). Is Happiness Good for Your Personality? Concurrent and Prospective Relations of the Big Five With Subjective Well-Being. Journal of Personality, 83, 45-55. doi:10.1111/jopy.12081.

Steel, P., Schmidt, J. and Shulz, J. (2008). Refining the Relationship Between Personality and Subjective Well-Being. Psychological Bulletin, 134, 138-161. doi:10.1037/0033-2909.134.1.138.

Schwartz, R. M., Reynolds III, C. F., Thase, M. E., Frank, E. and Fasiczka, A. L. (2002). Optimal and Normal Affect Balance in Psychotherapy of Major Depression: Evaluation of the Balance States of Mind Model. Behavioural and Cognitive Psychotherapy, 30, 439-450. doi:10.1017/S1352465802004058.

Tauber, B., Wahl, H.-W. and Schröder, J. (2016). Personality and Life Satisfaction Over 12 Years. GeroPsych, 29, 37-48. doi:10.1024/1662-9647/a000141.

Van der Heijden, P., Derksen, J., Egger, J., Rossi, G., Laheij, M. and Bögels, T. (2013). MMPI- 2-RF. Handleiding voor afname, scoring en interpretatie. [MMPI-2-RF. Manual for assesment, scoring and interpretation.] Nijmegen: Pen Tests.

Watson, D., Clark, L. A. and Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. Journal of Personality and Social Psychology, 54, 1063–1070. doi:10.1037//0022-3514.54.6.1063.

WHOQOL group (1996). WHOQOL-Bref. WHO, Geneva.

Table 1.

Demographics and descriptive variables per age group

Demographics	Younger adults	Older adults	X^2	*p*	
Marital status					
Married/living together	67.44%	63.55%			
Single/divorced/widow(er)	32.56%	36.45%	.39	.583	
Education level					
Primary school	0%	11.21%			
Secondary school	34.88%	39.25%			
Higher education	65.12%	49.53%	17.22	< .001	
Gender					
Male	36.43%	50.47%			
Female	63.57%	49.53%	4.71	.035	
Personality traits	YA mean score/(SD)	OA mean score/(SD)	*t*-value (df)	*p*	Cohen's *d*
Neuroticism	2.86 (.66)	2.76 (.70)	1.17 (234)	.244	.15
Extraversion	3.48 (.66)	3.27 (.57)	2.63 (234)	.009	.34
Conscientiousness	3.71 (.53)	3.71 (.55)	-.04 (234)	.966	0
Negative emotionality	6.44 (4.00)	5.51 (3.23)	1.93 (234)	.054	.26
Low positive emotionality	8.00 (3.86)	9.33 (3.01)	-2.90 (233.11)	.003	.38
Flexibility measures					
AAQ-II	38.94 (7.00)	40.26 (6.51)	-1.49 (234)	.137	.20
FIT-60	231.91 (36.92)	239.31 (33.79)	-1.58 (229)	.116	.21
Well-Being measures					
Affect Balance	.66 (.09)	.68 (.08)	-2.30 (234)	.022	.23
WHOQOL-Bref	102.50 (11.23)	104.48 (10.09)	-1.37 (222)	.171	.19

Note. Based on the group of 129 younger and 109 older participants.

Table 2.

Relationships between personality, psychological flexibility and subjective well-being measures in younger and older adults.

	N	E	C	NEGE	lowP	AAQ	FIT	AB
Younger adults								
N	1							
E	-.20 (.022)	1						
C	-.11 (.203)	.38 (< .001)	1					
NEGE	.71 (< .001)	-.20 (.026)	-.11 (.206)	1				
lowP	.26 (.003)	-.60 (< .001)	-.12 (.165)	.24 (.007)	1			
AAQ	-.44 (< .001)	.25 (.004)	.20 (.021)	-.65 (< .001)	-.22 (.014)	1		
FIT	-.49 (< .001)	.29 (.001)	.31 (.001)	-.70 (< .001)	-.33 (< .001)	.79 (< .001)	1	
AB	-.67 (< .001)	.42 (< .001)	.21 (.015)	-.71 (< .001)	-.45 (< .001)	.68 (< .001)	.78 (< .001)	1
W	-.36 (< .001)	.26 (.004)	.22 (.014)	-.54 (< .001)	-.35 (< .001)	.61 (< .001)	.69 (< .001)	.68 (< .001)
Older adults								
N	1							
E	-.29 (.003)	1						
C	-.22 (.021)	.25 (.010)	1					
NEGE	.62 (< .001)	-.15 (.133)	-.02 (.819)	1				
lowP	.07 (.455)	-.44 (< .001)	-.07 (.460)	.05 (.612)	1			
AAQ	-.44 (< .001)	.021 (.830)	.17 (.081)	-.54 (< .001)	-.07 (.465)	1		
FIT	-.49 (< .001)	.26 (.008)	.09 (.339)	-.65 (< .001)	-.30 (.002)	.59 (< .001)	1	
AB	-.53 (< .001)	.31 (.001)	.21 (.030)	-.61 (< .001)	-.23 (.016)	.64 (< .001)	.73 (< .001)	1
W	-.22 (.025)	.08 (.404)	.24 (.016)	-.50 (< .001)	-.18 (.070)	.54 (< .001)	.69 (< .001)	.62 (< .001)

