How Much do You Believe in Yourself?

The Mediating Effect of Self-efficacy on the Relationship Between Personality Factors and Subjective Well-being in Early Adulthood

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Abstract

Understanding the influences of happiness and well-being has fascinated philosophers and thinkers for many centuries. Subjective well-being (SWB) refers to how people experience and evaluate their lives and consists of SWLS, positive affect, and negative affect. One factor that has been suggested to be an important predictor of SWB is personality. The current study aimed at further clarifying the association between personality factors and SWB, and to additionally explore whether general self-efficacy acts as a potential mediator on the relationship between personality and SWB in young adults. The sample consisted of 314 participants (41.1 % male, 58.9 % female), who took part in the Flemish Study on Parenting, Personality, and Development (FSPPD). Results showed that extraversion, conscientiousness, emotional stability, and autonomy were predictive of SWLS, positive affect., and negative affect. Moreover, conscientiousness had a significant effect on positive affect, whereas agreeableness predicted negative affect. Moreover, mediation analyses revealed significant mediations between extraversion and autonomy on SWLS, positive affect, and negative affect through self-efficacy. Additionally, GSE also mediated the influence of emotional stability on positive affect. Thus, not only do young adults high on extraversion, autonomy, and emotional stability have higher levels of SWB, but they also have higher levels of self-efficacy which influences their well-being as well. This study contributes to the research topic regarding personality and well-being. Moreover, it is one of the first studies to explore the mediating effect of self-efficacy, which helps to further explain this association.

Keywords: Subjective well-being, Personality, Self-efficacy

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Subjective well-being

For centuries, people have philosophized about the concept of well-being and how best to achieve living a fulfilling life. In the last decades, social scientists who investigated predictors of well-being generally believed that there was a high correlation between happiness and external factors, such as wealth and physical health (Wilson, 1967). However, contrary to these former beliefs, a wide range of studies in the past decades have shown that external and demographic factors solely account for a relatively small amount of variance of well-being (Diener & Ryan, 2009). Even more so, studies have shown that as countries or people become wealthier, well-being does not improve, or even declines, a phenomenon now known as the happiness-income paradox (Easterlin et al., 2010). As a result, social scientists started looking at more internal factors and investigated psychological correlates of happiness and well-being.

The term subjective well-being (SWB) was first introduced by Diener in 1984 and marks the predominant model of well-being in psychology until this day. Diener's tripartite model of subjective well-being describes how people experience their lives. Specifically, SWB refers to what makes people experience their lives in positive ways, by combining three components of well-being: satisfaction with life, positive affect, and negative affect. Since it focuses on the subjective aspect of well-being, it excludes objectives measures like wealth and health. Derived from an earlier theory of happiness which was proposed by Andrews and Withey in 1976, Diener (1984) included life satisfaction judgments as a cognitive component and both positive and negative affect as emotional components as measurements of SWB. Although positive affect and negative affect tend to be correlated, Diener (2000) suggests that it is more desirable to measure these two constructs separately since they differ in their causes and consequences. Since its publication, studies investigating the validity of these three variables as main components of SWB have been extensive. Schimmack (2008) studied different components of SWB and has shown that life satisfaction was an important indicator of more specific important life domains, such as marital satisfaction and job satisfaction as well. Based on the tripartite model, SWB thus consists of the presence of positive affect, the lack of negative affect, and people's cognitive evaluations of their life circumstances (Diener et al., 1997).

Personality and well-being

One key concept that has long been suggested to predict well-being is personality. Personality factors mark the relatively stable patterns of behaviors, thoughts, and emotions (McCrae & Costa, 2003). To date, the most widely used and prominent personality models are based on the five-factor model of personality (FFM), which categorizes personality traits into five factors. The five personality factors usually include extraversion, agreeableness, conscientiousness, emotional stability (versus neuroticism), and openness to experience. Recent meta-analyses have shown that personality dispositions substantially influence levels of SWB, accounting for up to 39% of its variance (Anglim et al., 2020, Steel et al., 2008). Personality is understood as an influential concept regarding mental and social outcomes since they, at least to some extent, define how we experience and understand the world (Roberts, 2009). Previous studies have mostly highlighted a strong association between the two personality factors extraversion and neuroticism and SWB (Diener, 2009; Schimmack et al., 2008).

Extraversion is a personality trait characterized by sociability, assertiveness, cheerfulness, and energy (John & Srivastava, 1999; McCabe & Fleeson, 2012). Numerous studies found positive associations between extraversion and SWB. Extraversion seems to be especially predictive of positive affect but is also correlated with life satisfaction (Marcionetti & Rossier, 2016). The strong correlations between extraversion and positive affect do not come as with surprise, since positive emotions mark one of the core facets of extraversion (Costa Jr. & McCrae, 1995). Neuroticism or its opposite emotional stability has been shown to be the best predictor of subjective well-being (Librán, 2006). Neuroticism is a personality factor, with low levels representing emotional stability and stableness, and high levels representing negative emotionality, characterized by a vulnerability to experience negative emotions, such as anger, anxiety, or depression (John & Srivastava, 1999). Unsurprisingly, high levels of neuroticism have been shown to be a negative predictor of positive affect, and a positive predictor of negative affect (Steel et al., 2008). However, the exact mechanisms that predispose people high on extraversion to experience more positive affective states, and people high on neuroticism to experience more negative affective states have not been fully established. One hypothesis of the underlying mechanism is that extraversion is associated with the behavioral activation system (BAS), whereas neuroticism is associated with the behavioral inhibition system (BIS) system (Gray, 1970; Elliot & Thrash, 2002). The BAS regulates approach behavior, by signaling reward through positive affect, while the BIS promotes avoidance behavior by signaling punishment through negative affect. Thus,

according to the BAS/BIS theory, people with high levels of extraversion are more likely to react to rewards, whereas people with high levels of neuroticism are more likely to react to punishments (Steel et al., 2008).

Even though less research has been conducted apart from extraversion and neuroticism, more recent studies have found that other personality factors correlate with SWB as well. Overall, studies suggest that conscientiousness, agreeableness, and openness to experiences correlate positively with well-being. The remaining three personality factors are defined as: people who are high on agreeableness tend to be altruistic, trusting, and trustworthy, helpful, and cooperative; conscientiousness is characterized by a high level of self-discipline, and self-control. People who score high on conscientiousness are generally goal-orientated and determined; openness to experience is characterized by curiosity for art and emotions, active imagination, and unusual ideas (Weiner & Greene, 2017). In a meta-analysis, Steel et al. (2008) found that although neuroticism and extraversion were the most consistent correlates of SWB, conscientiousness, and agreeableness were related to the three components of SWB as well. Further, in a comprehensive recent meta-analysis, Anglim et al. (2020) have investigated correlations of Big Five and HEXACO personality domains with the dimensions of SWB and found that besides extraversion and neuroticism, conscientiousness was a fairly strong predictor, and openness and agreeableness were moderate predictors of well-being as well. The HEXACO model of personality structure is a personality model that includes honesty-humility in addition to the big five personality factors (Ashton & Lee, 2007). Regarding the specific components of well-being, from the Big Five factors neuroticism (r = - .39) and extraversion (r = .32) were strong predictors of satisfaction with life, whereas neuroticism (r = -.34), extraversion (r = .44), and conscientiousness (r= .35) were strong predictors of positive affect. Negative affect was strongly related to neuroticism (r = .56). In addition, the study found that personality traits explained more variance than previously thought, with the average correlation between personality factors and well-being being r = .28. These findings further highlight the importance of studying additional personality traits as predictors of SWB.

In summary, the study of personality factors has become a key aspect in predicting well-being. Although previous studies have mostly focused on examining the correlations between extraversion and neuroticism and well-being, more recent studies emphasize the importance of investigating additional personality factors, besides extraversion and neuroticism, as potential predictors of well-being.

