The association between strength-use and subjective wellbeing: An experience sampling study

Daniel Doherty

Bachelor Thesis Psychology
Faculty of Behavioural, Management, and Social Sciences
Department of Psychology, Health, and Technology

University of Twente

1st Supervisor: Dr. T. Dekkers

2nd Supervisor: Dr. P. Gül

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Abstract

Introduction: Men are suffering from high suicide rates up to twice the amount of women globally, and four times the amount of women in Europe. However, the rate of referral for mental health assistance is much lower in men than women. This has been attributed to mental health service stigmatisation, and aversive assistance-seeking behaviour in young men. This study aims to test whether there is an association between state strength-use, and state subjective wellbeing in order to build a foundation for potential future research into positive psychology interventions as an alternative to traditional therapeutic practice for young men. It is hoped that positive psychology interventions could improve referral rates in young men due to its unique focus on strengths, and positive approach.

Methods: 18 participants registered with the app *Ethica*, to take part in an experience sampling method study involving 2 trait-based questionnaires, and 1 state-based questionnaire measuring strength-use, and subjective wellbeing. The state-based questionnaire operated under an interval contingent question format where participants receive notifications to complete the questionnaire in the morning, afternoon, and evening over a 7-day period. The participants ranged from 21-25 years of age, and the majority of participants were German nationals (N=14). There were more women participants (N=11) than(N=7).

Results: There was a moderate positive correlation between strength-use, and subjective wellbeing ($p < .05$; $\beta = .599$). This association was also prevalent at both the trait-level ($p < .05$; $\beta = .249$), and state-level ($p < .05$; $\beta = .349$). There was difference in the relationship based on gender ($p > .05$; $t = 1.76$)

Discussion: This study adds to the positive psychology literature on the relationship between strength-use, and subjective wellbeing on a trait-based level as well as promoting the state-based effect of strength-use on subjective wellbeing. This reinforces the promise of promoting strengths as a method of uplifting subjective wellbeing, and low mood. Future research must be undertaken examining the effectiveness of positive psychology Interventions on young men as well as assessing how to optimally market these interventions in order to raise referral rates in clinics for aversive assistance-seeking behaviour adopting young men.

Keywords: Strength-use, Subjective wellbeing (SWB), Experience sampling method (ESM), Young men,

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Introduction

It is an unfortunate reality that mental health concerns are a persistent, evergreen issue that impacts millions of people globally leading to a plethora of negative outcomes such as unhappiness, relationship difficulties, substance abuse, increased disease susceptibility, academic and occupational difficulties, and suicide (Mayo Clinic, n.d.). According to data from the *Global Burden of Disease* study conducted by the *Institute for Health Metrics and Evaluation* (Ritchie & Roser, 2018), over 10% of people worldwide are suffering with a mental health disorder such as depression or anxiety.

Although, the data shows that women are more likely in general to suffer from a mental health disorder, the *World Health Organisation (WHO, 2018)* conveyed data that showed that men are almost twice as likely universally to commit suicide than their women counterparts. If you narrow this scope down to Europe, men commit suicide at almost 4 times the rate of women annually.

This alarming disparity between mental health disorder symptoms and the prevalence of negative mental health outcomes between men and women is further exemplified in the third-level education system. Women students have a significantly higher chance of being depressed (Sun, Zhou, Niu, You, & Tang, 2017). Women students have also been shown to have higher negative affect, lower positive affect, and lower self-efficacy than men students (Sivis-Cetinkaya, 2013). Despite this, young men attending university are significantly more likely to commit suicide (ONS, 2017). Literature would imply that even in the third-level education system, women are suffering with more mental health issues in general, but men are much more likely to suffer a deadly mental health outcome.

