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Master´s thesis

Who benefits from a guided self-help self-compassion training? A randomized controlled trial

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Abstract

This study examined the effects of a guided self-help self-compassion training on self-compassion and self-criticism in comparison to a waiting-list control condition. Furthermore, this study explored the moderating role of various demographic variables, including gender, age, level of education, marital status, living situation and employment status. Participants with a suboptimal level of well-being were recruited from the general Dutch population and randomized to the self-compassion training (n=121) or a waiting-list control group (n=122). Participants completed measures before and after the training and at six-month follow-up to assess self-compassion and self-criticism. Two indicators of self-compassion and self-criticism were used, respectively. Mixed-ANOVAS and moderator analyses were conducted, to examine the effects of the training on self-compassion and self-criticism and possible moderators of the effects, in comparison to the waiting-list control group. Participation in the self-compassion training resulted in significantly larger increases in self-compassion and reductions in self-criticism, compared to the waiting-list control group (effect sizes ηp^2=.06-.08). Effects were sustained at six-month follow-up. Results of the moderator analyses were inconsistent. Age moderated the effects of the training on self-criticism, but only at six-month follow-up. Compared to older adults, younger adults reported significantly larger reductions in self-criticism following the training at six-month follow-up. For effects on self-compassion, level of education emerged as a significant moderator, but only at post-intervention and only for one indicator of self-compassion. Participants without a university degree benefitted more from the training at post-intervention with regard to gains in self-compassion, compared to participants with a university degree. Findings suggest that the self-help self-compassion training is effective in improving self-compassion and self-criticism in people with a suboptimal level of well-being. Furthermore, results indicate that the training is beneficial for a heterogeneous population. Future studies should include more formal moderator analyses to be better able to tailor the training to subpopulations.

Keywords: self-compassion, self-criticism, self-help, randomized controlled trial, moderation

Samenvatting

Het doel van de studie was de effecten van een zelfcompassietraining als begeleide zelfhulp op zelfcompassie en zelfkritiek te onderzoeken in een gerandomiseerde, gecontroleerde trial. Verder exploreerde de studie in hoeverre de effecten door verschillende demografische variabelen waaronder geslacht, leeftijd, opleiding, burgerlijke staat, woonsituatie en werksituatie, gemodereerd worden. Werving vond plaats in de algemene Nederlandse bevolking. Deelnemers met een suboptimaal welbevinden werden verdeeld over de zelfcompassietraining (*n*=121) of een wachtlijstgroep (*n*=122). Deelnemers vulden voor-en na de studie, en ses maanden na de studie vragenlijsten in om de mate van zelfcompassie en zelfkritiek te bepalen. Er werden telkens twee indicatoren voor zelfcompassie en zelfkritiek gebruikt. Mixed-ANOVAs en moderatie analyses werden gebruikt om de effecten van de zelfcompassietraining op zelfcompassie en zelfkritiek en mogelijke moderatoren in vergelijking met de wachtlijstgroep te onderzoeken. Resultaten laten zien dat deelname aan de zelfcompassietraining in vergelijking met de wachtlijstgroep tot een significante toename in zelfcompassie en afname in zelfkritiek leidde (effect groottes ηp^2=.06-.08). Effecten werden behouden bij de follow-up meting na ses maanden. Uitkomsten van de moderatie analyses waren inconsistent. Leeftijd modereerde de effecten van de zelfcompassietraining op zelfkritiek, echter alleen bij de follow-up meting. Jongere volwassenen rapporteerden een grotere afname in zelfkritiek na ses maanden vergeleken met oudere volwassenen. Voor effecten op zelfcompassie bleek opleiding een moderator te zijn, echter alleen bij de nameting en alleen voor één indicator van zelfcompassie. Deelnemers zonder een universiteitsdiploma rapporteerden een grotere toename in zelfcompassie bij de nameting vergeleken met deelnemers met universiteitsdiploma. De resultaten laten zien dat de zelfcompassietraining een effectieve methode is om zelfcompassie en zelfkritiek bij mensen met een suboptimaal welbevinden te verbeteren. De training blijkt effectief te zijn voor een heterogene populatie. Verder onderzoek met meer formale moderator analyses is nodig om de zelfcompassietraining beter op subpopulaties toe te kunnen passen.

Trefwoorden: zelfcompassie, zelfkritiek, zelfhulp, gerandomiseerd gecontrolleerd trial

Introduction

In the field of psychology, self-criticism has long been recognized as a trans-diagnostic factor that plays an important role in the development and maintenance of a variety of psychological disorders (Gilbert, Clarke, Hempel, Miles, & Irons, 2004). Self-criticism is a major component of internal shame. In internal shame, the attention is focused on the self and how one exists for others (Gilbert & Procter, 2006), marked by a hostile, self-critical style of self-to-self relating in the face of failures or setbacks (Gilbert et al., 2004; Gilbert, Durrant, & McEwan, 2006). When personal standards are not met, the self is evaluated as flawed, inadequate or bad (Gilbert & Procter, 2006). This self-attacking behaviour creates a sense of threat (Gilbert & Procter, 2006) and people experience threat-focused feelings such as anxiety, frustration, disappointment, anger or even contempt for oneself (Gilbert, 2009b). Gilbert et al. (2004) distinguish two different forms of self-criticizing/attacking, one related to being self-critical and dwelling on failures and inadequacies, in contrast to one related to more hateful and disgust-based feelings for the self and a desire to hurt the self which is considered to be especially pathogenic. Self-criticism does not only permeate many psychiatric disorders (Gilbert & Procter, 2006), it is a common problem that many people have to cope with in their daily life, in milder or more severe forms (Gilbert, 2009b). Gilbert (2009b) even states that ´shame-based self-criticism and self-attacking are among the most pervasive problems in Western societies and seriously undermine our contentment and well-being´ (p. 309), although specific numbers are not known.

An alternative response to failure could be self-support, self-reassurance and compassion for oneself (Gilbert et al., 2004). Self-compassion is characterized by attributes such as a motivation to care for the own well-being, a sensitivity to suffering and tolerance of unpleasant emotions, empathic understanding for the own distress and its causes and non-judging or condemning (Gilbert, 2014; Gilbert & Procter, 2006). According to Neff (2003), self-compassion comprises three components: (a) *self-kindness*- being kind and understanding to oneself in the face of failures and setbacks, instead of self-critical and judgmental, (b) *common humanity* - recognizing that failings are part of a universal human experience rather than isolating and shaming, and (c) *mindfulness* - a balanced, non-judgemental awareness of suffering that avoids over-identification with it. With a self-compassionate mind, the self is not attacked and experienced as unwanted and inadequate when something goes wrong, but is approached in a gentler and more accepting way, generating feelings of self-liking, inner warmth and safeness (Gilbert & Procter, 2006; Gilbert, 2009a).