Self-efficacy and well-being

Besides personality, cognitive beliefs have been shown to be predictive of individual levels of SWB (Galinha & Pais-Ribeiro, 2012). An important cognitive belief is general self-efficacy. General self-efficacy (GSE) describes the belief a person has in their ability to succeed in specific situations or to accomplish certain tasks (Bandura, 1977). Whereas there are more goal or task-specific concepts of self-efficacy, such as academic self-efficacy, GSE refers to the general belief in oneself to reach set goals and tasks (Luszczynska et al., 2005). People who display high levels of self-efficacy tend to believe in themselves and in their ability to have control across different situations. Studies have shown that GSE is associated with higher levels of self-esteem, academic performance, and health behaviors (Isa et al., 2017; Luszczynska et al., 2005). In theory, compared to people who are generally more doubtful about their capabilities, people who believe in themselves and their capabilities are more likely to succeed in given tasks. Apart from objective measures like success, studies have also suggested that in adults, higher levels of self-efficacy correlate with more subjective measurements, such as well-being (Chudzicka-Czupała & Zalewska-Łunkiewicz, 2020). Further, Strobel et al. (2011) have shown that self-efficacy correlates with the cognitive component of SWB—life-satisfaction specifically. Hence, studies suggest that self-efficacy, which gives people a sense of agency and capability, positively impacts their performance, health, and overall well-being.

Personality and self-efficacy

Past research further investigated the association between personality factors and self-efficacy. A study by Judge and Ilies (2002) suggested that self-efficacy was positively related to extraversion, conscientiousness, emotional stability, and openness. Agreeableness did not have a significant effect on self-efficacy. A study conducted by Brown and Cinamon (2015) investigated the contribution of personality traits to the development of self-efficacy in adolescence. Results showed that higher levels of conscientiousness and extraversion, as well as lower levels of neuroticism, were associated with higher self-efficacy in late adolescence. A recent study by Cohen and Panebianco (2020) found similar results. The study aimed at investigating the association between personality traits and GSE in early adult university music students, aged 18–29 years. Results showed that extraversion, emotional stability, and conscientiousness positively predicted GSE, whereas agreeableness and openness did not, thereby confirming earlier studies. Thus, extraversion, neuroticism, and conscientiousness seem to be predictive of self-efficacy throughout adolescence and early adulthood, whereas

there seems to be no relationship between agreeableness and self-efficacy and openness and self-efficacy.

Personality, self-efficacy, and well-being

Although self-efficacy is associated with both personality factors and subjective well-being, few attempts have been made to investigate the relationship between the concepts altogether. To the best of our knowledge, there has been one study that investigated the relationship among the three variables. In their study, Strobel et al. (2011) studied the association between the big five personality factors, satisfaction with life, and subjective happiness as well-being components. Satisfaction with life was the cognitive measurement of well-being, whereas subjective happiness measured an affective component of well-being. They also tested whether self-efficacy would act as a mediator between these variables (see Figure 1). The study indeed found evidence for a mediation effect. Their results showed that the influence of neuroticism, extraversion, openness, and conscientiousness on life satisfaction was mediated by self-efficacy. Further, self-efficacy also acted as a mediator between the two personality factors openness and conscientiousness, and subjective happiness. Thus, people who scored high on emotional stability, extraversion, openness, and conscientiousness were more satisfied with their lives than others. Moreover, people scoring high on these personality factors also displayed higher levels of self-efficacy, which in turn increased life satisfaction as well. Regarding subjective happiness, participants with higher levels of openness and conscientiousness scored higher on subjective happiness, compared to participants scoring low on these personality factors. They also reported higher levels of self-efficacy, which increased their subjective happiness. Thus, if self-efficacy acts as a mediator between personality factors and well-being measures, the influence of personality on well-being would decrease since part of the effect will be accounted for by self-efficacy.

One limitation of the above-mentioned study by Strobel et al. (2011) was the use of a relatively small sample size (N= 180) that was predominantly conducted with a convenience sample of university students. Therefore, findings need to be replicated by a more heterogeneous sample. Additionally, since the research design has not been replicated as of my knowledge, it is of importance to replicate the study to draw valid conclusions. Another strength of the current study is the use of a longitudinal dataset, which ensures that personality factors precede SWB in time.

Research in social sciences has put abounding amounts of resources in studying the causes and consequences of maladaptive psychology, thereby often neglecting to investigate

protective psychological factors such as SWB (Diener & Ryan, 2009; Slade, 2010). Further, studies thus far have highlighted the importance of cognitive beliefs in functionally linking personality factors and SWB. If self-efficacy indeed functions as a mediator between personality and SWB, it might show that it is an important cognitive tool to be taught. Educating and strengthening cognitive aspects of individuals, such as self-efficacy, might be efficacious in increasing SWB. Self-efficacy has been shown to be malleable. Studies have for example shown that through the right education and teaching children's level of self-efficacy can be altered and enhanced (Margolis & McCabe, 2006). In adults, interventions aimed at increasing self-efficacy to promote health behaviors and physical activities have also shown to be successful (Ashford et al., 2010). Additionally, clarifying what predisposes certain personalities to have higher levels of well-being, might help to tailor specific interventions that strengthen these aspects.

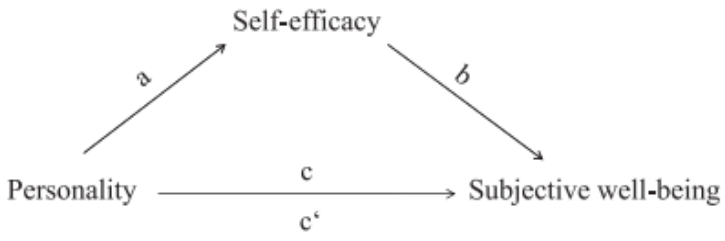
Aims of the present study

Few studies in the field of personality and well-being have sought to examine a potential mediation of self-efficacy. However, as self-efficacy is a protective factor that equips people with cognitive techniques that likely enhance levels of SWB, it is of importance to investigate a potential influence of self-efficacy on this relationship. Therefore, the current study aims at studying the influence of personality factors on SWB over time and at examining whether self-efficacy acts as a mediator of the relationship between personality factors and SWB. The first research question of this study is: (1) 'Is there an association between personality factors and subjective well-being in young adults?' Based on findings by Anglim et al. (2020) and Librán (2006), we expect to find a positive affect of extraversion, conscientiousness, agreeableness, and emotional stability on SWB. Specifically, we hypothesize that extraversion, agreeableness, and conscientiousness, and emotional stability will be positive predictors of life satisfaction and positive affect and that these personality traits will negatively predict negative affect. The second research question is whether GSE mediates the effect of personality factors on subjective well-being in a sample of early adults. Since there will be three variables of SWB, this research question will be divided into three sub-questions: (2) 'Is the association between personality and SWLS mediated by self-efficacy?' we expect that self-efficacy will act as a mediator on the relationship between personality and SWLS (see Figure 1). Based on previous findings by Strobel et al. (2011), we expect that the association between extraversion, conscientiousness, and emotional stability on SWLS will be mediated by self-efficacy. (3) 'Is the association between personality and

positive affect mediated by self-efficacy?' Although the present study uses positive and negative affect as affective components of SWB, instead of the subjective happiness scale used by Strobel et al. (2011) we expect to find a significant mediation effect through self-efficacy between conscientiousness on positive affect. (4) 'Is the association between personality and negative affect mediated by self-efficacy?' Regarding negative affect we also hypothesize that conscientiousness will be significantly mediated by self-efficacy, based on Strobel et al. (2011). This study contributes to the existing literature by investigating whether GSE acts as a mediator between personality and positive and negative affect as affective components of SWB. The final two questions aim at investigating associations between personality and GSE, and GSE and SWB: (5) 'Is there an association between personality and self-efficacy?' we expect to find significant associations between extraversion, conscientiousness, emotional stability, and self-efficacy, similar to findings by Cohen and Panebianco (2020). (6) 'Is there a relationship between self-efficacy and subjective well-being?' Based on research by Chudzicka-Czupała and Zalewska-Łunkiewicz (2020) we expect to find an association between self-efficacy and SWB, in a sense that as self-efficacy levels increase, levels of SWLS and positive affect will increase as well, whereas negative affect will decrease.