Literature has explored the antecedents of this disparity somewhat. One of the most common factors that explains this difference between prevalence of mental health disorder and prevalence of mental health outcomes is that men generally find it difficult to seek help (Abotsie, Kingerlee, Fisk, Watts, Cooke, Woodley, Collins, & Teague, 2020; Affleck, Carmichael, & Whitley, 2018; Calear, Banfield, Batterham, Morse, Forbes, Carron-Arthur, & Fisk, 2017; Lynch, Long, & Moorhead, 2016). One explanation for this low assistance-seeking behaviour in men is that they perceive that there is a stigma around seeking out the aid of mental health services (Clement, et.al., 2015; Pirkis, Spittal, Keogh, Mousaferiadis, & Currier, 2016), and that they would be viewed as unmanly for attending any kind of therapeutic intervention (Affleck, Carmichael, & Whitley, 2018). A study by Conley, Shapiro,

and Huguenel (2020) examined the behaviour of students throughout their time in college in terms of their mental health. They found that men exhibit avoidant emotional coping throughout their college time when suffering from a mental health disorder and generally have much worse friend support than women students. Only 13% of men with an issue with their mental health aged 16-24 reached out for mental health assistance compared to 31% women in that age group.

In conclusion, young men have poorer mental health outcomes than women (Abotsie, Kingerlee, Fisk, Watts, Cooke, Woodley, Collins, & Teague, 2020) but are at odds with the mental health sector due to the stigmatization of mental health services by themselves, their peers, and their environment. This stigmatisation leads to avoidant coping behaviour in men which subsequently may lead to their general avoidance of mental health services.

As such, Alternative options as opposed to more classical therapeutic approaches may be key in improving the low referral rates of men with a mental health issue and may even provide more positive results in this current struggle with men's mental health.

Positive psychology interventions could potentially act as this alternative. Positive psychology aims to focus on the identification and promotion of an individual's core strengths as a method of increasing positive affect and decreasing negative affect rather than focusing solely on diagnoses and the ailment of the client (Seligman, & Csikszentmihalyi, 2000). It is an approach that has gained incredible traction throughout the 21st Century and continues to grow in popularity.

A comprehensive meta-analyses of positive psychology intervention (PPI) effectiveness conducted by Carr et. al, (2020) assessed 347 studies using PPIs with a total of approximately 72,000 participants. The findings showed that PPIs have a medium positive effect on an individual's quality of life, wellbeing, and their ability to use their strengths. It was also shown that PPIs have a medium negative effect on anxiety, depression, and stress. Several other meta-analyses of PPI's have been conducted that further support this data. These meta-analyses have also assessed several aspects of PPIs such as single PPI meta-analyses (Bolier et al., 2013; Sin & Lyubomirsky, 2009) and multi-PPI studies with 3 or more PPIs (Hendriks et al., 2020); non-clinical PPI effectiveness (Bolier et al., 2013; Sin & Lyubomirsky, 2009) and clinical PPI effectiveness (Chakhssi et al., 2018), and meta-analyses of studies that were tested on western and non-western populations (Hendriks et al., 2018). For all aforementioned meta-analyses, positive outcomes for mental health were shown to be sustained after follow-ups between 3-7 months after the initial testing period. There is a clear enthusiasm around the potential assets of PPIs in the literature,

A specific PPI is the strength-use approach (SUA), which has been shown to carry a multitude of positive effects (Peterson & Seligman,2004) SUA can lead to self-acceptance, competence, reverence for life, mastery, mental health, material sufficiency and work satisfaction. A study by Wood et.al. (2011) showed that using one's strengths can reduce stress, heighten self-esteem, and increase positive affect. In other words, strength use appears to be an important predictor of subjective well-being, the specific conceptualization of well-being in the current study.

Subjective wellbeing (SWB) is a form of well-being based on the individual's perception of their life (Diener, & Lucas, 1999). Diener, and Lucas (1999) describe SWB as "both cognitive judgements of one's life satisfaction in addition to affective evaluations of mood and emotions". SWB is commonly synonymised with happiness (De Neve, Diener, Tay, & Xuereb, 2013; Jach, Sun, Loton, Chin, & Waters, 2017; Sevis-Cetinkaya, 2013); a trait often associated with good mental health (Layous, Sheldon, & Lyubomirsky, 2015). High SWB generally helps you function better as well as possessing objective benefits for one's health, organisational behaviour, and social behaviour (De Neve, Diener, Tay, & Xuereb, 2013). SWB has also been shown to positively impact academic achievement and attainment (Click, Huang, & Kline, 2017) which is a common factor that effects the wellbeing of university students (Bücker et.al, 2018).

