

UNIVERSITY OF TWENTE.

The Relationship between Strengths and Subjective Well-being among University Students

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Bachelor Thesis

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Abstract

Mental health is considered to play an important role in the well-being of individuals. However, threats to well-being arise in conjunction with meritocracy, e.g. academic stress and performance pressure have a negative impact on individuals' well-being. Although there are interventions to counteract these threats to well-being, one method proves to be especially useful, namely strength-based interventions. The aim of the current study was to assess the relationship between strengths and subjective well-being among university students, by utilizing the VIA-120 and the Comprehensive Inventory of Thriving. It was hypothesised that hope, zest, love, humour, curiosity, and gratitude are connected to subjective well-being. A voluntary sample of $N = 172$ students from the University of Twente ($M_{\text{age}} = 21.26$, $SD_{\text{age}} = 1.8$) participated in the study. The strengths were assessed by means of the VIA-120 which served as the independent variable. Subjective well-being was assessed by the Comprehensive Inventory of Thriving, including its dimensions such as life satisfaction, positive affect, and negative affect that were treated as dependent variables. Results show that subjective well-being, life satisfaction and positive affect seem to have an interconnection with hope and zest. Love, gratitude and curiosity appear to be associated with life satisfaction. Besides, positive affect shows to be marginally correlated with love and gratitude. No strong correlations between the strengths and negative affect were found. Various reasons can account for the low well-being of students, however, by focusing on the strengths of the heart, be it in strength-based interventions or individually, the subjective well-being of individuals can be positively influenced. Limitations of the study, as well as recommendations for promoting well-being, are proposed.

Table of Contents

Introduction	4
Well-being	4
Positive Psychology	5
Strengths and Well-being	6
Current Study	7
Participants	8
Materials	8
Values in action- 120.	8
Comprehensive inventory of thriving.	9
Data analysis	10
Results	11
Descriptives	11
Association of Strengths and SWB	13
Association of Character Strengths and Life Satisfaction	13
Association of Character Strengths and Positive affect	14
Discussion	14
Limitations	16
Recommendations	17
Conclusion	17
References	18
Appendix A	22
VIA	22
CIT	26
Appendix B	30
Appendix C	31

List of Tables and Figures

Table 1	13
Table 2	14
Table 3	24

Introduction

Well-being

Nowadays, not only physical health but also mental health is considered to be an important factor in the well-being of individuals. According to the hedonistic well-being theory proposed by Kahnemann et al. (1999) well-being can be divided into two overall components, where the first one is psychological well-being (PWB) and the second is subjective well-being (SWB) (Deci & Ryan, 2008). PWB consists of six dimensions, namely relationship, autonomy, engagement, mastery, optimism, and meaning. SWB can be divided into three components, namely life satisfaction, positive affect and negative affect. Life satisfaction constitutes the cognitive component of SWB, whereas positive and negative affect form the emotional component (Deci & Ryan, 2008).

PWB and SWB are crucial in order to approach a healthy society because health cannot exist without mental health (WHO, 2019). The World Health Organisation (2013) emphasises the importance of well-being, since “the promotion and protection of mental health and well-being are public health priorities”. Threats to well-being arise in specific population groups, such as workers and students. For instance, the well-being of students in higher education is at risk, due to the increasing academic pressure in our meritocracy (McClain & Abrahamson, 1995). In fact, Sloboda (1990) underlines the negative impact of decreased well-being on academic performance. Also low well-being can originate in stress. It is emphasised that negative consequences, such as anxiety and depression, can arise when being under the influence of academic stress (Ragheb & McKinney, 1993).

In order to counteract low well-being marked by depression, anxiety or stress, several pathologically oriented interventions have been designed, such as the Multiple Stress Management Intervention. However, criticism against the traditional methods of promoting well-being is continuously disseminated. For instance Park, et al. (2004) scrutinise the effectiveness and inconsistencies appearing in such interventions. Moreover, character education programs, which are part of the pathological movement, are criticised for giving behavioural guidelines instead of encouraging introspective and self-reflective thinking to cultivate well-being (Park, et al., 2004; Proctor, et al., 2011). An alternative to the traditional methods is provided by positive psychological interventions.

Positive Psychology

Positive psychology is the scientific study of what enables individuals to ‘flourish’ in their specific and subjective environment (Seligman & Csikszentmihalyi, 2000). In contrast to traditional pathological interventions, positive psychology focuses on enhancing human well-being by means of one’s individual positive characteristics rather than correcting weaknesses. It is based on the assumption that human beings can flourish and living the good life when utilising their individual strengths, pursuing meaningful relationships, contributing to society, and allow pleasure and joy (Seligman, 2011). Peterson (2008) points out that relying on personal strengths and resources cannot only cure mental illness but also prevents it. Nevertheless, the positive psychology domain does not neglect threats to well-being nor does it ignore existing weaknesses. Instead, it aims at promoting a holistic picture of individuals by considering positive as well as negative aspects of life and distributes equal awareness to all relevant components of human functioning.