Figure 1

Schematic Representation of the General Mediation Model



Note: a= effect of the personality factors (extraversion, agreeableness, conscientiousness, neuroticism, and autonomy) on self-efficacy; b= the effect of self-efficacy on subjective well-being (SWB); c= the total effect of the personality factors on SWB when self-efficacy is not included as a mediator; c'= the direct effect of the five personality factors on SWB when self-efficacy is included as a mediator.

Method

Participants and procedure

The present study was conducted with data from the Flemish study on parenting, personality, and development (FSPPD). The FSPPD is an ongoing longitudinal study, that started in 1999 (Prinzie et al., 2003). At the start of this longitudinal study, a proportional stratified sample of elementary-school-aged children attending regular schools was randomly selected. Strata were constructed according to geographical location (province), sex, and age (Prinzie et al., 2003). Initially, at wave one participants were children and their parents who voluntarily participated in the study. In total, there were 599 children, 304 boys (*M* = 7 years 10 months, *SD* = 1.16) and 295 girls (*M* = 7 years 10 months, *SD* = 1.16). The current study was conducted with data from the eighth measurement wave (Time 1, 2015), and ninth measurement wave (Time 2, 2018). Participants' ages ranged from 18 to 21 in wave 8, and from 21 to 24 in wave 9. Participants are of Belgian nationality and provided informed consent prior to the data collection. For the current study, participants who displayed non-missing values on the sum scores of the five personality factors, the sum scores of SWB measures, and the sum score of self-efficacy were included in the final mediation analyses. The sample of this study therefore consisted of 314 participants (41.1 % male, 58.9 % female). The mean age of participants was 21.82 years at Time 1. The mean age of participants at Time 2 was 24.83 years. Participants also varied in their educational levels. At Time 2 33.8 % of participants had a finished a bachelor at a 'hogeschool', 32.8% of participants had a finished master's degree, 10.2 % finished their bachelors at a university, and around 20.6% of participants had finished their secondary education.

Measures

Personality

Personality was measured with the five-factor personality inventory (FFPI) at Time 1. The FFPI consists of 100 brief and concrete items which assess the Big Five factors of personality: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Autonomy (Hendriks et al., 1999). Answers could be rated on a five-point scale (1= does not at all apply to me, 5= does very much apply to me). The FFPI can be used both for self-ratings and for others' ratings. In this study, self-reports on the FFPI were used. Sum scores for each personality factor have been calculated. Example items were as follows: (1) Extraversion- 'Makes friends easily'; (2) Agreeableness- 'Respects the opinions of other'; (3) Conscientiousness- 'Accomplishes his/her work on time'; (4) Emotional Stability- 'Thinks

that all will be well'; (5) Autonomy- 'Decides things on his/her own'. For each of the five factors a sum score was calculated. The internal consistencies of the FFPI-scales have been shown to be high, ranging between .82 and.89 (Barelds & Luteijn, 2002). In this study the reliability was: (1) Extraversion: α= .94, (2) Agreeableness α = .88, (3) Conscientiousness α = .89, (4) Emotional Stability α = .92, (5) Autonomy α = .86.

Self-efficacy

Self-efficacy was measured at Time 1 with the general self-efficacy scale (Schwarzer & Jerusalem, 1995). This instrument consists of 10 items which were rated on a four-point Likert scale (1= not at all true, 4= exactly true). The scale assesses a general sense of confidence in one's ability across different situations (Schwarzer & Jerusalem, 1995). A combined score was computed by summing all ten items. Final composite scores range from 10 to 40. An example question would be: 'I am confident that I could deal efficiently with unexpected events.' Usually, reliability of the self-efficacy scale is good, ranging from .76 to .90 (Schwarzer & Jerusalem, 1995). The Cronbach's alpha in the current study was α = .85.

Subjective well-being

Regarding the affective component of SWB, positive and negative affect was measured with the positive and negative affect scale (PANAS; Watson et al., 1988) at Time 2. The PANAS is a self-report measure and consists of 20 items each concerning a different emotion (Watson et al., 1988). Participants were asked to indicate to what extent they generally feel the emotion on average. Emotions could be rated on a five-point Likert scale (1= very slightly or not at all, 5 = extremely). A combined score of positive affect was computed by summing all 10 questions regarding positive affect. A combined score of negative affect was computed by summing all 10 questions regarding negative affect. Regarding the positive scale, a higher score indicates higher positive affect, regarding the negative scale, a lower score indicates less negative affect. An example emotion of the positive affect scale would be 'Interested', whereas an example emotion of the negative affect scale would be 'Scared'. Internal consistency of this scale has been previously shown to be excellent for the positive affect scale PANAS-P (α =.91) and good for the negative affect scale PANAS-N (α= .87) (Díaz-García et al., 2020). Cronbach's alpha for the PANAS-P in this study was .89, and Cronbach's alpha for the PANAS-N was .87.

Regarding the cognitive component of SWB, the satisfaction with life scale (SWLS) was used at Time 2 to measure global judgements of individuals' life satisfaction. The scale consists of five items that could be rated on a seven-point Likert scale (1= Strongly disagree,

7= Strongly agree). A total score of life satisfaction was computed by summing all 5 questions. An example question of this scale is: 'In most ways my life is close to my ideal'. Cronbach's alpha of the five items has been shown to be moderate to high, ranging from .74 to .87 (Diener et al., 1985; López-Ortega et al., 2016). In the current study, reliability for the SWLS scale was $\alpha = .84$.

Data Preparation, assumptions, and analyses

Data were prepared and analyzed with IBM SPSS 27.0 (IBM SPSS Statistics, IBM Corporation, Armonk, New York. The presence of outliers and influential cases was assessed by investigating Cook's distance and Mahalanobis distance, which have been computed by three regression analyses, each containing the three well-being measures as the dependent variable. Cook's distances, which are greater than one can be a cause for concern (Field, 2017). When including SWLS as a dependent variable, the highest cook's distance in the current sample was 0.09. When including positive affect as a dependent variable, the highest observed Cook's distance was 0.11, and when including negative affect as a dependent variable, the highest Cook's distance was 0.06. In total, the analyses contained six independent variables, namely the five personality factors and self-efficacy. According to Field (2017), with six predictors, Mahalanobis distances with values higher than 12.59 could indicate the presence of outliers. In the current sample, there were in total 28 cases with Mahalanobis distances that were higher than 12.59. The highest value was 32.63. After inspection of these influential cases, it was concluded that the high values were not due to impossible values or entry mistakes, but rather due to unusually high or low data on one of the six predictor variables. Since these data points are still valid and might contribute to important findings, it was decided to not exclude them from further analyses. In the current study, there were cases that displayed no data on either the FFPI questionnaire, the GSE questionnaire, or the three well-being measures. Therefore, it was not possible to calculate a composite score on these variables. These cases were therefore automatically excluded from the final mediation analyses.

For the final analyses, assumptions of mediation analysis were checked. Multicollinearity was assessed through the inspection of correlation coefficients and Tolerance/VIF values. The highest correlations among the predictor variables were between GSE and emotional stability ($r = .58$) and between autonomy and extraversion ($r = .58$). Since high correlations above .80 are a cause for concern (Field, 2017), correlations among

predictors in the current analyses do not cause a collinearity problem. Moreover, the observed VIF ranged from 1.03 to 2.20, and all tolerance values were higher than 0.1 with the lowest value being 0.45. Therefore, it can be concluded that no multicollinearity was present. Homoscedasticity and linearity were assessed by visual inspection of the plots of standardized residuals against unstandardized predicted values (see Figures 5, 6, and 7). The assumption of homoscedasticity, thus, the assumption that variances are equal for all values of SWLS, positive affect, and negative affect was found as the plots appeared to be approximately constantly spread. Linearity can be assumed as the residuals formed a horizontal band in the scatterplot. Finally, to see if residuals are normally distributed, histograms of residuals and P-P Plots were inspected (see Figures 8, 9, and 10). Residuals do not seem to be completely normally distributed, however, normality was still acceptable.