One of the key factors that improves the likelihood of help-seeking behaviour is past positive experience with mental health services (Gulliver, Griffiths, & Christensen, 2010). Strength-use could provide this early positive experience for clients that will give them more confidence to engage further with the mental health sector. PPIs are after all, commonly viewed as a complement to traditional therapeutic interventions (Seligman, & Csikszentmihalyi, 2000), therefore, this introductory use of PPI could be key in bridging the gap in help-seeking behaviour that is inhibiting young men with mental health disorders. There is a myriad of literature documenting the relationship between SUA, and SWB and the vast majority support SUA having a significant positive effect on SWB (Jach, Sun, Loton, Chin, & Waters, 2017; Koydemir, & Sun-Selışık, 2016; Proctor, Maltby, & Linley, 2010; Zhang, & Chen, 2018). PPIs such as SUA are inherently designed to improve wellbeing (Schueller, et.al, 2014) which can have a positive knock-on effect on the recurrence and longevity of mental health disorder symptoms and psychopathology (Lamers et.al, 2012).

However, not a lot of research has been done on the day-to-day relationship between these two variables. Wood et.al (2011) performed a longitudinal study involving a 3-6-month follow-up period to test the strength-use-SWB relationship and found that strength-use was an

important longitudinal predictor of SWB. Bakker, Hetland, Olsen, and Elsevik (2018) performed a longitudinal study involving 87 Norwegian naval cadets of which approximately 80% were Men. Their study tested the relationship between daily strength-use and positive affect and work engagement across 30 days. They found that strength-use positively correlated with both of those variables. Positive affect, and work engagement are both established indicators of SWB (Bakker, & Oerlemans, 2011), which may provide an insight into the potential effect between strength-use and SWB in this study. An experience sampling study approach will help to test whether strength-use consistently correlates with SWB, how different the correlations will vary between participants, how this relationship evolves over time, and give an insight into whether SUA as a PPI alternative to traditional therapies can be useful for young men in need of mental health assistance and therefore worth researching further in the field of Positive Psychology.

The aim of this study is to assess the relationship between Strength use and SWB in order to build the argument for PPIs such as SUA to be promoted and tested as an alternative therapy for young men to counteract the factors inhibiting them from accessing mental healthcare facilities. The hope is that PPIs' focus on building the qualities, strengths, and core traits of an individual up rather than honing in on the negative, potentially embarrassing, and personal factors of their issues may assist young men in engaging with mental health services. In this study, it is believed that strength-use will have a consistent positive effect on SWB across the entire testing period; wherein lower strength-use scores will equate to lower SWB scores on any given day. This data will then hopefully provide a foundation for future research regarding PPIs aimed at young men.

Methods

Participants

The sample of this study consisted of 31 participants. Of these 31, 18 provided data that was valid for analysis in this study. All participants were aged between 21-25 years of age. 11 participants were women and 7 were men. The majority of participants were German nationals (N=14). The remainder were Dutch, American, Bulgarian, and Israeli respectively. The participants were all either currently enrolled in a third-level institution (N=13) or were enrolled in one within the last 12 months prior to data collection (N=5). A small portion of the

participants have had a previous history with mental health services (N=6). All participants were procured by means of convenience sampling either in face-to-face encounters or through contact on the social media application WhatsApp. No form of reward or compensation was administered to any of the participants for taking part in the study.