As the domain of positive psychology rises, related interventions show to be effective in enhancing well-being and oppose symptoms of mental conditions (Sin & Lyubomirsky, 2009). Seligman et al. (2009) found that positive psychological methods to promote well-being are reliable and decrease depressive symptoms. For instance, Cohen and Miller (2009) found that interpersonal mindfulness training (IMT), which belongs to the positive psychology domain, is helpful in decreasing stress in psychology students. Also, Oman et al. (2008) successfully reduced stress symptoms in college students by exposing them to mindfulness-based stress reduction (MBSR). The most prominent positive psychological approach to enhance well-being is strength use, which not solely promotes well-being but also shows to be effective in increasing work performance (Dubreuil, et al., 2016). So far research suggests the use of strengths in order to counteract declined well-being, but it remains disputable whether specific strengths positively influence well-being and therefore support the overcoming of obstacles like depression or stress. Yet, it is clear that self-esteem is an important mediator in well-being (Protcor, Maltby, & Linley, 2011), although there is a missing connection to particular strengths. Wood et al. (2011) point out that further research is required in order to determine if the use of strengths or the possession of idiosyncratic strengths facilitate well-being, which in turn can be used to design strength related interventions in order to overcome diminished well-being originating in e.g. academic stress.

Strengths and Well-being

One of the strengths that are considered to play an important role in subjective well-being is zest. Zest is the strength of great enthusiasm, energy eagerness and interest (Cambridge Dictionary, n.d.). Moreover, by balancing challenging and appealing experiences in life, an individual with zest encounters a life full of fun and charm (Proyver, Ruch & Buschor, 2013). For instance, according to Peterson et al. (2007), zest is one of the strengths that contribute most to one's life satisfaction alongside curiosity, hope, love, and gratitude.

Various other strengths showed to have more impact on SWB than others. So, for example, hope, love, gratitude, zest and curiosity are considered to have a positive effect on SWB, specifically on life satisfaction (Park, et al., 2004; Peterson, 2008). These powers are also called “strengths of the heart” because they belong to the life of engagement and the life of meaning.

Existing research promotes the role of the strengths of the heart and scrutinising the relation of them with subjective well-being and its dimensions of life satisfaction, positive affect and negative affect. For example, Hausler et al. (2017) investigated the impact of VIA strengths on well-being and concluded that hope, zest, curiosity, gratitude and love correlate positively and most with SWB. Furthermore, Park et al. (2004) emphasise that a high level of zest and hope can be associated with elevated life satisfaction and the other way around. Agreement prevails with another study by Proctor, et al. (2011), where zest and hope were identified to have an association with life satisfaction.

On the other hand, different strengths, not included in the strengths of the heart, show to have an impact on SWB. Among older adults, Isaacowitz, Vaillant, and Seligman (2003) claim that also spirituality positively influences life satisfaction. Martinez-Marti and Ruch (2014), add the strengths of perseverance to the list of strengths associated with life satisfaction.

Besides the constituent dimensions of SWB namely life satisfaction, positive and negative affect can be associated with particular strengths. In a meta-analysis of existing research, Harzer (2016) identifies zest, hope, and curiosity to be positively correlated with PA. Additionally, Martinez-Marti and Ruch (2014) identified humour, gratitude, and love to be associated with positive affect alongside zest and hope. Negative affect was found to be positively correlated with hope, humour, zest, honesty, and open-mindedness (Martinez-Marti, & Ruch, 2014). Furthermore, along with hope, zest, and curiosity, Harzer (2016) indicates that humour is additionally associated with NA.

Current Study

The current study aims to assess whether there is a relationship between specific strengths and the subjective wellbeing of university students. All components of the SWB concept, namely life satisfaction, positive affect and negative affect are observed separately and as a global construct to determine the relationship between specific strengths and SWB in general. Therefore, the research question is:

Which character strengths are associated with subjective well-being among university students?

So far, research lacks consensus in a detailed analysis of the relationship between specific strengths and the three separate aspects of SWB (Hausler et al., 2017) life satisfaction, positive affect, and negative affect across different populations. Therefore, respective sub-questions arise.

Sub-question 1: Which character strengths are most strongly associated with life satisfaction?

Sub-question 2: Which character strengths are most strongly associated with positive affect?

Sub-question 3: Which character strengths are most strongly associated with negative affect?

As Harzer (2016) gives an extensive overview of previous research that identifies correlations of strengths and aspects of SWB, the hypotheses for the respective sub-questions are extracted from her publication. The respective hypothesis for each sub-question is listed below.

Hypothesis 1: Hope, zest, curiosity, gratitude, and love are most strongly associated with life satisfaction.

Hypothesis 2: Zest, hope and curiosity are most strongly associated with positive affect.

Hypothesis 3: Hope, zest, humour, and curiosity are most strongly associated with negative affect.

Methods

Participants

The current study included a voluntary sample of 172 students from the University of Twente ($M_{\text{age}} = 21.26$, $SD_{\text{age}} = 1.8$; 82.2% female, 17.8% male) who participated in the study via the test subject platform SONA in exchange for 0.75 course credits. Inclusion criteria for participation in the study were (1) being over 18 years of age, and (2) being enrolled at a university. Participants who were under-aged while completing the study or those who were not enrolled university students were excluded from the data, as well as incomplete forms. Informed consent was given online by the participants themselves before completing the online survey. The study was approved by the BMS ethics committee of the University of Twente under the approval number 190378.