According to Gilbert (2009b), another pioneer in research on compassion, self-compassion may be regarded as an antidote to self-criticism. Whereas self-criticism is associated with psychopathology and an increased vulnerability to mental health problems (Gilbert & Procter, 2006; Gilbert et al., 2004; Gilbert et al., 2006), research suggests that self-compassion may be regarded as an important source of well-being (Neff, Rude & Kirkpatrick, 2007; Neff & Costigan, 2014). Self-compassion is associated with positive qualities such as happiness, emotional intelligence, optimism, increased motivation, wisdom, social connectedness and health behaviours (Neff, Rude & Kirkpatrick, 2007; Smeets, Neff, Alberts & Peters, 2014) and negatively associated with psychopathology and psychological disfunctioning such as depression, anxiety, rumination, self-criticism, thought suppression and perfectionism (Hollis-Walker & Colosimo, 2011; MacBeth & Gumley, 2012). Studies suggest that self-compassion facilitates resilience in the face of stress and negative life events (Neff & McGehee, 2010). Furthermore, self-compassion is associated with better immunological-functioning and better neuro-endocrine and behavioural responses to psychosocial stress (Pace et al., 2009). Overall, experiencing self-compassion seems to have significant implications for peoples´ well-being as it might improve psychological, social and physiological functioning and might be an important counter to the negative effects of self-criticism.

The increasing awareness of self-compassion as an apparently important contributor to peoples´ well-being led to the question whether it might be possible to help self-critical people develop compassion for themselves and to reduce self-criticism, thereby increasing a sense of safeness and reducing the sense of threat (Gilbert & Procter, 2006). On the basis of this idea, Gilbert (2009a) has developed Compassion Focused Therapy (CFT), an integrated and multimodal therapeutic approach to help clients develop the skills of a compassionate mind. The underlying principles of CFT are drawn from evolutionary psychology, neuroscience, developmental, social and Buddhist psychology and therapeutic treatment processes of Cognitive Behaviour Therapy (Gilbert, 2009a). CFT follows a behavioural approach by suggesting that thoughts and imagery can act just like external stimuli do, stimulating different brain areas and physiological systems (Gilbert, 2009a). Self-critical thoughts and images stimulate the threat system in the brain and activate stress reactions, generating depressed and anxious states (Gilbert, 2009a). In contrast, training the brain to generate compassionate thoughts and images is supposed to stimulate the contentment, soothing and safeness systems in the brain, thereby generating positive affect such as calmness and a sense of well-being (Gilbert, 2009a). According to Gilbert (2009b), replacing self-criticism with self-compassion and compassionate understanding is crucial to overcome problems in the self-to-self processing

and to move forward in life. A key concern of CFT is to help people develop the skills of compassion, including compassionate attention, reasoning, feeling, imagery, sensation and behaviour (Gilbert, 2009a). In order to teach these skills, CFT uses many therapeutic processes and interventions shown to be helpful, such as mindfulness, guided imagery, Socratic conversations and guided discovery, expressive writing, exposure, generating alternative thoughts and soothing breathing rhythm, just to name a few (Gilbert, 2009a).

A systematic review by Leaviss and Uttley (2015) suggests that CFT might be a promising intervention for treating psychological disorders, in particular individuals high in self-criticism. Gilbert and Procter (2006) conducted a pilot study, providing 12 two-hour sessions in compassionate mind training to people with chronic difficulties and found a significant reduction in depression, anxiety, self-criticism, shame, inferiority and submissive behaviour, as well as a significant increase in participants´ ability to be self-soothing and to generate feelings of warmth and self-reassurance. More large-scale, high-quality trials are needed, however, before CFT can be regarded as evidence-based practice. Studies of other compassion interventions also report positive effects (Neff & Germer, 2013; Falconer et al., 2014; Smeets et al., 2014; Mosewich, Crocker, Kowalski & DeLongis, 2013). Neff and Germer (2013) developed a program called Mindful Self-Compassion (MSC), an eight-week program which focuses on cultivating self-compassion. It has been shown to significantly improve self-compassion and overall well-being while reducing depression, anxiety and stress (Neff & Germer, 2013).

Although increasing evidence suggests that compassion training might have positive effects on levels of self-compassion and self-criticism, few studies have examined for whom a training in self-compassion is most likely to be beneficial. Investigating whether the effects of a self-compassion training are possibly moderated by demographic variables is important for research as well as for the development of therapeutic interventions. If specific groups are less likely to benefit from a compassion training, special efforts should be made to teach the skills to these groups. There are indications to assume that gender and age might have a moderating impact on the effectiveness of a compassion training.

With regard to gender differences, research suggests that women tend to be more critical of themselves and tend to use more negative self-talk than men (Baiao, Gilbert, McEwan & Carvalho, 2015; DeVore, 2013). Baiao et al. (2015) have found women to score significantly higher on self-criticism and lower on self-reassurance than men (Gilbert, Clarke, Hempel, Miles & Irons, 2004). With regard to self-compassion, a meta-analysis by Yarnell et al. (2015) found

a small but meaningful gender difference, with women having lower levels of self-compassion than men.

With regard to age differences, previous studies found that as people got older, their levels of self-criticism tended to decrease (Kopala-Sibley, Mongrain and Zuroff, 2013), whereas their levels of self-compassion tended to increase (Neff & Vonk, 2009; Homan, 2016). Charles and Carstensen (2008) investigated emotional responses to unpleasant situations in younger and older adults. Their results also suggest that older adults might be better able to sooth themselves, be compassionate and less critical when facing situations that evoke negative emotions.

Taken together, these findings suggest that the tendency to be self-critical might be more pronounced in women and younger adults than in men and older adults, whereas the tendency to be self-compassionate might be less pronounced. Based on these findings it might be assumed that women and younger adults benefit more from a compassion training than men and older adults as they might have more room for improvement. Other demographic factors may be considered to play a moderating role in compassion interventions as well.

In order to investigate for whom a compassion training is most likely to be effective, the present study examined the effects of a CFT-based guided self-help training on self-compassion and self-criticism in a randomized controlled trial with two conditions. The objectives of the current study were to examine the effects of a self-compassion training on self-compassion and self-criticism in comparison to a waiting-list control condition. Furthermore, the study explored the moderating role of various demographic variables, including gender, age, level of education, marital status, living situation and employment status. It was hypothesized that: (1) the level of self-compassion is higher in the compassion training condition in comparison to the control condition at post-intervention and six-month follow-up, (2) that the level of self-criticism is lower in the compassion training condition in comparison to the control condition at post-intervention and six-month follow-up, (3) that the compassion training condition is more effective for women than for men in improving self-compassion and lowering self-criticism at post-intervention and six-month follow-up, and (4) that the compassion training condition is more effective for younger than for older adults in improving self-compassion and lowering self-criticism at post-intervention and six-month follow-up. The analyses of the remaining demographic variables were considered exploratory, given the lack of research so far.

Method

Design

The study employed a randomized controlled trial design with two conditions, the compassion training (CT) and a waiting-list control condition (W-L). The total duration of the study was 12 months with four measuring moments. Measures consisted of self-report questionnaires that were administered to the participants to assess self-compassion and self-criticism. Participants could fill out the questionnaires online at home. Outcome measures were assessed at baseline (T0), at post-intervention (T1) three months after baseline (directly after the compassion training), and at six-month (T2) and 12-month follow-up (T3). In this study, the T0 measure as well as the T1 and T2 measures were used for statistical analysis. Participants in the compassion training received the self-help training after completing the baseline measure (T0), participants in the control condition received the training after completing the T2 measure (after 6 months).

