

Exploring Differences in Person Features of Participants with High and Low Growth in Self-
Compassion Practicing a Positive Psychology Intervention

Master Thesis
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Abstract

Background: Research has started to use self-compassion exercises across Positive Psychology Interventions (PPIs) in order to counteract shame and self-criticism while fostering well-being. However, it was not yet discovered who might benefit most from these exercises. Therefore, the aim of this study was to explore possible differences between people with different levels of growth in self-compassion during a PPI. It was examined whether participants with higher growth in self-compassion revealed different person characteristics (socio-demographics and personality), as well as intervention interaction (satisfaction and engagement) than participants with less growth in self-compassion. **Method:** The study included 122 participants, who were selected from the intervention group of an email-guided multicomponent PPI. The sample was divided into participants with the lowest growth in self-compassion and highest growth in self-compassion. Participants were compared across various socio-demographics and personality traits, measured by the NEO-FFI and EPQ-RSS, and across the interaction with the intervention, assessed by the CSQ-8 and self-reported measures of engagement. Comparison analyses between the groups were conducted using χ^2 -tests and independent t -test. **Results:** Participants did not reveal significant differences across the majority of socio-demographics and personality. However, significantly more participants with higher growth in self-compassion did not live alone, $\chi^2 (1) = 5.23, p = 0.022$, compared to participants with less self-compassion growth. Additionally, participants with higher growth in self-compassion were significantly more engaged and satisfied with the PPI, $t (80) = -3.1, p = .003$. **Conclusion:** While the study was not able to outline many differences in person characteristics across the participants, it was able to highlight the potentials of self-compassion exercises across PPIs. With more research, self-compassion exercises could be used in order to tailor PPIs e.g. for participants living alone or to heighten user satisfaction.

Keywords: self-compassion, person characteristics, socio-demographics, personality, intervention interaction, satisfaction, engagement

Exploring Differences in Person Features of Participants with High and Low Growth in Self-Compassion Practicing a Positive Psychology Intervention

Shame and self-criticism are common struggles among society that lead to tension, distress and insecurity (Gilbert, 2009). Both have been recognized as major components of most mental health problems (Gilbert, 2009; Gilbert & Procter, 2006). Therefore, research has focused on finding ways to counteract both shame and self-criticism. A way to challenge feelings of shame and self-criticism is by activating the human soothing system (Gilbert, 2009). This system is one of the three components of the emotional regulation systems and is essential in balancing the threat- and drive system. The soothing system can be activated by training self-compassion, which enables experiencing feelings of reassurance, safeness and well-being.

In general, self-compassion has been defined as “being open to and moved by one’s own suffering, experiencing feelings of caring and kindness towards oneself” (Neff, 2003, p.224). It can either be viewed as a trait or state. Both trait and state self-compassion have proven to foster happiness, optimism, curiosity, creativity and lastly, positive emotions (Neff & Dahm, 2017). Research has often focused on self-compassion as a trait, because it is more stable over time (Waring & Kelly, 2019). Neff (2003) differentiated three basic components of self-compassion; First, self-compassion initiates a nonjudgmental attitude towards oneself, in order to acknowledge failures while being compassionate towards oneself. Second, expressing self-compassion entails a metacognitive perspective by which one’s own suffering can be put into a greater perspective. Thereby, suffering can be viewed as a shared human experience which counteracts the feeling of isolation. The third component involves a mindful perspective, in which one’s suffering has to be acknowledged and be distanced from, in order not to over-identify with one’s feelings (Neff, 2003). Due its characteristics, self-compassion was suggested to be an “alternative to self-judgement” (Zhang et al., 2017, p. 203) and enhance emotional intelligence through which the individual is prone to prevent experiences of suffering and give rise to proactive behaviors that initiate well-being and lower depression. Hence, self-compassion was generally implied to serve as a mental health buffer (Neff, 2003).

