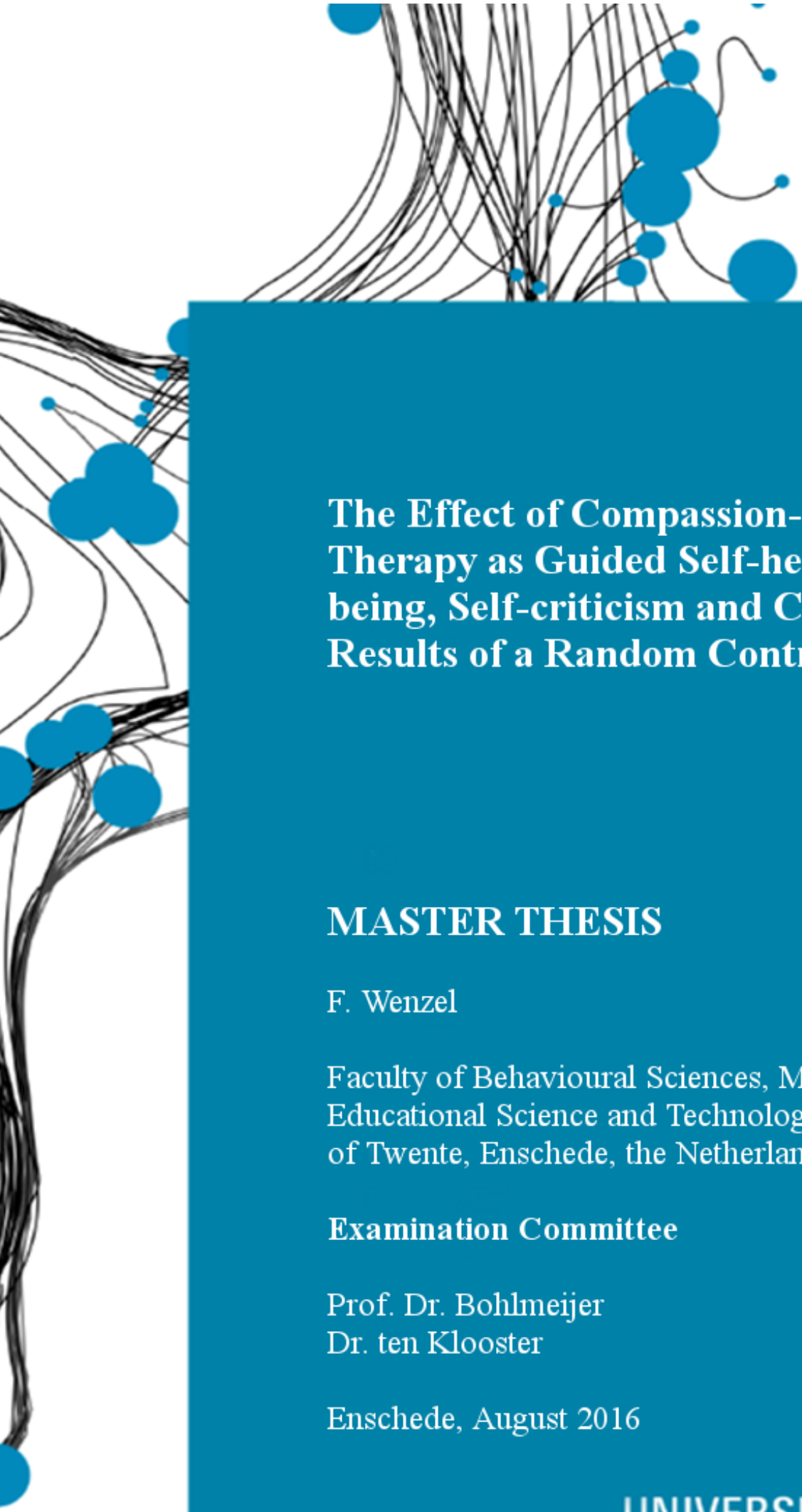

The Effect of Compassion-Focused-Therapy as Guided Self-help on Well-being, Self-criticism and Compassion: Results of a Random Controlled Trial

MASTER THESIS

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Contents

Abstract

Background. This study evaluated the effects a compassion focused therapy (CFT) intervention using a self-help book with the aid of email contact, had on well-being. In addition it looked at the influence changes in self-criticism had on the improvement of well-being.

Method. Participants who were measured to be languishing or moderately mentally healthy by the Mental Health Continuum Short Form (MHC-SF) were recruited and split randomly in a control (n=122) and an intervention group (n=121). Participants completed the MHC-SF to measure well-being, the Forms of Self-criticizing/Atacking and Self-reassuring Scale (FSCRS) to measure self-criticism and the Self-Compassion-Scales Short Form (SCS-SF) to measure compassion.

Results. The participants in the intervention group significantly increased their well-being and compassion, while also reducing their levels of self-criticism. The effect size was small for the subscale of the hated self of the FSCRS (FSCRS-HS) and large for well-being. The effect size for the remaining scales and subscales was moderate. A mediation analysis showed that self-criticism had a partial mediation effect on the improvement of well-being.

Conclusion. A CFT-based self-help book intervention with weekly email support can be effective for people with low to moderate levels of well-being.

Key words: Compassion Focused Therapy, CFT, positive mental health, randomized controlled trial, self-help, compassie als sleutel tot geluk, well-being, self-criticism

Samenvatting

Achtergrond. Dit onderzoek evalueert de effecten die een compassion focused therapy (CFT) interventie, met gebruikmaking van een zelfhulpboek en ondersteuning door middel van e-mailondersteuning, heeft op welzijn. Daarnaast wordt onderzocht welke invloed wijzigingen in zelfkritiek hebben op de verbetering van welzijn.

Methode. Deelnemers die op basis van het Mental Health Continuum Short Form (MHC-SF) waren gecategoriseerd als languishing of moderately mentally healthy werden geselecteerd en willekeurig verdeeld in een controlegroep (n=122) en een interventiegroep (n=121). Welzijn, zelfkritiek en compassie werden in kaart gebracht op basis van het door de deelnemers ingevulde MHC-SF, de Forms of Self-criticizing/Atacking and Self-reassuring Scale (FSCRS) respectievelijk het Self-Compassion-Scales Short Form (SCS-SF).

Resultaten. Het welzijn en de compassie van de deelnemers in de interventiegroep nam significant toe, terwijl de mate van zelfkritiek onder hen afnam. Op de subscale *hated self* van de *FSCRS* (FSCRS-HS) was het effect klein, op het welzijn echter groot. Het effect op de resterende scales en subscales was beperkt. Een mediator-analyse liet zien dat zelfkritiek een gedeeltelijk mediator-effect heeft op de verbetering van het welzijn.

Conclusie. De CFT-interventie met een zelfhulpboek en een interventie met wekelijkse e-mailondersteuning is effectief voor mensen met lage en middelmatige welzijnsniveaus.

Introduction

Background

Mental health is often seen as the absence of pathology. This view can be attributed to how health care is approached. The Diagnostic and Statistical Manual of Mental Disorders (DSM) and the International Statistical Classification of Diseases and Related Health Problems (ICD) both emphasize the medical model in which the main focus lies on disease and symptom classification in order to reach a diagnosis. This view however has started to change in the last decade. The most influential change is that the World Health Organization (WHO) defines psychological health multidimensional nowadays. The WHO defines psychological health not as absence of pathology, but as "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully and is able to make a contribution to his or her community" (World Health Organization 2005). It is stressed in the WHO statement that "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (World Health Organization 2005).

Wellbeing

Well-being consists of three components: emotional, psychological and social well-being. The first component is based on hedonism and is defined as emotional well-being. (Deci and Ryan 2008, Steel, Schmidt et al. 2008, Diener and Chan 2011). Emotional well-being is connected to both cognitive and affective evaluations of one's life. It consists of three important dimensions: presents of positive emotions, negative emotions and life satisfaction (Westerhof and Bohlmeijer 2010). The first two dimensions are concerned with the affective aspect of wellbeing like happiness, joy and ruminating excessively about bad life events. The third dimensions of emotional well-being is influenced by evaluation processes, which are influenced by cognitive information processing, this means that evaluations or judgments are emotionally loaded (Westerhof and Bohlmeijer 2010). Positive or negative change in emotional well-being can either be short lived with a tendency to revert to the former set point of emotional well-being or is depending on severity of impact, or individual characteristics. Coping-styles of the person can have persistent effects, too.