Note. r-value (*p*-value). N = neuroticism, E = extraversion, C = conscientiousness, NEGE = negative emotionality, lowP = low positive emotionality, AAQ = score on the AAQ-II, FIT = score on the FIT-60, AB = affect balance, W = WHOQOL-Bref.

Table 3

Personality has an indirect influence on well-being through psychological flexibility

	Path c' – direct effect				Path c – c' – indirect effect		
	β	*t*	*p*	CI	Effect	CI	Completely Standardized Effect
N – A – AB	-.05	-8.73	< .001	[-.06; -.04]	**-.03**	[-.04; -.01]	-.22
N – A – W	-.88	-.92	.358	[-2.77; 1.00]	*-3.92*	[-5.45; -2.64]	-.24
N – F – AB	-.04	-6.97	< .001	[-.05; -.03]	**-.04**	[-.05; -.03]	-.30
N – F – W	1.43	1.51	.132	[-.43; 3.28]	*-6.23*	[-8.09; -4.55]	-.39
E – A – AB	.04	5.41	< .001	[.02; .05]	**.01**	[.001; .03]	.09
E – A – W	1.67	1.63	.104	[-.35; 3.68]	*1.25*	[.03; 2.71]	.07
E – F – AB	.02	3.12	.002	[.007; .03]	**.03**	[.01; .04]	.18
E – F – W	-.18	-.19	.846	[-2.02; 1.66]	*3.10*	[1.31; 5.10]	.18
C – A – AB	.01	1.75	.082	[-.002; .03]	*.02*	[.01; .04]	.12
C – A – W	2.12	1.92	.056	[-.05; 4.30]	*2.55*	[1.13; 4.30]	.13
C – F – AB	.01	1.81	.072	[-.001; .03]	*.03*	[.008; .04]	.16
C – F – W	1.30	1.25	.211	[-.74; 3.34]	*3.37*	[1.32; 5.79]	.17
NE – A – AB	-.01	-8.06	< .001	[-.013; -.008]	**-.01**	[-.008; -.004]	-.25
NE – A – W	-.78	-3.97	< .001	[-1.17; -.39]	**-.75**	[-1.07; -.50]	-.26
NE – F – AB	-.01	-4.74	< .001	[-.01; -.004]	**-.01**	[-.012; -.007]	-.39
NE – F – W	-.27	-1.36	.175	[-.65; .12]	*-1.27*	[-1.63; -.92]	-.44
lP – A – AB	-.01	-5.14	< .001	[-.01; -.003]	-.002	[-.005; .0002]	-.09
lP – A – W	-.62	-3.77	< .001	[-.94; -.30]	-.17	[-.46; .09]	-.05
lP – F – AB	-.002	-1.91	.057	[-.004; .0001]	*-.01*	[-.008; -.003]	-.21
lP – F – W	-.20	-1.22	.223	[-.53; .12]	*-.58*	[-.95; -.27]	-.19

Note. Bold = Mediation, Italic = Full Mediation. CI = 95% confidence interval, N = neuroticism, E = extraversion, C = conscientiousness, NE = negative emotionality, lP = low positive emotionality, A = score on the AAQ-II, F = score on the FIT-60, AB = affect balance, W = WHOQOL-Bref.

Table 4

Age group does not moderate the indirect effects model

	Index	CI
N – A – AB	.003	[-.02; .02]
N – A – W	.99	[-1.76; 3.76]
N – F – AB	.01	[-.02; .03]
N – F – W	.64	[-2.75; 4.10]
E – A – AB	-.02	[-.04; .004]
E – A – W	-1.61	[-4.38; 1.02]
E – F – AB	-.003	[-.03; .02]
E – F – W	-.08	[-4.05; 3.82]
C – A – AB	-.01	[-.04; .02]
C – A – W	-1.92	[-5.08; 1.19]
C – F – AB	-.03	[-.06; .002]
C – F – W	-2.74	[-6.96; 1.42]
NE – A – AB	-.001	[-.004; .003]
NE – A – W	.14	[-.42; .69]
NE – F – AB	-.001	[-.01; -.006]
NE – F – W	-.04	[-.77; .66]
lP – A – AB	.002	[-.003; .006]
lP – A – W	.12	[-.41; .64]
lP – F – AB	-.0002	[-.01; .01]
lP – F – W	.01	[-.66; .68]

Note. CI = 95% confidence interval, N = neuroticism, E = extraversion, C = conscientiousness, NE = negative emotionality, lP = low positive emotionality, A = AAQ-II, F = FIT-60, AB = affect balance, W = WHOQOL-Bref.