Research discovered that self-compassion and specifically, its characteristics can be trained (Gilbert, 2009; Neff & Costigan, 2014). Self-compassion exercises help individuals to be more sensitive to their distress and needs, while reacting with self-empathy (D’raven & Pasha-Zaidi, 2014; Gilbert, 2009). The act of self-empathy is trained by teaching participants to take a distanced standpoint towards their feelings and thoughts. In addition, participants are invited to develop a compassionate image, “their own ideal of caring” (Gilbert & Procter,

2006, p.363) and use it to reframe self-criticism, e.g. 'It is sad that I feel frightened but understandable given my fears'. These kinds of positive exercises are commonly applied within Positive Psychology Interventions (PPIs), interventions aimed at bringing positivity into daily life, and have effectively shown several emotional benefits while increasing self-compassion (Bolier et al., 2013, Hendriks, Schotanus-Dijkstra, Hassankhan, Jong & Bohlmeijer, 2019; Kelly, Zuroff & Foa, 2010).

Self-compassion exercises within PPIs are particularly beneficial for self-critical individuals (Kelly, Zuroff & Foa, 2010; Leary et al., 2007). A study by Leary et al. (2007) investigated on cognitive and emotional processes by which self-compassionate individuals deal with unpleasant life events. The researchers conducted five individual studies of experimental as well as observational nature and detected that self-compassion exercises in PPIs were most beneficial for people who were low in self-esteem and high in self-criticism. These findings were replicated and extended among an interventional study by Kelly, Zuroff and Foa (2010), who involved 119 smokers in a three-week self-compassion intervention to initiate self-regulation in cigarette smoking. Results showed that the intervention reduced smoking more rapidly for people high in self-criticism. While both studies outlined that self-compassion interventions were most beneficial for highly self-critical individuals, less is known who else might benefit most from self-compassion exercises during PPIs and requires further research (Kelly, Zuroff & Foa, 2010; Leary et al., 2007).

Up to date, no further research has investigated on possible predispositions in the effectiveness of self-compassion exercises among PPIs. Nonetheless, comparable research was conducted by Lyubomirsky and Layous (2013) who investigated on possible factors that foster the effect of positive activities on well-being. Based on theoretical and empirical evidence, Lyubomirsky and her colleague developed the Positive Activity Model (2013), which suggests that there are three factors, namely features of the activity, features of the person and the person-activity fit, that influence the effect of positive activities on well-being.

First of all, the model suggests that features of the intervention, such as the dosage (frequency and timing), the variety, sequence and build-in social support play an important role in the effectiveness of positive activities. For instance, engaging in two to four different activities showed maximal effectiveness in a web-based study by Schueller and Parks (2012), while another study by Lyubomirsky, Sheldon and Schkade (2005) discovered that engaging in activities once a week was more effective compared to three times a week. Lastly, activities accompanied with social support, even virtual support, showed to foster effectiveness of positive activities (Lyubomirsky & Layous, 2013).

Secondly, features of a person, namely characteristics, demographics as well as person interaction with the activity, were suggested to influence the effectiveness of positive activities (Lyubomirsky & Layous, 2013). According to the model, the activity's effectiveness is linked to personality traits such as openness to experience and extraversion. A further link can be drawn to age, with a slight advantage towards the older population as they might have more time to adhere to positive activities and are more motivated to engage in the activities with full effort. In addition to personality and demographics, the interaction with the activity was proposed to play an important role among features of a person. According to Lyubomirsky and Layous (2013), people have to actively engage in the activity, be motivated, satisfied and believe that they will achieve the best possible outcome in order to actually do so. For instance, participants who voluntarily and effortfully engaged in a PPI, benefited most from it (Lyubomirsky, Dickerhoof, Boehm & Sheldon, 2011). Further explanations and possible relations remain vague. Hence, further research exploring socio-demographics, personality and interaction was highly suggested (Lyubomirsky & Layous, 2013).

The third aspect of the model concerns the interaction between the activity and person aspects. The model supposes that the activity has to match the person in order to be most effective. For example, a correlational study detected that participants who reported enjoying the exercise more completed the exercise more often (Schueller, 2010). In addition, based on various research, Lyubomirsky (2008) described in her book "The How of Happiness" that a wisely chosen person-activity fit, in accordance with e.g. the individual's lifestyle or strengths, can increase motivation and persistence with a positive activity while fostering its experienced rewards.

