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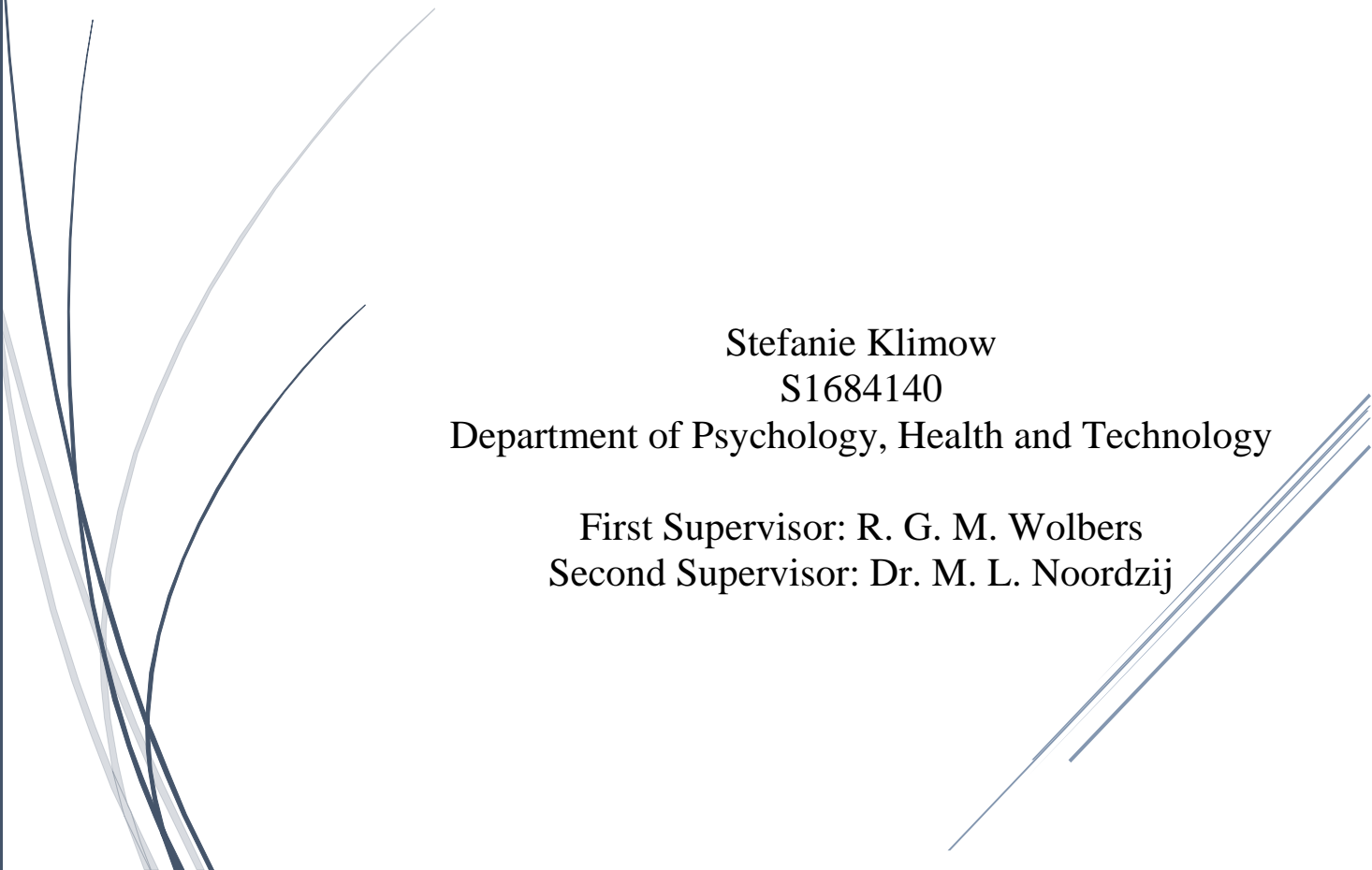# Bachelor Thesis

The Relationship between Character Strength Use and the Level of Self-Esteem

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Abstract

University students are a major risk group for psychological diseases and mental health problems compared to the general population. This is the result of higher demands, stressful circumstances and exhaustion due to their studies. One possible way to deal with these stressful circumstances is to increase the self-esteem level of the students, which could have a positive effect on mental health, according to previous research. Since the focus on character strengths, and especially the use of character strengths, evidentially increases the level of self-esteem and general mental well-being, it was hypothesized that there should be a positive relationship between Character Strength Use and Self-Esteem of the participants. The sample size consisted of University students of the University of Twente in the Netherlands. Therefore, the research consisted of several questionnaires that comprised the short form of the VIA-IS, the Strength Use Scale and the Rosenberg Self-Esteem Scale. It was hypothesized that a positive relationship between the Character Strength Use and the Self-Esteem should be found. The results of this research indicate that there is no significant relationship between the Character Strength Use of the participants and their Self-Esteem, which led to the rejection of the hypothesis. Nevertheless, there are considerable limitations that could impair the data. In previous research, the actual and practical use of the character strengths was frequently emphasized in order to increase the self-esteem. This was not done in this research since there was no appeal or encouragement to use the character strengths on a regular basis. Additionally, there was only one measurement instead of more in order to observe an increase or decrease after some time in which the character strengths were actually carried out. Therefore, this research lacks the more practical aspect of the character strength use, which should be taken into account. Nevertheless, these findings can be used as a starting point and inspiration to execute more research with University students regarding their character strength use and how to improve their self-esteem level in order to lessen the risks of psychological diseases.

Stefanie Klimow

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1. Introduction

University students worldwide are exposed to high levels of stress while facing challenges in their studies and their general academic performance (Sakellari et al., 2018; Mori, 2000). In the article written by Hunt & Eisenberg (2010) it was stated that one out of three students feels either depressed or face difficulties to function. These stressful circumstances expose the students to an increased risk of developing depression, anxiety or psychological instability (Blanco et al., 2008; Sakellari et al., 2018). Additionally, according to the research of Sakellari et. al (2018), students were at higher risk to develop these psychological diseases compared to the same aged population which is not studying. Especially, international students face additional problems, such as linguistic, financial and intrapersonal issues due to the new and foreign environment (Mori, 2000). Because of the information overload of the rather new demands and circumstances, international students are additionally at risk to develop cognitive fatigue because of the mental exhaustion which eventually can lead to burnout (Mori, 2000). Many of these consequences due to the increased stress of students can be found in the current literature, which illustrates a growing concern for University students (Hunt & Eisenberg, 2010). Various risk factors were taken into account in order to predict the higher prevalence of mental health problems among students, such as the academic workload or in a more general context, the gender of the students which also played a role for higher probabilities to develop mental health problems (Hunt & Eisenberg, 2010). According to studies, reviewed by Hunt & Eisenberg, male students are at higher risk to commit suicide, while female students presumably develop major depression or anxiety disorders. All these factors and risks investigated by previous research, indicate that mental health problems are widespread among university students (Hunt & Eisenberg, 2010).