In order to exclude non-valid cases, extreme outliers were deleted from the data by adding three times the interquartile range to the third quartile or respectively subtracting the IQR multiplied by three from the first quartile. The following equation was used:

$$Q3 + 3*IQR \text{ and } Q1 - 3*IQR$$

Two extreme outliers could be identified, namely case 9 and case 116 that exceeded the cut-off point above the 3rd quartile (N=169).

Materials

As the current study was part of a larger research with a shared participant pool, the total survey consisted of the Rosenberg Self-Esteem Scale, the Strengths Use Scale (SUS), the Comprehensive Inventory of Thriving (CIT), and the Values in Action Inventory of Strengths (VIA-120). The current study focused only on the VIA-120 and the SWB dimension of the CIT.

Values in action- 120.

To assess the character strengths of the participants, VIA-120 by Peterson and Seligman (2004) as a measurement instrument was chosen. The VIA-120 is a questionnaire involving 120 items, each provided with a 5-point Likert-scale. In total, the VIA-120 comprises six overall virtues namely transcendence, temperance, justice, humanity, courage, and wisdom. Additionally, every virtue is subdivided in three to five particular strengths. For example, the virtue of justice includes the three strengths fairness, leadership, and teamwork. Altogether, the VIA includes

measurement of 24 character strengths, which are presented in Appendix A. Regarding the psychometric properties, the internal consistency reliability is .79 and the validity coefficients lie between .39 and .50 (VIA Institute on Character, 2019). The complete questionnaire can be found in Appendix A.

Comprehensive inventory of thriving.

The Comprehensive Inventory of Thriving (CIT) developed by Su, Tay and Diener (2014) measures psychological as well as subjective well-being. The CIT has 54 items which are distributed to the seven following dimensions, namely (1) relationship, (2) engagement, (3) mastery, (4) autonomy, (5) meaning, (6) optimism, and (7) subjective well-being.

The dimension of subjective well-being (SWB) includes the subscales of *life satisfaction* (LS), *positive affect* (PA) and *negative affect* (NA). Each subscale has three items that are provided with a 5-point Likert-scale ranging from strongly agree to strongly disagree. In total, nine items of the CIT are considered in the data analysis. According to the International Association of Applied Psychology (2014), the psychometric properties of the CIT are high in reliability and internal consistency. Su, Tay, and Diener (2014) demonstrated a good test-retest reliability ranging from .57 to .83, and a good internal consistency with $\alpha = .71$.

For the purpose of this study, solely the CIT dimension of subjective well-being was relevant. Therefore, the nine items regarding the SWB dimension were included in the processing of the results of the tests. According to the authors, the subscales can be used on their own or in combination with the other subscales (Su, Tay and Diener, 2014). The complete questionnaire can be found in Appendix A.

Statistical tests to assess the reliability and validity of the data were performed. As the Cronbach's Alpha value could be determined .87, which is considered a good internal consistency according to George and Mallery (2003). Since the data met the assumptions of a bivariate normal distribution, linear relation, and being at an interval or ratio level (Schober, Boer, & Schwarte, 2018), the Pearson Product Moment Correlation was used in order to define the validity of the data. As the items did not exceed the significance level of .05, the validity of items could be assumed.

Procedure

Participants were asked to complete a self-administered online questionnaire, which was published on Qualtrics. Additionally, the participants had the opportunity to conduct the study

via the University of Twente intern online platform, named SONA where a link to Qualtrics was provided. The survey could be accessed and terminated via any electronic devices with an internet connection. Time and location of the study conduction and completion were not specified, except for the end date.

Informed consent, as well as relevant information regarding the nature of the study, were digitally presented in advance to the participants. Also, the opportunity to quit participation at any time was pointed out repeatedly. The completion time of the questionnaire was estimated at 30-45 minutes, however the participants were not given a time limit. During the completion, the participants were informed when a new topic was introduced, as the study comprised four different measurement instruments. First, demographic information was demanded, then the VIA-120, SUS, CIT, and Rosenberg Self-esteem scale were presented in this particular order. In the current study, the strengths that are assessed by means of the VIA-120 served as the independent variable and SWB assessed by the CIT as well as all of his dimensions like LS, PA, and NA were treated as dependent variables.

As all items were provided with a Likert-scale, the ticked box is counted as a response. In the end, information and contact details of the researchers were procured to give participants the opportunity to ask possible questions or request the results.

Data analysis

All data were transferred to SPSS 25.0 with the purpose of statistical analyses. First, the data were screened according to the exclusion criteria of being under-aged and not following an educational program at a University. Also, incomplete data was removed as well as data with an error of extreme tendency that is the intentional tendency of opting the highest or lowest answer option permanently. For the current study, only data from the VIA-120 and the SWB dimension of the CIT were used.

