

# THE IMPORTANCE OF POSITIVE RELATIONS IN THE CONTEXT OF POSITIVE EMOTIONS AND FLOURISHING

Master Thesis of Linn Böckmann s1711717



University of Twente, the Netherlands

Supervisor: Marloes Postel & Jannis Kraiss

10 EC Master Thesis

## Abstract

**Background:** Different theoretical models emphasize the role of positive emotions and flourishing in the field of positive psychology, but little is known about the importance of positive relations in the context of positive emotions and flourishing.

**Objective:** The aim of the study was to investigate whether positive relations do correlate significantly with positive emotions and whether positive relations could be a precondition for an individual to flourish in terms of mental health.

**Method:** In this secondary analysis the participants (N= 275) were randomly assigned to two conditions. The intervention group was instructed to read the self-help book “This is Your Life” within eight weeks. The waitlist control group received the same intervention after six months. All participants were asked to fill in questionnaires at baseline, at three and at six months after baseline.

**Results:** There were significant correlations found between positive relations and positive emotions at the second and the third measurement but not at the first one. This effect was found for the intervention group as well as for the control group. Besides that, the sample was divided into three sub-samples depending on their level of positive relations. A chi-square test and a cross table were used, which showed that no participant with a low level of positive relations flourished at any point.

**Discussion:** The main limitations of the study were, first of all, that there was no exploration of whether there was a causal relationship between positive relations and positive emotions and, secondly, the size of the sub-sample. Furthermore, it was recommended that the role of each positive emotion be explored in more detail and that a qualitative part be added to the study to enable more insights into what people need to flourish.

**Conclusion:** There is a relationship between positive relations and positive emotions and there is also evidence for the assumption that having at least a moderate level of positive relations is necessary in order to flourish. These insights can be useful for the average person’s everyday life as well as for patients in a clinical setting.

## 1. Introduction

For a long time, most attention in the field of psychology was paid to unpleasant emotions such as anxiety, aggression, loneliness and sadness. The focus was on the exploration of the cause of the symptoms and on how to reduce them (Bohlmeijer & Hulsbergen, 2018).

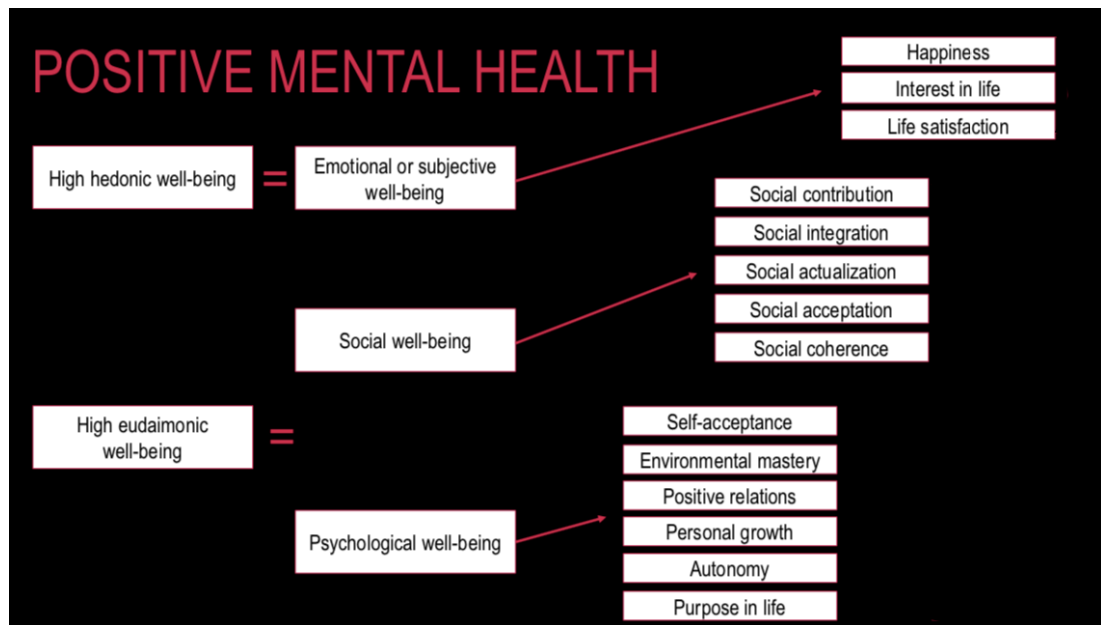
Cognitive Behavioural Therapy (CBT) was mainly used for treatment of psychopathology. It is the combination of behaviour therapy, which was established in 1920, and cognitive therapy, which emerged in 1960. CBT is a problem-focused therapy and the most commonly used therapy in recent decades. Research indicates that CBT is effective for treating different types of mental illnesses, for example mood, anxiety, personality and eating disorders, substance abuse, and psychotic disorders (Bannink, 2012). The goal of CBT is to identify and modify the dysfunctional thoughts of the client, and to relieve the psychopathological symptoms (Bannink, 2012).

Besides the reduction of symptoms, recent developments within psychology also emphasize the importance of improving well-being. The two continua model incorporates both aspects. On the one hand, the dimension of mental illness ranges from mentally ill to not mentally ill. On the other hand, the dimension of well-being is subdivided into languishing (low mental well-being), moderate well-being and flourishing (high mental well-being) (Westerhof & Keyes, 2009). The new therapy that combines these two dimensions is called Positive Psychology, the study of human strengths and virtues (Sheldon & King, 2001). It was discovered that there are human strengths, such as hope, courage and interpersonal skills that do even buffer against mental illnesses (Seligman & Csikszentmihalyi, 2000). A possibility was found to prevent people from psychopathology and to increase mental well-being (Seligman & Csikszentmihalyi, 2000). Seligman (2012) explored what makes life worth living and established the goal of positive psychology, namely understanding and

improving mental well-being. People should learn how to build the qualities that help them not only to survive, but also to flourish (Seligman & Csikszentmihalyi, 2000).

Flourishing is the combination of experiencing high levels of emotional well-being, psychological well-being and social well-being (Keyes & Lopez, 2002). As can be seen in Figure 1 (Schotanus-Dijkstra, 2018), emotional well-being is also called hedonic well-being. It is a subjectively determined positive mental state (Kagan, 1992). Often, hedonic well-being is about pleasure, as may be experienced in going to a party, for example (Steger, Kashdan, & Oishi, 2008).