1.1 Positive Psychology
One possible approach to help the students to cope better with the experienced stress due to the new and various demands of their studies and to decrease the risk of the various mental health consequences they might experience can be the concept of Positive Psychology. This approach entails the study about the effects of positive emotions and how human functioning can be achieved in the most effective way in order to fulfill human's full potential, motives, and

capacities (Sheldon, Kennon & King, 2001). To do so, the mission of this new era is to understand and encourage factors which support individuals to flourish and to use their full potential. According to Sin and Lyubomirsky (2009), Positive Psychology is capable to increase the general well-being of an individual, which in turn can be connected and useful for the problems that students face nowadays in order to decrease the number of psychological diseases that students are suffering from and to increase their mental well-being.

1.2 Mental Well-being

In order to do so, it is necessary to define mental well-being and consider all the relevant aspects connected to it. Mental well-being, in general, is defined as a positive state in which individuals experience life satisfaction, happiness and enables them to cope with major life challenges while also maintain positive social relationships (Proctor, Maltby & Linley, 2011; Baumann & Eiroa-Orosa, 2016). It was also reported that positive mental health can protect fast aging and results in better physical health, while people with low mental health are more at risk to get physical diseases (Baumann & Eiroa-Orosa, 2016).

1.3 Self-Esteem

Mental well-being has various kinds of aspects which enable individuals, including students, to feel happy and satisfied with their lives (Neff, 2011). One of these aspects is self-esteem, which is closely linked to mental well-being since it acts as a predictor for emotional stability, adjustment and is even able to affect and interact with the immune system (Mruk, 2013; Fox, 1999; Neff, 2011). In Mruk's (2013) research about the relationship between self-esteem and positive psychology, he cites Mecca, Smelser & Vasconcellos (1989) who already stated in the 80s, that the well-being of the social community depends on the well-being of every single individual. This, in turn, depends on the self-esteem levels of these individuals since most of the problems in the society are caused by the low self-esteem levels of the individuals that are part of this society, according to the author (Mruk, 2013). Definitions vary with respect to the fluctuations of self-esteem, whether it is stable over time or changes in certain situations due to contextual factors (Mruk, 2013). In 1989, self-esteem was defined as a phenomenon with two separate parts. The first part consisted of the cognitive element which compromises the self-definitions with descriptions like power, confidence, and agency. The second part entailed the affective components with regard to the self-descriptions, whether the individual values them as positive or negative. Connected to that, there was also seen a third part which compared the

own attributions with a certain ideally standard that led to the level of subjective worthiness, interpreted by the individual (Mruk, 2013). Recent definitions of self-esteem are less complicated and compromise the sense of worthiness as an individual, the competence to solve problems efficiently and judgments about ourselves (Neff, 2011; Mruk, 2013). Moreover, there are different categorizations of self-esteem levels, namely low self-esteem, secure high self-esteem and self-esteem instability. In more detail, low self-esteem can lead to depression, anxiety, eating disorders and drug abuse, which some students are also suffering from (Zeigler-Hill & Wallace, 2012; Blanco et al., 2008; Sakellari et al., 2018; Dunn, Iglewicz & Moutier, 2008). They accept negative feedback faster and experience a stronger negative emotional reaction when failing (Dogson & Wood, 1998). Manuel (2017) states that approximately 60% of University students possess low self-esteem. Individuals that developed secure high self-esteem are more able to protect themselves from mental diseases, have a positive degree of self-worth and are able to accept themselves as who they are (Zeigler-Hill & Wallace, 2012). They experience more happiness and optimism in their lives and report higher levels of mental well-being (Neff, 2011; Zeigler-Hill & Wallace, 2012). The article from Dodgson and Wood (1998) also suggested that individuals with high self-esteem possess a greater ability to cope with negative situations or failure due to their focus on their strengths and talents.

The third categorization consists of the individuals with self-esteem instability, which is defined by the fluctuations in specific situations which are caused by contextual factors or appraisal of the opinions of the social surroundings which impacts the self-esteem level in that given situation (Zeigler-Hill & Wallace, 2012; Neff, 2011).

1.4 Character Strengths
Since self-esteem is a major part of mental well-being and acts as a predictor for emotional stability and adjustment, various methods were developed and implemented to enhance self-esteem (Mruk, 2013; Fox, 1999; Neff, 2011). One of these methods was the search for the identity which entails the identification of the own character strengths (Mruk, 2013). In the current literature, various definitions of character strengths can be found. Wood et al. (2011), define character strengths as a capacity which enables individuals to accomplish their personal best, while Park and Peterson (2009) acknowledge that strengths are influenced by genes, social surroundings such as family, friends or communities. Moreover, Proctor, Maltby, and Linley (2011) define character strengths as positive traits or natural capacities that can be refined and improved by gaining more knowledge or adopting certain skills that strengthen the positive trait. Therefore, in their definition, strengths can be seen as a pre-existing capacity for a specific

behavior, a way of thinking or feeling. This definition will also be used and adapted for the present study.

1.5 Self-Esteem and Character Strengths

Few types of researches were carried out about the connection of self-esteem, as a predictor of mental well-being, and character strengths. Mruk (2013) states in his research paper that individuals, who developed low self-esteem, are more likely to ignore their actual abilities and strengths and focus too much on the negative aspects and their inabilities. That is the reason why various therapists and researchers focus more on positive traits and strengths when treating an individual with low self-esteem, which is also the mission of Positive Psychology, as already stated (Mruk, 2013; Govindij & Linley, 2007). By lying the emphasis on strengths and the existing abilities of the individual, a more positive experience of the individual concerning the own capabilities can be developed because of the rewarding emotions of achieving something (Mruk, 2013). This can also be adopted for the various demands' students have to face in their studies. How students cope with these situations and environmental stressors, depends on their *Reservoir* which consists of their coping strategies. These coping strategies can be improved by focusing on the strengths the student possesses, which in turn increases the self-esteem level of the individual (Dunn, Iglewicz & Moutier, 2008). The *Reservoir* will be constantly influenced by either negative input like stress, internal conflicts, and energy demands, and positive input which consists of intellectual stimulation, support, and social activities. Therefore, it depends on the individual coping strategies, how the student is handling the negative input. When focusing on character strengths in order to enhance the self-esteem, the student can focus on his personal traits, coping styles and coping methods which will help him or her in future stressful and demanding situations (Dunn, Iglewicz & Moutier, 2008). However, research has also shown that it can be another way around: that people with high self-esteem are able to cope better with negative situations and experiences due to their qualitative compensatory strategies that evolve due to the focus on character strengths (Dodgson & Wood, 1998). Thus, individuals with high self-esteem focus more on their character strengths, and the focus on character strength can improve the level of self-esteem (Dunn, Iglewicz & Moutier, 2008; Dodgson & Wood, 1998). Nevertheless, as Govindij & Linley (2007) are pointing out in their article, it is essential to actually use the strength instead of only knowing about them since the actual experience of success and achievement when using them is essential in the given process. Govindij & Linley (2007) stated in their article, that individuals who are encouraged to use their strengths in a new and different way, develop an increase in their level of happiness and