To gather an overall picture of the data, descriptive statistics like means and standard deviations were calculated. Further, floor- and ceiling effects were screened out. Extreme outliers were removed in order to eliminate bias by means of the interquartile range. Next, the validity and reliability of the data were determined. The reliability of the data was investigated by means of Cronbach's Alpha, whereas for the validity analysis the Pearson Product Moment Correlation was used after checking for normal distribution. To answer the research question *'Which character strengths are associated with subjective well-being among university students?'*, character strengths were identified as the independent variable and subjective well-

being was determined to be the dependent variable. Statistically, the research question is answered by means of Pearson's R.

Therefore, each of the 24 strengths included in the VIA-120 was correlated with the total score of SWB as well as its underlying subscales life satisfaction, positive affect and negative affect. The correlation table was then screened for significant correlations ($p \leq 0.01$ or $p \leq 0.05$) between the particular strengths and SWB, LS, PA, and NA. Then, moderate to very strong correlations were reported. For the determination of strengths of correlations, Evans (1996) guidelines are used, which can be found in table 1.

Table 1

Strength of Correlations Stated at Determined Correlation Coefficients (r)

Strength	r
Very Weak	.00-.19
Weak	.20-.39
Moderate	.40-.59
Strong	.60-.79
Very Strong	.80-1.0

Note: Adapted from *Straightforward Statistics for the Behavioural Sciences* by J.D. Evans, 1996, Belmont, CA: Thomson Brooks/Cole Publishing Co. Copyright by Brooks/Cole Pub. Co., ©1996.

Results

In order to determine the correlation of individual strengths and subjective well-being (SWB) including life satisfaction (LS), positive affect (PA) and negative affect (NA), statistical computations performed. First, extreme outliers were identified and erased from the data, then descriptive statistics were presented.

Descriptives

The participants achieved an average SWB of $M_{swb} = 20.5$, whereas 43 was the maximum score obtained and 9 the minimum score, although a maximum of 45 was possible, see table 2. The

strengths with the highest scores obtained were self-regulation ($M(168) = 14.59$), spirituality ($M(169) = 16.44$), forgiveness ($M(167) = 13.1$) and love of learning ($M(169) = 13.46$). As displayed in table 2, the skewness shows that the normality of data was given.

The strengths that are hypothesised to be strongest associated with SWB are hope, zest, curiosity, gratitude, humour, and love. For hope, the scores ranged from 5 to 25 ($M = 12.23$, $SD = 3.5$). The range for zest was also 5 to 25 ($M = 12.8$, $SD = 3.0$). As can be seen in able 2, scores between 5 and 25 were obtained for curiosity ($M = 12.14$, $SD = 3.06$). Gratitude ranged from 5 to 22 ($M = 11.84$, $SD = 3.0$). The scores for love ranged from 5 to 22 ($M = 10.36$, $SD = 3.56$). Humour had a range of 5 to 21 ($M = 10.22$, $SD = 3.28$). Descriptive statistics of all strengths are listed below.

Table 2

Descriptive Statistics of the Major Study Variables

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	Range		Skew
				Actual	Potential	
<i>dependent</i>						
SWB	168	20.5	6.57	9-43	9-45	1.04
LS	170	7.00	2.22	3-15	3-15	.90
PA	169	6.81	2.51	3-15	3-15	.88
NA	169	6.69	2.65	3-15	3-15	.89
<i>independent</i>						
Creativity	167	11.47	3.21	5-20	5-25	.39
Perseverance	168	12.12	3.30	5-25	5-25	.45
Honesty	168	8.35	2.35	5-17	5-25	.82
Self-regulation	168	14.59	3.49	5-24	5-25	-.08
Hope	167	12.23	3.5	5-25	5-25	.49
Spirituality	169	16.44	4.29	5-25	5-25	-.12
Social intelligence	168	10.81	3.1	5-23	5-25	.85
Kindness	169	9.12	2.53	5-18	5-25	.62
Love	170	10.36	3.56	5-22	5-25	.62

Leadership	168	11.23	2.95	5-20	5-25	.40
Forgiveness	167	13.10	2.80	7-21	5-25	.21
Curiosity	168	12.14	3.06	5-25	5-25	.69
Love of learning	169	13.46	3.53	5-22	5-25	-.17
Fairness	169	9.11	2.63	5-21	5-25	.88
Prudence	170	12.44	3.30	5-20	5-25	.03
Appreciation of Beauty	170	11.15	3.80	5-23	5-25	.48
Gratitude	167	11.84	3.00	5-22	5-25	.13
Humility	169	12.97	2.79	6-23	5-25	.28
Humour	169	10.22	3.28	5-21	5-25	.55
Judgment	168	9.94	2.75	5-18	5-25	.37
Teamwork	170	10.99	2.78	5-19	5-25	.28
Zest	169	12.80	3.00	5-25	5-25	.77
Perspective	169	12.03	3.36	5-22	5-25	-.004

Association of Strengths and SWB

In order to maintain the straightforwardness of the report, solely the moderate to strong correlations are listed below, but a complete correlation table can be found in Appendix B.

Association of Character Strengths and Subjective Well-Being

Strong positive correlations were found between SWB and zest, Pearson's $r(167) = .62, p < .001$, and SWB and hope, $r(165) = .62, p < .001$. Moderate correlations to SWB were found with the strengths of love, $r(168) = .59, p < .001$, gratitude, $r(165) = .46, p < .001$, and curiosity, $r(166) = .40, p < .001$.