Social and psychological well-being are part of eudaimonic well-being, which is about experiences that are objectively good for the person (Kagan, 1992). Examples of eudaimonic well-being are: writing down one's goals for the future or confiding in another person about something very important (Steger et al., 2008). Psychological well-being consists of self-acceptance, environmental mastery, positive relations, personal growth, autonomy and having a purpose in life (Schotanus-Dijkstra, Drossaert, Pieterse, Boon, Walburg & Bohlmeijer, 2017). The six parts of psychological well-being were determined by Carol Ryff. She called her theory Ryff's model (van Dierendonck, Rodríguez-Carvajal, Blanco & Moreno-Jiménez, 2008).



*Figure 1.* Positive mental health. Adapted from Schotanus-Dijkstra (2018).

Flourishing can be brought about through positive emotions (Fredrickson, 2001). Fredrickson (1998) introduced the “broaden and build” model of positive emotions. According to this model, positive emotions broaden a person’s momentary thought-action repertoire. The experience of positive emotions enhances an individual’s ability to replace automatic behaviour with innovative, creative and probably unscripted paths of thought and action. Furthermore, positive emotions build personal resources, for example physical, intellectual, social and psychological resources (Fredrickson, 1998). Broadening one’s thought-action repertoire and building enduring personal resources results in enhanced health, survival and fulfilment. As a consequence, more positive emotions are experienced that create an upward spiral (Fredrickson & Cohn, 2008). According to Fredrickson (2013), there are 10 key positive emotions: joy, gratitude, serenity, interest, hope, pride, amusement, inspiration, awe and love (Fredrickson, 2013). The main function of positive emotions is to allow an individual experience personal growth and development (Schotanus-Dijkstra, 2018b).

To increase positive emotions and mental well-being, and in line with the shift

towards positive psychology, a lot of different positive psychological interventions (PPI) were developed. Most PPIs are designed for a non-clinical population or persons with mild to moderate symptoms of depression (Meyer, 2014). PPIs are important because the majority of the population in the Netherlands is not flourishing according to the above-mentioned definition. Only 36.5% of the Dutch population is flourishing, 61.9% have a moderate well-being and 1.6% are languishing (Schotanus-Dijkstra, Pieterse, Drossaert, Westerhof, De Graaf, Ten Have & Bohlmeijer, 2015). Thus, there is a large group that can benefit from PPI's.

One example of a multicomponent positive psychological intervention (PPI), aiming to increase psychological well-being, is the self-help book “Dit is jouw leven” (This is Your Life) by Bohlmeijer and Hulsbergen (2013). It consists of eight chapters about the six core well-being factors: positive emotions, discovering and using strengths, optimism, self-compassion, resilience and positive relations (Bohlmeijer & Hulsbergen, 2018). A recent study by Schotanus-Dijkstra, Pieterse, Drossaert, Walburg & Bohlmeijer (2017) examined the effectiveness of the self-help book “This is Your Life” and found, that all six processes of psychological well-being improved significantly for the intervention group. Furthermore, positive emotions and positive relations improved up until three, six and twelve months after the PPI started (Schotanus-Dijkstra, et al., 2017). The size of the effect of positive emotions from baseline to the post-test point of three months was 0.37 and to the post-test point of six months was 0.4. The size of the effect of positive relations was 0.72 (post-test three months) and 0.72 (post-test six months) (Schotanus-Dijkstra, et al., 2017). It was assumed that positive relations might be a key mechanism in promoting well-being because the efficacy of “This is Your Life” on mental well-being was uniquely mediated through optimism and positive relations, of which the latter was the strongest (Schotanus-Dijkstra, et al., 2017). Positive relations thus seem to play an important role in the context of well-being and the

experience of positive emotions. In most of the well-being theories positive relations are mentioned, as for example in the PERMA theory (Seligman, 2010) and the self-determination theory (Deci & Ryan, 2000). Regarding positive emotion theories, positive relations are partly included as well as in the 10 positive emotions theory by Fredrickson (2011). As mentioned above, love is also included in this theory, which is clearly an emotion that includes a relationship with others. Love builds and strengthens social bonds and attachment (Fredrickson, 2011).

Nevertheless, there is little research done on the influence of positive relations on flourishing. That raises the question of whether it would even be possible to flourish without experiencing meaningful positive relations. It seems impossible to personally grow and flourish in the absence of positive relations due to the level of sadness that we experience when losing a loved one (Schotanus-Dijkstra, 2018b). The current study examines the importance of positive relations for flourishing and positive emotions. It is interesting to investigate whether positive relations imply more positive emotions. Therefore, the research questions of the current study are:

1. Is there a significant positive correlation between positive relations and positive emotions?
2. Is it possible for an individual with a low level of positive relations to flourish?

Due to the literature review, the hypotheses for the research questions are the following:

1. We expect to find a significant correlation between positive relations and positive emotions at baseline, three months after baseline and six months after baseline.
2. We expect the majority of participants with a low level of positive relations not to flourish. Nevertheless, we expect some participants to flourish with a low level of positive relations because they probably do not need many positive relations.

## 2. Method

### 2.1 Design

We conducted secondary analysis of data from an RCT that was conducted by Schotanus-Dijkstra et al., (2017). Randomization stratified by gender and education was used to divide the participants into two different groups: the intervention group (n=137) and the wait list group (n=138). The questionnaires were assessed at baseline (t0), three months after baseline (post-intervention, t1), six months after baseline (t2) and after 12 months after baseline (follow-up, t3) (see Figure 2).