Procedure and participants

Once ethical approval was obtained, participants were recruited in the general Dutch population through advertisements in daily national newspapers (i.e. Volkskrant, Trouw). The recruitment message was positively formulated aiming to recruit motivated participants, who were interested in the topic but experienced a suboptimal level of well-being (Notenboom & Van Male, 2008). During the study, the self-help book could also be bought in online book shops. Therefore, the specific title of the self-help book was not mentioned in the advertisements in order to minimize the possibility that participants in the waiting-list control group would buy the book. In the advertisement, a link to a website with further information about the study (www.utwente.nl/zelfcompassie) was provided. Participants could sign up for the study on this website via a registration form including the informed consent and were asked to fill out several screening questions to determine whether they met the eligibility criteria.

Inclusion criteria were: an age of 18 years or older, a low to moderate level of well-being, as determined with the Mental Health Continuum-Short Form (MHC-SF; Keyes, 2002; Lamers, Westerhof, Bohlmeijer, Ten Klooster & Keyes, 2011), possession of a computer or tablet/iPad, access to internet, having an e-mail address, sufficient proficiency in Dutch and informed consent. Applicants were excluded if they reported a high level of well-being (a score of 4 or 5 on one or more items of the subscale ´emotional well-being´ and on six or more items on the combined subscales ´social well-being´ and ´psychological well-being´ of the MHC-SF) or moderate to severe depressive or anxiety symptoms (a score of 11 or more on the depression

subscale and/or on the anxiety subscale of the Hospital Anxiety and Depression Scale, HADS; Zigmond & Snaith, 1983). In that case applicants were advised to contact their general practitioner. Within five working days, participants were notified via e-mail whether they could participate in the study. The outcome of the randomization was communicated via e-mail as well.

In total, 243 participants were enrolled in the study. Of those, 121 were assigned to the compassion training and 122 to the control group. Little´s missing completely at random test (MCAR; Little, 1988) was used to determine the distribution of missing values in the study variables. The test indicated that missing values were completely at random, $\chi^2(270, N=243)=226.95, p=.99$. Afterwards, list-wise deletion of observations with missing values took place, leaving a total number of 198 participants, with 97 in the compassion training and 101 in the control group. All participants had the Dutch nationality. The age of participants ranged from 20 to 78 years. Socio-demographic characteristics are displayed for the total sample and per group in Table 1. The majority was female (75.3%), had a high level of education (88.4%), was married (54.5%) and had a paid job (60.1%).

Table 1

Socio-demographic characteristics of participants

	Total sample (*N*=198)	CT (*N*=97)	W-L (*N*=101)
Characteristics	n (%)	n (%)	n (%)
Gender			
Male	49 (24.7)	18 (18.6)	31 (30.7)
Female	149 (75.3)	79 (81.4)	70 (69.3)
Age (*M,* SD)	53.1 (9.9)	52.6 (9.6)	53.5 (10.1)
Marital status			
Married	108 (54.5)	48 (49.5)	60 (59.4)
Divorced	36 (18.2)	22 (22.7)	14 (13.9)
Widowed	6 (3.0)	4 (4.1)	2 (2.0)
Never been married	48 (24.2)	23 (23.7)	25 (24.8)
Living situation			
Alone	51 (25.8)	28 (28.9)	23 (22.8)
With partner and child(ren)	50 (25.3)	25 (25.8)	25 (24.8)
With partner without children	81 (40.9)	35 (36.1)	46 (45.5)
Alone with child(ren)	14 (7.1)	8 (8.2)	6 (5.9)
With others	2 (1.0)	1 (1.0)	1 (1.0)
Level of education			
Low	4 (2.0)	4 (4.1)	0
Middle	19 (9.6)	12 (12.3)	7 (7.0)
High	175 (88.4)	81 (83.5)	94 (93.0)
Employment status			
Employee, worker	119 (60.1)	59 (60.8)	60 (59.4)
Self-employed	30 (15.2)	15 (15.5)	15 (14.9)
Unpaid work, volunteer	8 (4.0)	5 (5.2)	3 (3.0)
Seeking work, unemployed	14 (7.1)	7 (7.2)	7 (6.9)
Disabled	10 (5.1)	2 (2.1)	8 (7.9)
Retired	10 (5.1)	5 (5.2)	5 (5.0)
Housewife/man	3 (1.5)	1 (1.0)	2 (2.0)
Student	4 (2.0)	3 (3.1)	1 (1.0)

Note. CT=compassion training; W-L= waiting-list control.

Compassion training

Hulsbergen and Bohlmeijer (2015) developed a self-compassion training in form of a self-help book titled *Compassion as the key to happiness, goodbye stress and self-criticism* (*Compassie als sleutel tot geluk, voorbij stress en zelfkritiek)* for adults who experience diminished levels of well-being. The training is based on Paul Gilbert´s theory of compassion and CFT (Gilbert, 2014). In addition, some exercises developed by Neff are incorporated. The book consists of seven lessons that could be completed within seven weeks. Participants had a maximum of nine weeks to complete the lessons. The book covered seven different topics: (1)

self-criticism and compassion, (2) affective systems, (3) developing kindness, (4) addressing resources, (5) dealing with youth experiences, (6) altering circumstances, and (7) compassion for others. The main goal of the self-help training was to promote well-being by cultivating compassion for oneself. In an additional lesson, the topic of developing compassion for others was addressed. Each lesson started with information about a particular topic related to compassion, followed by several exercises. A broad variety of exercises was used, such as mindfulness and visualization exercises, breath-regulation exercises, compassionate cognitive responding and writing exercises. It was recommended to complete at least the main exercise each week. Participants could complete the lessons at a time and place convenient to them.

Participants of the self-compassion training received weekly e-mail counselling by two graduated psychologists, two master-students psychology and a PhD student under supervision of two experienced psychologists working in health care. Each week, usually after completing a lesson, the participant was expected to send an e-mail to his/her counsellor about his/her experiences, possible challenges and questions concerning the exercises. The counsellor responded to the mail of the participant on a fixed day in the week. Aim of the e-mail guidance was to increase adherence by supporting participants in possible problems they encountered and by encouraging and motivating them to complete the lessons.

Outcome measures

In this study, the Forms of Self-Criticizing/Attacking and Self-Reassuring Scale (FSCRS; Gilbert et al., 2004) as well as the short form of the Self-Compassion Scale (SCS-SF; Neff & Vonk, 2009; Raes, Pommier, Neff & Van Gucht, 2011) were used. Both are considered to measure components of self-compassion and self-criticism. Despite a long-standing interest in self-compassion and self-criticism, it is only over the last decade that there has been an increased focus on understanding and measuring the two constructs (Neff, 2003; Gilbert, 2009a; Gilbert et al., 2004). The number of research on the assessment of self-compassion and self-criticism is still limited (Lopez et al., 2015; Baiao et al., 2014) and there is still considerable debate about conceptualizations of the two constructs (e.g. Neff, 2016; Muris, Otgaar & Petrocchi, 2016; Gilbert et al., 2004). Therefore, in this study it was decided to assess the constructs of self-compassion and self-criticism, using two indicators from two different measures respectively. This way, possible training-related changes in scale components that have been associated with operationalizations of self-compassion and self-criticism could be examined and compared, which may be valuable for the further development of self-compassion and self-criticism assessments.