Materials

The data for this study was collected using an experience sampling method (ESM). This involved using the application *Ethica.* In *Ethica*, you can design surveys and questionnaires that can be distributed directly to participants phones at set times allowing for streamlined ESM sampling to occur. Within *Ethica*, 2 questionnaires were designed to measure state level strength-use and subjective wellbeing. Also, 2 questionnaires to measure trait level strength-use and subjective wellbeing were also designed using *Ethica*. The informed consent (Appendix) and demographic questions as well as a question regarding whether the participant had ever sought assistance from a mental health service were also designed in *Ethica.* Accessing this application required a phone supported by Android or IoS and a valid e-mail address in order to participate.

The Oxford Happiness Questionnaire (OHQ) (Hills & Argyle, 2002) was used to measure trait-level SWB. It is a 6-point-likert scale questionnaire wherein 1 = “strongly disagree”, and 6 = “strongly agree”. It contains 29 items including, “I don’t feel particularly pleased with the way I am” and, “I am well satisfied about everything in my life”. It is geared towards undergraduates of any age range. The questionnaire is scored by getting a total score and the higher the score, the happier or higher in SWB the participant is on a scale of 29-174.

According to research by Bekhet, Zauszniewski, and Nakhla (2008) on the reliability, and validity of OHQ, it showed a very satisfactory cronbach’s alpha ($\alpha = .91$) suggesting very high internal consistency as well as high construct validity with multiple other measures used to assess happiness, and SWB.

In order to measure state level subjective wellbeing, Abdel-Khalek’s (2006) single item happiness scale was used. The single item was measured on an 11-point likert scale ranging from 0-10. The single question asked is “Do you feel happy in general?” which was modified in this study to be “Do you feel happy at the moment?” in order to better fit the experience sampling method. In Abdel Khalek’s (2006) study assessing this single item scale, it was shown to have strong concurrent validity with multiple longer form measurements of subjective wellbeing. The scale was also shown to have strong divergent validity with scales

measuring opposing concepts such as anxiety and convergent validity with scales that measured similar concepts such as hope.

For state-level strength-use, a reduced item version of Govindji and Linley's (2007) Strength-use Scale (SUS) was utilised. The two items with the highest factor loadings in Govindji and Linley's (2007) study were chosen. An example item from this questionnaire was "I am regularly able to do what I do best". Similar to Abdel-Khalek's (2006) single-item happiness scale, all items had to be re-formulated to be more suitable for experience sampling. Therefore, the new formulation was now "I am able to do what I do best at the moment". This scale showed good internal consistency and the presence of a one-factor structure. The SUS is measured on a 7-point likert scale ranging from 1 (Strongly Disagree) and 7 (Strongly Agree). This scale has been shown to predict changes in wellbeing over time due to its strong predictive validity (Wood, Linley, Maltby, Kashdan, & Hurling, 2011). The complete 7-item scale was used to measure trait strength-use in this study.

Design & Procedure

This study consisted of a longitudinal within-subjects design that aimed to test daily strength-use and subjective wellbeing by administering a Strength-use and Subjective wellbeing questionnaire thrice daily for one week using *Ethica*. This form of data collection is called an experience sampling method (ESM). ESM as stated by Larson, and Csikszentmihalyi (2014), "is a research procedure for studying what people do, feel, and think during their daily lives, it consists in asking individuals to provide systematic self-reports at random occasions…create an archival file of daily experience". The study operated around an interval contingent question format wherein, participants would be prompted to answer questions in the morning, afternoon, and evening for a set period of time (Conner and Lehman, 2007).

Once the study was approved by the Ethics Committee BMS of the University of Twente, participants received an email the day before starting the study asking to register for said study. This involved downloading a mobile application version of Ethica aimed at participants. Participants also had to provide consent for their participation during the registration process as well as provide demographic information such as their age, gender, and nationality.