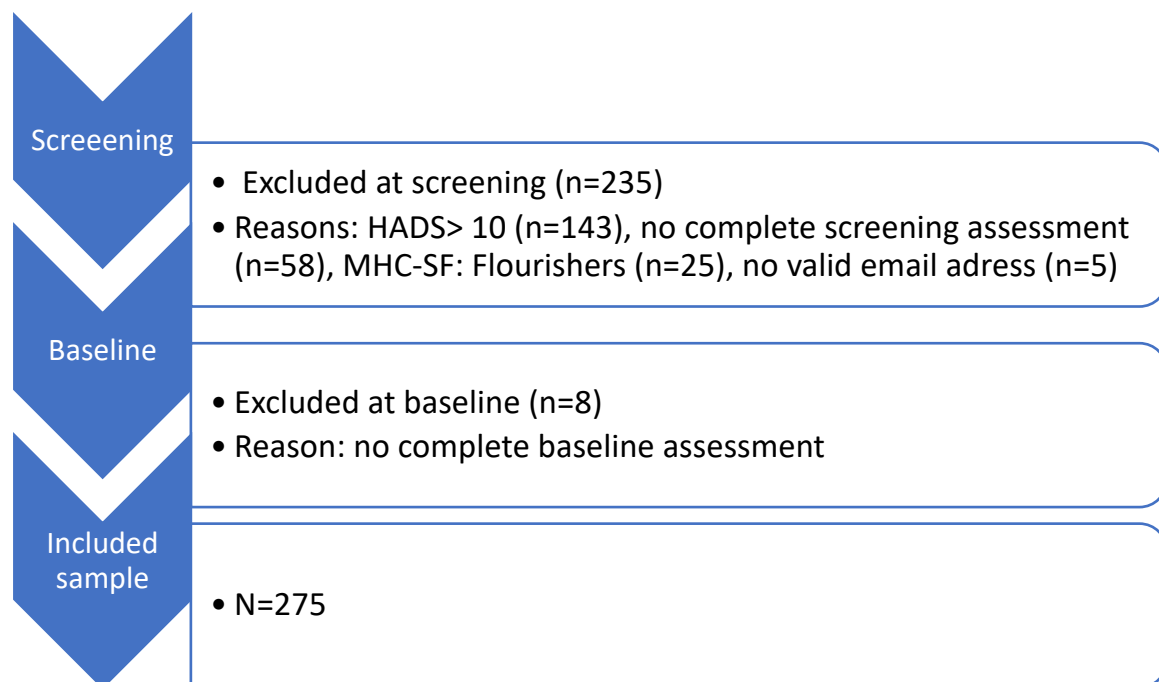
Figure 2. The design of the study.

For the purpose of both research questions, participants from the intervention and wait list group were merged. To answer the first research question, the whole sample was analysed, as well as the intervention and wait list group separately. To answer the second research question, all participants were divided into three subgroups according to their positive relations (low, moderate and high level of positive relations).

## 2.2 Participants

The participants were recruited in the Netherlands in January 2014 via advertisements in national newspapers and in the online newspaper of a popular psychology magazine. 235 participants were excluded during screening because they met one or more of the following exclusion criteria: they did not complete the screening questionnaire, had an invalid email address, were already flourishing or had moderate to severe anxiety or depressive symptoms. Additionally, eight participants were excluded because they had no complete baseline assessment. Inclusion criteria required the participants to be at least 18 years old and to have good Dutch writing skills.

In total, 275 participants, with low or moderate levels of well-being were included and gave informed consent. The age of the participants ranged from 20-67 years. The participants were willing to spend about 4h per week on the intervention. An overview of the enrolment can be seen in Figure 3.



*Figure 3.* Enrolment of participants.

MHC-SF= Mental Health Continuum-Short Form (measured flourishing); HADS= Hospital Anxiety and Depression Scale.

### 2.3 Intervention

All participants received the self-help book “This is Your Life”, although the control group received it after the waiting period of six months. The instruction was to read the book for eight weeks, one chapter per week. Every chapter had a different theme (positive emotion, use of strengths, optimism, self-compassion, resilience and positive relations), which was part of the six core processes of mental well-being. In every chapter the theoretical background was explained, which made it understandable also for people who did not have previous knowledge of psychology. Three to ten positive psychological exercises were presented per chapter. It was recommended to practise 2-3 of the provided exercises. The participant could freely choose from the exercises (Bohlmeijer & Hulsbergen, 2018). An example of an exercise in the chapter about positive emotions is “the three good things exercise” (Seligman et al., 2005). In this exercise, the participants had to write down three positive things they experienced that day in order to be aware of the positive emotions we experience day to day. In chapter 7, dealing with positive relations, the exercise “Active and constructive reaction to good news” was used (Bohlmeijer & Hulsbergen, 2018). In this exercise the participants learned how others perceive our reaction to their good news. Furthermore, the participants had to practice reacting more actively and constructively to the good news of others.

The only difference between the intervention group and the control group was that the experimental group received email support from their personal counsellors. Those were five senior positive psychology students of the University of Twente and the first author of the self-help book. All counsellors were supervised by a clinical psychologist and the author of the book “This is Your Life”. The participants were encouraged to send one email per week to their counsellor, which gave participants the possibility to share their experiences about the exercises of the week. Asking questions was also permitted. The goal was to keep participants motivated for practicing the exercises of the week. This was done by

paraphrasing what the participants experienced and to use positive reinforcement, empathy and stimulating questions. The control group received the intervention but without email support, six months after baseline.

## 2.4 Procedure

The participants first had to register online for participating in the study and were then asked to complete the online informed consent. Those who managed these two steps completely received a screening questionnaire via an email notification. Then, participants who were assessed as eligible received the baseline assessment. The intervention group started the intervention immediately after the baseline assessment. To keep participants involved, participants were given the possibility to win one of the 125 gift vouchers of 10€, 20€ or 50€, if they completed all assessments. The wait list group was informed about being on a wait list and received the intervention six months after the baseline assessment. All participants received a digital version of the intervention book via e-mail. The study ended for all participants 12 months after baseline.

## 2.5 Measures

At the screening, anxiety and depressive symptoms were measured with the two subscales (each 7 items) of the Hospital Anxiety and Depression Scale (HADS) on a 4-point scale (0-3). Higher total scores indicated higher levels of symptomatology. When participants scored higher than 10 on one of the subscales (range 0-21), they were excluded from the study as this score indicated moderate to severe anxiety or depressive symptoms. The HADS showed good psychometric properties in general population samples and clinical samples with a Cronbach's alpha of 0.76 for each subscale in the RCT study (Schotanus-Dijkstra et al., 2017).

Flourishing was measured with the 14 items of the Mental Health Continuum-Short Form (MHC-SF). All three subtypes of well-being (emotional, social and psychological well-being) were measured by the MHC-SF. A categorical scoring was possible for languishing (low mental well-being), moderate mental well-being and flourishing (high mental well-being) (Lamers, Westerhof, Bohlmeijer, ten Klooster & Keyes, 2011). Flourishing was diagnosed when someone felt 1 of the 3 hedonic well-being symptoms (items 1-3) "every day" or "almost every day" AND felt 6 of the 11 positive functioning symptoms (items 4-14) "every day" or "almost every day" in the past month (Lamers et al., 2011). Higher total mean scores indicated higher levels of mental well-being. The MHC-SF showed a good internal reliability for the whole test ( $\alpha = 0.89$ ) as well as for the subscales of emotional well-being ( $\alpha=0.83$ ) and psychological well-being ( $\alpha=0.83$ ) and an adequate internal reliability for the subscale social well-being ( $\alpha =0.74$ ) (Schotanus-Dijkstra et al., 2017). Besides these two tests, different characteristics were measured at the screening such as age, gender, education, employment and nationality.