Self-criticism. Self-criticism was assessed with the subscale inadequate self (IS) of the FSCRS (Gilbert et al., 2004). This subscale measures the tendency of feeling inadequate and to put oneself down when perceiving failures, which is considered a form of self-criticism (Gilbert et al., 2004). The subscale consists of nine items (e.g. "*There is a part of me that puts me down*"). Items of the FSCRS are rated on a 5-point Likert scale, ranging from "not at all like me" (0) to "extremely like me" (4). People have to indicate how much the stated thoughts and feelings are true for them. The self-hating dimension of the FSCRS also measures a form of self-criticism (Gilbert et al., 2004). However, it is considered to represent a more pathological domain associated with self-harm (Gilbert et al., 2004), showing a floor effect in non-clinical samples (Baiao et al., 2014). Therefore, in this study only the subscale inadequate self of the FSCRS was used to assess self-criticism.

Furthermore, self-criticism was assessed with the negative factor (NF) of the SCS-SF (Neff & Vonk, 2009; Raes et al., 2011). This subscale consists of six items and measures three components, self-judgment (e.g. "*I'm disapproving and judgmental about my own flaws and inadequacies*"), isolation (e.g. "*When I think about my inadequacies it tends to make me feel more separate and cut off from the rest of the world*"), and over-identification (e.g. "*When I'm feeling down I tend to obsess and fixate on everything that's wrong*"). According to Neff (2016), the three components indicate a lack of self-compassion. Lopez et al. (2015) recently examined the factor structure of the SCS, proposing a two-factor solution, with the negative factor assessing self-criticism. In the present study, the negative factor was also used as an indicator of self-criticism. Items of the SCS-SF are rated on a 7-point Likert scale, ranging from "almost never" (1) to "almost always" (7). Participants have to indicate how often they engage in the stated ways.

The subscales FSCRS-IS and SCS-SF-NF have demonstrated good internal consistency, with α=.90, respectively (Gilbert et al., 2004; Lopez et al., 2015). In the present study, the subscales also showed good internal consistency for all measuring moments [FSCRS-IS: α(T0)= .84, α(T1)=.86, α(T2)=.89; SCS-SF-NF: α(T0)=.86, α(T1)=.87, α(T2)=.89].

Self-compassion. Self-compassion was assessed with the subscale reassured self (RS) of the FSCRS (Gilbert et al., 2004). This subscale measures the ability to reassure oneself in the face of setbacks, and is regarded as an important indicator of self-compassion (Gilbert et al., 2004). It consists of seven items (e.g. "*I can still feel lovable and acceptable*").

Furthermore, self-compassion was assessed with the positive factor (PF) of the SCS-SF (Neff & Vonk, 2009; Raes et al., 2011). The subscale consists of six items and measures three components of self-compassion, self- kindness (e.g. "*I try to be understanding and patient*

towards aspects of my personality I don't like"), common humanity (e.g. "*I try to see my failings as part of the human condition*"), and mindfulness (e.g. "*When something painful happens I try to take a balanced view of the situation"*). The subscales FSCRS-RS and SCS-SF-PF have demonstrated good internal consistency, with α=.86, respectively. In the present study, internal consistency was also good for all measuring moments [FSCRS-RS: α(T0)=.80, α(T1)=.84, α(T2)=.87; SCS-SF-PF: α(T0)=.84, α(T1)=.85, α(T2)=.86].

Other measures. In addition, information was gathered about participants´ gender, age, level of education (coded as ´university degree´ or ´no university degree´), marital status (coded as ´currently married´ or ´not currently married´), living situation (coded as ´living alone´ or ´living together with someone´) and employment status (coded as ´current employment´ or ´no current employment´). The categories were created on the basis of statistical considerations.

Statistical analyses

All statistical analyses were performed with SPSS (Statistical Package for Social Sciences; IBM, USA), version 24.0. One-way ANOVAs and Chi-square statistics demonstrated that after removal of participants with missing values, there were no significant differences between the training condition and control group on demographic variables or self-compassion and self-criticism at baseline, except for gender, $\chi^2(1, 198)=3.913$, $p=.024$. There were significantly more women in the compassion training condition than in the waiting-list control group. Prior to main analyses, further one-way ANOVAs were conducted to examine socio-demographic differences in self-compassion and self-criticism at baseline. For age, Pearson correlations were conducted to assess the association between age and self-compassion and age and self-criticism at baseline. Furthermore, Pearson correlations were used to test the associations between the subscales of the FSCRS and the SCS-SF at the three measuring moments. Correlation coefficients below 0.3 were interpreted as small or weak, from 0.3 to 0.5 as moderate and above 0.5 as strong (Cohen, 1988).

To test the first and second hypothesis, a series of 2 (Group) x 3 (Time; T0, T1, T2) mixed-method analyses of variance (ANOVA) for the subscales of the SCS-SF and the FSCRS was conducted, with group as the between-subject factor and time as the within-subject factor. When Mauchly´s test indicated that the assumption of sphericity was not met, Greenhouse Geisser corrected degrees of freedom were used to assess the significance of the corresponding F. Effect sizes were calculated and reported in partial eta-squared (ηp^2). According to Cohen (1988) effect sizes can be interpreted as follows: .01 = small effect, .06 = moderate effect and .14 = large effect. To further examine changes in scores from T1 to T2 in the compassion

training condition, paired t-tests were conducted. Overall, significance of effects was interpreted at $p<.05$.

To test hypothesis 3, whether gender acts as a moderator of the effect of the training on self-compassion and self-criticism respectively, a series of hierarchical multiple regression analyses was conducted. Treatment condition and gender were entered in the first step of the regression analysis. In the second step, the interaction term between gender and treatment condition was entered. When the model with the interaction term added explained significantly more variance than just the predictors by themselves and thus a potentially significant moderation effect was found, the effect was further examined by running the regression with the predictor and moderator on the centred terms in order to avoid potentially problematic high multicollinearity (Field, 2013). This was done using the PROCESS plug-in for SPSS by Andrew Hayes (Field, 2013). The change scores (T0-T1, T0-T2) of the four outcome measures were entered as the dependent variables. Analyses were done separately for all outcome measures. The fourth hypothesis was tested using the same procedure, this time with age as the moderator variable. Further exploratory hierarchical regression analyses were conducted to test whether level of education, marital status, living situation and employment status act as moderators of the effects of the training on self-compassion and/or self-criticism.

Results

Socio-demographic differences

Socio-demographic differences in self-compassion and self-criticism at baseline are presented in Table 2. The gender difference for the subscales negative factor and reassured self was significant. Compared to men, women scored higher on the negative factor and lower on reassured self. Effect sizes were small (negative factor: $\eta p^2=.02$; reassured self: $\eta p^2=.03$). Furthermore, there were small, significant correlations between age and measures of self-compassion and self-criticism. Self-compassion tended to increase with age and self-criticism tended to decrease. For the other socio-demographic variables, no significant differences in self-compassion and self-criticism at baseline were found.

Table 2

Results from one-way ANOVAs and Pearson correlations of self-compassion and self-criticism at T0

Socio-demographic factor	Scale	Subscale	*F* (1, 196)	*p*
Gender	SCS-SF	PF	.466	.496
		NF	5.208	.024
	FSCRS	IS	.033	.856
		RS	3.977	.048
Age (*r)*	SCS-SF	PF	.175	.014
		NF	-.201	.005
	FSCRS	IS	-.180	.011
		RS	.178	.012
Marital status	SCS-SF	PF	1.344	.248
		NF	1.996	.159
	FSCRS	IS	1.503	.222
		RS	2.572	.110
Employment	SCS-SF	PF	.003	.954
		NF	.596	.441
	FSCRS	IS	.089	.776
		RS	.530	.468
Living situation	SCS-SF	PF	.043	.836
		NF	.676	.412
	FSCRS	IS	.124	.725
		RS	.221	.639
Level of education	SCS-SF	PF	.013	.909
		NF	1.342	.248
	FSCRS	IS	.287	.593
		RS	2.072	.151

Note. FSCRS, Forms of Self-Criticizing/Attacking and Self-Reassuring Scale; IS, inadequate self; NF, negative factor; PF, positive factor; RS, reassured self; SCS-SF, Self-compassion scale-short form.