Association of Character Strengths and Life Satisfaction

Hope, zest, curiosity, gratitude, and love were hypothesised to be most strongly associated with life satisfaction. Strong positive correlations between LS and zest, $r(169) = .61, p < .001$, as well as LS and hope, $r(167) = .64, p < .001$, were found. Moderate correlations to LS could be

found with the strengths of gratitude, $r(167) = .55, p < .001$, love, $r(170) = .59, p < .001$, and curiosity, $r(168) = .49, p < .001$.

Based on the previous calculations, the hypothesis that hope, zest, curiosity, gratitude, and love are most strongly associated with life satisfaction can be accepted.

Association of Character Strengths and Positive affect

It was hypothesised that zest, hope and curiosity are most strongly associated with positive affect. PA was found to have a strong correlation with zest, $r(168) = .63, p < .001$, and hope, $r(166) = .66, p < .001$. Moderate correlations were found between PA and love, $r(169) = .53, p < .001$, and PA and gratitude, $r(166) = .41, p < .001$.

The hypothesis that zest, hope, and curiosity are most strongly associated with positive affect can be accepted, however, love also shows a correlation with PA.

Association of Character Strengths and Negative affect

It was hypothesised that hope, zest, humour, and curiosity are most strongly associated with negative affect. Moderate correlations to NA were found with zest, $r(167) = .36, p < .001$, hope, $r(166) = .49, p < .001$, and love, $r(169) = .46, p < .001$. Therefore, the hypothesis cannot be accepted, as humour and curiosity do not correlate to strong or moderate extent with negative affect.

Discussion

The purpose of the current study was to identify the character strengths that can be associated most strongly with subjective well-being and its subscales of positive affect (PA), negative affect (NA) and life satisfaction (LS). Solely, hope and zest are the strengths that can be substantially connected with SWB and its subscales.

The results show that SWB, in general, has an interconnection with hope and zest. Also, the strengths that can be associated with LS are zest and hope. Love, gratitude and curiosity can also be associated with SWB and LS, but to a moderate extent in contrast to hope and zest. The strengths of hope and zest show a connection to PA. Besides, PA shows to be connected marginally with love and gratitude. To a minor degree, NA is associated with hope, zest, and love. However, NA could not be related to any of the other assessed strengths.

With respect to life satisfaction, it was proposed in the hypotheses, which are stated after Harzer (2016), that the so-called “strengths of the heart” were expected to be strongly associated with the single constructs of LS, PA, NA, and SWB.

The first hypothesis was that life satisfaction is most strongly associated with hope, zest, curiosity, gratitude and love. As the hypothesis could be accepted, the results of the current study showed that individuals who possess the strengths of zest and hope seem more likely to be satisfied with life. Also, to possess the signature strength of gratitude indicates a higher life satisfaction. Concerning the connectedness of gratitude and LS, Wood et al. (2007) stated that gratitude is accountable for 20 percent of individual differences in LS. However, the role of gratitude in respect to life satisfaction is debated, as for instance, Wood et al. (2008) ascribe gratitude a primary part in accounting for LS. A mediating position of gratitude with life satisfaction is also possible (Lambert, et al., 2007). However, the importance of being grateful cannot be denied because grateful individuals direct their attention on things that they possess in life, which leads to the belief that life is satisfying (Adler & Fagley, 2005).

Also loving and curious individuals seem to be more satisfied in life. However, the latter strengths of gratitude, love and curiosity are less connected with LS, than zest and hope. These results are in line with previous research from Harzer, (2016), Gradišek, (2012), Park, et al. (2004). It is emphasised that zest and hope together serve a good basis for life satisfaction, so living one's life to its fullest and expecting an improvement in the future leads to happiness (Harzer, 2016). So, holding the character strengths of hope and zest as signature strengths can be an indicator of increased life satisfaction, in comparison to not possessing those strengths at all or to a smaller degree. In addition, Brdar and Kashdan (2010) state that persons with strengths of the heart satisfy their needs and chase life with meaning, specifically needs satisfaction can be defined as zestful living, and meaningful life can be expressed by hope possession.

The second hypothesis was that zest, hope and curiosity are most strongly associated with PA. As the results indicate, the hypothesis could be supported since zest and hope show a strong connection with PA. Hence, results indicate that a person with the traits of zest and hope often shows positive emotions. Against the proposed assumption that individuals who possess the character strength of curiosity score high in PA, the results connote a weaker connection of the strength curiosity and PA as previously assumed. However, individuals who feature the character strength of curiosity seem to have more positive emotions, than not curious individuals. The results of the current study stay in contrast to Martinez-Marti and Ruch (2014), who stated that not only hope and zest are related to PA, but also humour, gratitude, and love. In the current study, other strengths, like love and gratitude, had a moderate relation with PA which was not assumed. As an explanation, research suggests that experiencing positive emotions is often induced by acting passionately and with love, which supports that love as

well as zest have an impact on PA (Vallerand, 2016). Further, acting passionately and goal-oriented, so being loving and zestful, leads to satisfaction on a relationship-level and this, in turn, raises the positive affect.