satisfaction with their lives. In addition to that, in the research of Baumann & Eiroa-Orosa (2016), results have also shown that the use of character strength is closely related to different aspects of mental well-being, of which self-esteem is an important factor as well. This is also confirmed by Wood et al. (2011) who executed a cross-sectional study over a three to six-month time period by implementing interventions in which participants were asked to use their strengths each day for a week. Their results indicated that strength use leads to a higher level of self-esteem and lower levels of perceived stress of their participants, which can also be connected to students and would contribute to the increasingly stressful demands they have to face. Additionally, their results have shown that strength use leads also to greater vitality and positive affect (Wood et al., 2011). In a more general and broader context, strength use can lead to a more individual sense of the self, identity, and authenticity which is, in turn, leading to a higher level of mental well-being (Proctor, Maltby & Linley, 2011). Nevertheless, there is also research which suggests that there can also be strengths overuse when character strengths are used incorrectly which might impair with individual's mental health (Freidlin, Littman-Ovadia & Niemiec, 2017). However, it was still concluded that the underuse of character strengths leads to more negative consequences than overuse (Freidlin, Littman-Ovadia & Niemiec, 2017).

Although much research has been done to investigate the relationship between Character Strength Use and Self-Esteem, there is an enormous lack of information about the character strength use of students and whether it is correlated with their level of self-esteem. As already mentioned, University students are a major risk group for mental health problems which indicates the urgency to develop new techniques in order to decrease the prevalence of mental health issues. Investigating the relationship between the Character Strength Use and the Self-Esteem into more detail could lead to developments concerning practical implications for new mental health service programs for University students, which could help to diminish the risks of the negative consequences students frequently have to encounter. By adopting new programs and techniques based on this research, students would probably be more able to cope with stressful situations and experiences in their studies. This could then also enhance their mental well-being, especially because students are one of the main risk groups for psychological diseases compared to the general population that is not studying (Sakellari et al., 2018).

1.6 This Study
The purpose of this study is to investigate the relationship between Character Strength Use and

the Self-Esteem of University students. As mentioned, students are one of the major risk groups that are frequently exposed to new stressful demands which might lead to negative consequences concerning their mental health. Since there has been done a lot of research about the strength use and mental well-being in the general population, this study will focus on the relationship between Character Strength Use and Self-Esteem of University students only, due to the insufficient literature concerning that topic. To find out how to increase the level of Self-Esteem of University students can reduce the mental health consequences of this major risk group. This can be done by investigating the relationship between Character Strength Use and Self-Esteem which could to more methods that could help individuals, especially students with low self-esteem to use their character strengths and character traits to become more satisfied with life, be able to cope with stressful circumstances and raise their own subjective worthiness as an individual. This will possibly lead to a higher level of mental well-being and a decreased risk of psychological diseases. Additionally, since the social community is made up of every single individual, societal problems can be minimized by using these newly developed techniques which eventually might increase the self-esteem of these individuals (Mruk, 2013). Therefore, this study has not only positive contributions for students by thinking about new techniques to increase the self-esteem level, but also can help social communities to improve their general life-quality. Thus, the research question of this research is:

What is the relationship between the use of character strengths and the self-esteem of University students?

Based on the literature and researches which found evidence about the relationship and the causal effects of Character Strength Use and Self-Esteem in the general population, the following hypothesis is formulated:

H1: There is a strong positive correlation between the Character Strength Use and the Self-Esteem of University students.

2. Methodology

2.1 Participants

The sample size consisted of 173 participants in total (31 male, 142 female). The mean age of the participant was 21.28 with a standard deviation of 1.8. The participants for this research were recruited via the SONA system of the University of Twente. Therefore, a purposive sampling method was chosen for this research by including students only (Tongco, 2007). The inclusion criteria consisted of studying at the University of Twente, the minimum age of 18 and sufficient English language skills.

2.2 Materials

In order to participate in this study, the participants had to possess a SONA System account of the University of Twente. Participants were able to open the SONA system and the questionnaires on their mobile devices, laptops or computer with a suitable internet connection. This study is part of a larger research with different components and research questions. Therefore, various questionnaires were used which included the short form of the VIA-IS, the Strength Use Scale, the CIT and the Rosenberg Self-Esteem Scale. The questionnaires were designed by using Qualtrics, which were uploaded in the SONA System. In order to answer the research question in this study, the focus was set on the short form of the VIA-IS, the Strength Use Scale and the Rosenberg Self-Esteem Scale. The VIA-IS was used in order to increase the overall awareness of the participants about their character strengths and encourage them to think about them. Nevertheless, the VIA-IS was not used for any data analyses, other than the Strength Use Scale and the Rosenberg Self-Esteem Scale with which data analyses were executed. Additionally, the CIT was completely excluded from any data analyses. These questionnaires were selected based on literature research about their suitability for the research question and their psychometric qualities.

2.2.1 The Values-In-Action-Inventory of Strengths (VIA-IS)

The Values-In-Action-Inventory of strengths (VIA-IS) is the most common measurement to investigate the strengths of individuals (Proctor, Maltby & Linley, 2011). It consists of six virtues, which include wisdom and knowledge, courage, humanity, justice, temperance, and transcendence. These six virtues are further categorized in different character traits, such as bravery, honesty, and zest for the virtue of wisdom and knowledge. These positive traits are referred to as 24 different character strengths (Peterson, Ruch, Beerman, Park & Seligman, 2007). One example of these questions is the statement of whether the participant believes honesty is the basis for trust or whether the participant loves to make other people happy (see *Appendix 2*). In this research, the short form of the VIA-IS was chosen due to time limits. The short form consists out of 120 items, which proves good psychometric qualities with an internal consistency reliability of .79 and validity coefficients ranging from .39 to .62 (VIA Assessments: VIA-120, n.d.).

2.2.2 The Strength Use Scale (SUS)

Govindij & Linley (2007) developed the Strengths Use Scale which contains 14 items that are measuring the degree of the strength use of the individual. In this research, a five-point Likert Scale was used, instead of a seven-point Likert Scale, which was mostly used in the current literature. One possible example of this questionnaire was the statement of whether the participant finds it easy to use his or her strengths in the thing he or she does (see *Appendix 2*). Reliability and Validity analyses of the SUS were executed with the five-point Likert, which revealed a Cronbach's Alpha of .90, which indicates a good reliability, and validity coefficients ranging from .35 to .57.

2.2.3 The Rosenberg Self-Esteem Scale (RSE)

In order to measure the level of self-esteem, the most frequently used measurement is the Rosenberg Self-Esteem Scale (RSE) which measures the global self-worth of the individual (Fox, 1999). An example regarding this questionnaire is the statement of whether the participant feels that he or she has a number of good qualities (see *Appendix 2*). Concerning the Rosenberg Self-Esteem Scale, a high Cronbach Alpha was found with a value of .91 which indicates a high internal consistency. Additionally, a good validity was proven with all items correlating with their scales with the value of r = .40 (Sinclair et al., 2010).