Correlations between measures

Table 3 shows the correlations between the subscales of the FSCRS and the SCS-SF across the three measuring moments. The negative factor and inadequate self were strongly positively related to each other across all measuring moments and moderately to strongly negatively related to the positive factor and reassured self. The positive factor and reassured were strongly related to each other across all measuring moments.

Table 3

Correlations between subscales of the FSCRS and the SCS-SF across all measuring moments

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
T0											
1. IS											
2. RS	-.598										
3. PF	-.472	.656									
4. NF	.770	-.574	-.508								
T1											
5. IS	.630	-.500	-.386	.609							
6. RS	-.472	.690	.458	-.486	-.615						
7. PF	-.425	.573	.613	-.389	-.557	.689					
8. NF	.579	-.504	-.379	.675	.782	-.678	-.537				
T2											
9. IS	.589	-.463	-.361	.616	.739	-.587	-.517	.695			
10. RS	-.367	.563	.428	-.402	-.489	.731	.564	-.549	-.627		
11. PF	-.308	.442	.558	-.308	-.456	.574	.692	-.440	-.562	.720	
12. NF	.515	-.496	-.409	.689	.672	-.619	-.518	.792	.810	-.661	-.521

Note. IS=Inadequate self (FSCRS); NF=negative factor (SCS-SF); PF=positive factor (SCS-SF); RS=reassured self (FSCRS).

All correlations were significant at $p<.01$.

Effects on self-compassion and self-criticism

Means and standard deviations for outcome measures at the three measuring moments per group as well as the results from the mixed-ANOVAs are presented in Table 4. For all outcome measures, significant interactions were found (all $p<.001$). Effect sizes were moderate for all interactions. Regarding changes in self-compassion, examination of the interaction plots (Figures 1 and 2) revealed that participants´ scores on self-compassion significantly increased over time in both groups. Compared with controls, the training group demonstrated significantly greater gains in self-compassion over time. With regard to changes in self-criticism the reverse pattern was found (Figures 3 and 4). Participants´ scores on self-criticism significantly decreased over time in both groups. However, the training group demonstrated a significantly greater decrease in self-criticism over time compared to the waiting-list control group. For the subscale inadequate self, scores further improved significantly in the training condition from post-intervention to six-month follow-up, $t(96)=-3.17$, $p=.002$. On all remaining

measures, the effects of the self-compassion training were maintained from post-intervention to six-month follow-up.

Table 4

Means and SD´s for self-compassion and self-criticism and results from the mixed-ANOVAs

		Score			ANOVA: *F*			
Outcome	Group	T0	T1	T2	Time	Group	Time x group	ηp²
Self-compassion								
SCS-SF: PF	CT	24.12(6.02)	29.67(5.67)	29.74(5.79)	71.97***	3.44	11.75***	.06
	W-L	24.81(6.83)	26.90(6.58)	27.50(6.77)				
FSCRS: RS	CT	16.06(5.04)	19.52(5.10)	20.11(5.30)	43.15***	3.88	12.66***	.06
	W-L	16.52(5.19)	17.28(5.71)	17.92(5.65)				
Self-criticism								
SCS-SF:NF	CT	28.75(7.34)	22.83(7.41)	21.78(7.66)	78.22***	6.33*	16.57***	.08
	W-L	28.59(7.97)	26.42(8.19)	26.01(8.59)				
FSCRS: IS	CT	18.65(7.31)	14.40(6.52)	12.62(6.45)	48.85***	4.71*	11.87***	.06
	W-L	18.33(6.80)	16.92(7.46)	16.27(8.32)				

Note. ANOVA, Analysis of variance; CT, Compassion training; FSCRS, Forms of Self-Criticizing/Attacking and Self-Reassuring Scale; IS, inadequate self; NF, negative factor; PF, positive factor; RS, reassured self; SCS-SF, Self-compassion scale-short form; W-L, waiting list control.
Data are given as means (standard deviation).
*<.05, ***<.001.