To test whether self-efficacy acts as a mediator on the relationship between personality and SWB, in total 15 regression-based mediation analyses estimating all paths depicted in Figures 2, 3 and 4 were conducted using PROCESS (Preacher & Hayes, 2004). Preacher and Hayes (2004) approach to test mediation assesses the statistical significance of the indirect effect, thus the path following the independent variable via the mediator to the dependent variable. As mentioned above, before running the analyses, assumptions of homoscedasticity, linearity, multicollinearity, and normality have been checked. For the first five mediation analyses, in PROCESS personality factors were each included as independent variables, SWLS as the outcome variable, and self-efficacy was included as a mediator variable. For the second five analyses, personality factors were included as independent variables, positive affect as the dependent variable, and self-efficacy as a mediator variable. Finally, in the third five analyses, personality factors were included as independent variables, and negative affect was included as the dependent variable, and self-efficacy was included as a mediator variable. Under options, the total effect model, effect size, and standardized coefficients have been checked. Using bootstrapping on 5000 samples and based on $\alpha = .05$ with a 95% confidence interval, the mediation hypotheses were either rejected or retained. Specifically, if the bootstrapped confidence interval of the point estimate of the indirect effect through the mediator does not include zero, the mediating effect can be regarded as significant (Preacher & Hayes, 2008).

Results

Preliminary analyses

Means, standard deviations, and Pearson correlations among all variables are presented in Table 1. Extraversion, emotional stability, and autonomy significantly correlated with SWLS, positive affect, and negative affect. Agreeableness correlated with negative affect, and conscientiousness corelated with SWLS and positive affect, specifically. Extraversion, emotional stability, and autonomy correlated most strongly with both SWLS, and positive affect (extraversion: $r = .42$, $p < .001$ and $r = .41$, $p < .001$; emotional stability: $r = .43$, $p < .001$ and $r = .38$, $p < .001$; autonomy: $r = .35$, $p < .001$ and $r = .37$, $p < .001$). Agreeableness was not associated with SWLS ($r = 0.02$, n.s.), and positive affect ($r = - 0.04$, n.s.). Regarding negative affect, extraversion, and emotional stability correlated most strongly (extraversion: $r = -.36$, $p < .001$; emotional stability: $r = -.49$, $p > .001$). SWLS, positive affect, and negative affect significantly correlated with self-efficacy (SWLS: $r = .32$, $p < .001$; positive affect: $r = .38$, $p < .001$; negative affect: $r = .27$, $p < .001$). Extraversion, emotional stability, and autonomy significantly correlated with self-efficacy (extraversion: $r = .35$, $p < .001$; emotional stability: $r = .58$, $p < 0.001$; autonomy: $r = .54$, $p < .001$) as well.

Table 1

Means, standard Deviations and correlations

	M	*SD*	1	2	3	4	5	6	7	8	9
1. Extraversion	73.32	12.62	(0.94)								
2. Agreeableness	80.10	9.28	.06	(0.88)							
3. Conscientiousness	69.82	10.11	.09	.35**	(0.89)						
4. Emotional Stability	72.31	10.99	.52**	.17**	.16*	(0.92)					
5. Autonomy	68.27	8.65	.58**	-.20**	.02	.57**	(0.86)				
6. Self-efficacy	28.89	3.99	.35**	-.03	.07	.58**	.54**	(0.85)			
7. SWLS	25.68	5.64	.42**	.02	.19**	.43**	.35**	.32**	(0.84)		
8. Positive Affect	34.17	6.49	.41**	-.04	.17**	.38**	.37**	.38**	.51**	(0.89)	
9. Negative Affect	19.72	6.79	-.36**	-.18*	-.09	-.49**	-.26**	-.27**	-.48**	-.46**	(0.87)

Notes: Internal consistencies (Cronbach's α) are shown in brackets on the diagonal.

* $p < .01$; ** $p < .001$

Main effects of personality on SWB

Simple mediation analyses were conducted to study the effect of personality factors on SWB, as well as to investigate whether this association will be mediated by GSE. Results showed that extraversion, conscientiousness, emotional stability, and autonomy had a significant direct effect on SWLS (see Table 2). Extraversion explained 17.34% (R^2 = .17; F (1,314) = 65.47; p <.001) of the variance in SWLS when GSE was not present in the model. Conscientiousness explained 3.62% (R^2 = .04; F (1,314) = 11.23; p <.001), emotional stability explained 18.38%% (R^2 = .18; F (1,314) = 70.26; p <.001), and autonomy explained 12.41% of the variance in SWLS (R^2 = .12; F (1,314) = 44.19; p <.001). Thus, a significant total effect of extraversion (b = .18, t = 8.09, p <.001), conscientiousness (b = .12, t = 3.42, p <.001), emotional stability (b = .22, t = 8.38, p <.001, and autonomy (b = .24, t = 6.65, p <.001), on SWLS was found. This means that extraversion, conscientiousness, emotional stability, and autonomy significantly predicted participants' levels of SWLS.

Extraversion, conscientiousness, emotional stability, and autonomy directly affected positive affect (see Table 3). Extraversion explained 16.81% (R^2 = .17; F (1,314) = 63.06; p <.001) of the variance in positive affect when GSE was not present in the model. Further, conscientiousness explained 2.49% (R^2 = .02; F (1,314) = 7.97; p <.005), emotional stability explained 34.57% (R^2 = .35; F (1,314) = 164.84; p <.001), and autonomy explained 14.69% of the variance in SWLS (R^2 = .15; F (1,314) = 53.75; p <.001). Thus, a significant total effect of extraversion (b = .21, t = 7.94, p <.001), conscientiousness (b = .10, t = 2.82, p = .005), emotional stability (b = .22, t = 7.19, p <.001, and autonomy (b = .30, t = 7.33, p <.001), in positive affect was found. This means that extraversion, conscientiousness, emotional stability, and autonomy significantly predicted participants' levels of positive affect.

Regarding negative affect, extraversion, agreeableness, emotional stability, and autonomy directly affected negative affect (see Table 4). Extraversion explained 13.41% (R^2 = .13; F (1,314) = 48.32; p <.001) agreeableness explained 2.57% (R^2 = .03; F (1,314) = 8.25; p = .004), emotional stability explained 23.70% (R^2 = .24; F (1,314) = 96.89; p <.001), and autonomy explained 7.24% of the variance in negative affect (R^2 = .07; F (1,314) = 24.34; p <.001) when GSE was not present in the model. Thus, a significant total effect of extraversion (b = -.20, t = -6.95, p <.001), agreeableness (b = -.12, t = -2.87, p = .004), emotional stability (b = -.29, t = -9.84, p <.001, and autonomy (b = -.22, t = -4.93, p <.001),

on SWLS was found. This means that extraversion, agreeableness, emotional stability, and autonomy significantly predicted participants' levels of negative affect.

Mediation analyses between personality, self-efficacy and subjective well-being

The influence of extraversion and autonomy on *SWLS* was significantly mediated by GSE. The overall model showed that Extraversion and GSE together explained 21.05% of the variance in SWLS (R^2 = .21; F (2,314) = 41.46; p <.001). Besides the significant total effect, the results showed that the direct effects (see table 2, path-c') of Extraversion (b = .15, t = 6.47, p <.001) and Autonomy (b = .17, t = 3.94, p <.001) on SWLS were also significant with GSE in the model (b = .15, t = 6.47, p <.001). Importantly, there was also a significant indirect effect of extraversion and autonomy on SWLS through GSE (extraversion: b = .03; BCa 95% CI: 0.01 to 0.05; autonomy: b = .07; BCa 95% CI: 0.02 to 0.12). The indirect effect tells us that GSE accounts for 16.72 % of the variance from extraversion to SWLS, and that GSE accounts for 29.07 % of the total variance from autonomy to SWLS.