At baseline, immediately after completing the screening procedure, additional tests were conducted. The modified Differential Emotions Scale (mDES) was used to measure the frequency of eight groups of positive emotions and feelings, on a 7-point scale that ranged from 1 (not at all) to 7 (very intensive) (Schaefer, Nils, Sanchez, & Philippot, 2010). The higher the mean score was, the higher were the levels of positive emotional states the individual experiences. The mDES showed poor reliability in the RCT ( $\alpha = 0.56$ ) (Schotanus-Dijkstra et al., 2017).

Furthermore, the Dutch version of the Ryff's Subscale of Positive Relationships (SPR) was used, called the Positieve Geestelijke Gezondheid Schaal (PGGS). The SPR had 9 items and a 6-point answer scale that ranged from 1 (strongly disagree) to 6 (strongly agree) (Schotanus-Dijkstra, et al., 2017). Higher mean scores implied higher levels of positive

relations with others. In the RCT study, the SPR showed good internal consistency ( $\alpha = 0.82$ ) (Schotanus-Dijkstra et al., 2017).

Besides that, ten other questionnaires were used in the RCT to obtain more detailed information about the effectiveness of this intervention. However, only the four questionnaires mentioned above are relevant for the current study. For more information about the other tests, we refer to the research of Schotanus-Dijkstra et al., (2017).

## 2.6 Statistical Analysis

Missing data on t1, t2 and t3 were imputed by using the expectation maximization (EM) algorithm (Dempster, Laird, & Rubin, 1977). For the intervention group, the number of missing data was 15 (t1), 25 (t2) and 38 (t3). For the control group the number of missing data was 7 (t1), 13 (t2) and 31 (t3).

To answer the first research question, the measurement moments t0, t1 and t2 were analysed. For all three moments, correlation coefficients were determined to examine the relationship between positive relations and positive emotions. This was first done with the whole sample. After that, the correlational analyses were conducted for the intervention group and the wait list group separately. Pearson's  $r$  ranges from -1 to +1. A weak correlation can be detected when the value is  $<0.36$ , a moderate correlation between 0.36 and 0.67 and a strong correlation between 0.68 and 1 (Weber & Lamb, 1970).

To answer the second research question, only t1 and t2 were analysed, since for t0 there were no flourishers because they were excluded before the baseline assessment. The total merged sample was split into three groups on the basis of the experienced positive relations. The first group was named *low level of positive relations*, the second group *moderate level of positive relations*, and the third one *high level of positive relations*. This classification was not based on the exact number of positive relations but on the quality and

on how people experience their positive relations. Furthermore, these relationships do not only include one's partner, but also friends, family, colleagues or others who are part of one's positive social environment. The questionnaire contained items as "Maintaining close relationships has been difficult and frustrating for me." or "People would describe me as a giving person, willing to share my concerns." Because there were no cut-offs known, we chose to create our own classification. This was done by calculating the mean minus/plus one standard deviation for every measurement moment. The scores at t1 for the PGGS ranged from 13-54 with  $M = 38.97$  and  $Std. Deviation = 7.5$ . Therefore, participants were assigned to *low* when they scored lower than 31.48 on the PGGS, to *moderate* when they scored between 31.48 and 46.47, and to *high* when their scores were higher than 46.47. The group sizes were  $n=49$ ,  $n=177$  and  $n=49$ . At t2, the scores for the PGGS ranged from 12-54 with  $M = 38.68$  and  $Std. Deviation = 7.39$ . Therefore, the groups were made as following: *low* =  $<31.3$  ( $n=39$ ), *moderate* = 31.3 to 46.3 ( $n=195$ ) and *high*  $>46.3$  ( $n=41$ ). A cross table was used to see the distribution of participants with different levels of positive relations into flourishing/not flourishing and a chi-square test examined the (in)dependency of positive relations and flourishing. All analyses were conducted in SPSS.

### 3. Results

The participants had a mean age of 48 years (SD = 10.9), were predominantly female (85.8%), higher educated (74.5% attended post-secondary education), in paid employment (68.4%) and of Dutch nationality (90.9%) (see Table 1).

Table 1

*Baseline characteristics (N=275)*

		<b>M (SD)</b>	<b>n (%)</b>
<b>Age</b>		48 (10.9)	
<b>Gender</b>	Female		236 (85.8%)
	Male		39 (14.2%)
<b>Education</b>	Higher educated <sup>1</sup>		205 (74.5%)
	Lower educated		70 (25.5%)
<b>Employment</b>	In paid employment		188 (68.4%)
	Not in paid employment		87 (31.6%)
<b>Nationality</b>	Dutch		250 (90.9%)
	Other nationality		25 (9.1%)

<sup>1</sup> Havo, VWO, HBO and University

#### 3.1 Correlation between positive relations and positive emotions

Correlation analysis were conducted to examine the relation between positive relations and positive emotions at t0, t1 and t2. At t0 there was no significant correlation found ( $r=0.082$ ,  $p=0.174$ ). A significant positive moderate correlation was found at t1 ( $r=0.346$ ,  $p<0.01$ ) and t2 ( $r=0.357$ ,  $p<0.01$ ). To make the results more illustrative, diagrams (Figure 4, 5, 6) of all measurement moments were added.