2.3 Procedure

Before the data collection started, the research was approved by the Ethical Committee of the University of Twente with the reference number 190378. Once the research was approved, the participants were able to sign up for the study via the SONA system of the University of Twente. Therefore, the participants had to use an electronic device with a suitable internet connection. They were able to fill out the questionnaires at home or en route on their laptops, smartphones or tablets. The participants were asked to agree on the informed consent, which was on the first page of the questionnaire (see *Appendix 1*). By clicking on "I agree", they were transferred to the first questionnaire which consisted of two demographic questions about their gender and their year of birth. From there, every question was introduced by a short instruction which stated that there are no right, or wrong answers and that the participant should take his time to think about the answers. Once the participants filled out the demographics, they were asked to fill out the short form of the VIA-IS, which consisted of 72 items, in order to increase the participant's awareness about his or her character strengths. Aim of filling out the VIA-IS was that the participant would feel encouraged to think about his or her character strengths in order to answer the questions of the Strength Use Scale. The last questionnaire was the Rosenberg Self-Esteem Scale. Since this research was part of a broader project, the CIT was filled out by participants as well but was not included in the analysis. After the participant filled out every questionnaire, he or she was thanked for the participation. The overall procedure took about 30 to 45 minutes. After the participation was completed, the participants received 0.75 SONA points to their account.

2.4 Data analysis

Missing values were excluded before conducting any analyses. In order to answer the research question, the collected data was analyzed by using a Pearson Correlation Analysis due to the normal distribution of the data. It was assumed that a correlation coefficient from .00 to .39 is weak, while a coefficient of .40 to .59 is moderate (Pearson's Correlation, n.d.). A strong correlation would be proved with a coefficient between .60 and 1.0 (Pearson's Correlation, n.d.). Additionally, a Cronbach's Alpha reliability analysis and a Pearson Correlation analysis was executed for the Strength Use Scale in order to determine the reliability and the validity. In order to analyze the mean age and gender frequencies of the participants, descriptive analyses were used.

3. Results

3.1 Exclusion of participants

Exclusion criteria were determined on which basis participants would be excluded from the study. In total, 15 participants had to be excluded since they either did not indicate their age (n=8) or did not answer every question due to the lack of the "forced response" feature (n=7).

3.2 Descriptives

The sample size of this study included 173 participants. The mean value for their Character Strength Use was 29.8 with a standard deviation of 7.7. The minimum score for the Character Strength Use was 14.0, while the maximum score was 60.0. The mean value for their Self-Esteem was 23.6 with a standard deviation of 2.5. The minimum of this variable was 15.0 while the maximum score was 27.6.

3.2 The Relationship between Character Strength Use and the level of Self-Esteem

In order to answer the research question, a Pearson Correlation analysis was chosen. There was found a non-significant weak positive correlation between the Character Strength Use and the Self-Esteem Level with r = 0.054, p >.05. A scatterplot summarizes these results (see Figure 1). These results indicate that both variables move in the same direction since their correlation is positive. Therefore, there was no linear relationship found between the Character Strength Use and the Self-Esteem Level of the students of the University of Twente. This leads to the conclusion that the hypothesis which states that there is a strong positive correlation between the two variables is rejected.
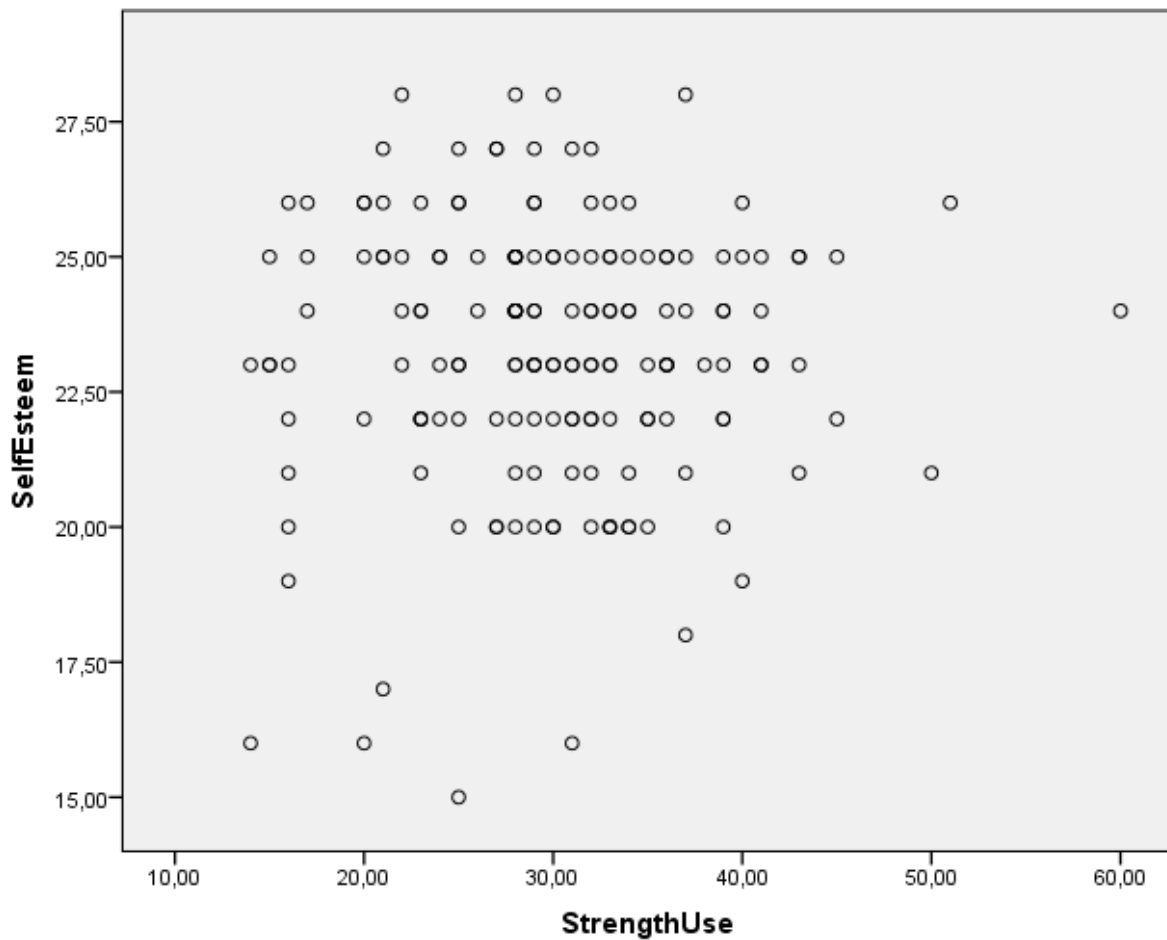
Figure 1. Scatterplot of the Self-Esteem and the Character Strength Use of the Participants.