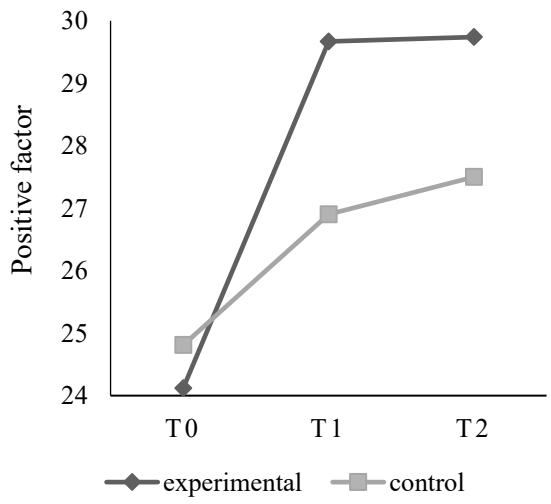

Figure 1. Interaction effect between condition and time on SCS-SF-PF

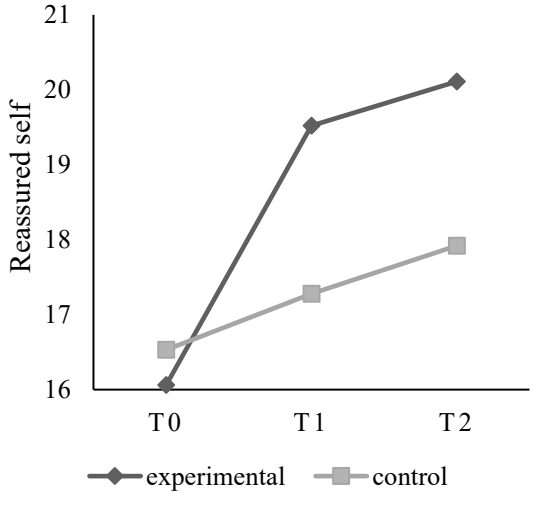

Figure 2. Interaction effect between condition and time on FSCRS-RS

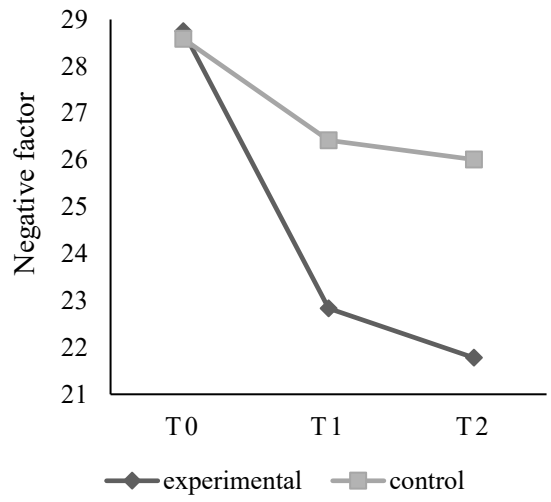

Figure 3. Interaction effect between condition and time on SCS-SF-NF

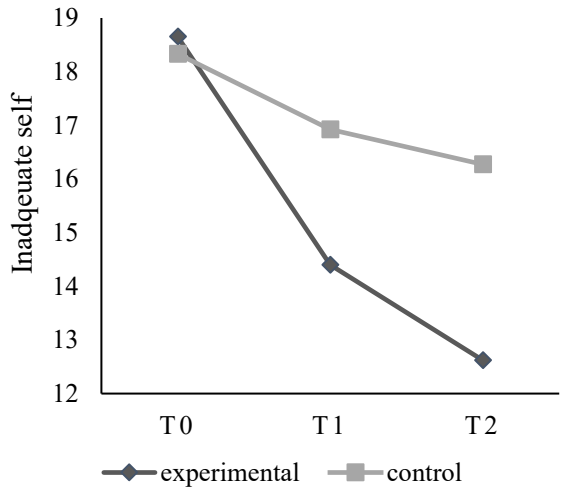

Figure 4. Interaction effect between condition and time on FSCRS-IS

Moderator analyses

Table 5 shows the results of the moderator analyses for the self-compassion training compared to the waiting-list control group from baseline to post-intervention and six-month follow-up. Condition and moderator as predictors accounted for a significant amount of variance in all outcome measures. Different moderators emerged for self-compassion and self-criticism.

Self-compassion. Level of education emerged as a significant moderator of the effects of the training on self-compassion. A significant interaction was found for the condition by level of education on participants´ change scores from T0 to T1, SCS-SF-PF: b=-3.083, t(194)=-2.013, p=.046. For change scores from T0 to T2, this interaction was not significant. Examination of the interaction plot (Figure 5) showed that participants with no university degree following the training showed significantly greater gains in self-compassion at post-intervention than participants with a university degree, compared to the waiting-list control group. For the other indicator of self-compassion (FSCRS-RS), level of education was no significant moderator. The interaction terms between condition and gender, age, marital status, living situation and employment status did not account for significantly more variance than just the predictors by themselves, indicating that these demographic characteristics were no significant moderators of the effects of the training on self-compassion.

Self-criticism. Age emerged as a significant moderator of the effects of the training on self-criticism. For change scores from T0 to T1, age was no moderator of the effects. For participants´ change scores from T0 to T2, however, a significant interaction was found for the

condition by age for both measures of self-criticism, SCS-SF-NF: b=.197, t(194)=2.56, p=.011; FSCRS-IS: b=.238, t(194)=2.505, p=.013. Examination of the interaction plots (Figures 6 and 7) showed a buffering effect, that as age increased, the effect of the training on participants´ self-criticism scores decreased. Participants who were younger showed greater improvements in self-criticism following the training than older adults at six-month follow-up, compared to the waiting-list control group. The other demographic characteristics were no significant moderators of the effects of the training on self-criticism.

Table 5. *Summary of hierarchical multiple regression analyses*

				Model 1[a]			Model 2[b]		
Moderator	Scale		y[c]	R^2	$F(2,195)$	p	ΔR^2	ΔF (1,194)	p
Gender	SCS-SF:	PF	ΔT0-T1	.098	10.61	.000	.007	1.50	.222
			ΔT0-T2	.062	6.40	.002	.000	.05	.830
		NF	ΔT0-T1	.089	9.48	.000	.004	.88	.348
			ΔT0-T2	.120	13.25	.000	.004	.93	.336
	FSCRS:	IS	ΔT0-T1	.055	5.71	.004	.000	.04	.851
			ΔT0-T2	.101	10.15	.000	.006	1.34	.249
		RS	ΔT0-T1	.105	11.40	.000	.010	2.20	.140
			ΔT0-T2	.073	7.66	.001	.011	2.24	.136
Age	SCS-SF:	PF	ΔT0-T1	.096	10.36	.000	.001	.16	.690
			ΔT0-T2	.072	7.55	.001	.003	.60	.439
		NF	ΔT0-T1	.090	9.59	.000	.007	1.54	.216
			ΔT0-T2	.122	13.55	.000	.023	5.23	.023
	FSCRS:	IS	ΔT0-T1	.059	6.11	.003	.000	.00	.983
			ΔT0-T2	.092	9.85	.000	.031	6.76	.010
		RS	ΔT0-T1	.105	11.40	.000	.000	.00	.951
			ΔT0-T2	.071	7.50	.001	.007	1.45	.231
Marital status	SCS-SF:	PF	ΔT0-T1	.097	10.52	.000	.002	.45	.501
			ΔT0-T2	.065	6.76	.001	.004	.75	.388
		NF	ΔT0-T1	.089	9.58	.000	.002	.35	.557
			ΔT0-T2	.121	13.44	.000	.000	.02	.879
	FSCRS:	IS	ΔT0-T1	.059	6.13	.003	.001	.16	.689
			ΔT0-T2	.090	9.62	.000	.000	.00	.998
		RS	ΔT0-T1	.115	12.64	.000	.000	.07	.788
			ΔT0-T2	.102	11.04	.000	.011	2.31	.130
Employment status	SCS-SF:	PF	ΔT0-T2	.096	10.33	.000	.000	.05	.829
			ΔT0-T1	.061	6.33	.002	.000	.02	.880
		NF	ΔT0-T1	.089	9.55	.000	.005	1.04	.310
			ΔT0-T2	.121	13.47	.000	.000	.01	.920
	FSCRS:	IS	ΔT0-T1	.055	5.71	.004	.013	2.68	.104
			ΔT0-T2	.089	9.48	.000	.012	2.50	.116
		RS	ΔT0-T1	.106	11.51	.000	.000	.07	.786
			ΔT0-T2	.071	7.41	.001	.000	.08	.777
Living situation	SCS-SF:	PF	ΔT0-T1	.101	11.01	.000	.005	1.17	.281
			ΔT0-T2	.060	6.22	.002	.001	.19	.660
		NF	ΔT0-T1	.094	10.11	.000	.001	.11	.743
			ΔT0-T2	.134	14.60	.000	.004	.90	.345
	FSCRS:	IS	ΔT0-T1	.057	5.88	.003	.001	.27	.602
			ΔT0-T2	.091	9.72	.000	.000	.04	.839
		RS	ΔT0-T1	.106	11.56	.000	.000	.05	.827
			ΔT0-T2	.083	8.83	.000	.005	1.00	.319
Level of education	SCS-SF:	PF	ΔT0-T1	.097	10.44	.000	.018	4.04	.046
			ΔT0-T2	.060	6.19	.002	.003	.52	.471
		NF	ΔT0-T1	.096	10.37	.000	.002	.37	.543
			ΔT0-T2	.120	13.31	.000	.004	.91	.343
	FSCRS:	IS	ΔT0-T1	.056	5.80	.004	.011	2.37	.125
			ΔT0-T2	.092	9.88	.000	.015	3.34	.069
		RS	ΔT0-T1	.109	11.95	.000	.001	.26	.613
			ΔT0-T2	.074	7.80	.001	.001	.17	.680

Note. ΔR^2=change in R^2, ΔF= change in *F;* SCS-SF, Self-compassion scale-short form; PF, positive factor; NF, negative factor; FSCRS, Forms of Self-Criticizing/Attacking and Self-Reassuring Scale; RS, reassured self; IS, inadequate self

a. Predictors: condition, moderator

b. Predictors: condition, moderator, condition x moderator

c. Dependent variable: change scores from T0 to T1 and T0 to T2 of corresponding outcome measures