The Positive Activity Model could be applied to explore possible factors fostering the effectiveness of self-compassion exercises within PPIs. A recent study investigated on possible mechanisms in multicomponent PPIs (mPPI), a type of PPIs that target more than one component of well-being (Schotanus-Dijkstra et al., 2019). Among their RCT study, the researchers tested the efficacy of an email guided self-help mPPI on six different processes related to well-being. Based on the results, it was highlighted that self-compassion is not only an activity, but also a significant mechanism of mPPIs. Taken that self-compassion is a way through which positive interventions work, it could be suggested that the factors fostering the effectiveness of positive activities, as suggested by the Positive Activity Model, are also factors fostering the effectiveness of self-compassion exercises within PPIs.

Adding onto the previous, several similarities between research findings across self-compassion and the Positive Activity Model can be drawn. In 2007, Neff, Rude and

Kirckpatrick, conducted a correlational study design using self-reported measures of 177 undergraduates, exploring relations of self-compassion and personality. While extraversion and conscientiousness were linked to self-compassionate individuals, neuroticism was linked to individuals lacking self-compassion. Furthermore, self-compassion was found to be higher among older aged males compared to females of all ages (Bluth, Campo, Futch & Gaylord, 2017; Homan, 2016; Yang, Guo, Kuo & Liu, 2019; Yarnell et al., 2015). This was underlined by a meta-analysis, which showed that the majority of 88 reviewed articles found higher self-compassion levels in males than females. Finally, research outlined that self-compassionate individuals tend to show less avoidance, higher acceptance and are more intrinsically motivated (Leary, 2010; Leary et al., 2007; Neff et al., 2010). This was underlined by a review of empirical literature by Neff and Dahm (2007) which demonstrated that people high in self-compassion tend to reveal higher life satisfaction, curiosity, creativity and motivation. Therefore, self-compassion can be linked to personality, demographics and interaction level, which are, according to the Positive Activity Model, factors that are also related to the effectiveness of PPIs. Following, it could be implied that people benefitting most from self-compassion exercises within PPIs, reveal specific person features such as demographics and personality, as well as person interaction with the intervention, as suggested by the Positive Activity Model.

Present Study

Research has outlined the potentials of self-compassion exercises among PPIs, specifically for self-critical individuals. However, less is known who else might benefit most from self-compassion exercises. Therefore, the aim of the current study is to examine different features of participants with higher growth in self-compassion during a PPI compared to participants with lower growth in self-compassion. Based on suggestions made by prior research which can be linked to the Positive Activity Model, two subgoals were established; First, this study will investigate whether participants with higher growth in self-compassion during a PPI reveal different person characteristics compared to participants with lower growth in self-compassion. While possible differences across socio-demographics are yet unclear, it is expected that older aged males experience higher growth in self-compassion during a PPI compared to females or participants of younger age. In addition, it is expected that extroverted and conscientious participants experience higher growth in self-compassion during a PPI compared to neurotic participants. Second, this study will explore whether participants with higher growth in self-compassion during a PPI reveal different levels of interaction with the intervention compared to participants with lower growth. Hereby, it is

expected that higher-growth participants are more satisfied with the intervention and perceive their engagement as more intense compared to individuals with lower growth in self-compassion.

Method

Design

This study was based on a randomized controlled trial (RCT) by Schotanus-Dijkstra et al. (2019) about the efficacy of a mPPI versus waitlist control. The intervention consisted of a self-help book including one chapter and practical exercises about self-compassion. The study was approved by the Ethics Committee of the University of Twente (no. 13212). The current study used the baseline (t0) and posttest (t1) surveys of the intervention condition.

Participants

Participants were gathered via advertisement in the Dutch newspaper and via an online newsletter of a popular psychology magazine. A total of 518 participants enrolled in the study, whereas only 455 signed an informed consent and completed a screening questionnaire (Figure 1). Following, 180 participants were excluded due to incomplete baseline assessment or their mental health status. Concerning the latter, participants who displayed moderate to severe depression (scores above 10 among the Hospital Anxiety and Depression Scale, (Zigmond & Snaith, 1983)) or already flourishing mental health (scores of 4 or 5 on at least one emotional well-being item and at least 6 on one social and psychological well-being item, as measured by the Mental Health Continuum-Short Form, (Keyes, 2002)) were excluded. Additional inclusion criteria concerned the minimum age of 18 years and Dutch nationality. The remaining 275 participants were allocated to the intervention or the wait-list control group.