Further, the effect of extraversion, emotional stability, and autonomy on *positive affect* were significantly mediated by GSE. The overall model showed that Extraversion and GSE together explained 23.27% (R^2 = .23; F (2,314) = 47.15; p <.001), Emotional stability and GSE together explained 17.97% (R^2 = .18; F (2,314) = 34.06; p <. .001), and Autonomy and GSE together explained 18.57% of the variance regarding positive affect (R^2 = .19; F (2,314) = 35. 46; p <.001). Results showed that the direct effect (see table 3, path-c') of Extraversion (b = .16, t = 6.02, p <.001), Emotional stability (b = .14, t = 3.72, p <.001), and autonomy (b = .19, t = 4.03, p <.001) on positive affect was also significant with GSE included in the model. There was a significant indirect effect of extraversion, emotional stability, and autonomy on positive affect through GSE: extraversion: b = .05; BCa 95% CI: 0.02 to 0.08; ES: b = .08; BCa 95% CI: 0.03 to 0.14; autonomy: b = .10; BCa 95% CI: 0.04 to 0.17. The indirect effects show that 22.42 % of the variance from extraversion to positive affect, 37.34 % of the variance from emotional stability to positive affect, and 34.92 % of the variance of the effect from emotional stability on positive affect can be explained by GSE.

The influence of extraversion and autonomy on *negative affect* was significantly mediated by GSE. The overall model showed that Extraversion and GSE together explained 15.72% (R^2 = .16; F (2,314) = 29.00; p <.001), autonomy and GSE together explained 31.62% of the variance in negative affect (R^2 = .32; F (2,314) = 144.28; p <.001). Present results showed that the direct effects (see table 4, path-c') of Extraversion (b = -.17, t = -5.62, p <.001) and Autonomy (b = -.14, t = -2.66, p = .008) on negative affect were also significant

when GSE was included in the model. Importantly, there was also a significant indirect effect of extraversion and autonomy on negative affect through GSE (extraversion: *b* = -.03; BCa 95% CI: -.06 to -.01; autonomy: *b* = -.08; BCa 95% CI: -0.14 to -0.01). The output tells us that GSE accounts for 15.03 % of the total variance from extraversion to negative affect, and that GSE accounts for 35.52% of the total variance from autonomy to negative affect.

Indirect associations between personality, self-efficacy, and SWB

Extraversion (*b* = .10, *t* = 6.39, *p* < .001), emotional stability (*b* = .20, *t* = 12.84, *p* < .001), and autonomy (*b* = .26, *t* = 12.01, *p* < .001) significantly predicted levels of GSE. Young adults with higher levels of extraversion, emotional stability, and autonomy displayed higher levels of GSE, compared to young adults who scored low on these personality factors. Results further showed that GSE was significantly related to *SWLS* when extraversion (*b* = .30, *t* = 3.82, *p* < .001), agreeableness, (b = .47, t = 6.03, p < .001), conscientiousness (*b* = .45, *t* = 5.86, *p* < .001), and autonomy (*b* = .27, *t* = 2.88, *p* < .001), were included in the model (see Table 2). GSE was significantly related to *positive affect* when all five personality disorders were included in the model as predictor variables as well (see Table 3): extraversion (*b* = .45, *t* = 5.11, *p* < .001), agreeableness, (*b* = .63, *t* = 7.18, *p* < .001), conscientiousness (*b* = .62, *t* = 7.08, *p* < .001), emotional stability (*b* = .40, *t* = 3.77, *p* < .001), and autonomy (*b* = .40, *t* = 3.85, *p* < .001). Thus, participants with higher levels of GSE also displayed higher levels of positive affect. GSE was significantly related to *negative affect* when extraversion (*b* = -.28, *t* = -2.92, *p* = .004), agreeableness, (*b* = -.48, *t* = -5.10, *p* < .001), conscientiousness (*b* = -.46, *t* = - 4.82, *p* < .001), and autonomy (*b* = -.30, *t* = -2.60, *p* =.01) where included in the model (see Table 4).

Table 2

Mediation of the Effects of Personality Factors on SWLS Through GSE

									Indirect effect		
									Point	BCa 95% CI	
	Path a		Path b		Path c		Path c’		ß	Lower	Upper
Scales	ß	p	ß	p	ß	p	ß	p			
Extraversion	**.10**	<.001	**.30**	<.001	**.18**	<.001	**.15**	<.001	**-.03**	.01	.05
Agreeableness	-.02	.47	**.47**	<.001	.01	.87	.01	.68	-.01	-.04	.02
Conscientiousness	.03	.19	**.45**	<.001	**.11**	<.001	**.09**	<.001	.01	-.01	.15
Emotional Stability	**.20**	<.001	.16	.09	**.22**	<.001	**.18**	<.001	.03	-.01	.07
Autonomy	**.26**	<.001	**.27**	<.001	**.24**	<.001	**.17**	<.001	**.07**	.02	.12

Note: CI = 95% confidence interval; 5,000 bootstrap samples; bold numbers are statistically significant

Table 3

Mediation of the Effects of Personality Factors on Positive Affect Through GSE

									Indirect effect		
									Point	BCa 95% CI	
	Path a		Path b		Path c		Path c’		ß	Lower	Upper
Scales	ß	p	ß	p	ß	p	ß	p			
Extraversion	**.10**	<.001	**.45**	<.001	**.21**	<.001	**.16**	<.001	**.05**	.02	.08
Agreeableness	-.02	.47	**.63**	<.001	-.04	.35	-.03	.47	-.01	-.05	.03
Conscientiousness	.03	.19	**.62**	<.001	**.10**	.005	**.08**	.013	.02	-.01	.05
Emotional Stability	**.20**	<.001	**.40**	<.001	**.22**	<.001	**.14**	<.001	**.08**	.03	.13
Autonomy	**.26**	<.001	**.40**	<.001	**.30**	<.001	**.19**	<.001	**.10**	.04	.17

Note: CI = 95% confidence interval; 5,000 bootstrap samples; bold numbers are statistically significant

Table 4

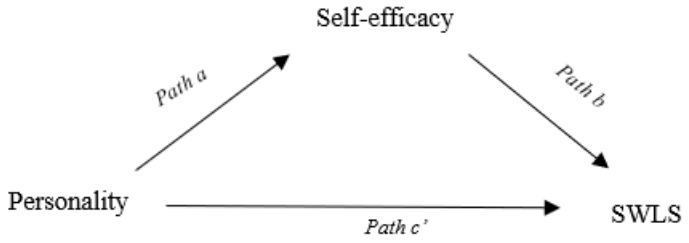
Mediation of the Effects of Personality Factors on Negative Affect Through GSE

									Indirect effect		
									Point estimate	BCa 95% CI	
	Path a		Path b		Path c		Path c'		ß	Lower	Upper
Scales	ß	p	ß	p	ß	p	ß				
Extraversion	**.10**	<.001	**-.28**	.004	**-.20**	<.001	**-.17**	<.001	**-.03**	-.06	-.01
Agreeableness	-.02	.47	**-.48**	<.001	**-.12**	.004	**-.13**	.002	.01	-.03	.04
Conscientiousness	.03	.19	**-.46**	<.001	-.05	.20	**-**.04	.34	-.01	-.04	.01
Emotional stability	**.20**	<.001	.05	.64	**-.29**	<.001	**-.30**	<.001	.01	-.04	.06
Autonomy	**.26**	<.001	**-.30**	.01	**-.22**	<.001	**-.14**	.008	**-.08**	-.14	-.01

Note: CI = 95% confidence interval; 5,000 bootstrap samples; bold numbers are statistically significant

Figure 2

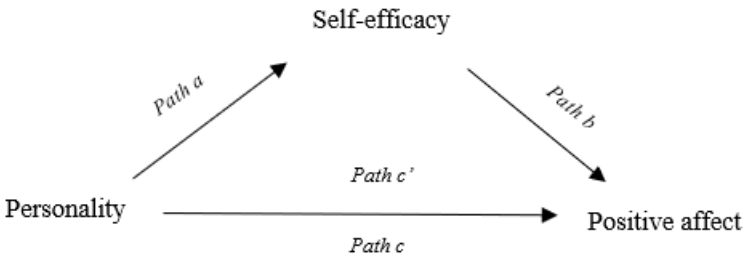
Schematic Representation of the First Five Mediation Models



Note: a= effect of the personality factors (extraversion, agreeableness, conscientiousness, neuroticism, and autonomy) on self-efficacy; b= the effect of self-efficacy on SWLS; c= the total effect of the personality factors on SWLS when self-efficacy is not included as a mediator; c'= the direct effect of the five personality factors on SWLS when self-efficacy is included as a mediator.