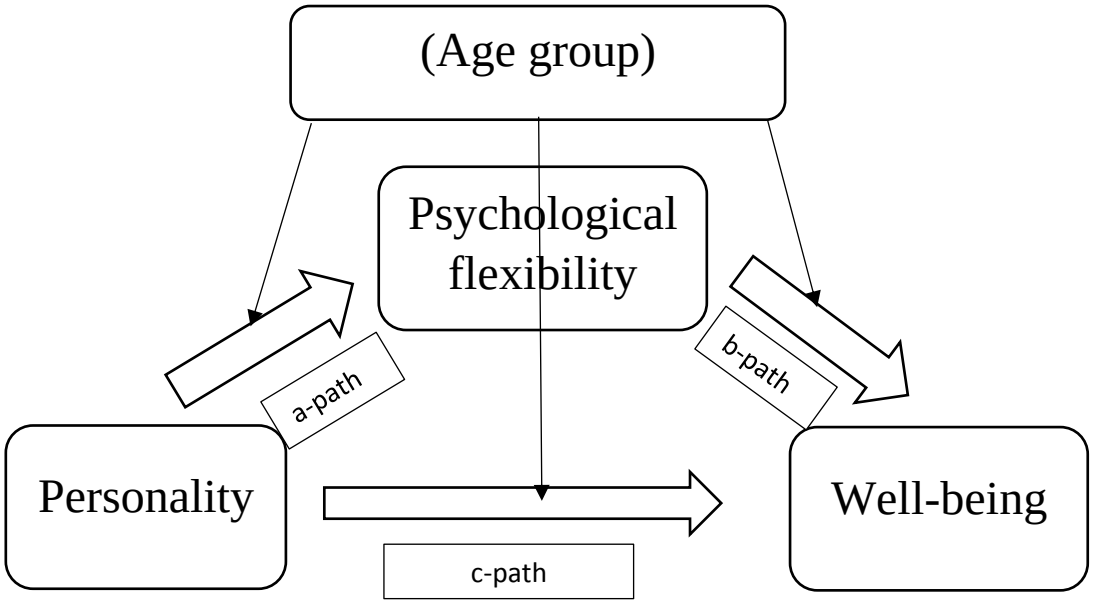

Figure 1. (Moderated) indirect effect model.

Appendix A: Full version of Tables 3 and 4

Table 3: Full version

Personality has an indirect influence on well-being through psychological flexibility