4. Discussion

The purpose of this study was to investigate the relationship between Character Strength Use and the Self-esteem of students of the University of Twente. It was expected and hypothesized that there should be a positive relationship between the Character Strength Use and the Self-Esteem of the University students. The results of this study indicate that there is no relationship between the Character Strength Use and the Self-Esteem of the students that participated in this study, due to the non-significant and weak correlation. Therefore, the hypothesis which assumed that there would be a strong positive correlation, and hence, a relationship, between

these two variables, is rejected. These results show that the two variables are completely distinct from each other and do not have an influence on each other. Thus, if one student uses his character strengths, it does not lead to higher self-esteem as well as high self-esteem does not lead to a more frequent use of character strengths. Furthermore, it also shows that low self-esteem does not mean that the individual is not using his or her character strengths. Also, it does not show that no frequent use of the character strengths has something to do with the self-esteem level.   The findings of this research are novel compared to the existing literature about the relationship between the Character Strengths in general, or Character Strength Use, and the Self-Esteem in the general population. Although this research only sampled University students, it was assumed that there should be no significant differences between the general population and the students concerning the results. Therefore, the findings of this research not only show new and uncommon results, but it also contradicts previous research and findings. Previous research has shown that character strength use is closely related to mental well-being and self-esteem (Baumann & Eiroa-Orosa, 2016; Wood et al., 2011). It was even hypothesized and confirmed by previous researchers, that there is a causal relationship between the use of character strengths and the level of self-esteem (Govindij & Linley, 2007). Therefore, based on the literature research about executed research and findings, there should have been found a relationship between the two variables, which was not the case in this study.

The findings of the current study are weak and non-significant compared to previous research when analyzing the possible reasons for the lack of confirming evidence for the study's hypothesis. One of these reasons could be that, in the current research, the participants were not aware of their character strengths due to the fact that they did not receive any information about their character strengths, although they participated in the VIA-IS. The initial reason to use that questionnaire was to encourage the participants to think about their strengths. However, they did not receive any results about this test and what their strengths actually might be. Thus, there is a probability that the participants were not aware of their character strengths and, therefore, did not know whether they are using them or not. This, in turn, would lead to possible false answers while answering the Strength Use Scale due to the fact that there was no knowledge or awareness about the own character strengths of the participants.

Additionally, this research investigated the participant's character strength use and their self-esteem at a one-time point, instead of a longer time period, as Wood et al. (2011) did it in their longitudinal study. They measured the constructs regularly every week in order to examine differences and increases or decreases in their participant's self-esteem level after using their strengths (Wood et al., 2011). Additionally, the research by Wood et al. (2011) included an

intervention where participants were regularly encouraged to use their character strengths in their everyday life. This research design is also confirmed by Govindij & Linley (2007) who suggested that it is important to actually use the character strengths instead of only knowing about them. The emphasis here lies on the importance of the practical execution of the character strengths (Govindij & Linley, 2007). This, in turn, was not done in this research due to the more theoretical nature of the questionnaires without any anticipation or intervention to use the character strengths in order to observe an increase or decrease in the self-esteem level. The participants only had to think about their strengths and how they are using them, instead of being asked to actually use them and report how they feel regarding their self-esteem and life satisfaction afterwards. Thus, as theorized by Govindij & Linley (2007), only the actual use could increase or at least correlate with the self-esteem of the participants. This reveals that participants, when they are not fully aware of their strengths and are not inspired to execute them actively, seem to be unable to indicate if they indeed practically use their character strengths or not. Especially since the measurement was only at one time point where the participant did not have the ability to observe themselves practically in their everyday life and become more aware of their own character strengths. This leads to the effect and result that this research did not measure what it actually intended to measure due to the unawareness of the character strengths, and the theoretical questionnaire which does not compromises more practical aspects of the use of character strengths in general. This would explain the absence of the relationship between the character strength use and the self-esteem.

Additionally, University students are in a different life circumstance than the general population. They are confronted with more stressful situations and experiences, according to Sakellari et al. (2018). Moreover, 60% of University students have low self-esteem (Manuel, 2017). The fact that no relationship was found between the Character Strength Use of the students and their Self-Esteem could be explained by the fact that they experience more stress than the general population and make different experiences, in which the actual use of the character strengths are not that important or is not a priority to them. Another explanation could be that the use of their character strength does not influence their self-esteem level due to the high rates of stress and their already low self-esteem as already hypothesized by Dogson and Wood (1998).

Nevertheless, the statistical results of this research indicate that the participants scored rather low on the Character Strength Use and average on their Self-Esteem level. Therefore, it also could be possible that the students are not using their character strengths in order to increase their self-esteem, but rather use different techniques since their Self-Esteem level is still rather

average than low. Still, these results have to be interpreted with caution due to the limitations which will be explained in the next section.

Another possible explanation for these results could be that the participants experience fluctuations in their self-esteem since self-esteem instability is one possible categorization of the different levels of self-esteem (Zeigler-Hill & Wallace, 2012; Neff, 2011). Therefore, it could also be concluded that the students or participants experience different self-esteem levels in different contextual situations and influences due to their possible self-esteem instability (Zeigler-Hill & Wallace, 2012; Neff, 2011). This could especially be the case because of the stressful environment the students have to encounter and might experience failures in their studies (Hunt & Eisenberg, 2010).

Additionally, it was also hypothesized by Freidlin, Littman-Ovadia, and Niemiec (2017), that the overuse of character strength can have negative consequences for the mental health of an individual. Although the underuse of the character strengths has more negative consequences than the overuse, it can also be possible that the students are focusing too much on their character strengths in order to overcome their stressful life circumstances in their current studies, which can lead to no increase or decrease in their self-esteem. This would then explain why no relationship between these two variables was found in this research.

Moreover, it should be noted, that the research findings of this study can only be compared with other researches to a specific extent due to the difference of the sample groups. This could also explain the differences between the findings of previous research and this study.

4.1 Limitations

The current research shows various limitations, which need to be considered while interpreting and analyzing the results. One of these limitations includes the fact that for the Strength Use Scale by Govindij & Linley (2007) a five-point Likert scale was used instead of a seven-point Likert scale as recommended and used in previous research. Although the reliability and validity of the five-point Likert scale alternative revealed good psychometric qualities, it can still compromise the findings by using this measurement. Therefore, this circumstance should also be taken into account when interpreting and analyzing the results.

Additionally, the conditions while executing the study and answering the questionnaire could not be controlled. Thus, the participants might have been distracted by their surroundings which might impair the data. When not concentrating, mistakes can happen. This can also be connected to the fact that the questionnaire was rather long in total and took 30 to 45 minutes which might make it difficult for the participants to concentrate that long. Especially, the VIA-

IS consists of many items. Participants might lose the motivation to answer the questions honestly which leads them to pick random answers. Additionally, The Rosenberg Self-Esteem Scale was at the end of the questionnaire which leads to the assumption, that the participants lost their patience until then and might also answer randomly in order to finish the questionnaire as fast as possible.