The second and third components of well-being are based on eudemonia (Ryan and Deci 2001, Keyes 2005, Deci and Ryan 2008). Psychological wellbeing is based on extensive theoretical reviews of humanistic psychology literature (Ryff, 1989) such as Roger's definition of the fully functioning person, who built his ideas on Abraham Maslow's concept

of self-actualization and Carl Gustav Jung's formulation of individuation and Gordon Allport's theory of maturity as development of personality. Several constructs that define psychological wellbeing have been proposed. Ryff (1989) found six areas which reflect psychological well-being. These areas are self-acceptance, positive relations with others, autonomy, environmental mastery, personal growth and purpose in life. When applying these factors to the process of self-realization, one can describe the following aspects: accepting oneself, pursuing harmony and intimacy in social relations and choosing independently a direction in life. This in turn will contribute to personal growth and development (Westerhof and Bohlmeijer 2010).

The third aspect of well-being is social well-being. Keyes (1998) described social well-being as the individual experience and evaluation of one's own public and social functioning. He defined five dimensions of social well-being. The first was social acceptance, which is a positive attitude towards other people, acknowledging and accepting them although they sometimes show difficult behavior. The second was social actualization, which means that the individual believes and strives for a positive development and growth of the social world in which one lives. The third was social contribution, which adds to the before mentioned dimension that one can contribute to this development and that one's daily activities are valued. The fourth dimension was social coherence. This means that an individual can predict the social world, because it is build on logic. The last dimension was social integration, which means that one feels part of the social world and believes that one belongs to it just as much as one is supported by and can share it (Keyes 1998). All these dimensions influence the functionality of individuals in their social world, their ability to overcome social challenges and in return experience different degrees of social well-being (Westerhof and Bohlmeijer 2010). Emotional, psychological and social well-being can also be found in Seligman's theory of well-being (Seligman and Csikszentmihalyi 2000). This construct is made up of the five elements positive emotions, engagement, relationships, meaning and accomplishment (PERMA). The hedonic part of emotional well-being is represented by the elements of *positive emotion,* which stands for the "*pleasant life*", and *engagement*, which means being one with the situation. Psychological well-being can be found in the two elements *meaning,* which gives a sense of belonging and serving something bigger than one's self, and *accomplishment,* which is self-serving. The third component *social* well-being can be found in Seligman's *relationships* element.

Seligman's main goal has been to shift the focus from the disease oriented model to the conditions that lead to flourishing. There are three levels of well-being in which people can be

divided into. They span from languishing, to moderate and at the end to flourishing mental health (Keyes 2002). When people have high levels of emotional, psychological and social well-being they are called "flourishing" (Huppert and So 2013). This leads to the conclusion that a flourishing person experiences high levels of well-being and functions perfectly on a personal and social level in everyday life. According to research, flourishing people have superior physical health, psychosocial functioning, are in less need of healthcare and have less sick days (Keyes 2002, Keyes 2007). Schotanus-Dijkstra, Pieterse et al. (2015) found that 37% of the Dutch population are flourishing.

The opposite of flourishing is called languishing and it is defined by low scores on emotional, psychological and social well-being (Keyes 2002). Languishing people lack the experience of subjective well-being and function poorly on a personal and social level.

In a European study several factors which are linked to higher levels of flourishing within a country were identified: income inequality, developed social welfare and health care systems, low unemployment rate, high social trust and ethnic homogeneity (Huppert and So 2013).

Consequences of improving wellbeing

The focus of positive psychology has been to improve well-being. Since the second World War, psychology has mainly been about healing, because it focuses on mending damage within a model of disease (Seligman and Csikszentmihalyi 2014). Instead of reducing psychopathology one could also improve well-being, because well-being has many positive consequences and is partly independent from mental illness. Positive psychology was first introduced in 1998 by Martin Seligman. In 2000 Seligman and Csikszentmihalyi, described the aim of positive psychology as a science that focuses on factors, which lead to optimal well-being. Though, it is a fairly new field of psychology it managed to develop into a strong sub-discipline (Coetzee and Viviers 2007). Its founding father defines Positive Psychology as *"The study of what constitutes the pleasant life, the engaged life, and the meaningful life".* Seligman and Csikszentmihalyi (2000) criticized the focus on sickness in psychology rather than improving well-being and functioning (Seligman and Csikszentmihalyi 2000). Positive psychology focuses amongst others on strengths, positive emotions and positive character traits (Seligman, Steen et al. 2005). Contrary to how the DSM-V and the ICD-10 has been treating psychological problems, the goal of positive psychology therapists and interventions has not only been to regain a former state of well-being, but to activate flourishing in order to promote optimal functioning of people, groups and institutions (Gable and Haidt 2005). In other words, its aim has been to shift the focus from pathology and recovery from mental

problems towards supporting people on a broad basis to achieve well-being and *the good life*. The main fields which have been discussed and researched within positive psychology are: happiness, subjective well-being, autonomy, self-regulation, optimism, hope, wisdom, talent and creativity (Seligman and Csikszentmihalyi 2014).

In order to do so, interventions in positive psychology have been based on the idea that people need to develop and improve techniques and expertise to advance in their emotional, psychological and social wellbeing. This goal has been reached through for example by being aware and improving positive emotions, examining values, intrinsic needs and talents, by a positive and optimistic way of handling goals, maintaining and building positive relationships, becoming resilient and overcoming failure and pain (Westerhof and Bohlmeijer 2010).

The reason why these positive psychology interventions have been developed is that they follow the notion that next to pathology there is another dimension influencing our mental health.

The two-continua model

The view the WHO puts on health can also be found in Keyes two-continua model. This model emphasizes the discrepancy between mental illness and positive mental health. According to this model mental health consists of two related, but independent dimensions, one being psychopathology and one being wellbeing (Keyes 2005). The distinction of these two dimensions was shown in a study conducted by Westerhof and Keyes (2010), which showed that older participants suffered significantly less from psychopathological symptoms and mental illness than younger ones, but younger participants reported a higher state of positive mental health. This finding was replicated in other studies as well (Keyes 2006, Keyes, Wissing et al. 2008, Westerhof and Keyes 2008). From this it can be concluded that it is possible to suffer from mental illness while having a positive mental health, which would lead to a positive personal perspective on life. Figure 1 shows a simplification of the two-continua model.

The scientific proof of the importance of psychological health and well-being has been shown continuously. Some studies showed that higher levels of well-being predicted higher income (Marks and Fleming 1999, Diener, Nickerson et al. 2002). Other studies showed that a better psychological health lead to less sick days and less use of medication and improved productivity (Bergsma, Have et al. 2011, Seligman and Csikszentmihalyi 2014). Next to a positive financial influence, people with higher rates of well-being also experienced better

physical health (Danner, Snowdon et al. 2001). Okun, Stock et al. (1983) found that physical health and emotional well-being were positively and significantly related. This was also shown in another study, which found that well-being was not only related to short-term physical health outcomes and disease control, but also positively influenced a long term effect on these measures (Howell, Kern et al. 2007). This study also showed that ill-being had a harmful impact on health and that emotional well-being superseded the absence of the ill-being effect and had a beneficial impact on physical health.

There were also other advantages in improving well-being. People with high levels of well-being experienced more positive life events (Magnus and Diener 1991). They also experienced more happiness and higher levels of physical health (Diener and Chan 2011). Studies within the field of eudemonia have argued that especially psychological well-being influences physical health (Ryan and Deci 2001). People who have been feeling good about their personalities and accepted both the good and bad aspects of their lives exemplify good mental health (Fey 1955, Ryff 1989).

Studies who found people with high levels of emotional, psychological and social well-being showed that these people posess more resilience against stress and negative life events (Carver 1998, Cohn, Fredrickson et al. 2009, Ryff, Friedman et al. 2012). This effect can be used to target stress and burnout symptoms.

Stress, Burnout and Self-criticism

Positive psychology interventions can be beneficial in the field of stress and burnout. Stress has been defined as the perception of the difference between the demands of a situation and the individual capacity to meet them (Vermunt and Steensma 2005). The American Psychological Association (APA) have been using a definition based on Baum (1990), which stated that stress is any uncomfortable emotional experience accompanied by predictable biochemical, physiological and behavioral changes. Stress helps us to mobilize our body and mind to work to their full potential during short periods of time (Anderson 1998). The important thing is that the stressful situation is limited to a short period of time. If stress continues to be present, it will be described as chronic stress. Someone is suffering from chronic stress if there is insufficient recovery and continued long lasting stress reactions. This can express itself as a feeling of despondency and physical fatigue (Walburg and Bohlmeijer 2016). In 2013 a study showed that 12 percent of the workforce in the Netherlands experienced severe fatigue (Statline 2013). Chronic stress is a health risk, because if untreated

it can lead to serious health conditions including anxiety, insomnia, muscle pain, high blood pressure and a weakened immune system (Baum and Posluszny 1999).

Chronic stress can also facilitate the development of heart disease, obesity and depression (Baum and Posluszny 1999). An important factor, which determines the quality of one's stress is whether one experiences the stress reaction as helpful and without negative experiences (Hulsbergen and Bohlmeijer 2015).