	Path a				Path b			
Variables	β	*t*	*p*	CI	β	*t*	*p*	CI
N – A – AB	-4.48	-7.42	< .001	[-5.66; -3.29]	.01	9.33	< .001	[.005; .008]
N – A – W	-4.35	-7.32	< .001	[-5.53; -3.18]	.90	8.44	< .001	[.69; 1.11]
N – F – AB	-26.39	-9.45	< .001	[-31.89; -20.89]	.002	13.49	< .001	[.001; .002]
N – F – W	-28.03	-10.18	< .001	[-33.46; -22.61]	.22	11.81	< .001	[.19; .26]
E – A – AB	1.52	2.10	.037	[.09; 2.94]	.01	13.06	< .001	[.007; .094]
E – A – W	1.36	1.90	.059	[-.05; 2.77]	.92	8.76	< .001	[.71; 1.13]
E – F – AB	14.09	3.32	.001	[5.74; 22.45]	.002	17.00	< .001	[.0016;.002]
E – F – W	14.80	3.37	< .001	[6.15; 23.45]	.21	11.20	< .001	[.17; .25]
C – A – AB	2.38	2.63	.009	[.60; 4.16]	.01	11.76	< .001	[.007; .0099]
C – A – W	2.83	3.25	.001	[1.12; 4.54	.90	8.53	< .001	[.69; 1.11]
C – F – AB	14.01	2.79	.006	[4.11; 23.91]	.002	17.41	< .001	[.0016; .002]
C – F – W	16.56	3.14	.002	[6.17; 26.94]	.20	11.53	< .001	[.17; .24]
NE – A – AB	-1.12	-10.13	< .001	[-1.34; -.90]	.01	7.03	< .001	[.004; .007]
NE – A – W	-1.12	-10.23	< .001	[-1.33; -.90]	.68	6.49	< .001	[.47; .88]
NE – F – AB	-6.64	-14.26	< .001	[-7.56; -5.72]	.001	10.12	< .001	[.001; .002]
NE – F – W	-6.70	-14.29	< .001	[-7.62; -5.78]	.19	9.32	< .001	[.15; .23]
IP – A – AB	-.27	-1.74	.083	[-.57; .03]	.01	13.55	< .001	[.007; .009]
IP – A – W	-.18	-1.21	.227	[-.48; .11]	.91	8.96	< .001	[.71; 1.11]
IP – F – AB	-2.89	-3.68	< .001	[-4.44; -1.34]	.002	17.11	< .001	[.0016; .002]
IP – F – W	-2.88	-3.62	< .001	[-4.45; -1.32]	.20	11.12	< .001	[.17; .24]
	Path c' – direct effect				Path c – c' – indirect effect			
	β	*t*	*p*	CI	Effect	CI		
N – A – AB	-.05	-8.73	< .001	[-.06; -.04]	**-.03**	[-.04; -.01]		
N – A – W	-.88	-.92	.358	[-2.77; 1.00]	*-3.92*	[-5.45; -2.64]		
N – F – AB	-.04	-6.97	< .001	[-.05; -.03]	**-.04**	[-.05; -.03]		
N – F – W	1.43	1.51	.132	[-.43; 3.28]	*-6.23*	[-8.09; -4.55]		
E – A – AB	.04	5.41	< .001	[.02; .05]	**.01**	[.001; .03]		
E – A – W	1.67	1.63	.104	[-.35; 3.68]	*1.25*	[.03; 2.71]		
E – F – AB	.02	3.12	.002	[.007; .03]	**.03**	[.01; .04]		
E – F – W	-.18	-.19	.846	[-2.02; 1.66]	*3.10*	[1.31; 5.10]		
C – A – AB	.01	1.75	.082	[-.002; .03]	*.02*	[.01; .04]		
C – A – W	2.12	1.92	.056	[-.05; 4.30]	*2.55*	[1.13; 4.30]		
C – F – AB	.01	1.81	.072	[-.001; .03]	*.03*	[.008; .04]		
C – F – W	1.30	1.25	.211	[-.74; 3.34]	*3.37*	[1.32; 5.79]		
NE – A – AB	-.01	-8.06	< .001	[-.013; -.008]	**-.01**	[-.008; -.004]		
NE – A – W	-.78	-3.97	< .001	[-1.17; -.39]	**-.75**	[-1.07; -.50]		
NE – F – AB	-.01	-4.74	< .001	[-.01; -.004]	**-.01**	[-.012; -.007]		
NE – F – W	-.27	-1.36	.175	[-.65; .12]	*-1.27*	[-1.63; -.92]		
IP – A – AB	-.01	-5.14	< .001	[-.01; -.003]	-.002	[-.005; .0002]		

lP – A – W	-.62	-3.77	< .001	[-.94; -.30]	-.17	[-.46; .09]
lP – F – AB	-.002	-1.91	.057	[-.004; .0001]	*-.01*	[-.008; -.003]
lP – F – W	-.20	-1.22	.223	[-.53; .12]	*-.58*	[-.95; -.27]

Note. Bold = Mediation, Italic = Full Mediation. CI = 95% confidence interval, N = neuroticism, E = extraversion, C = conscientiousness, NE = negative emotionality, lP = low positive emotionality, A = score on the AAQ-II, F = score on the FIT-60, AB = affect balance, W = WHOQOL-Bref. Path a = effect personality on flexibility. Path b = effect flexibility on well-being. Path c' = direct effect personality on well-being. Path c – c' = indirect effect of personality on well-being.