# THE IMPORTANCE OF POSITIVE RELATIONS IN THE CONTEXT OF POSITIVE 16 EMOTIONS AND FLOURISHING

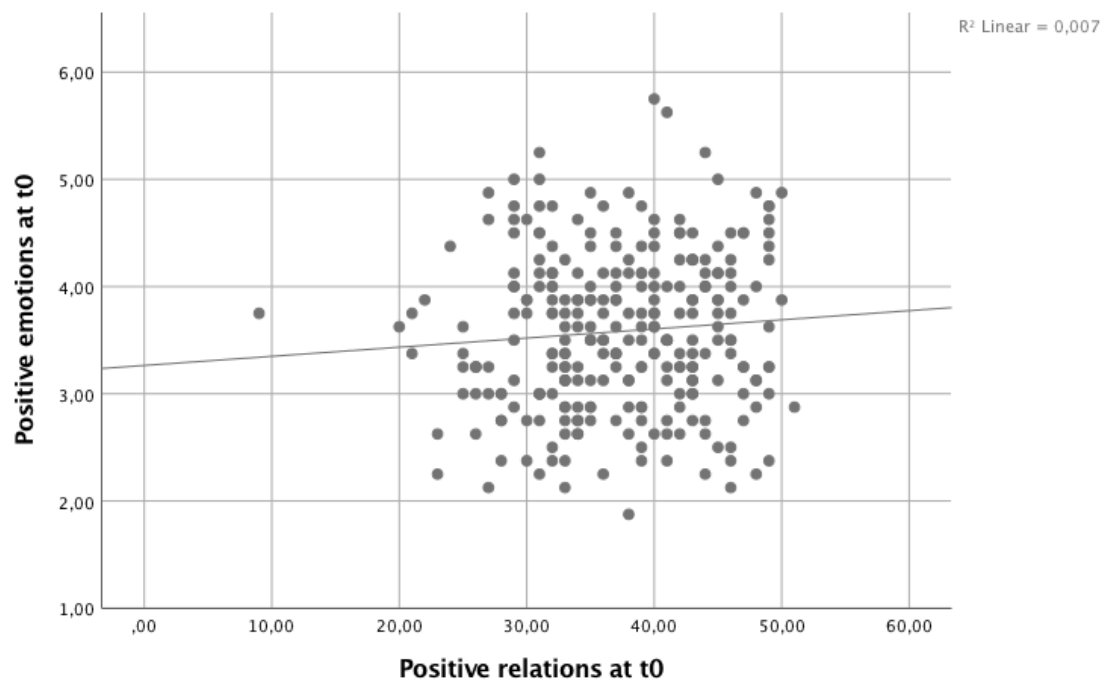


Figure 4. Correlation between positive relations and positive emotions at t0.

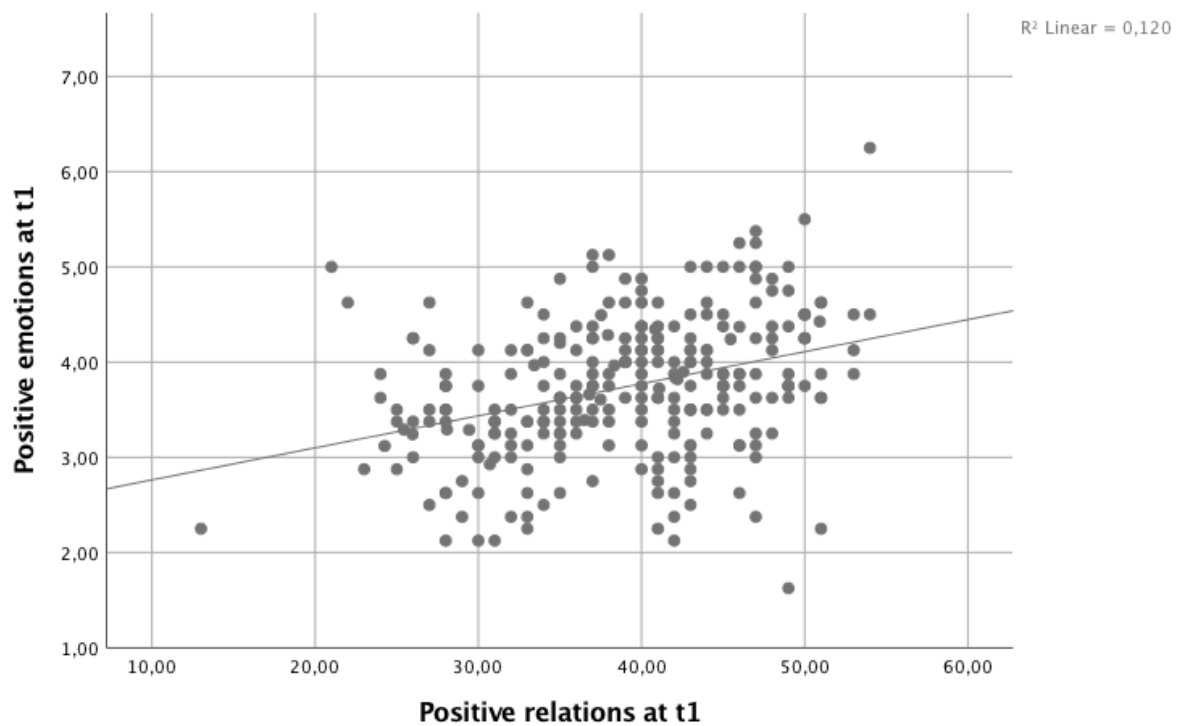


Figure 5. Correlation between positive relations and positive emotions at t1.

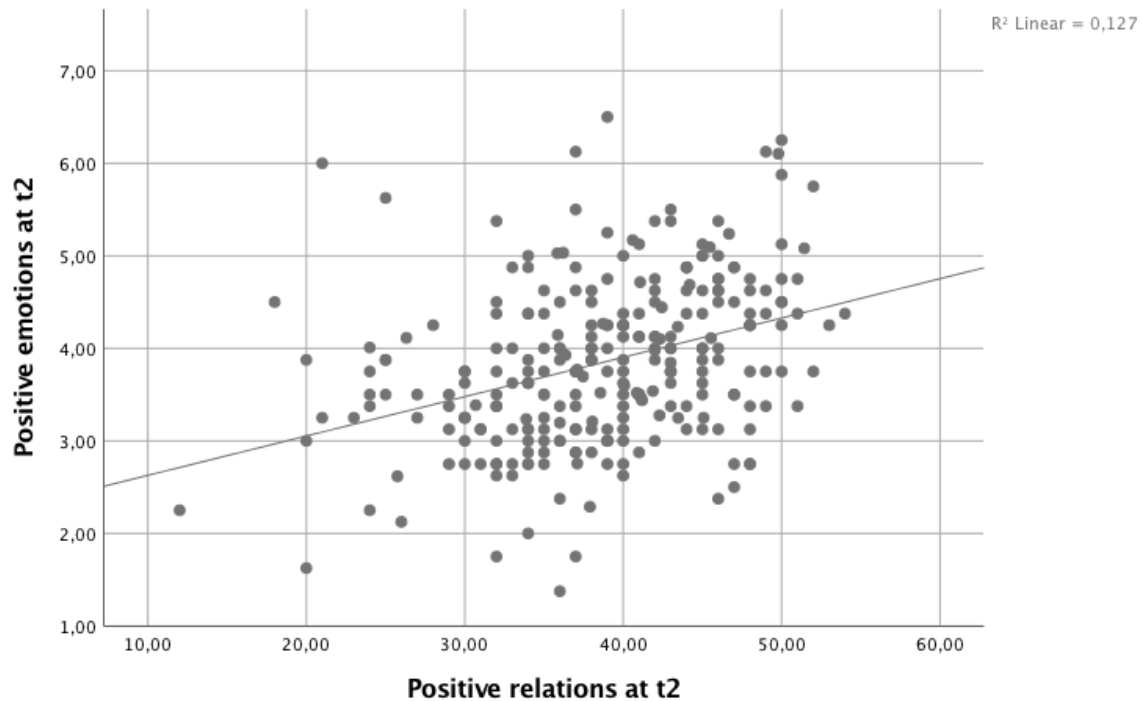


Figure 6. Correlation between positive relations and positive emotions at t2.