One important factor that may contribute to chronic stress is self-criticism (Neff 2003a). The reason for this is that self-kindness, which is one dimension of self-compassion, as conceptualized by Neff (2003a), refers to the ability to treat oneself with kindness and compassion rather than criticism or harsh self-judgment during challenging circumstances.

Self-criticism can be defined as a response style to a perceived failure that is characterized by negative self-judgment and self-evaluation (Gilbert, Clarke et al. 2004). Negative thoughts and evaluation of oneself can have the same biological stress reactions shown when being confronted with a physical threat (Hulsbergen and Bohlmeijer 2015). Research also suggests that an inability to cope with negative emotions can lead to the development and maintenance of depressive episodes in highly self-critical individuals (Gilbert, Clarke et al. 2004).

One therapy approach within positive psychology that improves well-being and reduces stress by targeting self-criticism is self-compassion (Pace, Negi et al. 2009).

(Self-)Compassion

Self-compassion is closely related to the definition of compassion, which involves being touched by the suffering of others, expanding one's awareness to other's pain and not avoiding or disconnecting from it, so that feelings of kindness toward others and the desire to alleviate their suffering emerges (Wispé 1991)**.** Thus self-compassion can be defined as the ability to be touched by and being open to one's own suffering, not avoiding or disconnecting from it, generating the desire to alleviate one's suffering and to heal oneself with kindness, while also offering non-judgmental understanding to one's pain, inadequacies and failures, so that one's experience is seen as part of the larger human experience (Neff 2003a). There are two important models concerning self-compassion. One model, which is proposed by Neff is derived from Buddhism and has three main elements connected to self-compassion. She stated that self-compassion is closely linked to compassion towards others, because only the person suffering changes rather than the act of compassion. In her view self-compassion means that instead of mercilessly judging and criticizing oneself, one has to show kindness and

understanding when confronted with personal failings, because no one is perfect (Neff 2016). In her model there are three elements, which represent bipolar dimensions. The first is self-kindness versus self judgment, which means to have a mindful, open attitude suffering. The second is common humanity versus isolation, in which one has to realize that suffering and personal inadequacy is something shared by every human and not by your-self. The last element is concerned with mindfulness versus over-identification, which acknowledges the existence of negative emotions and situations. These should not be ignored but held in mindful awareness, so one can feel compassion as opposed to experiencing ignorance.

Paul Gilbert proposed compassion as an act that provides guidance, protection and provision in order to promote a change (Gilbert 1989). In his view compassion can involve feelings, thoughts and behavior, which focus on caring, protecting, helping, teaching, guiding, appeasing and offering a sense of acceptance and belonging.

Several studies have demonstrated the effects of compassion on physical health. One study found that it can improve immune functioning and decrease neuroendocrinical and behavioral reactions towards stress. (Pace, Negi et al. 2009). Another study found that people with low to intermediate levels of self criticism benefit from using compassion imaginary to lower their levels of cortisol and have a higher heart rate variability (Rockliff, Gilbert et al. 2008). In an uncontrolled small study on people, who had psychological problems, results showed that compassion training reduced shame, self-criticism, depression and anxiety significantly (Gilbert and Procter 2006). While this was an uncontrolled study it showed the theoretical potential of using compassion as resource for therapy. It appears that the experience of compassion is essential for our physiological maturing and well-being (Siegel 2001, Siegel 2007, Cozolino 2014).

Compassion Focused Therapy

A therapy focused on self-compassion was developed by Paul Gilbert and is called compassion focused therapy (CFT). This therapy showed positive change regarding depression and feeling of self worth in patients; this change was still evident after a six week follow-up (Laithwaite, O'Hanlon et al. 2009). CFT was developed to utilize compassion for therapeutic purposes and was developed for people with chronic and complex psychological problems connected to shame and self-critic (Gilbert and Plata 2013). The CFT-approach uses elements from Buddhism, but also uses concepts of evolutionary, developmental, neurology and social-psychology, connected with neuroscience (Gilbert 1989, Gilbert 2000, Gilbert 2005, Gilbert 2010). It helps patients to develop self-compassion and use it to help themselves

(Rubin 1998, Neff 2003a, Neff 2003b, Salzberg and Kabat-Zinn 2004, Gilbert and Procter 2006, Leary, Tate et al. 2007, Germer 2009, Gilbert 2009, Gilbert 2010). A study found that a therapy, which improves compassion positively influences positive emotions, sense of purpose in life and perception of social support, which are similar to emotional, physical and social well-being (Fredrickson, Cohn et al. 2008).

Hulsbergen & Bohlmeijer (2015) developed a program for people with stress and lower well-being based on CFT: *Compassion as key to happiness, beyond self-criticism and stress*. This intervention aimed to improve well-being, compassion and lower self-criticism and chronic stress in people without clinical symptoms. A randomized controlled trial with 271 adults was conducted to test its effectiveness. In this paper the focus is on the following research questions:

Resarch question

This paper evaluates the intervention of Bohlmeijer and Hulsbergen: Compassion *as key to happiness, beyond* self-criticism *and stress.* This evaluation will look whether the intervention significantly improves well-being and compassion. It will also focus on the effect the intervention has on self-criticism. Additionally this paper tries to answer the question to what extend change in self-criticism mediates change in well-being. *Figure 2* shows the expected mediation effect of self-criticism on well-being.

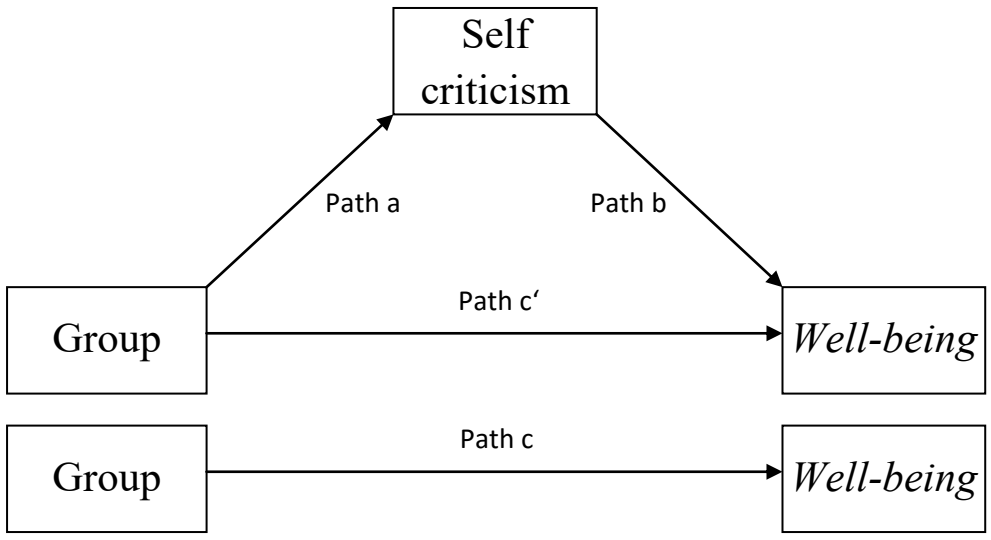

Figure 2. Mediation of self-criticism on well-being

Methods

The method section will start out with the description of the procedure used in this study, continued by a short description of the intervention and the control condition. This is followed by the design of the study and the primary and the process outcome measure. The last part of the method section will be the description of the statistical analysis.

Procedure

This study utilized the data from a larger RCT conducted by the University of Twente. Thus only the materials and the procedure relevant to the current study will be described below. Before the study took place the participants were recruited by Dutch newspapers (Volkskrank, Trouw). The advertisement was positively verbalized.

People, who were interested to solicit, were directed to this website containing general information about the study and the application process.

The study took place over 12 month with five points of measurement, of which only two points of measurement and two screening questionnaires were used for the current study. The study started out with screening using the "Mental Health Continuum-Short Form" (MHC-SF) and the "Hospital Anxiety and Depression Scale" (HADS) to determine whether the applicant was a possible candidate for the study.

In order to be included in this study the participants needed to be at least 18 years old, were classified as "languishers" or "moderately mentally healthy" by the Mental Health Continuum-Short Form (MHC-SF), had a computer or tablet with broad band internet access, an email address, were fluent in Dutch and agreed with the informed consent of the study. They were excluded if they were classified as "flourishers" by the MHC-SF or if they had moderate symptoms of depression or anxiety determined by the Hospital Anxiety and Depression Scale (HADS) (scoring >11 on the depression and/or anxiety scale)

Within five days the people were informed if they could participate in the study or not. After the participants finished the application and screening process, they were randomly placed in either one of the study conditions. The randomization procedure took place for all participants at one point in time. The participants in the intervention group received the self-help course book by mail within a week, while the participants in the control condition received their copy after six month. The baseline (T0) was measures before the intervention took place. The participants had to fill in the MHC-SF again. They furthermore had to fill in the Forms of Self-Criticising/Attacking and Self-Reassuring Scale (FSCRS), the Self-Compassion Scale Short Form (SCS-SF) and demographical variables (Sex, Age, Education, Nationality, Living and housing situation). After this the intervention took place for the

chosen group. After three month the intervention was completed and the intervention group and the control group received a post treatment measurement (T1), which included the MHC-SF, the FSCRS and the SCS-SF.