Another limitation is the rather small sample size, which merely contained 173 people. When comparing with other studies and researches, more participants were used. Such a small sample size like in this research increases the risk of errors and decreases the statistical power of the results. Thus, the reason why no relationship was found could be the result of a too small sample size. Therefore, the results of this research should be interpreted critically and with caution.

4.2 Recommendations

Since there are no other studies about the relationship between Character Strength Use and the Self-Esteem of University students, it should be recommended to investigate this population and the relationship between these two variables further. Although the results of this research were not promising and evident about the relationship between these variables, research would still be useful if certain recommendations would be considered, which can be formulated based on this research.

First of all, there should be a bigger sample size included in order to make the results more representative for the given population. Additionally, research conditions should be controlled, for instance with special attention to good concentration conditions which enables the participants to attend to the questionnaire exclusively. This can be done, for instance, by inviting the participants to a lab where they have a quiet room for themselves. Nevertheless, this could also have negative effects. Participants could be nervous when they are in a new environment with which they are not familiar with or feel watched when they fill out the questionnaire in front of a researcher.

Furthermore, a shorter questionnaire should be used which eventually compromises only 15 minutes instead of 45 like in this study. This would also increase the chances of honest answers, motivation to finish the questionnaire and concentration on the questions.

Since the participants scored rather average on their Self-Esteem level and low on their Character Strength Use score, it could be advantageous to investigate what kind of techniques the students are using in order to keep their self-esteem on an average level. Thus, what kind of techniques do they use instead of Character Strength Use. This can be done by implementing

questionnaires about their everyday life and what they do in order to cope with the stressful situations they experience.

Additionally, it should be investigated what kind of self-esteem categorization the students possess. This could be important in order to investigate the prevalence of low self-esteem and to identify students that might need assistance in increasing their self-esteem or to become more stable in their self-esteem level (Zeigler-Hill & Wallace, 2012; Neff, 2011). This could also be done by implementing questionnaires that investigate their self-esteem level in more detail.

The most important recommendation which can be formulated is to implement a longitudinal study design with many measurement time points, for instance on a weekly basis. This enables the researchers to investigate the changes in self-esteem levels and makes it easier to examine processes in the participant's strength use and self-esteem. First, the VIA-IS should be used to inform the participants about their strengths. By informing the participants about the results of the VIA-IS beforehand, they could get the opportunity to investigate, examine and use their character strengths and be more aware of them, which could possibly indicate a relationship between the character strength use and the self-esteem. After this has been done, interventions could take place by weekly reminders in order to encourage the participants to use their character strengths on a regular basis. By doing so, the participants receive the opportunity to actually use the character strengths which, as hypothesized by previous research, should increase the self-esteem. In combination with that, the participant should be informed about their specific self-esteem level and categorization in order to better assist the participant to use the character strengths more often by using more encouragements and reminders if a low or unstable self-esteem level was found. Thereby, a relationship between the Character Strength Use and Self-Esteem could be observed and further investigated. By using this study design with the VIA-IS beforehand, followed by regular interventions and encouragements to actually use the character strengths, errors can be minimized when adopting the Strength Use Scale and more promising and conforming results could be established Thus, further research should use a longitudinal study design with more practical implications in which the participants are more aware of their character strengths by informing them beforehand about their results after using the VIA-IS and would be encouraged by using interventions or reminder to use their character strengths.

Although this study has not found a significant relationship between the Character Strength Use and the Self-Esteem of University Students, it can still serve as an inspiration and starting point for further research in order to investigate and learn more about how to improve

the self-esteem level of students. By doing so, the negative consequences experienced by the students could be minimized as well as the risk of psychological diseases. It is essential to execute further research with students since they pose to be the major risk group for negative mental health consequences. Character Strength Use can evidentially, based on previous research, increase the self-esteem of the general population, which leads to positive consequences regarding mental health and general life satisfaction. This should also be considered and executed for students.

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Appendix 1

Dear Participant

You are invited to participate in a research study about the relationship between character strengths and mental well-being, compromised by subjective well-being, positive functioning and the level of self-esteem. This study is conducted by Melanie Pieper, Isabel Foltynski and Stefanie Klimow from the Faculty of Behavioural Management and Social Sciences at the University of Twente.

You will receive various questionnaires that will take about 20 minutes to fill out. Your participation in this survey is completely voluntary and all of your responses are anonymous. None of the responses will be connected to identifying information. Data will only be used for statistical analyses. Your answers will remain confidential. As your participation in this study is entirely voluntary and you can withdraw at any time.

If you have questions about your rights as a research participant or wish to obtain more information about this study, you are free to contact the researchers via the following e-mails: m.pieper@student.utwente.nl, i.foltynski@student.utwente.nl or s.klimow@student.utwente.nl

By clicking "I agree", you indicate that you have read the description of the study, are over the age of 18, and that you agree with the terms as described.

Appendix 2

Questionnaire

Start of Block: DEMOGRAPHIC

Q8 What is your sex?

○ Male (1)

○ Female (2)

Q4 What is your year of birth?

_____

End of Block: DEMOGRAPHIC

Start of Block: VIA

Q10 The first questionnaire consists of various questions about your individual character strengths.
Please read the questions very carefully. There is no right or wrong answer.

	Very Much Like Me (1)	Like Me (2)	Neutral (3)	Unlike Me (4)	Very Much Unlike Me (5)
Being able to come up with new and different ideas is one of my strong points, (1)	○	○	○	○	○
I have taken frequent stands in the face of strong opposition. (2)	○	○	○	○	○
I never quit a task before it is done. (3)	○	○	○	○	○
I always keep my promises. (4)	○	○	○	○	○
I have no trouble eating healthy foods. (5)	○	○	○	○	○
I always look on the bright side. (6)	○	○	○	○	○
I am a spiritual person (7)	○	○	○	○	○
I know how to handle myself in different social situations (8)	○	○	○	○	○
I always finish what I start (9)	○	○	○	○	○
I really enjoy doing small favors for friends (10)	○	○	○	○	○

There are people in my life who care as much about my feelings and well-being as they do about their own. (11)

○ ○ ○ ○ ○

As a leader, I treat everyone equally well regardless of his or her experience. (12)

○ ○ ○ ○ ○

Even when candy or cookies are under my nose, I never overeat. (13)

○ ○ ○ ○ ○

I practice my religion. (14)

○ ○ ○ ○ ○

I rarely hold a grudge. (15)

○ ○ ○ ○ ○

I am always busy with something interesting. (16)

○ ○ ○ ○ ○

I am thrilled when I learn something new. (17)

○ ○ ○ ○ ○

I like to think of new ways to do things. (18)

○ ○ ○ ○ ○

No matter what the situation, I am able to fit in. (19)

○ ○ ○ ○ ○

I never hesitate to publicly express an unpopular opinion. (20)

○ ○ ○ ○ ○

I believe honesty is the basis for trust. (21)