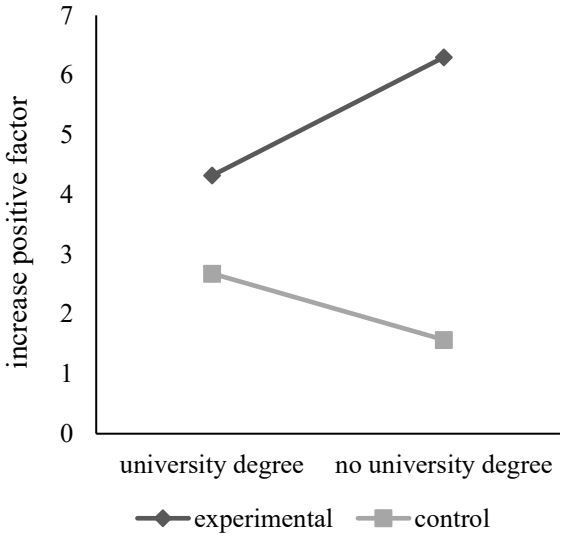

Figure 5. Interaction effect between condition and level of education on T0-T1 change score of the SCS-SF-PF

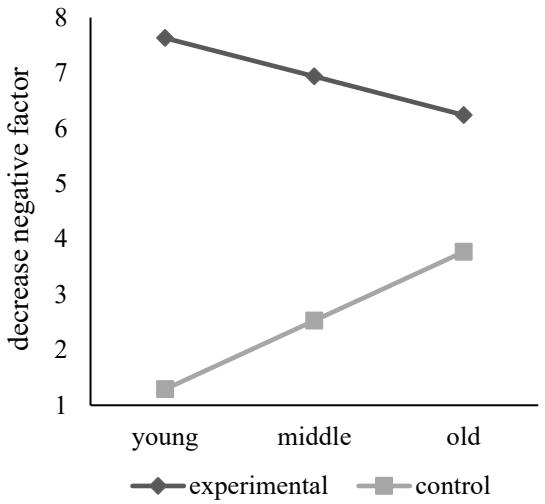

Figure 6. Interaction effect between condition and age on the T0-T2 change score of the SCS-SF-NF

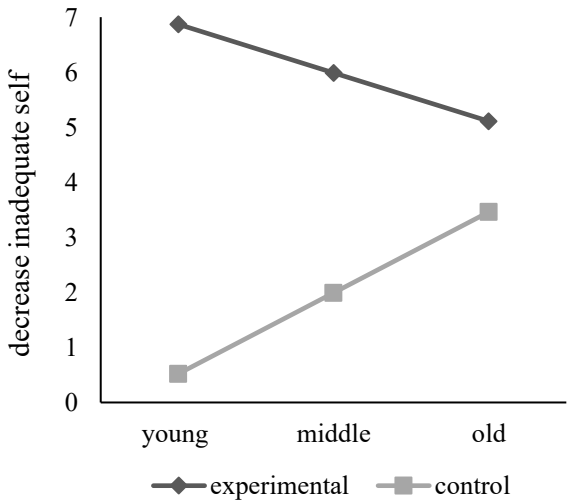

Figure 7. Interaction effect between condition and age on the T0-T2 change score of the FSCRS-IS

Discussion

The objectives of the current study were to examine the effects of a guided self-help self-compassion training on self-compassion and self-criticism in comparison to a waiting-list control condition. Furthermore, this study explored the moderating role of various demographic variables, including gender, age, level of education, marital status, living situation and employment status.

Effects on self-compassion and self-criticism

In support of the first and second hypothesis, participation in the self-compassion training resulted in significantly larger increases in self-compassion and reductions in self-criticism compared to the waiting-list control group. Effect sizes were moderate for measures of self-compassion and self-criticism, indicating that the training was effective in teaching individuals to both cultivate a self-compassionate mind and to diminish their self-critical thoughts. Findings corroborate earlier studies on the effects of other compassion focused trainings with both clinical and non-clinical populations (Neff & Germer, 2013; Jazaieri et al., 2012; Leaviss & Uttley, 2015; Mosewich et al., 2013). According to Neff (2016), practices designed to increase self-compassionate skills, address compassionate and uncompassionate responding simultaneously. Cognitive responding exercises for example, help people to replace critical inner dialogues with supportive ones and mindfulness exercises help people to become aware of thoughts and feelings and to let them come and go, without getting caught up or over-identify with them (Neff, 2016). This may explain why the self-compassion training did not only affect self-compassion but also reduced self-criticism.

The pattern of change in scores from T0 to T2 was similar for the two indicators of self-compassion and self-criticism, respectively. Furthermore, the two measures of self-criticism were strongly positively related to each other and were moderately to strongly negatively related to the measures of self-compassion. The two measures of self-compassion also strongly positively correlated. Findings indicate that the subscales of the SCS-SF and the FSCRS measure similar concepts. Findings provide further support for the two-factor solution of the SCS, proposed by Lopez et al. (2015), as the negative factor significantly, positively correlated with inadequate self, an indicator of self-criticism (Gilbert et al., 2004), whereas the positive factor correlated with reassured self, an indicator of self-compassion (Gilbert et al., 2004). More research is needed to confirm the findings and the validity of the four factors.

Effects were sustained at six-month follow-up, suggesting that the benefits are lasting. For the subscale inadequate self, scores further significantly improved from T1 to T2. This might suggest that the skills to diminish self-criticism, in particular thoughts and feelings of personal inadequacy, are learned gradually and involve a longer learning process that continues even after the training has terminated. Findings revealed that scores on self-compassion and self-criticism in the waiting-list control group also significantly improved over time. This might have been due to a possible subject-expectancy effect (Supino & Borer, 2012). Participants in the waiting-list control group knew that they would receive the self-compassion training in the future and might have already expected positive outcomes. It might also be possible that

participants in the control group intentionally engaged in activities to practice self-compassion during the study period, such as reading books or visiting websites about the topic and by doing so actively improved their self-compassion and self-criticism levels as was the case in a study by Neff and Germer (2013).

Socio-demographic differences

The moderator analyses yielded inconsistent results. Moderators differed for self-compassion and self-criticism and were not consistently found for both measuring moments or for both indicators of self-criticism and self-compassion. Contrary to hypothesis 3, the effectiveness of the training did not depend on participant´s gender. Age emerged as a significant moderator of the effects of the self-compassion training on self-criticism. In partial support of the fourth hypothesis, participation in the self-compassion training resulted in particularly large reductions in both measures of self-criticism among younger rather than older adults at six-month follow-up, compared to the waiting-list control group. The moderation was not significant at post-intervention, however. Level of education was found to be a significant moderator of the effect of the training on self-compassion. Participation in the training resulted in particularly larger gains in self-compassion among participants without a university degree, compared to participants with a university degree at post-intervention. This effect was only found for one indicator of self-compassion, the positive factor of the SCS-SF, and was not found at six-month follow-up. No differences in effectiveness were found for marital status, living situation and employment status.