Intervention.

The participants in the intervention group received the self-help book "Compassie als sleutel tot geluk, voorbij stress en zelfkritiek" free of charge**.** The self-help course was comprised of seven lessons which took seven weeks to complete. Each week focused on a new chapter of the book and began with information about one area of compassion. This was followed up by practical exercises to apply the information. The topics were "chronical stress and the importance of compassion", "It's not my fault", "From self-criticism to self-satisfaction", "Help sources for your self-satisfaction", "compassion for childhood experiences", "tackle situation which contribute to chronic stress" and "compassion for others". In the first chapter "chronicle stress and the importance of compassion" the reader learned about the danger of chronic stress and the possibility to use compassion to counter act it by using mindfulness. The exercises of the first chapter focused on gathering information and applying them on a daily basis to reduce stress and advance compassion. The second chapter focused on the biological and evolutionary reasons and processes that lead to stress and imbalance, which can lead to chronic stress. The practical exercises aimed to make unconscious reaction and behaviors like emotional reactions and breathing consciously accessible. The third chapter let the reader compare the idea of how we want to be (ideal self) with how we do not want to be (unwanted self). It furthermore suggested a healthy way to find a compromise between using self-criticism and self-compassion. The exercises of this chapter made the reader define the ideal self and the unwanted self and made the extent of self-criticism the individual experiences seen. The forth chapter focused on the development of friendliness towards the self and explained that imagination and creativity can be a convenient tool for this. These tools were developed and promoted through the practical exercises. The fifth chapter built a bridge between the possible connection of early experiences in the adolescence and chronicle stress and high levels of self-criticism in the present. The exercises in this chapter focused on reminiscing about experiences in the adolescence and their content and influence on the current situation, while also practicing forgiveness. The sixth chapter tried to motivate the reader to confront situations, which lead to chronic stress. It furthermore taught exercises to change and adapt them in order to relieve chronic stress. The last chapter focused on the compassion towards and acceptance of others and their behavior. The exercises in this chapter aimed to further one's ability to master these

abilities. The participants had three month to finish the self-help course and were advised to do at least one exercise per day. They were furthermore advised to spend two to four hours a week on the self-help course at a time of their choosing.

Next to working with the self-help book, participants of the intervention group were also supported by weekly emails. These emails were written by one of three tutors with a master degree in psychology, under supervision of a psychotherapist. These emails were directed at the process and content of the self-help course. The responds time was typically within two to three workdays. In these mails the participant was asked about the process and possible problems of last week's lesson.

Control group.

The participants of the control condition were placed on a waiting list and received their self-help copy after they completed a third measurement after six month.

Design

The study was a randomized controlled trial (RCT) with two conditions. The first condition was a group who received the intervention "Compassie als sleutel tot geluk, voorbij stress en zelfkritiek" with personal weekly email contact to support process and content of the intervention. The second condition was a waiting list control group, which offered participation after three months. First participants received two screening questionnaires, then one baseline measurement before the intervention started and a post treatment test after the intervention took place. The times of the measurement were the same for the intervention and the control group.

Outcomes

A total number of 12 questionnaires with a combined number of 116 items were used during the trial. The current study only used four questionnaires with 59 items and ten items concerning demographical information. All questionnaires used a Dutch version of the original questionnaires or if not possible were translated. The participants were first asked for their gender, age, education, nationality, living and work occupation.

Primary outcome

Well-being

In order to measure well-being the questionnaire Mental Health Continuum-Short Form (MHC-SF) was used (Keyes 2002, Lamers, Westerhof et al. 2011). This questionnaire had 14 items on the three subscales emotional (3 items), psychological (6 items) and social wellbeing (5 items). It used a five point Likert scale with 0 being "never" and 4 being

"(almost) always". A higher score reflects a higher state of well-being. This scale can be used to measure changes in well-being over time. In this study Cronbachs α was .84 for the baseline and .89 for the post treatment.

Process measures

Self-criticism and self-reassuring

To measure the level of self-criticism the "Forms of Self-Criticising/Attacking and Self Reassuring Scale" (FSCRS) was used (Gilbert, Clarke et al. 2004). It had 22 items that needed to be scored on a five point Likert scale (0= not all like me, 4= extremely like me). It was divided into three subscales: inadequate self (FSCRS-IS), hated self (FSCRS-HS) and reassured self (FSCRS-RS). There were two measurements for self-criticism (inadequate self and hated self). The inadequate self focused on a sense of personal inadequacy and the hated self measured the desire to hurt or persecute the self (Baião, Gilbert et al. 2015). The third factor measured the ability to self-reassure oneself. In order to use this test for this study the three subscales were examined independently. For the inadequate self Cronbach's α was .84 for the baseline and .85 for the post treatment, while for hated self it was .61 for the baseline and .70 for the post treatment and for the reassured self it was .79 for the baseline and .84 for the post treatment. The higher the score on the individual subscale the higher the level of inadequate self, hated self or reassured self.

Self-compassion

In order to measure self-compassion a shortened form of the "Self-Compassion Scale" (SCS) was used (Neff and Vonk 2009, Raes, Pommier et al. 2011). It had 12 items which needed to be scored on a seven point Likert scale reaching from "(almost) never" to "(almost) always". The test had six subscales: Self-kindness, self-judgment, common humanity, isolation, mindfulness and over-identification. The SCS-SF has good psychometric qualities (Raes, Pommier et al. 2011). However recent studies showed that the six factor structure could not be replicated, but a two factor solution formulated by the positive and negative worded items can be used (Petrocchi, Ottaviani et al. 2014, López, Sanderman et al. 2015, Kotsou and Leys 2016). Because of these findings this study combined the six subscales into the two proposed factors with SCS-Positive subscale consisting of "self-kindness", "common humanity" and "Mindfullness" and a SCS-Negative subscale which incorporates "self-judgement", "isolation" and "over-identification. Cronbach's alpha was calculated for the SCS-Positive subscale in the baseline with .83 and .84 in the post treatment. For the SCS-Negative subscale Cronbach's alpha was .86 for the baseline and .87 for the post treatment.

Statistical Analysis

The data was analyzed using the Statistical Program for Social Sciences (SPSS, version 23). Furthermore the plug-in PROCESS was used for the mediation analysis.

First descriptive statistics for the MHC-SF, FSCRS, SCS and the demographical data were given. In order to look whether the two randomly assigned groups hat comparable mean scores at baseline a one-way ANOVA was done. If the results appeared to be non-significant the group scores were comparable with each other. It was also checked whether the numbers of men and women in each group was comparable.

To look if the intervention was effective an ANOVA (group x time) was done, where the baseline scores were compared to the post treatment scores. Analyses were performed with a p-value of $< .05$ as the cutoff for statistical significance. The analysis continued with calculating the effect size Cohen's d for intervention studies with a pre-post-test design, which controled for differences before the intervention. According to Cohen (1992) $d< .5$ was considered small, $d< .8$ was considered moderate and $d\geq .8$ was considered a large effect.

It is expected that the intervention group will significantly increase their mean score of well-being measured by the MHC-SF, decrease their scores on the inadequate self and hated self on the FSCRES and improve them on the subscale reassured self, while also improving their mean scores on the positive subscale of the SCS-SF and reduce them on the negative subscale. All these improvements are expected to be significantly different compared to the control group.

In order to look for a mediation effect self-criticism could have on improvement of well-being a mediation analysis was performed. For this analysis the SPSS plug-in "PROCESS" was used. In the mediation analysis in "PROCESS" the underlying assumption was that the X variable predicts Y (path c, direct and only link between X and Y), X predicts M (path a) and X and M together predict Y, specifically M predicts Y (path b) and X no longer predict (or is less predicted) Y (path c'). A schematic of the model used can be seen in *Figure 3*. In this scenario X is the grouping variable (intervention and control group), M is the different forms of self-criticism measured by the FSCRS (inadequate self, hated self and reassured self seperatly) and Y is the outcome of total MHC-SF score.