Figure 3

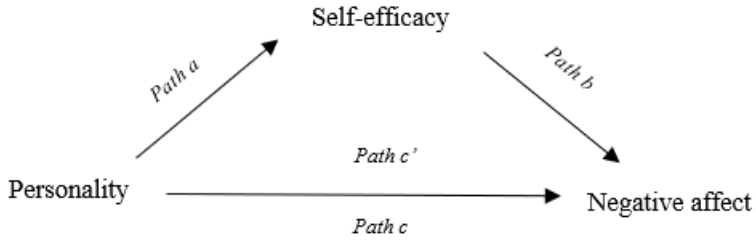
Schematic Representation of the Second Five Mediation Models



Note: a= effect of the personality factors (extraversion, agreeableness, conscientiousness, neuroticism, and autonomy) on self-efficacy; b= the effect of self-efficacy on positive affect; c= the total effect of the personality factors on positive affect when self-efficacy is not included as a mediator; c'= the direct effect of the five personality factors on positive affect when self-efficacy is included as a mediator.

Figure 4

Schematic Representation of the Third Five Mediation Models



Note: a= effect of the personality factors (extraversion, agreeableness, conscientiousness, neuroticism, and autonomy) on self-efficacy; b= the effect of self-efficacy on negative affect; c= the total effect of the personality factors on negative affect when self-efficacy is not included as a mediator; c'= the direct effect of the five personality factors on negative affect when self-efficacy is included as a mediator.

Discussion

Personality factors have long been a crucial and well-studied construct when investigating predictors of well-being. The main aim of the current study was to study the effect of personality factors on well-being in young adults and to investigate whether this association can be partly explained by general self-efficacy. In the current study extraversion, conscientiousness, emotional stability, and autonomy were predictive of both SWLS and positive affect. Young adults scoring high on these four personality factors had higher scores

on *SWLS* and *positive affect* as measures of SWB. Extraversion, agreeableness, emotional stability, and autonomy, on the other hand, were predictive of *negative affect*. Participants who scored high on these four personality factors reported lower scores on negative affect. Besides personality factors directly influencing SWB mediation analyses revealed that there was an indirect route via self-efficacy. Specifically, there was an indirect effect of extraversion, and autonomy on all SWB components via GSE: people high in extraversion and autonomy were not only predisposed to be more satisfied with their life, experienced more positive emotions, and had lower levels of negative affect than others but were also higher in self-efficacy which in turn increased their overall level of SWB. GSE also mediated the influence of emotional stability on positive affect: young adults who were more emotionally stable reported higher levels of self-efficacy, which increased their experience of positive affect as well. Thus, the results show different mediation effects of self-efficacy, depending on the personality trait and the well-being construct.

Direct associations between personality and SWB

The first aim of the present study was to investigate the main effects personality factors had on SWB. Based on studies by Anglim et al. (2020) and Librán (2006), our first hypothesis predicted a significant total effect of extraversion, conscientiousness, agreeableness, and emotional stability on SWB. This hypothesis was partially confirmed: extraversion, emotional stability, and autonomy were predictive of SWLS, positive affect, and negative affect; conscientiousness was predictive of SWLS and positive affect; agreeableness was predictive of negative affect.

Rather surprisingly, extraversion and emotional stability were not the strongest predictors of SWB, as previous studies have suggested (Diener, 2009; Marcionetti & Rossier, 2016). In the present study effect sizes show that autonomy was the strongest predictor of both SWLS and positive affect. Previous studies which have explored the importance of autonomy on SWB, have found similar findings. A study by Olesen et al. (2015) showed that autonomy orientation predicted SWB above extraversion and emotional stability. Autonomy has been described as a personality trait that is characterized by the ability to make independent decisions, to not feel social pressures to conform, and to maintain independent opinions (Perugini & Ercolani, 1998). Therefore, autonomous individuals probably regulate their behavior and needs according to their own goals. All in all, this study confirms previous findings that autonomy plays an essential part in influencing SWB.

The finding that extraversion, conscientiousness, and emotional stability were also predictive of both SWLS and positive affect, is mostly in line with recent research (Anglim et al., 2020). Since the experience of positive affect is one core facet of extraversion (Costa Jr. & McCrae, 1995), the association with positive affect was to be expected. The association with SWLS, however, also shows that extroverted people are also more satisfied with their lives. This association might as well be because they experience more positive emotions, which contributed to interpret life events positively (Olesen et al., 2015). Another hypothesis might also be that the more social aspect of extraversion leads to a social support system that positively influences life satisfaction. Conscientiousness had a direct effect on life satisfaction and positive affect, confirming findings by Anglim et al. (2020). There are different possible explanations for this association. One explanation might be the fact that self-control helps to attain long-term goals in areas such as health, family, or work instead of pursuing short-term pleasures (Roberts et al., 2014). Thus, people who are more conscientious might be more satisfied because their self-discipline helps them to achieve their goals with less effort. The fact that emotional stability was predictive of SWLS and positive affect shows that low emotional stability is not only highly predictive of negative affect, but that being emotional stable is also significantly influencing life-satisfaction and positive affect. Contrary to studies by DeNeve and Cooper (1998) and Librán (2006) agreeableness did not predict SWLS and positive affect. Since agreeable people are more altruistic, trusting, helpful (Weiner & Greene, 2017), which should also promote more positive experiences in social situations, this finding is rather surprising and need to be studied further.

Regarding negative affect, emotional stability was, as predicted, the strongest predictor. People who display high levels of emotional stability are more likely to experience less negative affect. As previous studies have suggested, being emotionally unstable is correlated with negative feelings such as anger, anxiety, or depression (John & Srivastava, 1999). Emotional stability, on the other hand, is correlated with even-temperedness and calmness (John & Srivastava, 1999). Being emotionally stable thus seems to be a protective factor that predisposes people to experience less negative affect. Extraversion and autonomy negatively predicted negative affect as well. Since these personality factors are predictive of SWLS and positive affect, this finding might not come as a surprise. Finally, people high on agreeableness displayed lower levels of negative affect. The relationship might be attributed to prosocial and trusting individuals experiencing positive events in their lives, which leads them to trust people easily which helps to cultivate positive relationships and decrease conflict (Anglim et al., 2020). This in turn might lead to the experience of less negative

affect. Contrasting the initial hypothesis, and studies by Steel et al. (2008), conscientiousness was not predictive of negative affect. Altogether, given that extraversion, agreeableness, conscientiousness, emotional stability, and autonomy seem to be important determinants of SWLS, positive affect, and negative affect, these results confirm the importance of studying additional personality factors as determinants of SWB.

Mediation by general self-efficacy

The second aim of this study was to investigate whether GSE acts as a mediator on the relationship between personality factors and SWB. Therefore, three hypotheses were addressed that contained the mediation between personality and each of the well-being components. Hypothesis two predicted that GSE would mediate the association between extraversion, conscientiousness, emotional stability, and SWLS. This hypothesis was partly confirmed as the effect of extraversion, but not the effects of conscientiousness and emotional stability, on SWLS, were significantly mediated by GSE. Further hypotheses three and four predicted a mediation of the effect of conscientiousness on positive affect and negative affect through GSE. These hypotheses were not confirmed. Additionally, this study aimed at exploring the effect of autonomy on SWB, and a possible mediation through GSE. Surprisingly, the effect of autonomy on all three SWB components was mediated by GSE. In summary, the present results partly confirm findings by Strobel et al. (2020), but there were also novel, as well as contrasting findings that need to be addressed.

First, a noteworthy finding of the present study is that the effect of autonomy was mediated by GSE on all SWB components. Current results show that people who are more autonomous also tend to have higher levels of GSE and that the combination of autonomy and GSE is also predictive of all components of SWB. Again, autonomy is characterized by making own, reflective, and independent choices (Hendriks et al., 2002). Previous studies have also found positive associations between autonomy and characteristics such as intellect, self-awareness, and sensitivity to others (Perugini & Ercolani, 1998). Additionally, autonomy has also been shown to predict GSE (Perugini & Ercolani, 1998), a finding that could be replicated by the current study. The fact that autonomy correlated with cognitive aspects such as intellect and self-efficacy thus explains the mediation effect. In fact, one could argue that to make own independent choices, one needs to have a certain amount of self-efficacy. People who have high levels of autonomy seem to believe in their abilities and strengths, which makes them self-sufficient, and approach oriented. These qualities strengthen their

GSE, which seems to additionally influence their overall life satisfaction, as well as their ability to experience more positive, and less negative emotions.