○ ○ ○ ○ ○

I go out of my way to cheer up people who appear down. (22)

○ ○ ○ ○ ○

I treat all people equally regardless of who they might be. (23)

○ ○ ○ ○ ○

One of my strengths is helping a group of people work well together even when they have their differences. (24)

○   ○   ○   ○   ○

I am a highly disciplined person. (25)

○   ○   ○   ○   ○

I always think before I speak. (26)

○   ○   ○   ○   ○

I experience deep emotions when I see beautiful things. (27)

○   ○   ○   ○   ○

At least once a day, I stop and count my blessings. (28)

○   ○   ○   ○   ○

Despite challenges, I always remain hopeful about the future. (29)

○   ○   ○   ○   ○

My faith never deserts me during hard times. (30)

○   ○   ○   ○   ○

I do not act as if I am a special person. (31)

○   ○   ○   ○   ○

I welcome the opportunity to brighten someone else's day with laughter. (32)

○   ○   ○   ○   ○

I never seek vengeance. (33)

○   ○   ○   ○   ○

I value my ability to think critically. (34)

○   ○   ○   ○   ○

I have the ability to make other people feel interesting. (35)

○   ○   ○   ○   ○

I must stand up for what I believe even if there are negative results. (36)

○   ○   ○   ○   ○

I finish things despite obstacles in the way. (37)

○   ○   ○   ○   ○

I love to make other people happy. (38)   ○   ○   ○   ○   ○

I am the most important person in
someone else's life. (39)   ○   ○   ○   ○   ○

I work at my very best when I am a
group member. (40)   ○   ○   ○   ○   ○

Everyone's rights are equally important
to me. (41)   ○   ○   ○   ○   ○

I see beauty that other people pass by
without noticing. (42)   ○   ○   ○   ○   ○

I have a clear picture in my mind about
what I want to happen in the future. (43)   ○   ○   ○   ○   ○

I never brag about my accomplishments.
(44)   ○   ○   ○   ○   ○

I try to have fun in all kinds of situations.
(45)   ○   ○   ○   ○   ○

I love what I do. (46)   ○   ○   ○   ○   ○

I am excited by many different activities.
(47)   ○   ○   ○   ○   ○

I am a true life-long learner. (48)   ○   ○   ○   ○   ○

I am always coming up with new ways to
do things. (49)   ○   ○   ○   ○   ○

People describe me as "wise beyond my
years." (50)   ○   ○   ○   ○   ○

My promises can be trusted. (51)   ○   ○   ○   ○   ○

I give everyone a chance. (52)	○	○	○	○	○
To be an effective leader, I treat everyone the same. (53)	○	○	○	○	○
I never want things that are bad for me in the long run, even if they make me feel good in the short run. (54)	○	○	○	○	○
I have often been left speechless by the beauty depicted in a movie (55)	○	○	○	○	○
I am an extremely grateful person. (56)	○	○	○	○	○
I try to add some humor to whatever I do. (57)	○	○	○	○	○
I look forward to each new day. (58)	○	○	○	○	○
I believe it is best to forgive and forget. (59)	○	○	○	○	○
I have many interests. (60)	○	○	○	○	○
When the topic calls for it, I can be a highly rational thinker. (61)	○	○	○	○	○
My friends say that I have lots of new and different ideas. (62)	○	○	○	○	○
I am always able to look at things and see the big picture. (63)	○	○	○	○	○
I always stand up for my beliefs. (64)	○	○	○	○	○
I do not give up. (65)	○	○	○	○	○

I am true to my own values. (66)   ○ ○ ○ ○ ○

I always feel the presence of love in my life. (67)   ○ ○ ○ ○ ○

I can always stay on a diet. (68)   ○ ○ ○ ○ ○

I think through the consequences every time before I act. (69)   ○ ○ ○ ○ ○

I am always aware of the natural beauty in the environment. (70)   ○ ○ ○ ○ ○

My faith makes me who I am. (71)   ○ ○ ○ ○ ○

I have lots of energy. (72)   ○ ○ ○ ○ ○

I can find something of interest in any situation (73)   ○ ○ ○ ○ ○

I read all of the time. (74)   ○ ○ ○ ○ ○

Thinking things through is part of who I am. (75)   ○ ○ ○ ○ ○

I am an original thinker. (76)   ○ ○ ○ ○ ○

I am good at sensing what other people are feeling. (77)   ○ ○ ○ ○ ○

I have a mature view on life. (78)   ○ ○ ○ ○ ○

I am as excited about the good fortune of others as I am about my own. (79)   ○ ○ ○ ○ ○

I can express love to someone else. (80) ○ ○ ○ ○ ○

Without exception, I support my teammates or fellow group members. (81) ○ ○ ○ ○ ○

My friends always tell me I am a strong but fair leader. (82) ○ ○ ○ ○ ○

I always keep straight right from wrong. (83) ○ ○ ○ ○ ○

I feel thankful for what I have received in life. (84) ○ ○ ○ ○ ○

I know that I will succeed with the goals I set for myself. (85) ○ ○ ○ ○ ○

I rarely call attention to myself. (86) ○ ○ ○ ○ ○

I have a great sense of humor. (87) ○ ○ ○ ○ ○

I rarely try to get even. (88) ○ ○ ○ ○ ○

I always weigh the pro's and con's. (89) ○ ○ ○ ○ ○

I stick with whatever I decide to do. (90) ○ ○ ○ ○ ○

I enjoy being kind to others. (91) ○ ○ ○ ○ ○

I can accept love from others. (92) ○ ○ ○ ○ ○

Even if I disagree with them, I always respect the leaders of my group. (93) ○ ○ ○ ○ ○

Even if I do not like someone, I treat him or her fairly. (94)

○   ○   ○   ○   ○

As a leader, I try to make all group members happy. (95)

○   ○   ○   ○   ○

I am a very careful person. (96)

○   ○   ○   ○   ○

I am in awe of simple things in life that others might take for granted. (97)

○   ○   ○   ○   ○

When I look at my life, I find many things to be grateful for. (98)

○   ○   ○   ○   ○

I have been told that modesty is one of my most notable characteristics. (99)

○   ○   ○   ○   ○

I am usually willing to give someone another chance. (100)

○   ○   ○   ○   ○

I think my life is extremely interesting. (101)

○   ○   ○   ○   ○

I read a huge variety of books. (102)

○   ○   ○   ○   ○

I try to have good reasons for my important decisions. (103)

○   ○   ○   ○   ○

I always know what to say to make people feel good. (104)

○   ○   ○   ○   ○

I may not say it to others, but I consider myself to be a wise person. (105)

○   ○   ○   ○   ○

It is important to me to respect decisions made by my group. (106)

○   ○   ○   ○   ○

I always make careful choices. (107)

○   ○   ○   ○   ○

I feel a profound sense of appreciation every day. (108)

○ ○ ○ ○ ○

If I feel down, I always think about what is good in my life. (109)

○ ○ ○ ○ ○

My beliefs make my life important. (110)

○ ○ ○ ○ ○

I awaken with a sense of excitement about the day's possibilities. (111)

○ ○ ○ ○ ○

I love to read nonfiction books for fun. (112)

○ ○ ○ ○ ○

Others consider me to be a wise person. (113)

○ ○ ○ ○ ○

I am a brave person. (114)

○ ○ ○ ○ ○

Others trust me to keep their secrets. (115)

○ ○ ○ ○ ○

I gladly sacrifice my self-interest for the benefit of the group I am in. (116)

○ ○ ○ ○ ○

I believe that it is worth listening to everyone's opinions. (117)

○ ○ ○ ○ ○

People are drawn to me because I am humble. (118)

○ ○ ○ ○ ○

I am known for my good sense of humor. (119)

○ ○ ○ ○ ○

People describe me as full of zest. (120)

○ ○ ○ ○ ○

Stefanie Klimow

End of Block: VIA

Start of Block: SU

Q11 The following questions investigate to what extent you are using your character strengths. Again, there is no right or wrong.