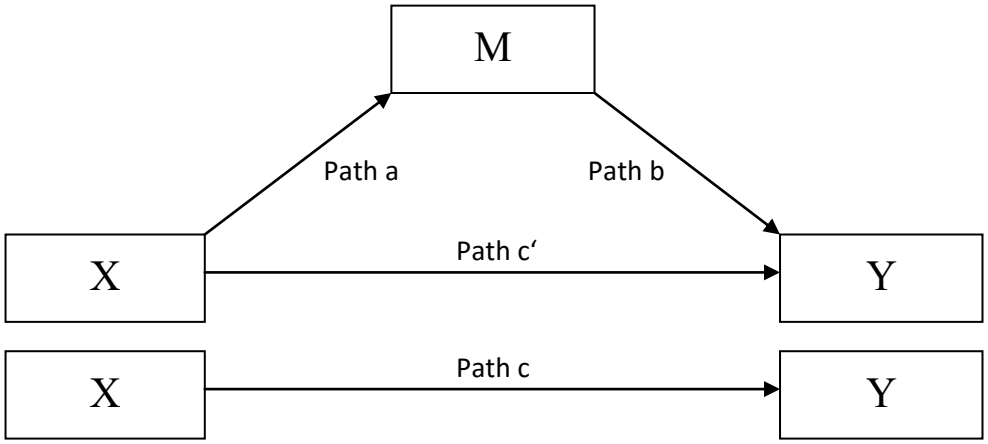

Figure 3. Mediation template Model 4; A single M variable has a mediation effect on the causal effect of variable X on variable Y;

Results

The results will begin with the description of the participants of this study. Then the focus will be shifted to whether the baseline of the intervention and control group was comparable. This will be followed by the analysis of statistical significant change of the different questionnaires used and the mediation analysis.

Participants

A total number of 243 Dutch people participated in the current study. Of these 243 people 62 (25.5%) were male and 181 (74.5%) were female. The mean age was 52.9 years (SD = 10, min. = 20, max. = 78). The educational level was determined by eight ordinal categories, which were condensed into lower (1 person), middle (29 people) and higher education (213 people). The occupation was also recorded in nine ordinal categories. More than half of the participants were employed (n=142, p=58). In *Table 1* further information are displayed.

Table 1. *Characteristics of participants*

	Intervention Group (n=121)	Control Group (n=122)	Total Sample (n=243)
Age, *m(sd)*	52.9 (9.7)	52.9 (10.2)	52.9 (10.0)
Gender, *n(%)*			
Male	25 (20.7)	37 (30.3)	62 (25.5)
Female	96 (79.3)	85 (69.7)	181 (74.5)
Education, *n(%)*			
Low	0 (0)	1 (.8)	1 (.4)
Middle	18 (14.9)	11 (9)	29 (11.9)
High	103 (85.1)	110 (90.2)	213 (87.7)

Baseline assessment

At first it is checked whether baseline scores were similar across groups. For this an ANOVA for each of the scores in the MHC-SF, FSCRES-RS, FSCRS-IS, FSCRS-HS, SCS-SF-Positive and the SCS-SF-Negative was done. The results showed no statistical significant difference ($\alpha > .05$) between the mean scores of the intervention group and the control group. The mean age and gender distribution were also comparable. This leads to the conclusion that the intervention and control group are comparable at baseline.

Analysis of significant change

An ANOVA is used to analyse whether statistical significant change between intervention and control group is present after the intervention took place. This is done by

comparing the baseline measurement to the post treatment scores. Afterwards the effect size using Cohen's d were calculated.

Test of significance of Between-Subjects Effect

The test of Between-Subjects Effects showed that there was statistical significance for all scales and subscales used in this study when comparing the intervention group to the control group after the intervention took place. This finding in addition with the recorded means lead to the conclusion that people from the intervention group scored higher on the MHC-SF, the FSCRS-RS and the SCS-Positive than the control group and lower on the FSCRS-IS, FSCRS-HS and the SCS-Negative after the intervention took place. The exact means and standard deviation can be seen in *Table 2*.

Effect size

The effect sizes for all tests were at least small. For the MHC-SF the effect size for the total score was large (d=.84). For rest the effect size was moderate (FSCRS-RS d=.71; FSCRS-IS d=.50; SCS-Positive d=-.57; SCS-Negative d=.67). The only exception was FSCRS-HS, which effect size was small (d=.36).

Table 2. *Descriptive results of the questionnaires*

	Intervention Group		Control Group	
	T0 M(SD)	T1 M(SD)	T0 M(SD)	T1 M(SD)
MHC-SF	2.35(.65)	2.94(.77)*	2.48(.66)	2.58(.71)
FSCRS				
RS	2.01(.63)	2.43(.63)*	2.04(.63)	2.15(.70)
IS	2.06(.81)	1.62(.71)*	2.05(.74)	1.90(.74)
HS	.75(.63)	.49(.58)*	.73(.55)	.65(.83)
SCS-SF				
Positive	4.07(1.03)	4.91(.93)*	4.10(1.08)	4.47(1.09)
Negative	4.81(1.23)	3.83(1.22)*	4.79(1.28)	4.46(1.26)

MHC-SF, Mental health continuum short form; FSCRS, Forms of Self-Criticizing/Attacking and Self-Reassuring Scale; RS, Reassured self; IS, Inadequate self; HS, hated self; SCS-SF, Self-compassion-scale-short form;

M, Mean score; SD, standard deviation

*p<.05

Mediation Analysis

In the following section the mediation analysis was separately calculated for the three variables FSCRS-RS, FSCRS-IS and FSCRS-HS.

Mediation effect of reassured self (FSCRS-RS)

The expectation of the study was that FSCRS-RS scores significantly increased during the intervention as compared to the control group (path a). A higher score in FSCRS-RS was also expected to lead to a higher score in the MHC-SF (path b), just as the intervention lead to higher scores in MHC-SF (path c). A partial mediation effect of FSCRS-RS on the relationship of the intervention with the scores on the MHC-SF was found (α <.05). According to the Bootstrap confidence interval c-c' did not cross zero (BootLLCI=-.29; BootULCI= -.07), which showed that there is a difference between those two paths. From this it can be concluded that by improving the reassured self with the intervention had a partial mediation effect on well-being. Thus the second research question regarding the mediation effect of the reassured self could be verified. *Figure 4* shows the different strength of *b* of the different paths. The effect size for this mediation was small with κ^2=.06, Z= -2.91 and p<.05.

Mediation effect of inadequate self (FSCRS-IS)

FSCRS-IS scores were expected to significantly decrease during the intervention as compared to the control group (path a). A higher score in FSCRS-IS was expected to lead to a lower score in MHC-SF (path b). During the analysis a partial mediation effect of FSCRS-IS on the relationship of the intervention with the scores on the MHC-SF was found (α < .05). The bootstrap confidence interval of path c and path c' was between -.21 and -.04. This showed that there is a difference between path c and path c', because the interval did not cross zero. From this it can be concluded that by improving the inadequate self a partial mediation effect on well-being is established. Thus the second research question regarding the mediation effect of the inadequate self could be verified. *Figure 5* shows the different strength of *b* of the different paths. The Sobel test showed that a small effect size was found (κ^2=.04) with Z= -2.46 and p<.05.

Mediation effect of hated self (FSCRS-HS)

The third mediation expectation was that FSCRS-HS scores significantly decrease in the intervention group over time as compared to the control group (path a). Lower scores in the MHC-SF (path b) were expected to be caused by higher scores in FSCRS-HS. A partial mediation effect of FSCCRS-HS on the relationship of the intervention with the scores on the

MHC-SF was found ($\alpha < .05$). The upper bootstrap confidence interval (BootULC= -.01) and the lower bootstrap confidence interval (BootLLC= -.17) did not cross zero, which showed that a difference between path c and path c' was found. From this data it can be concluded that by improving the hated self a partial mediation effect on well-being can be established. Thus the second research question regarding the mediation effect of the hated self could be verified. *Figure 6* shows the different strength of *b* of the different paths. A small statistical insignificant effect size for this mediation was found (κ^2=.04) with Z= -1.89 and p=.06.