The third hypothesis was that hope, zest, humour, and curiosity are most strongly associated with negative affect, which could be partially rejected. No strong correlations to negative affect were found in the course of this study, however, zest, hope and love were moderately associated with NA. Opposing the hypothesis that hope, zest, humour and curiosity are most strongly associated with NA, the results of the current study indicate an overrated meaning of NA in SWB. NA is often criticised in the literature, as results regarding its participation in subjective well-being are discussed.

In general, hope and zest are suggested to have the strongest association with SWB. It can be stated that individuals who are in possession of the strengths of hope are more likely to subjectively feel well. However, the importance of the impact of love, gratitude and curiosity was shown in this study.

Limitations

The study also holds limitations regarding its generalisability and unaccounted results. First, the sample was homogenous, insofar that the participants were mainly students who are enrolled in the faculty of behavioural, management and social sciences (BMS). The university offers students of BMS the possibility to publish and participate in studies on the platform SONA. However, students from other faculties are excluded from this test subject platform. As the sample of the current study was drawn by means of this platform, homogeneity of the population sample cannot be obviated and the generalisability of results to the study population is restricted. Further, the majority of participants were female with over two-thirds attendance. This also restricts the generalisability of results onto the target population of university students, since heterogeneity of the sample cannot be ensured.

However, due to the fact that the current study was part of a joint study, there is a possibility of bias in the answers of the participants. The participants had to complete a total of four questionnaires, which led to long processing time and endeavour, as the current study utilised solely two measures namely the CIT and the VIA-120. Deficiencies in attention span and confusion about the coherence of the study cannot be ruled out.

A possible threat that accounts for this result is the usage of the VIA-120, which is the short form of the VIA-240. The psychometric properties of this measurement are impeccable, nevertheless, the limitation of items belonging to each strength cannot be neglected. Lastly,

subjective well-being is composed of cognitive and emotional aspects and is therefore not a static construct, it is ever-changing and the possibility that other results occur in a retest is not suspended. Hence, a single-time measurement seems to be a limitation of the current study.

Recommendations

Also, implications can be derived from this study. As the strengths of the heart can be associated with subjective well-being, strengths-based interventions to enhance well-being can be improved by focusing on exploitation of these particular strengths. Further, the distribution of strengths in this homogenous population is remarkable, so therapeutic methods to enhance well-being should rely on a prearranged assessment of individual strengths in order to be responsive for a greater variety strength profiles. Such strengths-based interventions should take place in university settings due to the low general SWB in students.

Conclusion

In our society, the subjective well-being of students is alarmingly low, although, the knowledge of this circumstance as well as methods to prevent and treat are already established. Various reasons can account for this state, however, by focusing on the strengths of the heart, be it in strength-based interventions or individually, the subjective well-being of individuals can be positively influenced. Especially, individuals who possess the strengths of zest and hope are more likely to have greater subjective well-being in general.

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Appendix A

VIA

1. Being able to come up with new and different ideas is one of my strong points,
2. I have taken frequent stands in the face of strong opposition.
3. I never quit a task before it is done.
4. I always keep my promises.
5. I have no trouble eating healthy foods.
6. I always look on the bright side.
7. I am a spiritual person
8. I know how to handle myself in different social situations
9. I always finish what I start
10. I really enjoy doing small favors for friends
11. There are people in my life who care as much about my feelings and well-being as they do about their own.
12. As a leader, I treat everyone equally well regardless of his or her experience.
13. Even when candy or cookies are under my nose, I never overeat.
14. I practice my religion.
15. I rarely hold a grudge.
16. I am always busy with something interesting.
17. I am thrilled when I learn something new.
18. I like to think of new ways to do things.
19. No matter what the situation, I am able to fit in.
20. I never hesitate to publicly express an unpopular opinion.
21. I believe honesty is the basis for trust.
22. I go out of my way to cheer up people who appear down.
23. I treat all people equally regardless of who they might be.
24. One of my strengths is helping a group of people work well together even when they have their differences.
25. I am a highly disciplined person.
26. I always think before I speak.

27. I experience deep emotions when I see beautiful things.
28. At least once a day, I stop and count my blessings.
29. Despite challenges, I always remain hopeful about the future.
30. My faith never deserts me during hard times.
31. I do not act as if I am a special person.
32. I welcome the opportunity to brighten someone else's day with laughter.
33. I never seek vengeance.
34. I value my ability to think critically.
35. I have the ability to make other people feel interesting.
36. I must stand up for what I believe even if there are negative results.
37. I finish things despite obstacles in the way.
38. I love to make other people happy.
39. I am the most important person in someone else's life.
40. I work at my very best when I am a group member.
41. Everyone's rights are equally important to me.
42. I see beauty that other people pass by without noticing.
43. I have a clear picture in my mind about what I want to happen in the future.
44. I never brag about my accomplishments.
45. I try to have fun in all kinds of situations.
46. I love what I do.
47. I am excited by many different activities.
48. I am a true life-long learner.
49. I am always coming up with new ways to do things.
50. People describe me as "wise beyond my years."
51. My promises can be trusted.
52. I give everyone a chance.
53. To be an effective leader, I treat everyone the same.
54. I never want things that are bad for me in the long run, even if they make me feel good in the short run.
55. I have often been left speechless by the beauty depicted in a movie
56. I am an extremely grateful person.
57. I try to add some humor to whatever I do.
58. I look forward to each new day.
59. I believe it is best to forgive and forget.