These results show a significant correlation between positive relations and positive emotions at both post measurement points but not at the baseline. This means that the interrelationship between positive relations and positive emotions changed over time.

To understand the change of correlation from t0 to t1 and t2, a closer look has been taken at the control and the intervention group. The aim was to explore if there were differences in correlations found between the two groups. This was done by splitting up the file into these two groups and comparing the correlation analysis per measurement moment. At t0 there was no significant correlation found for the control group ( $r=0.045$ ,  $p=0.599$ ) nor for the intervention group ( $r=0.099$ ,  $p=0.248$ ). A significant positive correlation was found at t1 for the control group ( $r=0.249$ ,  $p<0.01$ ) and the intervention group ( $r=0.407$ ,  $p<0.01$ ) and at t2 for the control group ( $r=0.316$ ,  $p<0.01$ ) and the intervention ( $r=0.382$ ,  $p<0.01$ ) as can be

seen in Table 2. All correlations of t1 and t2 are moderate correlations. Therefore, it can be said that the intervention group was not the reason for the change of the correlation from t0 to t1 and t2.

Table 2

*Additional correlational analysis for both groups per measurement moment*

		t0	t1	t2
<b>Control group (n=138)</b>	r-value	.045	.249	.316
	p-value	.599	.003**	.000***
<b>Intervention group (n=137)</b>	r-value	.099	.407	.382
	p-value	.248	.000***	.000***

\*\*p<0.01, \*\*\*p<0.001

### 3.2 Positive relations and flourishing

The chi-square test showed a significant dependency between flourishing and positive relations  $\chi^2(2) = 30.332, p < 0.01$ . Cross tables comparing the distribution of participants into the three *subgroups of positive relations vs. flourishing/not flourishing* were used for the measurement moments t1 (Table 3) and t2 (Table 4). The most important result of the cross table was that no participant with a *low level of positive relations* was flourishing either at t1 (n=49) or at t2 (n=39). This result leads us to assume that, without at least a moderate level of positive relations, flourishing is not possible.

At t1 49 participants (17.8%) experienced a *low level of positive relations*, 177 participants (64.4%) had a *moderate level of positive relations* and 49 participants (17.8%) had a *high level of positive relations*. It could be said that 218 participants (79.3%) were not flourishing and 57 participants (20.7%) were flourishing. 35 participants (19.8%) with a *moderate* and 22 participants (44.9%) with a *high level of positive relations* were flourishing (see Table 3).

Table 3

*Cross table of positive relations and flourishing at t1 (N=275)*

		Not flourishing	Flourishing	Total
<b>Level of positive relations t1</b>	Low	49 (22.5%)	0 (0%)	49
	Moderate	142 (65.1%)	35 (61.4%)	177
	High	27 (12.4%)	22 (38.6%)	49
<b>Total</b>		218	57	275

The results showed that at t2, 41 participants (21.0%) with *moderate* and 17 participants (41.5%) with *high positive relations* were flourishing (Table 4). 39 participants (14.2%) experienced a *low level of positive relations*, 195 participants (70.9%) had a *moderate level of positive relations* and 41 participants (14.9%) had a *high level of positive relations*. It could be said that 217 participants (78.9%) were not flourishing and 58 participants (21.1%) were flourishing (see Table 4).

Table 4

*Cross table of positive relations and flourishing at t2 (N=275)*

		Not flourishing	Flourishing	Total
<b>Level of positive relations t2</b>	Low	39 (18%)	0 (0%)	39
	Moderate	154 (71%)	41(70.7%)	195
	High	24 (11%)	17 (29.3%)	41
<b>Total</b>		217	58	275

#### 4. Discussion

The aim of this study was to examine the importance of positive relations in the context of positive emotions and flourishing. The first research question focussed on the relationship between positive relations and positive emotions. The expected finding was that there would be a significant correlation between positive relations and positive emotions at baseline, three months and six months after baseline. This hypothesis was mostly confirmed as there was a relationship found between positive relations and positive emotions at two of the three measurement moments. This finding does align with previous research. Baumeister and Leary (1995) mentioned in their theory “The Need to Belong”, that positive relations can have an impact on our emotions. Increased belongingness led to increased positive emotions (Baumeister & Leary, 1995). Unfortunately, they did not refer to the power of the relationship which made it not possible to compare it to our findings. Contradictory to previous research was only the finding at baseline as no significant relation was found between positive relations and emotions. To detect the reason for this, some additional analyses were conducted, as shown in the result section. The explanation could neither be found in the distinction between the intervention and the control group nor in the literature. Therefore, there is no plausible reason found why this relation could have changed over time. This result at baseline could also be an incidental finding.

The second research question focussed on whether it is possible to flourish while having a low level of positive relations. We expected the majority of participants with a low level of positive relations not to flourish. Nevertheless, we expected some participants to flourish with a low level of positive relations because they probably do not need many positive relations. Due to the finding that no participant with a *low level of positive relations* was flourishing, our second hypothesis was partly confirmed as well. No exception was found, which makes the result even more remarkable. We may underestimate the importance

of positive relations for flourishing as Baumeister and Leary (1995) did as well. As mentioned above, they saw a connection between positive relations and emotions and they also stated, from an evolutionary perspective, that people with strong social bonds survived and reproduced but they did not explore the importance of positive relations for flourishing. Others investigated the preconditions for flourishing but only mentioned external necessities and meaning and purpose as important factors (Kristjánsson, 2016). This was not the case for Warner (2009). He claimed that, besides the basic needs of bodily health and integrity, people also need the capability to experience emotions such as, for example, love. The importance of positive relations for flourishing has received little attention in comparison to the impact of negative relationships on psychopathology.