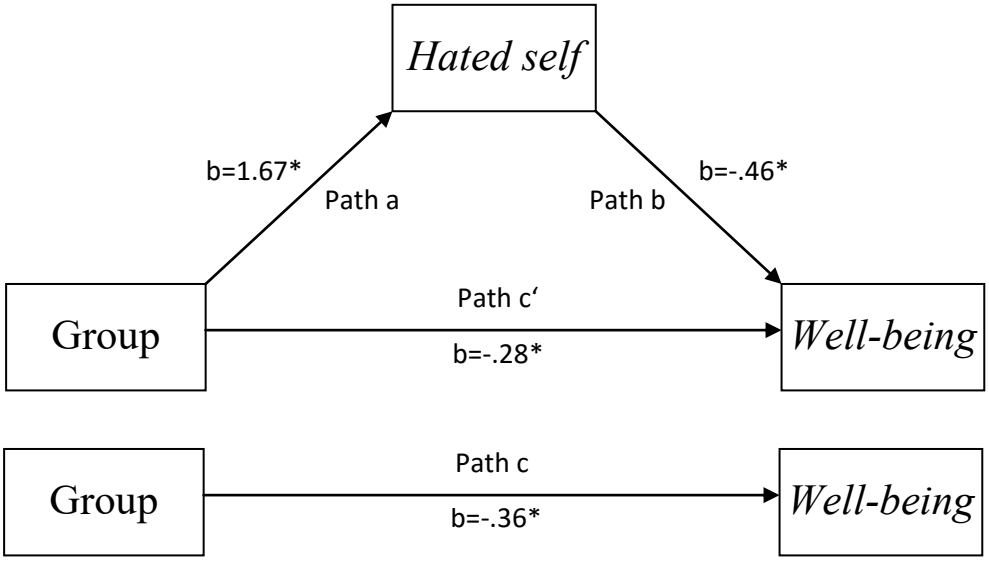

Figure 3. Partial mediation effect of the *hated self* measured by the subscale *Hated self* from the "Forms of Self-Criticising/Attacking and Self Reassuring Scale" on *well-being* measured by the "Mental Health Continuum Short Form" with the intervention and control group as *Group* variable.
*p<.05

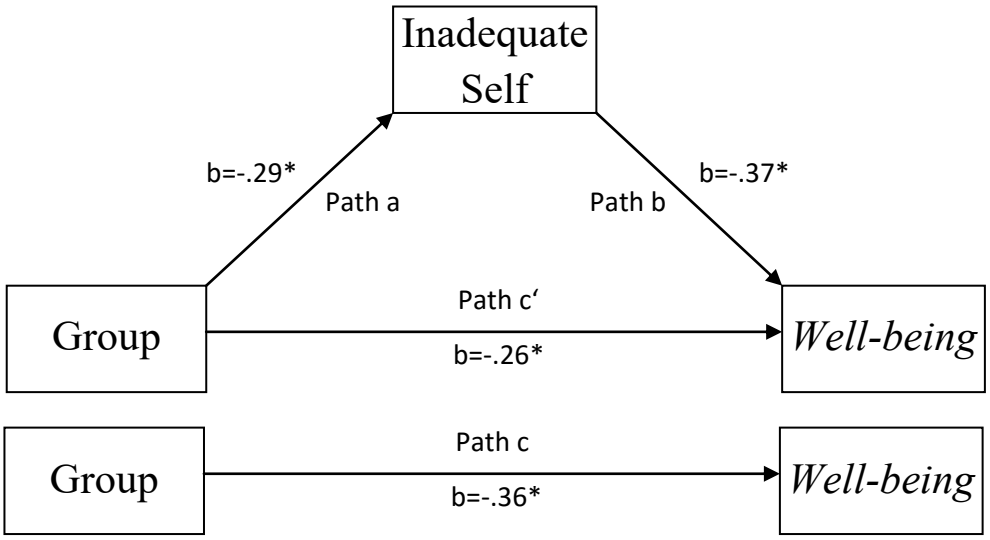

Figure 2. Partial mediation effect of the *inadequate self* measured by the subscale *Inadequate self* from the “Forms of Self-Criticising/Attacking and Self Reassuring Scale” on *well-being* measured by the “Mental Health Continuum Short Form” with the intervention and control group as *Group* variable.
*p<.05

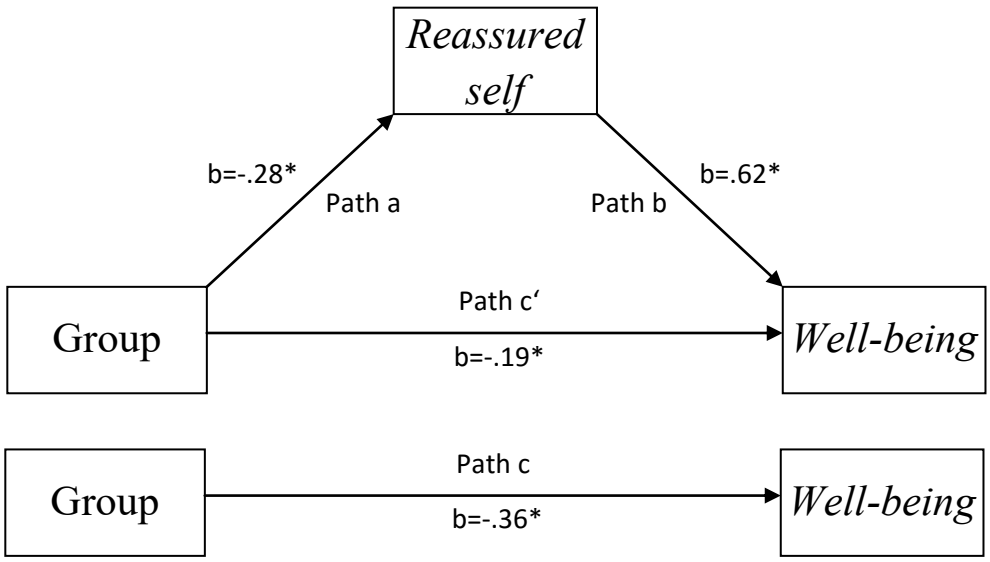

Figure 1. Partial mediation effect of the *reassured self* measured by the subscale *Reassured self* from the “Forms of Self-Criticising/Attacking and Self Reassuring Scale” on *well-being* measured by the “Mental Health Continuum Short Form” with the intervention and control group as *Group* variable.
*p<.05

Discussion

This study was as far as this researcher knows the first RCT which examined the change in well-being, compassion and self-criticism as a result of a compassion focused therapy. It was also the first study to look at the mediating effects different forms of self-criticism have on the improvement of well-being.

The results of this study provided evidence that CFT is effective in improving well-being, self-criticism and compassion. The intervention group significantly improved their scores on the MHC-SF, SCS-Positive and the FSCRS-RS scales. They furthermore decreased their scores on the SCS-Negative, FSCRS-IS and FSCRS-HS scales as well. This means that the intervention improved well-being and compassion, while also reducing self-criticism. These observations were expected and are in line with the goal of the intervention and the hypothesis that self-help interventions can be an effective kind of treatment on the area they focus on (Gould and Clum 1993). Studies also showed that compassion, mindfulness and loving kindness, which are part of this intervention, can be used to increase well-being (Öst 2008, Hofmann, Sawyer et al. 2010, Keng, Smoski et al. 2011). This was confirmed in the current study. Besides statistical significance, the effect of the intervention was also clinically relevant, because of the effect sizes of the different questionnaires and subscales. The largest effect size was found in the improvement of the MHC-SF (Cohen's d= .84), which measures well-being. This means that the intervention does improve well-being substantially. The improvement of well-being is the main goal of positive psychology interventions, thus this intervention is highly successful. Moderate effect sizes were found for the SCS-Positive (Cohen's d =-.57), SCS-Negative (Cohen's d=.67), FSCRS-RS (Cohen's d= .71) and FSCRS-IS (Cohen's d= .50). This indicates that the intervention improved compassion, the ability to reassure oneself and decreased the feeling of feeling inadequate towards the self. These are also favorable findings, because the interventions advertised the improvement of compassion and reduction of self-criticism. A small effect size was only found in the FSCRS-HS (Cohen's d= .36). Gould and Clum (1993) meta analysis showed that self-help treatment approaches show small to moderate effect sizes. Thus the results concerning the effect size of this intervention are also in line with the scientific literature.

Advantages this intervention has is that the two-continua model states that a high mental health is beneficial to higher income, less sick days, less use of medication, improved productivity, better physical health and disease or symptom control (Marks and Fleming 1999, Danner, Snowdon et al. 2001, Diener, Nickerson et al. 2002, Howell, Kern et al. 2007, Bergsma, Have et al. 2011, Seligman and Csikszentmihalyi 2014). Thus the improvement in

well-being caused by this intervention is advantageous and can increase resilience to illness (Lyubomirsky, King et al. 2005, Veenhoven 2008). The reason in the long run why well-being is increased through this intervention can be linked to the techniques it uses. The partial mediation effect of self-criticism showed that part of the improvement of well-being is facilitated through the effect the intervention has on the inadequate self, reassured self and hated self. Next to the mediation effect other factors, which influenced the improvement of well-being are also possible. The reason for this is that the mediation found is only partial and with a small effect size. This however does only point to the fact that each form of self-criticism on its own has a significant, but ultimately small effect on improvement of well-being. It is possible that a multi-mediation of all three variables together could account for a combined, higher influence on well-being than each variable on its own. This however was not done in this study, because the focus laid on the individual effect each form of self-criticism possessed. Future research might help to answer this question. Other possible factors that influence the effect of the intervention are mindfulness and compassion. Baer, Lykins et al. (2012) found that mindfulness could explain a part of the increase of well-being in a compassion focused intervention. In turn self-compassion is found to be the other important factor contributing to the increase in their intervention (Baer, Lykins et al. 2012). The effect of higher compassion leading to higher well-being is suggested by Gilbert and Irons (2005) and seems to explain at least a variance in improvement of well-being (Neely, Schallert et al. 2009).