On the first day of the study, the two trait level questionnaires were administered to gauge the participant's baseline measurement on the main concepts of strength-use and subjective wellbeing. This was the only point at which these questionnaires were administered. Afterwards, the first set of daily questionnaires were answered. A notification

would be sent to the participant's at different points in the day informing them that it was time to fill out the daily questionnaire. These notifications would be triggered at three points in the day; the morning (10:00 – 11:00), the afternoon (16:00 – 17:00), and the evening (22:00 – 23:00) in keeping with the interval contingent format opted for in this study. The notifications for each timeslot were triggered multiple times over the hour-long period and if the questionnaire had not been answered within the allotted time, the questionnaire would be unable to be completed and marked down as missing data. This process was then repeated for the next week at which point the data collection period would then be completed.

Data Analysis

The data from Ethica was imported to IBM SPSS Statistics 25 for statistical analysis. Unnecessary variables such as incomplete and missing data were removed.

In order to analyse the data, a linear mixed model (LMM) was utilised to account for the nested structure of the experience sampling data (Magezi, 2015). The fact that there were repeated measurements needed to be indicated in SPSS so as to allow estimated marginal (EM) means to be displayed for the measurement points and participants. The covariance type used for the LMMs was the repeated covariance type of first-order autoregressive AR(1) due to its assumption that there is a within-person correlation present as well as a strong correlation between close proximity measurements.

Furthermore, to analyse the relationship between state strength-use and subjective wellbeing, a total strength-use score was calculated on each measurement point for each participant. The two items used from the strength use scale (Govindji, & Linley, 2007) were summed and transformed into a new variable titled "state strength use". The scales of the strength-use state level (2-14), and the single item happiness questionnaire (0-10) were compared in a standardised and non-standardised form.

Firstly, an analysis of the association between strength-use, and SWB in general was made by exploring the fixed effect estimates of the two variables. Strength-use was the independent variable, and SWB was the dependent variable. Afterwards, it was explored through significance testing, whether the relationship between the variables carried a higher between-subjects effect or within-subjects effect. The findings here would elucidate whether SWB fluctuated more based on trait-level strength-use or state-level strength-use.

The scores of the participants were then standardized in order to get an even more accurate comparison of the data as the z-scores allows you to measure all the data on the same scale, that being standard-deviations from the mean (Colan, 2013). The same significance

testing was conducted again. Lastly, gender was explored by creating a dummy variable accounting for participant gender and exploring that through a signifigance test to see if it had any influence on the variable association whatsoever.

All results were represented either using charts on Microsoft Excel software or representations from the output of the SPSS dataset.

Results

To test whether there was a significant association between strength-use, and SWB, estimates of fixed effects was calculated (see table 1). The results conveyed that wellbeing was associated with strength-use significantly, and strongly ($\beta = .599$, $p < .05$).

Table 1. *Estimates of fixed effects strength-use on subjective wellbeing as dependent variable*

Effect	Estimate	*SE*	95% CI		*p*
			LL	*UL*	
Intercept	4.077	.346	.041	3.395	.000
State Strength-Use	.599	.068	.042	.466	.000

The relationship between strength-use, and SWB was also assessed with the data standardised into z-scores. Standardisation showed a correlation between the two variables at the trait, and state-level that was significant, and moderately positive ($\beta = .249$, $p < .05$); ($\beta = .339$, $p < .05$).

Table 2. *Estimates of fixed effects standardised strength-use between-subjects, and within-subjects on standardised subjective wellbeing as dependent variable*

Effect	Estimate	*SE*	95% CI		*p*
			LL	*UL*	
Fixed effects					
Intercept	-.022	.084	-.191	.147	.797

ZStateStrengthUse-State	.249	.084	.080	.418	.005
ZStateStrengthUse-Trait	.339	.040	.260	.419	.000

A dummy variable was created to separate the data by gender. A moderation test was conducted using another estimate of fixed effects test to see if gender had any influence on the relationship between strength-use, and SWB. Judging by the table below, gender had an insignificant interaction on the relationship between strength-use, and SWB ($p > .05$; $t = 1.76$)

Table 3. *Estimates of fixed effects strength-use, and gender on subjective wellbeing as dependent variable*