Further, this study confirms findings by Strobel et al. (2010) that part of the effect of extraversion on SWLS is accounted for by GSE. This shows that extraversion leads people to believe in themselves and their overall capabilities, which partly accounts for experiencing higher levels of subjective well-being. Furthermore, to the best of our knowledge, it is the first study that shows that extraversion is also mediated by GSE on positive affect and negative affect as affective measures of SWB. This finding contrasts findings by Strobel et al. (2010), as they did not find a significant mediation of GSE between extraversion and subjective happiness. These contrasting findings might be because the subjective happiness scale (SHS) is specifically tailored to assess affective emotions regarding happiness or feeling happy. The positive and negative affect scale, on the other hand, assess more global component of positive and negative emotions. Therefore, it might be possible that GSE mediated the effect of extraversion on more general emotions, whereas it does not mediate the influence of extraversion on subjective happiness specifically.

Contrasting findings by Strobel et al. (2020), this study did not find a mediation effect of conscientiousness on SWLS, positive affect, or negative affect through GSE. This seems rather surprising, since conscientiousness is characterized by a high degree of self-discipline and self-control (Weiner & Greene, 2017), so it is plausible to assume that GSE, which describes the belief in oneself and ones' abilities, would explain part of the association between conscientiousness and SWB. These results also contradict the findings by Strobel et al. (2011), as their study reported significant mediations of GSE on the relationship between conscientiousness and SWLS and subjective happiness, which they used as an affective measurement of SWB. Conscientiousness also was not directly affecting GSE. An explanation for not finding an association between these variables might be that overly high levels of conscientiousness also come with a certain amount of self-criticism and a pressure to perform well. However, since this finding contracts most research on this topic, this hypothesis needs to be treated with caution. Additionally, since conscientiousness did have a direct effect on life satisfaction and positive affect, another third variable such as achievement or success might mediate this association.

Another striking finding was that emotional stability was mediated by self-efficacy only regarding positive affect, but not regarding SWLS. In their study, Strobel et al. (2010) found a mediation effect of self-efficacy between low emotional stability neuroticism and life satisfaction. This study could not replicate this finding. GSE also did not mediate the effect of

emotional stability on negative affect. Since emotional stability had a direct effect on SWLS and negative affect, it might again be that the effect of emotional stability on life satisfaction and negative affect is mediated by another variable, or that the effect of being emotionally stable on SWLS and negative affect is in itself so strong that other cognitive mechanisms, such as self-efficacy, play no further role. Self-efficacy, however, does seem to mediate the relationship between emotional stability and positive affect. Thus, high levels of emotional stability led to higher levels of self-efficacy, which again may result in higher levels of positive affect. This suggests that there is a specific relationship between emotional stability, GSE, and positive affect. Exactly why GSE mediated the relationship between emotional stability and positive affect, but not between emotional stability and negative affect, is unclear, and need to be studied in future research.

Implications to foster well-being

The results of the present study could have several practical implications. In this study, significant direct effects were found, linking personality factors to subjective well-being measures, as well as significant indirect effects of extraversion, emotional stability, and autonomy to subjective well-being through self-efficacy. This shows that in young adults, personality factors influence both self-efficacy as well as well-being. Extraversion, emotional stability, and autonomy seem to be especially important for predicting self-efficacy, as well as well-being. Self-efficacy also accounts for a part of this relationship, which helps to explain the underlying mechanisms. As self-efficacy contributes to increasing well-being, interventions that focus on promoting self-efficacy might be effective in helping individuals who are susceptible to low levels of subjective well-being. Studies have thus far mostly focused on increasing self-efficacy to promote health behaviors and found that vicarious experiences and feedback techniques were successful in increasing self-efficacy (Ashford et al., 2010). Moreover, studies have also shown that it is possible to improve certain personality characteristics through tailored interventions (Roberts et al., 2017). Individuals who tend to be high on neuroticism have been shown to become more emotionally stable with interventions which help them to cope with negative feelings and address negative thought about themselves and the world (Sauer-Zavala et al., 2017). Individuals with low levels of conscientiousness, on the other hand, have shown to improve their self-control with cognitive and behavioral training interventions and mindfulness practices (Friese et al., 2012; Smith et al., 2019). In summary, investigating additional factors that potentially function as mediators and moderators helps to understand why specific personalities are more satisfied

with their lives and feel more positive. This, in turn, might help to target specific interventions to promote well-being.

Strengths and limitations

The study at hand has several strengths, as well as limitations. First, data were collected with a longitudinal dataset, whereas previous studies have mostly used cross-sectional data. Therefore, in this study, it was possible to guarantee that the measure of personality factors preceded the measure of SWB in time. Secondly, the sample consisted of a relatively large (N= 314), and heterogenous sample, since participants varied in their educational levels and their gender. Although the sample was relatively heterogeneous, all participants were of Belgian nationality. This raises the question of whether these results can be generalized to other populations as well. It might, for example, be that personality factors do not have a major effect on well-being from more collectivistic cultures, but that factors such as family relations play a bigger part. Investigating the relationship between personality, self-efficacy, and SWB in non-western cultures would thus contribute to understanding more about the generalizability of present findings. Additionally, replicating the study with different age groups, such as in children and in elderly people would be also beneficial. A second limitation is that the used questionnaires consisted only of self-report measures. This could have led to social desirability in participants. Although the scale scores of the FFPI were corrected for acquiescence, this was not done for the other questionnaires. Thirdly, this study used the subjective well-being questionnaire as a measure of well-being, and the FFPI as a measure of personality. Although these two constructs have been most widely used, it would be interesting to also include different aspects of well-being, such as psychological well-being, and additional personality factors besides the big five.

Future research

Further studies are needed to replicate present findings and to help fully establishing the relationship between personality, GSE, and SWB. Additionally, studies could contribute to the present research topic by studying the potential influence of additional third variables that would potentially further clarify the relationship between personality and well-being. It would be also interesting to investigate the interactive effects between personality and well-being, and whether there potentially is a reverse causation. Moreover, studying additional age groups as well as different nationalities could shed more light on the generalizability of present findings. The inclusion of observational measures from third parties such as siblings,

or friends might also help to control for social desirability. Finally, future studies could contribute to the framework of subjective well-being by investigating additional predictors, such as social support, relationships, or social media.

Conclusion

Subjective well-being is an important construct that measures both cognitive aspects of well-being as well as more affective, emotional states. Since SWB is seen as an indicator for health and other areas of well-being in general, studying potential predictors will be beneficial not only for mental health consumers, but also for society in general. Therefore, it is crucial to develop and implement educational programs and interventions that aim at strengthening SWB. The present study confirms the importance of personality factors as determinants of well-being in early adults: in the current study extraversion, emotional stability, and autonomy had a direct effect on SWB. Additionally, besides directly influencing SWB, these personality traits also indirectly influence SWB through GSE. This study adds to the existing literature regarding determinants of SWB. It also suggests that different personality factors might influence SWB via different mechanisms and that these must be studied further to fully understand the complex relationship between personality predispositions and well-being.