Another advantage this intervention has is the reduction of self-criticism it causes. Self criticism is an important contributing factor to chronic stress, which in turn is a health risk (Baum and Posluszny 1999, Neff 2003a). This intervention reduces the levels of self-criticism and thus it is likely, that chronic stress is also reduced by it. This reduction in self-criticism can also eliminate the effect that negative emotions can lead to the development and maintenance of depressive episodes in high self-critical individuals (Gilbert, Clarke et al. 2004). The reduction of self-criticism was also reported by Gilbert and Procter (2006), who showed decrease of self-criticism in their uncontrolled study. These findings were supported by this RCT study.

The next factor that contributed to the positive effect of this CFT intervention was the increase in compassion. Compassion is essential for well-being, thus the significant improvement caused by this intervention in compassion influenced well-being positively (Lucre and Corten 2013). This is especially the case, because higher self-compassion is associated with lower levels of mental health symptoms (MacBeth and Gumley 2012).

The recorded reduction in self-criticism and improvement of reassured self in this study was an advantage, because scientific literature showed that higher levels of self-criticism can be connected with higher psychopathology (Sachs-Ericsson, Verona et al. 2006). From this data we can conclude that this self-help intervention can be successfully used for reduction of self-criticism and through this process can lead to an increase in well-being.

The mediation analysis of this study tried to gather information about why well-being improved through the intervention. The mediation analysis showed that all forms of self-criticism had a partial mediation effect on improvement of well-being brought through the intervention. While there have been no previous studies that looked at the mediation effect of self-criticism on well-being, a possible association of self-criticism on well-being was found when combining the results of two studies. The first study showed that self-criticism is negatively associated with compassion, while it is known from other studies that compassion is positively associated with well-being (Neff, Kirkpatrick et al. 2007, Baer, Lykins et al. 2012). The analysis of this study furthermore showed that the level of self-criticism declined and the levels of self reassurance rose in the intervention group, which leads to the conclusion that people are less self-critical and more self reassured after the intervention. Moderate effect sizes were found in the measures of self-criticism, which is good, because it speaks for the effect the intervention has on self-criticism. This could explain the found mediation effect.

Limitations of this study

This study had several strengths. It was the first RCT analyzing the effects of compassion and self-criticism on well-being. It used an intervention and control group which made it more sensitive for change. While a placebo group was not included in this design it is still a big advantage. There are some limitations to this study, too. One of the most important limitations is that the research participants mostly consisted of highly educated women, thus the generalization of these findings is limited. However a high number of highly educated women is not unusual to be found in research concerning self help (e-health) (Carlbring, Gunnarsdóttir et al. 2007). This study does not concern itself with why highly educated women are using these interventions. This intervention however seems to cater to this demographic positively, which is an advantage. A second limitation of this study is that no analysis regarding the socio-economic status was done, which could have an effect on well-being. Another limitation of this study was that the research participants were only solicited with the help of news papers. While these are the traditional sources for information, the internet and app use is rising every year. This could exclude certain people from this study,

who do not read the news papers, which are used for soliciting the participants. A dropout analysis was also not done for this intervention. Thus it is unknown whether this changes the outcome of the analysis.

There were also limitations regarding the statistical analysis used in this study. The dimension of self-criticism was studied separately. A multi-mediation effect of the combined forms of self-criticism was not accounted for. This is an important research question for future research, because all dimensions of self-criticism were significant, but had only small effect sizes. There was also no test for normal distribution of the different questionnaires and subscales. It furthermore was not checked whether the mediation effect persisted during follow up testing. Another disadvantage of this study was that while it checked for the mediation effect of self-criticism, it did not look if the level of compassion could also be responsible for the found mediation. This should be addressed in future research.

Implications and future research

There are several implications for future research this study offers. First of all a more diverse subject pool would improve the ability to generalize from this research.

Secondly the current data from the follow up study could be analyzed to look if the mediation effect of self-criticism is stable over time. This is likely the case, because the improvement in well-being, compassion and self-criticism, seem to be stable across an intern follow up study done by the University of Twente. While answering this research question it should also be looked whether a multi-mediation approach of the different forms of self-criticism has a higher effect on well-being. It should also be looked whether the weekly email contact is essential to the success of the therapy and if so, if automated feedback is sufficient. This could open up the possibility of a continued cheap and sustainable therapy option.

Conclusion

The compassion focused therapy self-help intervention “Compassie als sleutel tot geluk, Voorbij stress en zelfkritiek” is an effective intervention in improving well-being for a sub-clinical population. This study shined light on the underlying effects self-criticism had on the improvement of well-being. Further research is needed to address the open questions remaining.

References:

Anderson, N. B. (1998). "Levels of analysis in health science: A framework for integrating sociobehavioral and biomedical research." Annals of the New York Academy of Sciences **840**(1): 563-576.

Baer, R. A., et al. (2012). "Mindfulness and self-compassion as predictors of psychological wellbeing in long-term meditators and matched nonmeditators." The Journal of Positive Psychology **7**(3): 230-238.

Baião, R., et al. (2015). "Forms of Self-Criticising/Attacking & Self-Reassuring Scale: Psychometric properties and normative study." Psychology and Psychotherapy: Theory, Research and Practice **88**(4): 438-452.

Baum, A. (1990). "Stress, intrusive imagery, and chronic distress." Health Psychology **9**(6): 653.

Baum, A. and D. M. Posluszny (1999). "Health psychology: mapping biobehavioral contributions to health and illness." Annual review of psychology **50**(1): 137-163.

Bergsma, A., et al. (2011). "Most people with mental disorders are happy: A 3-year follow-up in the Dutch general population." The Journal of Positive Psychology **6**(4): 253-259.

Carlbring, P., et al. (2007). "Treatment of social phobia: randomised trial of internet-delivered cognitive–behavioural therapy with telephone support." The British Journal of Psychiatry **190**(2): 123-128.

Carver, C. S. (1998). "Resilience and thriving: Issues, models, and linkages." Journal of social issues **54**(2): 245-266.

Coetzee, S. and R. Viviers (2007). "An overview of research on positive psychology in South Africa." South African Journal of Psychology **37**(3): 470-490.

Cohen, J. (1992). "A power primer." Psychological bulletin **112**(1): 155.

Cohn, M. A., et al. (2009). "Happiness unpacked: positive emotions increase life satisfaction by building resilience." Emotion **9**(3): 361.

Cozolino, L. (2014). The Neuroscience of Human Relationships: Attachment and the Developing Social Brain (Norton Series on Interpersonal Neurobiology), WW Norton & Company.

Danner, D. D., et al. (2001). "Positive emotions in early life and longevity: findings from the nun study." Journal of personality and social psychology **80**(5): 804.

Deci, E. L. and R. M. Ryan (2008). "Hedonia, eudaimonia, and well-being: An introduction." Journal of Happiness Studies **9**(1): 1-11.

Diener, E. and M. Y. Chan (2011). "Happy people live longer: Subjective well-being contributes to health and longevity." Applied Psychology: Health and Well-Being **3**(1): 1-43.

Diener, E., et al. (2002). "Dispositional affect and job outcomes." Social Indicators Research **59**(3): 229-259.

Fey, W. F. (1955). "Acceptance by others and its relation to acceptance of self and others: a revaluation." The Journal of Abnormal and Social Psychology **50**(2): 274.

Fredrickson, B. L., et al. (2008). "Open hearts build lives: positive emotions, induced through loving-kindness meditation, build consequential personal resources." Journal of personality and social psychology **95**(5): 1045.

Gable, S. L. and J. Haidt (2005). "What (and why) is positive psychology?" Review of General Psychology **9**(2): 103.

Germer, C. K. (2009). The mindful path to self-compassion: Freeing yourself from destructive thoughts and emotions, Guilford Press.

Gilbert, P. (1989). Human nature and suffering, Psychology Press.

Gilbert, P. (2000). "Social mentalities: Internal" social'conflict and the role of inner warmth and compassion in cognitive therapy." 118-150.

Gilbert, P. (2005). Compassion: Conceptualisations, research and use in psychotherapy, Routledge.

Gilbert, P. (2009). Overcoming Depression: A Books on Prescription Title, Hachette UK.

Gilbert, P. (2010). The compassionate mind: A new approach to life's challenges, New Harbinger Publications.

Gilbert, P., et al. (2004). "Criticizing and reassuring oneself: An exploration of forms, styles and reasons in female students." British Journal of Clinical Psychology **43**(1): 31-50.

Gilbert, P. and C. Irons (2005). "Therapies for shame and self-attacking, using cognitive, behavioural, emotional imagery and compassionate mind training." Compassion: Conceptualisations, research and use in psychotherapy: 263-325.

Gilbert, P. and G. Plata (2013). Compassion focused therapy, Junfermann Verlag GmbH.

Gilbert, P. and S. Procter (2006). "Compassionate mind training for people with high shame and self-criticism: Overview and pilot study of a group therapy approach." Clinical Psychology & Psychotherapy **13**(6): 353-379.