60. I have many interests.
61. When the topic calls for it, I can be a highly rational thinker.
62. My friends say that I have lots of new and different ideas.
63. I am always able to look at things and see the big picture.
64. I always stand up for my beliefs.
65. I do not give up.
66. I am true to my own values.
67. I always feel the presence of love in my life.
68. I can always stay on a diet.
69. I think through the consequences every time before I act.
70. I am always aware of the natural beauty in the environment.
71. My faith makes me who I am.
72. I have lots of energy.
73. I can find something of interest in any situation
74. I read all of the time.
75. Thinking things through is part of who I am.
76. I am an original thinker.
77. I am good at sensing what other people are feeling.
78. I have a mature view on life.
79. I am as excited about the good fortune of others as I am about my own.
80. I can express love to someone else.
81. Without exception, I support my teammates or fellow group members.
82. My friends always tell me I am a strong but fair leader.
83. I always keep straight right from wrong.
84. I feel thankful for what I have received in life.
85. I know that I will succeed with the goals I set for myself.
86. I rarely call attention to myself.
87. I have a great sense of humor.
88. I rarely try to get even.
89. I always weigh the pro's and con's.
90. I stick with whatever I decide to do.
91. I enjoy being kind to others.
92. I can accept love from others.

93. Even if I disagree with them, I always respect the leaders of my group.
94. Even if I do not like someone, I treat him or her fairly.
95. As a leader, I try to make all group members happy.
96. I am a very careful person.
97. I am in awe of simple things in life that others might take for granted.
98. When I look at my life, I find many things to be grateful for.
99. I have been told that modesty is one of my most notable characteristics.
100. I am usually willing to give someone another chance.
101. I think my life is extremely interesting.
102. I read a huge variety of books.
103. I try to have good reasons for my important decisions.
104. I always know what to say to make people feel good.
105. I may not say it to others, but I consider myself to be a wise person.
106. It is important to me to respect decisions made by my group.
107. I always make careful choices.
108. I feel a profound sense of appreciation every day.
109. If I feel down, I always think about what is good in my life.
110. My beliefs make my life important.
111. I awaken with a sense of excitement about the day's possibilities.
112. I love to read nonfiction books for fun.
113. Others consider me to be a wise person.
114. I am a brave person.
115. Others trust me to keep their secrets.
116. I gladly sacrifice my self-interest for the benefit of the group I am in.
117. I believe that it is worth listening to everyone's opinions.
118. People are drawn to me because I am humble.
119. I am known for my good sense of humor.
120. People describe me as full of zest.

CIT

1. There are people I can depend on to help me.
2. There are people who give me support and encouragement.
3. There are people who appreciate me as a person.
4. I pitch in to help when my local community needs something done.
5. I invite my neighbors to my home.
6. I look for ways to help my neighbors when they are in need.
7. I can trust people in my society.
8. People in my neighborhood can be trusted.
9. Most people I meet are honest.
10. People respect me.
11. People are polite to me.
12. I am treated with the same amount of respect as others.
13. I feel lonely.
14. I often feel left out.
15. There is no one I feel close to.
16. I feel a sense of belonging in my community.
17. I feel a sense of belonging in my state or province.
18. I feel a sense of belonging in my country.
19. I get fully absorbed in activities I do.
20. In most activities I do, I feel energized.
21. I get excited when I work on something.
22. I use my skills a lot in my everyday life.
23. I frequently use my talents.

24. I get to do what I am good at everyday.
25. I learned something new yesterday.
26. Learning new things is important to me.
27. I always learn something everyday.
28. I am achieving most of my goals.
29. I am fulfilling my ambitions.
30. I am on track to reach my dreams.
31. I am confident that I can deal with unexpected events.
32. I can succeed if I put my mind to it.
33. I believe that I am capable in most things.
34. What I do in life is valuable and worthwhile.
35. The things I do contribute to society.
36. The work I do is important for other people.
37. Other people decide most of my life decisions.
38. The life choices I make are not really mine.
39. Other people decide what I can and cannot do.
40. My life has a clear sense of purpose.
41. I have found a satisfactory meaning in life.
42. I know what gives meaning to my life.
43. I am optimistic about my future.
44. I have a positive outlook on life.
45. I expect more good things in my life than bad.
46. In most ways my life is close to my ideal.
47. I am satisfied with my life.