Effect	Estimate	*SE*	95% CI		*p*
			LL	*UL*	
Fixed effects					
Intercept	3.155	.595	1.985	4.325	.000
State Strength-Use	.703	.110	.486	.920	.000
Gender	1.286	.730	-.150	2.721	.079

Discussion

The aim of this study was to assess the relationship between strength-use, and SWB in order to build a foundation for promoting PPI's for effected groups, particularly young men who struggle with seeking help from mental health services. The results of the study would indicate that the variables do correlate, which is supported by the literature as a whole (Proctor, Maltby, & Linley, 2010; Wood et. al., 2011). These studies were however, focused on the trait-based relationship between the variables, therefore implying that the more an individual utilises their strengths, the higher their SWB is likely to be. Whilst, this study also reinforced this finding, the main focus was to analyse the state-level relationship between strength-use, and SWB which has been much more rarely investigated in the literature. By utilising ESM as the data collection method, this unique relationship could be explored. The results showed a more or less equivalent relationship between the variables as was seen in the trait-based correlation. This illustrates that as one's ability to use their strengths fluctuates

throughout the day, their SWB will fluctuate accordingly. This indicates that strength-use potentially has a much broader influence on SWB throughout the day and could have a genuine impact on how you feel from day-to-day. Another component that was of importance to this study was the potency of this relationship for young men. Gender was analysed, and it was shown that there was no difference between genders in terms of the strength of the variable association. This doesn't appear to discount the effectiveness of strength-use on the SWB of Men but rather imply that it is potentially just as effective for women.

In the scope of this research, these results would indicate that there is some initial promise to investigating strength-use further in a clinical setting. These results suggest that a strength-use approach could benefit the moods of prospective clients in mental health services regardless of gender. Other research has explored PPI effectiveness on SWB and the results have been promising (Sin & Lyubomirsky, 2009; Carr, Cullen, Keeney, Canning, Mooney, Chinseallaigh, & O'Dowd, 2020). This study can only offer an estimation of PPI's effectiveness, but the results are valid enough for further exploration into a subject whose lack of clinical research has been a concern (Chakhssi et al., 2018).

The hope for this research is that it can add to a growing base of research in the field of positive psychology that can promote future clinical trials of PPI's for combatting low SWB, and low mood. These results further reinforce the potential importance of strength-use in approaching these issues in a clinical setting. Considering that it is not a traditional form of therapy in the same vein as cognitive behavioural therapy or psychotherapy, PPI's may be able to draw higher referral rates in young men who are so dearly struggling with assistance-seeking behaviour and are stigmatised away from the aid of mental health services. It may be worthwhile to adjust the therapy approach for these individuals to focus on PPI's.

Of course, the only way to test if PPI's are effective and that they can raise men's referral rates in mental health services is to research them clinically. This is outside the remit of this research, but it would be highly recommended that further research into the clinical efficacy of PPI's on young men be explored. An important additional research alongside this would be to explore further why men struggle to seek assistance with mental health services and what would encourage them to engage with mental health services. This information could help market PPI's targeted at these at-risk men which could boost referral rates.

This study was limited in its scope in terms that it could only really examine the relationship between strength-use, and SWB. A number of features of the research could be better optimised. Some of the participants were actively seeking or had previously sought mental health assistance in the past. This would mean that these participants would possess

some level of assistance-seeking behaviour which may have skewed the data in one direction or the other. This casts some doubt over stating from this data that young-Men with low assistance-seeking behaviour will definitely benefit from their strength-use being optimised. Focusing on researching this topic with a similar design but focusing on the addition of an assistance seeking variable would be a beneficial next step. Checking whether low assistance-seeking behaviour moderates or mediates the relationship between strength-use, and SWB would give some clarity as to how important PPI's may be for young men concerned about seeking mental health assistance.