Eligible to this study were solely participants who received the intervention and conducted the pre- and posttest. Two groups were created based on difference-scores in self-compassion levels from baseline to posttest. As shown in Figure 1, 33% of participants with the lowest growth in self-compassion (Low Self-Compassion Growth) were compared to 33% of participants with the highest growth in self-compassion (High Self-Compassion Growth).

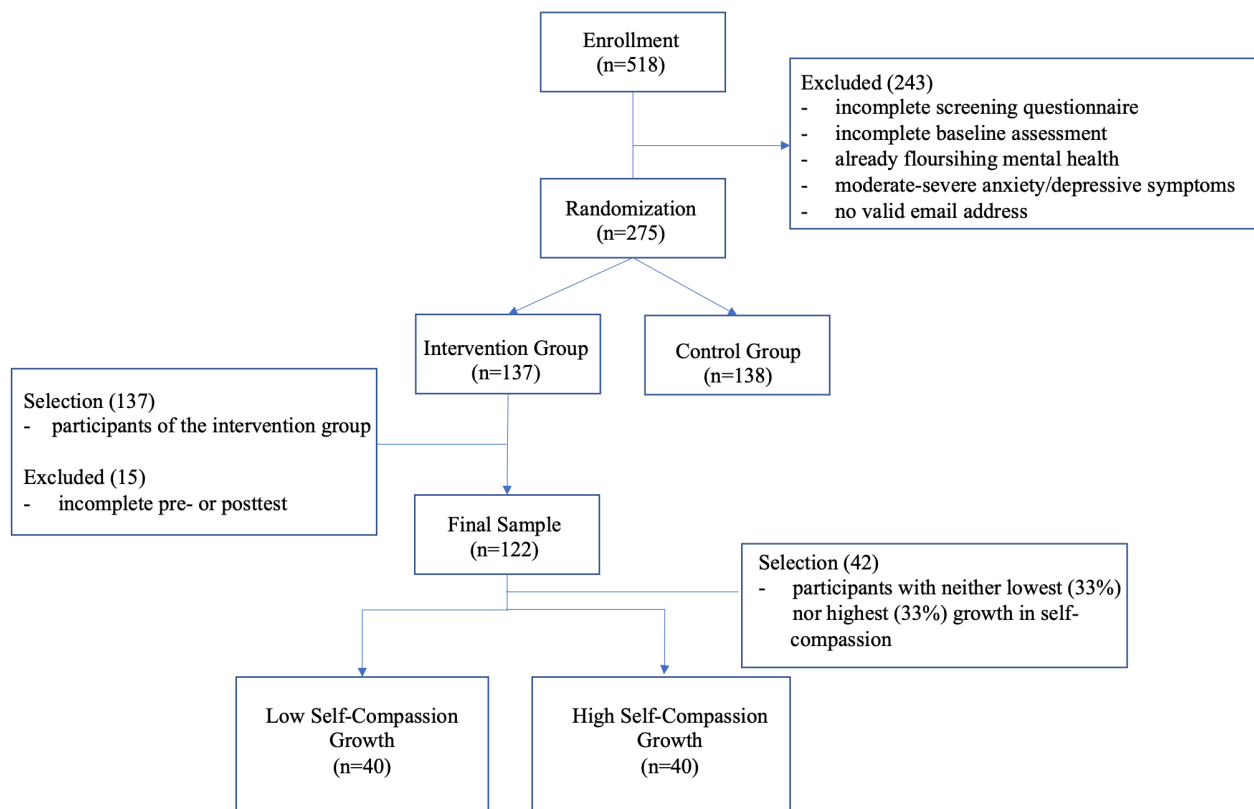


Figure 1: Consort flow chart of participants

The final sample consisted of 80 participants with 88.8% females and 11.3% males, and the majority revealing Dutch nationality (86.3%). The mean age was 49.6 (SD= 10.73). Moreover, 73.8% revealed high educational status with 62.5% in paid employment, 28.7% unemployed and the remaining 8.8% were retired, students or homemakers. Almost half of the sample was married (45%) with the remaining participants being equally divided into singles (27.5%) and being separated or divorced (27.5%). Concerning the living situation, the majority (73.8%) did not live alone while the minority (26.3%) lived alone.