- 48. My life is going well.
 - 49. I feel positive most of the time.
 - 50. I feel happy most of the time.
 - 51. I feel good most of the time.
 - 52. I feel negative most of the time.
 - 53. I experience unhappy feelings most of the time.
 - 54. I feel bad most of the time.
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Appendix B

Appreciation of beauty and excellence [awe, wonder, elevation]:	Noticing and appreciating beauty, excellence, and/or skilled performance in all domains of life, from nature to art to mathematics to science to everyday experience.
Bravery [valor]:	<i>Not</i> shrinking from threat, challenge, difficulty, or pain; speaking up for what is right even if there is opposition; acting on convictions even if unpopular; includes physical bravery but is not limited to it.
Citizenship [social responsibility, loyalty, teamwork]:	Working well as a member of a group or team; being loyal to the group; doing one's share.
Creativity [originality, ingenuity]:	Thinking of novel and productive ways to do things; includes artistic achievement but is not limited to it.
Curiosity [interest, novelty-seeking, openness to experience]:	Taking an interest in all of ongoing experience; finding all subjects and topics fascinating; exploring and discovering.
Fairness :	Treating all people the same according to notions of fairness and justice; <i>not</i> letting personal feelings bias decisions about others; giving everyone a fair chance.
Forgiveness and mercy :	Forgiving those who have done wrong; giving people a second chance; <i>not</i> being vengeful.
Gratitude :	Being aware of and thankful for the good things that happen; taking time to express thanks.
Hope [optimism, future-mindedness, future orientation]:	Expecting the best in the future and working to achieve it; believing that a good future is something that can be brought about.
Humor [playfulness]:	Liking to laugh and tease; bringing smiles to other people; seeing the light side; making (not necessarily telling) jokes.
Integrity [authenticity, honesty]:	Speaking the truth but more broadly presenting oneself in a genuine way; being without pretense; taking responsibility for one's feelings and actions.
Judgment [open-mindedness, critical thinking]:	Thinking things through and examining them from all sides; <i>not</i> jumping to conclusions; being able to change one's mind in light of evidence; weighing all evidence fairly.
Kindness [generosity, nurturance, care, compassion, altruistic love, "niceness"]:	Doing favors and good deeds for others; helping them; taking care of them.
Leadership :	Encouraging a group of which one is a member to get things done and at the same time maintaining good relations within the group; organizing group activities and seeing that they happen.
Love :	Valuing close relations with others, in particular those in which sharing and caring are reciprocated; being close to people.
Love of learning :	Mastering new skills, topics, and bodies of knowledge, whether on one's own or formally; obviously related to the strength of curiosity but goes beyond it to describe the tendency to add <i>systematically</i> to what one knows.
Modesty and humility :	Letting one's accomplishments speak for themselves; <i>not</i> seeking the spotlight; <i>not</i> regarding oneself as more special than one is.
Persistence [perseverance, industriousness]:	Finishing what one starts; persisting in a course of action in spite of obstacles; "getting it out the door"; taking pleasure in completing tasks.
Perspective [wisdom]:	Being able to provide wise counsel to others; having ways of looking at the world that make sense to oneself and to other people.
Prudence :	Being careful about one's choices; <i>not</i> taking undue risks; <i>not</i> saying or doing things that might later be regretted.
Self-regulation [self-control]:	Regulating what one feels and does; being disciplined; controlling one's appetites and emotions.
Social intelligence [emotional intelligence, personal intelligence]:	Being aware of the motives and feelings of other people and oneself; knowing what to do to fit in to different social situations; knowing what makes other people tick.
Spirituality [religiousness, faith, purpose]:	Having coherent beliefs about the higher purpose and meaning of the universe; knowing where one fits within the larger scheme; having beliefs about the meaning of life that shape conduct and provide comfort.
Zest [vitality, enthusiasm, vigor, energy]:	Approaching life with excitement and energy; <i>not</i> doing things halfway or halfheartedly; living life as an adventure; feeling alive and activated.

Figure 1.

The VIA Classification of Character Strengths (Park, et al., 2004).

Appendix C

Table 3

Correlations of VIA- strengths and life satisfaction, positive affect, negative affect and subjective wellbeing

Variable	1	2	3	4
Well-being				
1. SWB	1	.86	.92	.89
2. LS	.86	1	.71	.60
3. PA	.92	.71	1	.73
4. NA	.89	.60	.73	1
Strengths				
5. Creativity	-	.22	-	-
6. Bravery	.20	.20	.22	-
7. Perseverance	.29	.32	.30	.16
8. Honesty	.20	.23	.	.17
9. Self-regulation	-	.25	.	-
10. Hope	.67	.64	.66	.49
11. Spirituality	.17	.22	.21	-
12. Social intelligence	.28	.35	.31	-
13. Kindness	.24	.30	.21	-
14. Love	.59	.59	.53	.46
15. Leadership	-	.21	-	-
16. Forgiveness	.17	.17	-	-

17. Curiosity	.40	.49	.36	.21
18. Love of learning	-	-	-	-
19. Fairness	-	-	-	-
20. Prudence	-	-	-	-
21. Appreciation of Beauty	-	-	-	-
22. Gratitude	.46	.55	.41	.28
23. Humility	-	-	-	-
24. Humour	.29	.21	.28	.26
25. Judgment	-	-	-	-
26. Teamwork	.19	.21	.17	-
27. Zest	.62	.61	.63	.41
28. Perspective	-	-	-	-