Besides these discoveries, the current study also produced another finding. Many people with a *high level of positive relations* were flourishing, but they were not the majority. Positive relations seem to be an important base for flourishing but do not necessarily imply flourishing. This finding is in line with previous research. Schotanus-Dijkstra et al. (2017) rated positive relations as of utmost importance but did not claim that positive relations imply flourishing.

A limitation of the study concerning the first research question was that no causal relationship was examined but only a correlation. Therefore, it was just possible to find out that there was a relationship between positive emotions and positive relations, but there was no exploration of whether positive relations did cause positive emotions or if it was the other way around.

A limitation concerning the second research question was the size of the sample. In total, 275 people participated in the study, which was an appropriate sample size to answer the first research question. But to answer the second research question, the sub-sample we were most interested in consisted of only 49 participants at t1 and 39 participants at t2, as we only

examined those with a *low level of positive relations*. Furthermore, the people flourishing were excluded from the study although some of them might have had a low level of positive relations, which could have disproven the assumption that positive relations are a precondition for flourishing. Unfortunately, this data was not available. Another limitation of the current study was that the fourth measurement (t3) was not conducted for the wait list group but only for the intervention group. Therefore, the data of this measurement point could not be analysed, which gave us no insights into whether there was a participant flourishing with a low level of positive relations.

Different implications for further research can be made. To explore if there is a causal relationship between positive relations and emotions another intervention should be used. The intervention could be designed to increase the positive relations of people as we know that positive relations could probably be a precondition for flourishing. A pre-test-post-test design could enable us to investigate whether increasing positive relations can cause increased positive emotions. Through this, it could be understood whether the contradictory finding regarding the correlation between positive relations and emotions was found by chance. Furthermore, it would be interesting to find out which emotions increased through positive relations and which did not because this could bring more insights about the role of each positive emotion.

Besides these implications there are also implications concerning the second research question. To find out whether flourishing is not possible at all with a *low level of positive relations*, the sub-sample should be larger, which would improve the external validity of the study. Furthermore, the sample should be recruited differently. It should contain only people with a *low level of positive relations* who have been categorized into flourishers and non-flourishers. In this regard the right recruitment is important. The participants should not be asked if they feel like they have a low level of positive relations because this includes the risk

that only people who are dissatisfied about their positive relations are reached. In this case, the sample would probably contain no flourishers. It is important to also include people who are not aware of their low level of positive relations or those who do not feel the need of a higher level of positive relations. One possibility would be to use Ryff's Subscale of Positive Relationships (SPR), as we did in the current study. This test could be conducted during the screening to determine, on the basis of the score, who should be included in the study and who not. If one is only interested in answering the second research question, it would be sufficient to conduct a cross-sectional study because it would be possible to answer the question without knowing the development of participants over time. To explore the role of positive relations in more detail, a qualitative part could be added to the study such as interviews, which could bring more insights into how people feel about their (low level of) positive relations and what they would need to flourish. If the aim is to help most of the people to flourish, it would be important to get to know whether there are other preconditions for flourishing besides the basic needs that need to be fulfilled. As the results show that positive relations could probably be a precondition for flourishing, an appropriate follow-up question for further research could be how to increase the level of positive relations, because this could be relevant information for non-clinical as well as clinical practice to help clients become flourishers. Even if the current study suggests that the goal should be to increase one's positive relations, it is questionable whether this is the right way for everyone as there might be people who are not able to have positive relations with others. What do these people need to flourish or will they forever be excluded from flourishing?

## 5. Conclusion

In conclusion, it can be stated that there is evidence for the importance of positive relations for flourishing and the experience of positive emotions. There was a moderate significant positive correlation between positive relations and emotions at two of three points of measurement. There still is an explanation needed to understand why, at the first measurement, no significant correlation was found. Besides that, nobody who had a low level of positive relations flourished. Therefore, it can be concluded that having at least a moderate level of positive relations seems to be a precondition for flourishing. Nevertheless, more research should be conducted to replicate these findings, and to gather more knowledge about how to increase the number of people flourishing.

References

- Bannink, F. (2012). *Practicing positive CBT. From reducing distress to building success*.  
doi:10.1002/9781118328941
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal  
attachments as a fundamental human motivation. *Psychological Bulletin*, 117(3),  
497-529. doi:10.1037//0033-2909.117.3.497
- Bohlmeijer, E., & Hulsbergen, M. (2013). *Dit is jouw leven. Ervaar de effecten van  
depositieve psychologie* [This is your life. Experience the effects of positive  
psychology]. Amsterdam: Uitgeverij Boom.
- Bohlmeijer, E., & Hulsbergen, M. (2018). *Dit is jouw leven. Ervaar de effecten van de  
positive psychology* (6<sup>th</sup> ed.). Amsterdam, Netherlands.
- Deci, E. L., & Ryan, R. M. (2000). The "What" and "Why" of Goal Pursuits: Human Needs  
and the Self-Determination of Behavior. *Psychological Inquiry*, 11(4), 227-268.  
doi:10.1207/s15327965pli1104\_01
- Dempster, A. P., Laird, N. M., & Rubin, D. B. (1977). Maximum Likelihood from  
Incomplete Data Via the EM Algorithm. *Journal of the Royal Statistical Society:  
Series B (Methodological)*, 39(1), 1-22. doi:10.1111/j.2517-6161.1977.tb01600.x
- Fredrickson, B. L. (1998). What good are positive emotions? *Review of General Psychology*,  
2(3), 300-319. doi:10.1037//1089-2680.2.3.300
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The  
broaden-and-build theory of positive emotions. *American Psychologist*, 56(3), 218-  
226. doi:10.1037//0003-066x.56.3.218