Gould, R. A. and G. A. Clum (1993). "A meta-analysis of self-help treatment approaches." Clinical Psychology Review **13**(2): 169-186.

Hofmann, S. G., et al. (2010). "The effect of mindfulness-based therapy on anxiety and depression: A meta-analytic review." Journal of consulting and clinical psychology **78**(2): 169.

Howell, R. T., et al. (2007). "Health benefits: Meta-analytically determining the impact of well-being on objective health outcomes." Health Psychology Review **1**(1): 83-136.

Hulsbergen, M. and E. Bohlmeijer (2015). "Compassie als sleutel tot geluk; voorbij stress en zelfkritiek."

Huppert, F. A. and T. T. So (2013). "Flourishing across Europe: Application of a new conceptual framework for defining well-being." Social Indicators Research **110**(3): 837-861.

Keng, S.-L., et al. (2011). "Effects of mindfulness on psychological health: A review of empirical studies." Clinical Psychology Review **31**(6): 1041-1056.

Keyes, C., et al. (2008). "Evaluation of the mental health continuum-short form (MHC-SF) in Setswana-speaking South Africans." Clinical psychology and psychotherapy **15**(3): 181.

Keyes, C. L. (2002). "The mental health continuum: From languishing to flourishing in life." Journal of health and social behavior: 207-222.

Keyes, C. L. (2005). "Mental illness and/or mental health? Investigating axioms of the complete state model of health." Journal of consulting and clinical psychology **73**(3): 539.

Keyes, C. L. (2006). "Mental health in adolescence: is America's youth flourishing?" American journal of orthopsychiatry **76**(3): 395.

Keyes, C. L. (2007). "Promoting and protecting mental health as flourishing: a complementary strategy for improving national mental health." American psychologist **62**(2): 95.

Keyes, C. L. M. (1998). "Social well-being." Social psychology quarterly: 121-140.

Kotsou, I. and C. Leys (2016). "Self-Compassion Scale (SCS): Psychometric Properties of The French Translation and Its Relations with Psychological Well-Being, Affect and Depression." PloS one **11**(4): e0152880.

Laithwaite, H., et al. (2009). "Recovery after psychosis (RAP): A compassion focused programme for individuals residing in high security settings." Behavioural and Cognitive Psychotherapy **37**(05): 511-526.

Lamers, S., et al. (2011). "Evaluating the psychometric properties of the mental health continuum-short form (MHC-SF)." Journal of clinical psychology **67**(1): 99-110.

Leary, M. R., et al. (2007). "Self-compassion and reactions to unpleasant self-relevant events: the implications of treating oneself kindly." Journal of personality and social psychology **92**(5): 887-904.

López, A., et al. (2015). "A reconsideration of the Self-Compassion Scale's total score: self-compassion versus self-criticism." PloS one **10**(7): e0132940.

Lucre, K. M. and N. Corten (2013). "An exploration of group compassion-focused therapy for personality disorder." Psychology and Psychotherapy: Theory, Research and Practice **86**(4): 387-400.

Lyubomirsky, S., et al. (2005). "The benefits of frequent positive affect: does happiness lead to success?" Psychological bulletin **131**(6): 803.

MacBeth, A. and A. Gumley (2012). "Exploring compassion: A meta-analysis of the association between self-compassion and psychopathology." Clinical Psychology Review **32**(6): 545-552.

Magnus, K. B. and E. Diener (1991). A longitudinal analysis of personality, life events, and subjective well-being, in Liberal Arts and Sciences, University of Illinois at Urbana-Champaign.

Marks, G. N. and N. Fleming (1999). "Influences and consequences of well-being among Australian young people: 1980–1995." Social Indicators Research **46**(3): 301-323.

Neely, M. E., et al. (2009). "Self-kindness when facing stress: The role of self-compassion, goal regulation, and support in college students' well-being." Motivation and Emotion **33**(1): 88-97.

Neff, K. (2003a). "Self-compassion: An alternative conceptualization of a healthy attitude toward oneself." Self and identity **2**(2): 85-101.

Neff, K. (2016). "Self-compassion." Retrieved 27.05.2016, 2016, from http://self-compassion.org/the-three-elements-of-self-compassion-2/.

Neff, K. D. (2003b). "The development and validation of a scale to measure self-compassion." Self and identity **2**(3): 223-250.

Neff, K. D., et al. (2007). "Self-compassion and adaptive psychological functioning." Journal of research in personality **41**(1): 139-154.

Neff, K. D. and R. Vonk (2009). "Self-compassion versus global self-esteem: Two different ways of relating to oneself." Journal of personality **77**(1): 23-50.

Okun, M. A., et al. (1983). "Health and subjective well-being: a meta-analysis." International journal of aging & human development **19**(2): 111-132.

Öst, L.-G. (2008). "Efficacy of the third wave of behavioral therapies: A systematic review and meta-analysis." Behaviour research and therapy **46**(3): 296-321.

Pace, T. W., et al. (2009). "Effect of compassion meditation on neuroendocrine, innate immune and behavioral responses to psychosocial stress." Psychoneuroendocrinology **34**(1): 87-98.

Petrocchi, N., et al. (2014). "Dimensionality of self-compassion: translation and construct validation of the self-compassion scale in an Italian sample." Journal of Mental Health **23**(2): 72-77.

Raes, F., et al. (2011). "Construction and factorial validation of a short form of the self-compassion scale." Clinical Psychology & Psychotherapy **18**(3): 250-255.

Rockliff, H., et al. (2008). "A pilot exploration of heart rate variability and salivary cortisol responses to compassion-focused imagery." Clinical Neuropsychiatry **5**(3): 132-139.

Rubin, T. I. (1998). Compassion and self hate: An alternative to despair, Simon and Schuster.

Ryan, R. M. and E. L. Deci (2001). "On happiness and human potentials: A review of research on hedonic and eudaimonic well-being." Annual review of psychology **52**(1): 141-166.

Ryff, C., et al. (2012). "Varieties of resilience in MIDUS." Social and personality psychology compass **6**(11): 792-806.

Ryff, C. D. (1989). "Happiness is everything, or is it? Explorations on the meaning of psychological well-being." Journal of personality and social psychology **57**(6): 1069.

Sachs-Ericsson, N., et al. (2006). "Parental verbal abuse and the mediating role of self-criticism in adult internalizing disorders." Journal of affective disorders **93**(1): 71-78.

Salzberg, S. and J. Kabat-Zinn (2004). Lovingkindness: The revolutionary art of happiness, Shambhala Publications.

Schotanus-Dijkstra, M., et al. (2015). "What factors are associated with flourishing? Results from a large representative national sample." Journal of Happiness Studies: 1-20.

Seligman, M. E. and M. Csikszentmihalyi (2000). "Special issue: Positive psychology." American psychologist **55**(1).

Seligman, M. E. and M. Csikszentmihalyi (2014). Positive psychology: An introduction, Springer.

Seligman, M. E., et al. (2005). "Positive psychology progress: empirical validation of interventions." American psychologist **60**(5): 410.

Siegel, D. J. (2001). "Toward an interpersonal neurobiology of the developing mind: Attachment relationships,"mindsight," and neural integration." Infant mental health journal **22**(1-2): 67-94.

Siegel, D. J. (2007). The Mindful Brain: Reflection and Attunement in the Cultivation of Well-Being (Norton Series on Interpersonal Neurobiology), WW Norton & Company.

Statline, C. (2013). Beroepsbevolking; kerncijfers provincie Retrieved 03-07-2013.

Steel, P., et al. (2008). "Refining the relationship between personality and subjective well-being." Psychological bulletin **134**(1): 138.

Veenhoven, R. (2008). "Healthy happiness: Effects of happiness on physical health and the consequences for preventive health care." Journal of Happiness Studies **9**(3): 449-469.

Vermunt, R. and H. Steensma (2005). "How can justice be used to manage stress in organizations." Handbook of organizational justice: 383-410.

Walburg, J. and E. Bohlmeijer (2016). "Veerkracht." Tijdschrift voor Psychologie **2**: 1-5.

Westerhof, G. J. and E. Bohlmeijer (2010). Psychologie van de levenskunst, Boom Amsterdam.

Westerhof, G. J. and C. L. Keyes (2008). "Geestelijke gezondheid is meer dan de afwezigheid van geestelijke ziekte." MGV-Maandblad geestelijke volksgezondheid **63**(10): 808-820.

Westerhof, G. J. and C. L. Keyes (2010). "Mental illness and mental health: The two continua model across the lifespan." Journal of adult development **17**(2): 110-119.

Wispé, L. (1991). The psychology of sympathy, Springer Science & Business Media.

World Health Organization (2005). Promoting mental health: Concepts, emerging evidence, practice. Geneva, World Health organization.