This study also does not address a number of the other issues that are a factor in poor mental health. Further research could be undertaken to explore ESM driven analysis of variables such as depression, and anxiety which young men widely suffer with as well. If there is also a correlation present with these variables, and strength-use then that would add further credibility to the argument to clinically research PPIs. It is also relevant to mention that the mean scores for both strength-use, and SWB were generally above average for the majority of participants. This sample therefore represents the relationship between the variables when the participants possess good levels of strength-use generally. This means that when strength-use is good, so is SWB. However, there is no real data in this study to determine the interaction when strength-use is low, and whether SWB will generally be lower as a result. A broader sample that can allow for a higher likelihood of diverse scoring should remedy this. If it is the case that the lower the strength-use, the lower the SWB, then that would also be reason enough to explore PPI research as the potential influence of strength-use on SWB would be made even more broadly apparent.

In summary, there is potential that improving strength-use, and focusing on PPIs could be an effective method of raising SWB. With further research into this relationship, PPIs could help to encourage men to engage with mental health services and be a potentially effective method of alleviating low mood, and low SWB in these men with the long-term goal of reducing the rampant suicide rate of men globally.

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Appendices

Appendix A: Informed Consent

Your participation is completely voluntary and all your data will be stored anonymously. Some of the questions may be sensitive and we would appreciate if you answer as honestly as possible. For this reason, you can opt out of answering any questions and withdraw your participation at any time without reason during the course of the study.
All data procured from this study will be used for the results section of the bachelor's theses of the researchers involved and only them. Any personal information that could potentially identify you (e.g. name) will only be viewable by the research team.

Study contact details for further information: [Daniel Doherty, **d.p.doherty@student.utwente.nl**; Lukas Schroder, **l.n.schroder@student.utwente.nl]**
If you have questions about your rights as a research participant, or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the Secretary of the Ethics Committee of the Faculty of Behavioural, Management and Social Sciences at the University of Twente at **ethicscommittee-bms@utwente.nl**

Appendix B: Trait-level Questionnaires

Oxford Happiness Questionnaire

1. I don’t feel particularly pleased with the way I am. (R)
2. I am intensely interested in other people.
3. I feel that life is very rewarding.
4. I have very warm feelings towards almost everyone.
5. I rarely wake up feeling rested. (R)
6. I am not particularly optimistic about the future. (R)
7. I find most things amusing.
8. I am always committed and involved.
9. Life is good.

10. I do not think that the world is a good place. (R) _

11. I laugh a lot.

12. I am well satisfied about everything in my life.

13. I don't think I look attractive. (R)

14. There is a gap between what I would like to do and what I have done. (R)

15. I am very happy.

16. I find beauty in some things.

17. I always have a cheerful effect on others.

18. I can fit in (find time for) everything I want to.

19. I feel that I am not especially in control of my life. (R)

20. I feel able to take anything on.

21. I feel fully mentally alert.

22. I often experience joy and elation.

23. I don't find it easy to make decisions. (R)

24. I don't have a particular sense of meaning and purpose in my life. (R)

25. I feel I have a great deal of energy.

26. I usually have a good influence on events.

27. I don't have fun with other people. (R)

28. I don't feel particularly healthy. (R)

29. I don't have particularly happy memories of the past. (R)

R = Reverse Coded Item

Strength Use Scale

1. I am regularly able to do what I do best
2. I always play to my strengths

3. I always try to use my strengths
4. I achieve what I want by using my strengths
5. I use my strengths everyday
6. I use my strengths to get what I want out of life
7. My work gives me lots of opportunities to use my strengths
8. My life presents me with lots of different ways to use my strengths
9. Using my strengths comes naturally to me
10. I find it easy to use my strengths in the things I do
11. I am able to use my strengths in lots of different situations
12. Most of my time is spent doing the things that I am good at doing
13. Using my strengths is something I am familiar with
14. I am able to use my strengths in lots of different ways

Appendix C: State-level Questionnaire

1. On a scale from 0 (Most unhappy) - 10 (Most happy), how happy are you at the moment? Choose the number that you feel best reflects your current feelings at the moment

2. I am able to do what I do best at the moment

3. I am able to use my strengths in lots of different ways at the moment