This inconsistency in results is a common problem in moderator analyses, due to statistical limitations such as the lack of sufficient power (Wang & Ware, 2013). A systematic review of gender differences in the effectiveness of mindfulness-based interventions for substance use (Katz & Toner, 2013) for example, also reported mixed results. Two randomized controlled trial studies failed to find a gender difference while a number of quasi-experimental studies reported a greater effectiveness for women, but not for all measures or not for all measuring moments (Katz & Toner, 2013). Therefore, results of the moderator analyses should be interpreted with caution. Some outcomes may be better explained by methodological issues. Educational differences for example were only found for one indicator of self-compassion and only at one measuring moment. There is no plausible explanation for the finding based on literature and results might be best explained by multiplicity (Wang & Ware, 2013). Multiple moderator analyses were conducted, increasing the chance for a false positive finding (Wang & Ware, 2013). Furthermore, null findings with regard to gender differences might be best explained by the lack of sufficient power, as only 18 men received the compassion training.

Contrary to hypothesis 4, age was only a moderator of the effects of the training on self-criticism, but not on self-compassion. The hypothesis was based on the assumption of age differences in levels of self-compassion and self-criticism at baseline. It was assumed that younger adults benefit more from the intervention as they might score lower on self-compassion and higher on self-criticism at baseline and have more room for improvement. In moderator analysis, however, it can be argued from two perspectives (e.g. Shapiro, Brown, Thoresen & Plante, 2011; Arch, Landy & Brown, 2016). On the one hand, it can be argued that participants already possessing some skills targeted by the intervention show greater benefits, as they might find the exercises easier. On the other hand participants without these skills at baseline might benefit more from the intervention as they may have more psychological benefit to gain.

There is support for both lines of argumentation in literature and results of moderation studies are not consistent (e.g. Shapiro et al., 2011; Nyklíček et al., 2016). A number of moderation studies on mindfulness-based interventions for example, investigated the moderating role of baseline mindfulness on levels of mindfulness, symptoms and other psychological outcomes (e.g. Shapiro et al., 2011; Creswell, Pacilio, Lindsay & Brown, 2014; Nyklíček et al., 2016). Some studies found that participants with higher levels of mindfulness at baseline following the intervention benefitted more from it (Shapiro et al., 2011; Creswell et al., 2014). Another study found that these participants only benefitted more from the intervention at post-treatment (Nyklíček et al., 2016). At follow-up, however, participants with lower levels of mindfulness at baseline benefitted more from the intervention (Nyklíček et al., 2016).

This inconsistency in findings makes it difficult to establish a priori hypothesis for moderation analyses. It might explain why hypothesis 4 could only partially be confirmed, as it may can be argued from both perspectives. On the one hand, younger adults had higher scores of self-criticism at baseline than older adults which is in line with previous findings (Kopala-Sibley, Mongrain & Zuroff, 2013) and may have had more room for improvement in self-criticism. On the other hand, older adults had higher levels of self-compassion at baseline, which corroborates earlier findings (Homan, 2013), which may has made the self-compassion exercises more accessible to or easier for older rather than younger participants. This might have resulted in comparable gains in self-compassion compared to younger adults.

Findings with regard to age differences in self-compassion and self-criticism find some support in literature on lifespan development. According to the lifespan model of personality development by Erikson (1959), people have to face different tasks and challenges during their life stages to achieve psychological adjustment. Over the course of time, people achieve a more

positive and integrated sense of self and come to terms with their life, including successes as well as failures (Erikson, 1959). In accordance with the lifespan model, Kopala-Sibley, Mongrain and Zuroff (2013) and Homan (2016) suggest that through the accumulation of life experiences including struggles and disappointments, older people gradually shift toward a gentler and more forgiving perspective toward themselves and others. Perhaps the rather generic self-compassion training could not add so much to the more forgiving approach that older people already accomplished. Younger adults, however, did not make these experiences yet. The self-compassion training might have been especially effective for this group by offering new insights and skills to approach their challenges in a less self-critical way.

The effect was only found at six-month follow-up. According to Gilbert (2014), compassionate capacities first need to be practiced and a compassionate self needs to be developed before it can be used to engage with specific problems, such as self-criticism. It might be that in order to work with and remarkably reduce self-criticism, younger adults need a longer practice phase than older adults.

Strengths and limitations

This study was the first to examine for whom a self-compassion training is most likely to be effective. A major strength of the study is its study design. Randomized controlled trials represent one of the most powerful means of assessing the effectiveness of interventions (American Psychologist Association, 2006; Puffer, Torgerson & Watson, 2005). However, there were several limitations to this study that need to be considered. First of all, the RCT was not powered for the moderator analyses (Pincus et al., 2011). Analyses were exploratory and null findings could be the result of insufficient statistical power (Pincus et al., 2011). The large number of analyses conducted may have produced chance findings (Wang & Ware, 2013). In addition, the study did not control for gender in the analyses, although significant gender differences at baseline were found. This might partially explain the positive effects of the study (Bernerth & Aguinis, 2015). Furthermore, the study did not use an active control group, meaning that non-specific factors might have influenced the results (Strupp, 1970), such as merely having e-mail contact with a psychologist and being encouraged. Including a comparable control group, providing the same amount of attention from counsellors and regular practice would specify whether resultant outcomes could be ascribed to particular elements of the self-compassion training. Moreover, participants were mostly highly-educated females which restricts generalizability of the results to males and lower-educated people.

Implications and future directions

This study has shown that a self-help self-compassion training is effective in improving self-compassion as well as self-criticism in people with a suboptimal level of well-being. Training people in self-compassion has the potential to help them overcome problems in their ways of self-to-self relating, to stop their self-attacking behaviour and learn to accept themselves, encountering the self in a compassionate way. Findings of the moderator analyses suggest that there are no restrictions to the allocation of the self-compassion training. This is an important finding, as the intervention is potentially broadly applicable to a heterogeneous group. Larger-scale studies are needed, however, to replicate and extend the present findings.

Moderator analyses can be very informative as they make it possible to tailor interventions to specific subpopulations (Wang & Ware, 2013). Studies so far that have included moderator analyses in resiliency trainings, however, are sparse, mostly exploratory and non-conclusive (e.g. Katz & Toner, 2012; Arch et al., 2016; Greeson et al., 2015), highlighting the necessity of research in this area. Future research should include more formal moderator analyses to be better able to tailor a self-compassion training to subpopulations. If possible, studies should be sufficiently powered and moderator analyses should be restricted to moderators proposed in advance before data analysis, based on clinical interest and previous findings, to reduce chance findings (Wang & Ware, 2013; Brookes et al., 2001). Findings of the present study indicate age as a potential moderator of the effects of the self-compassion training that needs further investigation. If findings are replicated, there may be the opportunity to tailor self-compassion trainings to older adults.

Given that increasing evidence indicates that self-compassion may significantly contribute to peoples´ well-being and psychological resilience (Neff et al., 2007; Neff & McGehee, 2010), the optimization of a self-compassion training that helps people to cultivate compassionate skills in the most effective way may be of interest to many, such as teachers, clinicians, employers and politicians. Exploring the opportunity to better foster these potentials within us in our homes, academic settings, clinics, businesses and politics remains a major focus for future research.

Conclusion

Overall, this study was the first to assess for whom a self-compassion training is most likely to be effective. Findings demonstrate that a self-help self-compassion training is successful in enhancing self-compassion and lowering self-criticism and that it works for a heterogeneous population. Findings further suggest that future studies should include more formal moderator analyses, to be better able to tailor the training to subpopulations.

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