Table 4: Full version

Age group does not moderate the indirect effects model

	Path a				Path b			
Variables	β	*t*	*p*	CI	β	*t*	*p*	CI
N – A – AB	.64	.52	.601	[-1.76; 3.03]	.0002	.11	.912	[-.003; .003]
N – A – W	.77	.65	.515	[-1.57; 3.12]	-.07	-.33	.739	[-.49; .35]
N – F – AB	4.37	.77	.440	[-6.77; 15.52]	.0001	.22	.825	[-.0004; .0005]
N – F – W	6.07	1.09	.275	[-4.87; 17.01]	.03	.69	.488	[-.05; .10]
E – A – AB	-2.44	-1.62	.106	[-5.40; .52]	0	-.01	.989	[-.003; .002]
E – A – W	-1.60	-1.08	.282	[-4.54; 1.33]	-.12	-.56	.574	[-.53; .29]
E – F – AB	-.91	-.11	.915	[-17.72; 15.90]	-.0001	-.35	.724	[-.0005; .0003]
E – F – W	-1.20	-.14	.893	[-18.71; 16.31]	.01	.29	.776	[-.06; .08]
C – A – AB	-.67	-.37	.715	[-4.26; 2.92]	-.001	-.59	.556	[-.004; .002]
C – A – W	-1.62	-.92	.360	[-5.11; 1.86]	-.17	-.81	.416	[-.59; .24]
C – F – AB	-15.88	-1.65	.100	[-34.81; 3.05]	-.0001	-.61	.539	[-.0005; .0003]
C – F – W	-12.80	-1.21	.227	[-33.63; 8.03]	-.01	-.23	.817	[-.08; .06]
NE – A – AB	.04	.19	.848	[-.39; .48]	.001	.41	.679	[-.002; .004]
NE – A – W	-.05	-.21	.832	[-.48; .39]	-.15	-.72	.469	[-.56; .26]
NE – F – AB	-.22	-.23	.819	[-2.14; 1.69]	0	.08	.937	[-.0005; .0006]
NE – F – W	-.15	-.16	.876	[-2.08; 1.77]	.002	.05	.960	[-.08; .08]
lP – A – AB	.24	.82	.415	[-.34; .81]	-.0001	-.08	.935	[-.003; .002]
lP – A – W	.11	.36	.721	[-.48; .69]	-.11	-.56	.578	[-.51; .28]
lP – F – AB	-.12	-.08	.939	[-3.18; 2.94]	0	-.01	.991	[-.0004; .0004]
lP – F – W	.23	.15	.883	[-2.89; 3.36]	.01	.33	.744	[-.06; .08]
	Path c’				Index of moderated mediation: path c – c’			
	β	*t*	*p*	CI	Index	CI		
N – A – AB	.03	2.39	.018	[.005; .05]	.003	[-.02; .02]		
N – A – W	2.23	1.13	.259	[-1.65; 6.11]	.99	[-1.76; 3.76]		
N – F – AB	.02	2.25	.025	[.003; .05]	.01	[-.02; .03]		
N – F – W	2.58	1.34	.181	[-1.21; 6.37]	.64	[-2.75; 4.10]		
E – A – AB	.01	.44	.659	[-.02; .03]	-.02	[-.04; .004]		
E – A – W	-1.32	-.62	.534	[-5.48; 2.85]	-1.61	[-4.38; 1.02]		
E – F – AB	-.01	-.46	.645	[-.03; .02]	-.003	[-.03; .02]		
E – F – W	-2.85	-1.43	.154	[-6.76; 1.07]	-.08	[-4.05; 3.82]		
C – A – AB	.002	.13	.894	[-.03; .04]	-.01	[-.04; .02]		
C – A – W	1.69	.72	.469	[-2.90; 6.28]	-1.92	[-5.08; 1.19]		
C – F – AB	.02	1.08	.282	[-.01; .05]	-.03	[-.06; .002]		
C – F – W	2.52	1.21	.229	[-1.60; 6.63]	-2.74	[-6.96; 1.42]		
NE – A – AB	.001	.49	.626	[-.004; .007]	-.001	[-.004; .003]		
NE – A – W	-.16	-.39	.693	[-.97; .65]	.14	[-.42; .69]		
NE – F – AB	.001	.28	.776	[-.005; .007]	-.001	[-.01; -.006]		
NE – F – W	.02	.04	.965	[-.82; .86]	-.04	[-.77; .66]		
lP – A – AB	.002	.87	.384	[-.003; .007]	.002	[-.003; .006]		
lP – A – W	.32	.93	.354	[-.36; 1.01]	.12	[-.41; .64]		
lP – F – AB	.003	1.35	.178	[-.002; .008]	-.0002	[-.01; .01]		
lP – F – W	.43	1.20	.230	[-.28; 1.14]	.01	[-.66; .68]		

Note. CI = 95% confidence interval, N = neuroticism, E = extraversion, C = conscientiousness, NE = negative emotionality, lP = low positive emotionality, A = score on the AAQ-II, F = score on the FIT-60, AB = affect balance, W = WHOQOL-Bref. Path a = effect personality on flexibility. Path b = effect

flexibility on well-being. Path c' = direct effect personality on well-being. Path c – c' = indirect effect of personality on well-being.