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	Agree (1)	Somewhat Agree (2)	Neutral (3)	Somewhat Disagree (4)	Disagree (5)
I am regularly able to do what I do best. (1)	○	○	○	○	○
I always play to my strengths. (2)	○	○	○	○	○
I always try to use my strengths. (3)	○	○	○	○	○
I achieve what I want by using my strengths. (4)	○	○	○	○	○
I use my strengths everyday. (5)	○	○	○	○	○
I use my strengths to get what I want out of life. (6)	○	○	○	○	○
My work gives me lots of opportunities to use my strengths. (7)	○	○	○	○	○
My life presents me with lots of different ways to use my strengths. (8)	○	○	○	○	○
Using my strengths comes naturally to me. (9)	○	○	○	○	○
I find it easy to use my strengths in the things I do. (10)	○	○	○	○	○
I am able to use my strengths in lots of different situations. (11)	○	○	○	○	○
Most of my time is spent doing the things that I am good at doing. (12)	○	○	○	○	○

Using my strengths is something I am familiar with. (13)	○	○	○	○	○
I am able to use my strengths in lots of different ways. (14)	○	○	○	○	○

End of Block: SUS

Start of Block: CIT

	Strongly Agree (1)	Agree (2)	Neither Agree nor Disagree (3)	Disagree (4)	Strongly Disagree (5)
There are people I can depend on to help me. (1)	○	○	○	○	○
There are people who give me support and encouragement. (2)	○	○	○	○	○
There are people who appreciate me as a person. (3)	○	○	○	○	○
I pitch in to help when my local community needs something done. (4)	○	○	○	○	○
I invite my neighbors to my home. (5)	○	○	○	○	○
I look for ways to help my neighbors when they are in need. (6)	○	○	○	○	○
I can trust people in my society. (7)	○	○	○	○	○
People in my neighborhood can be trusted. (8)	○	○	○	○	○
Most people I meet are honest. (9)	○	○	○	○	○
People respect me. (10)	○	○	○	○	○
People are polite to me. (11)	○	○	○	○	○

I am treated with the same amount of respect as others. (12)	○	○	○	○	○
I feel lonely. (13)	○	○	○	○	○
I often feel left out. (14)	○	○	○	○	○
There is no one I feel close to. (15)	○	○	○	○	○
I feel a sense of belonging in my community. (16)	○	○	○	○	○
I feel a sense of belonging in my state or province. (17)	○	○	○	○	○
I feel a sense of belonging in my country. (18)	○	○	○	○	○
I get fully absorbed in activities I do. (19)	○	○	○	○	○
In most activities I do, I feel energized. (20)	○	○	○	○	○
I get excited when I work on something. (21)	○	○	○	○	○
I use my skills a lot in my everyday life. (22)	○	○	○	○	○
I frequently use my talents. (23)	○	○	○	○	○
I get to do what I am good at everyday. (24)	○	○	○	○	○
I learned something new yesterday. (25)	○	○	○	○	○

Learning new things is important to me. (26)	○	○	○	○	○
I always learn something everyday. (27)	○	○	○	○	○
I am achieving most of my goals. (28)	○	○	○	○	○
I am fulfilling my ambitions. (29)	○	○	○	○	○
I am on track to reach my dreams. (30)	○	○	○	○	○
I am confident that I can deal with unexpected events. (31)	○	○	○	○	○
I can succeed if I put my mind to it. (32)	○	○	○	○	○
I believe that I am capable in most things. (33)	○	○	○	○	○
What I do in life is valuable and worthwhile. (34)	○	○	○	○	○
The things I do contribute to society. (35)	○	○	○	○	○
The work I do is important for other people. (36)	○	○	○	○	○
Other people decide most of my life decisions. (37)	○	○	○	○	○
The life choices I make are not really mine. (38)	○	○	○	○	○
Other people decide what I can and cannot do. (39)	○	○	○	○	○

My life has a clear sense of purpose. (40)

  ○   ○   ○   ○   ○

I have found a satisfactory meaning in life. (41)

  ○   ○   ○   ○   ○

I know what gives meaning to my life. (42)

  ○   ○   ○   ○   ○

I am optimistic about my future. (43)

  ○   ○   ○   ○   ○

I have a positive outlook on life. (44)

  ○   ○   ○   ○   ○

I expect more good things in my life than bad. (45)

  ○   ○   ○   ○   ○

In most ways my life is close to my ideal. (46)

  ○   ○   ○   ○   ○

I am satisfied with my life. (47)

  ○   ○   ○   ○   ○

My life is going well. (48)

  ○   ○   ○   ○   ○

I feel positive most of the time. (49)

  ○   ○   ○   ○   ○

I feel happy most of the time. (50)

  ○   ○   ○   ○   ○

I feel good most of the time. (51)

  ○   ○   ○   ○   ○

I feel negative most of the time. (52)

  ○   ○   ○   ○   ○

I experience unhappy feelings most of the time. (53)

  ○   ○   ○   ○   ○

I feel bad most of the time. (54)

○　　　○　　　○　　　○　　　○

End of Block: CIT

Start of Block: Rosenberg

Q13 The last questionnaire concerns your general level of self-esteem. Read the questions, again, very carefully. As with the other questions, there is no right or wrong.

	Strongly Agree (1)	Agree (2)	Disagree (3)	Strongly Disagree (4)
On the whole, I am satisfied with myself. (1)	○	○	○	○
At times I think I am no good at all. (2)	○	○	○	○
I feel that I have a number of good qualities (3)	○	○	○	○
I am able to do things as well as most other people. (4)	○	○	○	○
I feel I do not have much to be proud of. (5)	○	○	○	○
I certainly feel useless at times. (6)	○	○	○	○
I feel that I'm a person of worth, at least on an equal plane with others. (7)	○	○	○	○
I wish I could have more respect for myself. (8)	○	○	○	○

All in all, I am inclined to feel that I am a failure. (9)	○	○	○	○
I take a positive attitude toward myself. (10)	○	○	○	○

End of Block: Rosenberg