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Appendix

Figure 5

Scatterplot of the Standardized Residuals and the Standardized Predicted Value of SWLS

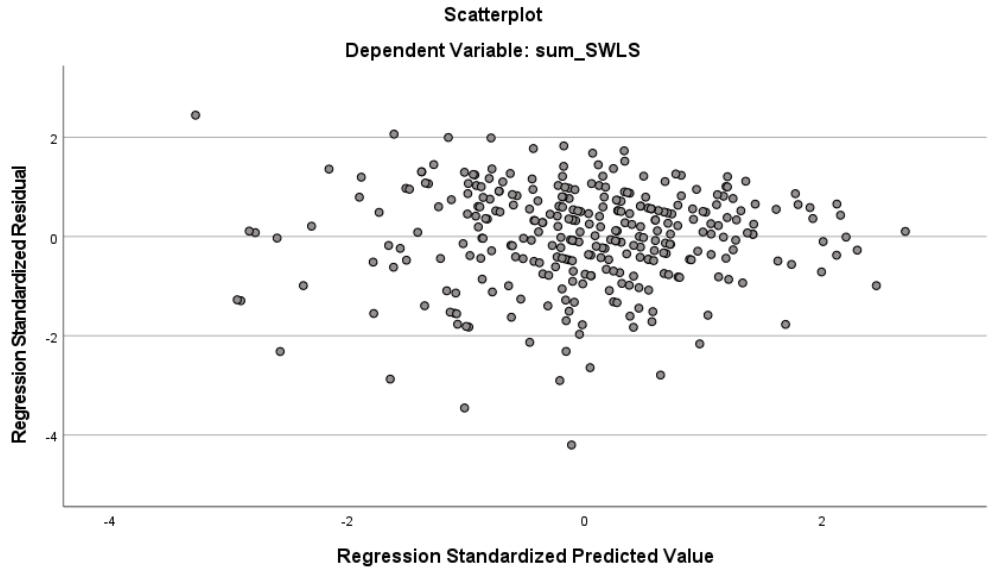

Figure 6

Scatterplot of the Standardized Residuals and the Standardized Predicted Value of Positive affect

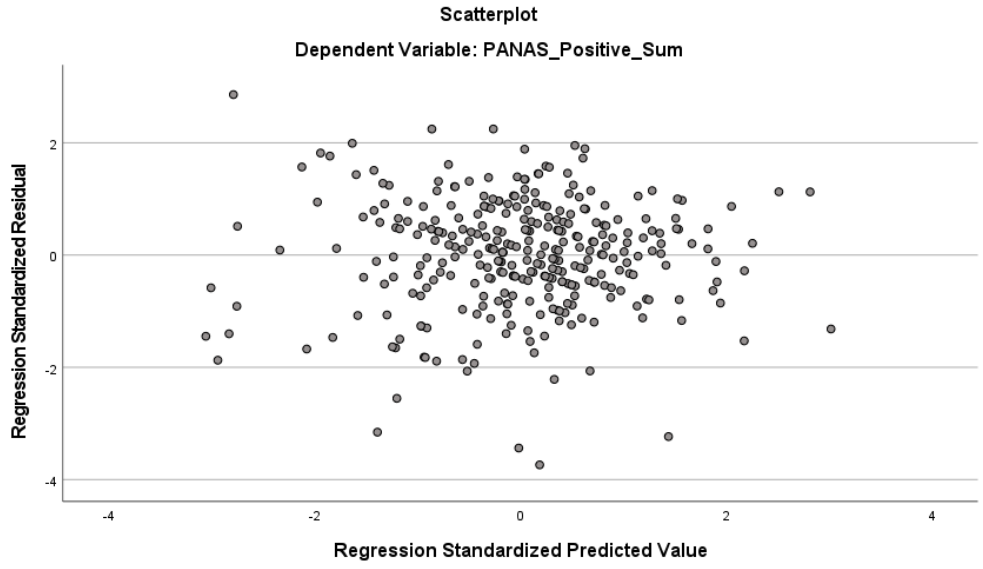

Figure 7

Scatterplot of the Standardized Residuals and the Standardized Predicted Value of Negative Affect

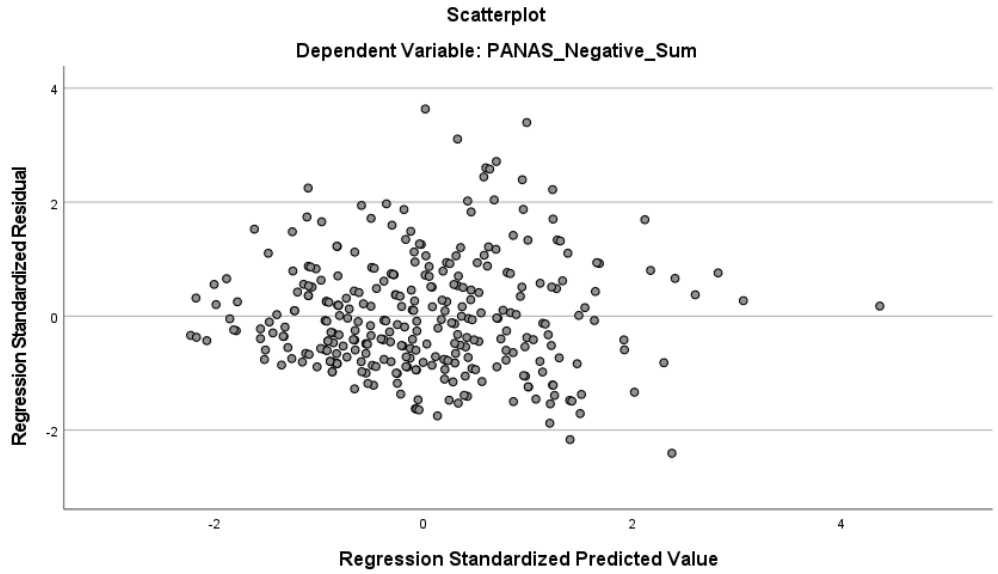

Figure 8

Histogram and P-P Plot of SWLS

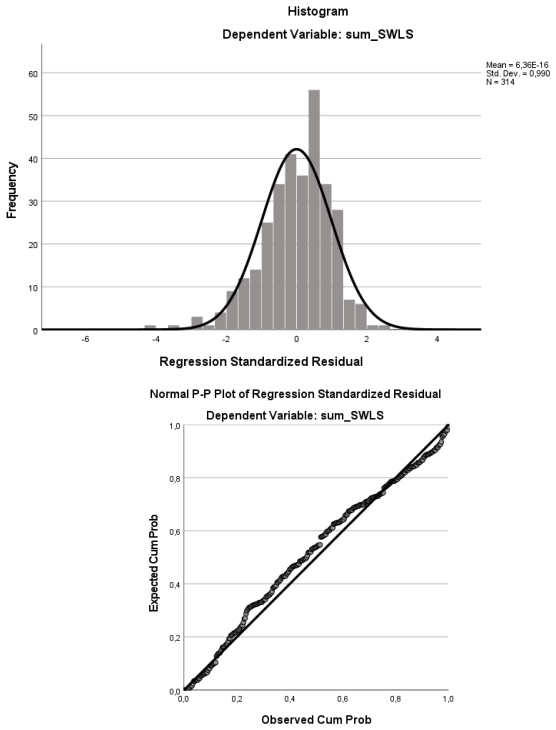

Figure 9

Histogram and P-P Plot of Positive affect

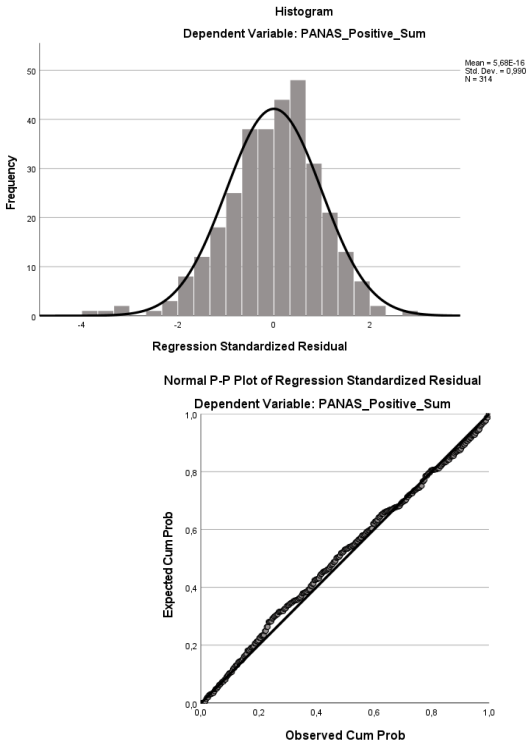

Figure 10

Histogram and P-P Plot of Negative Affect