- Fredrickson, B. L. (2013). Positive Emotions Broaden and Build. *Advances in Experimental Social Psychology*, 1-53. doi:10.1016/b978-0-12-407236-7.00001-2
- Fredrickson, B. L., & Cohn, M. A. (2008). Positive emotions. In M. Lewis, J. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (3rd ed., pp. 777–796). New York: Guilford Press. doi:10.1093/oxfordhb/9780195187243.013.0003
- Keyes, C. L., & Lopez, S. J. (2002). Toward a science of mental health. *Handbook of positive psychology*, 45-59. Retrieved from <https://books.google.de/books?hl=en&lr=&id=2Cr5rP8jOnsC&oi=fnd&pg=PA45&dq=#v=onepage&q&f=false>
- Kristjánsson, K. (2016). Recent Work on Flourishing as the Aim of Education: A Critical Review. *British Journal of Educational Studies*, 65(1), 87-107. doi:10.1080/00071005.2016.1182115
- Lamers, S. M. A., Westerhof, G. J., Bohlmeijer, E. T., Ten Klooster, P. M., & Keyes, C. L. M. (2010). Evaluating the psychometric properties of the mental health Continuum-Short Form (MHC-SF). *Journal of Clinical Psychology*, 67(1), 99-110. doi:10.1002/jclp.20741
- Meyer, P. S. (2014). Adapting a Positive Psychological Intervention for People with Schizophrenia. *The Wiley Blackwell Handbook of Positive Psychological Interventions*, 344-357. doi:10.1002/9781118315927.ch19
- Schaefer, A., Nils, F., Sanchez, X., & Philippot, P. (2010). Assessing the effectiveness of a large database of emotion-eliciting films: A new tool for emotion researchers. *Cognition & Emotion*, 24(7), 1153-1172. doi:10.1080/02699930903274322
- Schotanus-Dijkstra, M. (2018a). Lecture 4 Positive Clinical Psychology. Positive Psychology & Well-being therapy. Enschede: University of Twente, Department of instructional Technology

Schotanus-Dijkstra, M. (2018b). Lecture 5 Positive Clinical Psychology. Positive Emotions & Positive Relations. Enschede: University of Twente, Department of instructional Technology

Schotanus-Dijkstra, M., Drossaert, C. H. C., Pieterse, M. E., Boon, B., Walburg, J. A., & Bohlmeijer, E. T. (2017). An early intervention to promote well-being and flourishing and reduce anxiety and depression: A randomized controlled trial. *Internet Interventions*, 9, 15-24. doi:10.1016/j.invent.2017.04.002

Schotanus-Dijkstra, M., Pieterse, M. E., Drossaert, C. H., Walburg, J. A., & Bohlmeijer, E. T. (2017). Possible mechanisms in a multicomponent email guided positive psychology intervention to improve mental well-being, anxiety and depression: A multiple mediation model. *The Journal of Positive Psychology*, 1-15. doi:10.1080/17439760.2017.1388430

Schotanus-Dijkstra, M., Pieterse, M. E., Drossaert, C. H., Westerhof, G. J., De Graaf, R., Ten Have, M., & Bohlmeijer, E. T. (2015). What Factors are Associated with Flourishing? Results from a Large Representative National Sample. *Journal of Happiness Studies*, 17(4), 1351-1370. doi:10.1007/s10902-015-9647-3

Seligman, M. (2010). Flourish: Positive psychology and positive interventions. *The Tanner lectures on human values*, 31. Retrieved from [https://tannerlectures.utah.edu/\\_documents/a-to-z/s/Seligman\\_10.pdf](https://tannerlectures.utah.edu/_documents/a-to-z/s/Seligman_10.pdf)

Seligman, M. E. (2012). *Flourish: A visionary new understanding of happiness and well-being*. Simon and Schuster. Retrieved from [https://books.google.de/books?hl=en&lr=&id=YVAQVa0dAE8C&oi=fnd&pg=PA1&dq=+Seligman,+M.+E.+\(2012\).+Flourish:+A+visionary+new+understanding+of+happiness+and+well%09being.+Simon+and+Schuster.&ots=dd8GCkFVXP&sig=s561](https://books.google.de/books?hl=en&lr=&id=YVAQVa0dAE8C&oi=fnd&pg=PA1&dq=+Seligman,+M.+E.+(2012).+Flourish:+A+visionary+new+understanding+of+happiness+and+well%09being.+Simon+and+Schuster.&ots=dd8GCkFVXP&sig=s561)

4VZ1O0NjrZ8sS3ssH71QGBc#v=onpage&q=Seligman%2C%20M.%20E.%20(2012).%20Flourish%3A%20A%20visionary%20new%20understanding%20of%20happiness%20and%20well-%09being.%20Simon%20and%20Schuster.&f=false

Seligman, M. E., & Csikszentmihalyi, M. (2000). Positive Psychology: An Introduction.

*Flow and the Foundations of Positive Psychology*, 279-298.

doi:10.1007/978-94-017-9088-8\_18

Seligman, M. E., Steen, T. A., Park, N., & Peterson, C. (2005). Positive Psychology

Progress: Empirical Validation of Interventions. *American Psychologist*, 60(5), 410-

421. doi:10.1037/0003-066x.60.5.410

Sheldon, K. M., & King, L. (2001). Why positive psychology is necessary. *American*

*Psychologist*, 56(3), 216-217. doi:10.1037//0003-066x.56.3.216

Steger, M. F., Kashdan, T. B., & Oishi, S. (2008). Being good by doing good: Daily

eudaimonic activity and well-being. *Journal of Research in Personality*, 42(1), 22-42.

doi:10.1016/j.jrp.2007.03.004

Van Dierendonck, D., Díaz, D., Rodríguez-Carvajal, R., Blanco, A., & Moreno-Jiménez, B.

(2007). Ryff's Six-factor Model of Psychological Well-being, A Spanish

Exploration. *Social Indicators Research*, 87(3), 473-479. doi:10.1007/s11205-007-

9174-7

Warner, J. (2009). Rights, capabilities, and human flourishing. *Christianity and human*

*rights. Christians and the struggle for global justice*, 163-176. Retrieved from

[https://www.researchgate.net/profile/Jonathan\\_Warner2/publication/267698124\\_Righ](https://www.researchgate.net/profile/Jonathan_Warner2/publication/267698124_Rights_Capabilities_and_Human_Flourishing/links/545dfe9d0cf2c1a63bfbed83.pdf)

[ts\\_Capabilities\\_and\\_Human\\_Flourishing/links/545dfe9d0cf2c1a63bfbed83.pdf](https://www.researchgate.net/profile/Jonathan_Warner2/publication/267698124_Rights_Capabilities_and_Human_Flourishing/links/545dfe9d0cf2c1a63bfbed83.pdf)

Weber, J.C., & Lamb, D. R. (1970). *Statistics and Research in Physical Education*. Mosby

Co. pp 59-64, 222.

Westerhof, G. J., & Keyes, C. L. (2009). Mental Illness and Mental Health: The Two  
Continua Model Across the Lifespan. *Journal of Adult Development*, 17(2), 110-119.  
doi:10.1007/s10804-009-9082-y