Intervention

Participants received the self-help book “Using Positive Psychology Every Day: Learning How to Flourish” (Bohlmeijer & Hulsbergen, 2013) aimed at encouraging people to flourish. This book entails eight chapters which introduce evidence-based resources of well-being. One of the chapters concerns self-compassion, while other chapters addressed positive emotions, strengths, flow optimism, resilience and positive relations. Within a timeframe of 9-12 weeks, participants were asked to read one chapter and practice additional 2-3 exercises of that module per week. Additionally, participants received email support and were asked to send one email per week to their personal counselor concerning their experiences with the current chapter.

The self-compassion chapter (Chapter 5) of the self-help book provides an introduction to the concepts of compassion and appreciation. The chapter outlines biological factors that predispose individuals to self-criticism and introduces the Emotion-Regulation Systems by Gilbert (2009). Thereby, participants are guided to relate to the importance of soothing and being self-compassionate. Following, the chapter offers five different exercises to practice self-compassion. An example exercise is “The Granny Exercise”, an imagination exercise to activate the soothing system. Among this exercise, participants are asked to imagine someone who always has or has had their best interest e.g. their grandmother. Next, they are invited to connect to the flow of this person by imagining the person’s look or words they would say. Thereby, participants are initiated to connect to the flow of a compassionate person by which their soothing system can be activated.

Measures

Self-compassion. The Dutch Self-Compassion Scale-Short Form (SCS-SF) was used to measure the degree of self-compassion levels. The Dutch SCS-SF consists of 12 items with scores ranging from *rarely or never* (1) to *almost always* (7). Negatively formulated items (items of self-judgement, isolation and over-identification) are reverse coded and item scores are summed into a total sum score, ranging from 7 to 84. Higher total scores indicate higher levels of self-compassion. An example item was: “I try to see my failures as part of the human condition.” Similar to the original SCS-SF, the Dutch version has good psychometric properties (REF). Internal consistency at baseline was good ($\alpha = 0.82$), which is in agreement with prior studies (Raes, Pommier, Neff & Gucht, 2011).

Person characteristics (socio-demographics and personality). Various demographical information was gathered at baseline measurement. Participants were asked to indicate their specific age in numbers, gender (1 = *man*, 2 = *woman*), educational status (1 = *low*, 2 = *intermediate*, 3 = *high*), employment situation (1 = *paid employed*, 2 = *unemployed*, 3 = *retired, student or homemaker*). Additional demographical variables concerned marital status (1 = *married*, 2 = *single*, 3 = *separated or divorced*), living situation (1 = *alone*, 2 = *not alone*), living with children (1 = *living with children*, 2 = *living without children*) and finally, ethnicity (1 = *Dutch*, 2 = *other*).

Conscientiousness levels were measured using a subscale of the NEO-Five Factor Inventory (NEO-FFI) (Costa & McCrae, 1995). This subscale contains 12 items answered by a Likert scale ranging from *strongly disagree* (1) to *strongly agree* (5). The respondent is asked to state to what extent he/she agrees with the statement, e.g. “I keep my belongings neat and clean.” Total scores of the subscale are generated by reversing negatively stated

items (3,6,9,11) and calculating a sum score ranging from 12 to 60. Low scorers tend to be easy-going and not well organized while high scorers tend to be diligent and organized. The internal consistency ($\alpha = 0.82$) among this study was high, as indicated by Costa & McCrae (1995).

The Eysenck Personality Questionnaire (EPQ-RSS) was administered to measure two subscales, namely extraversion (i.e. outgoing) and neuroticism (i.e. emotional instability) (Eysenck, Eysenck & Barrett, 1985). Each subscale consisted of 12 items with items such as “Are you a talkative person?” for extraversion, or “Do you often feel guilty?” for neuroticism. Responses were either *yes* (1) or *no* (0) with total sum scores ranged from 0 to 12. Higher scores indicate higher levels of the related trait. The internal consistency was high for extraversion ($\alpha = 0.83$) as well as neuroticism ($\alpha = 0.81$), similar to reliabilities among prior studies (Francis, Lewis & Ziebertz, 2006).

Intervention interaction (satisfaction and engagement). Participants’ satisfaction with the intervention was assessed via the Client Satisfaction Questionnaire (CSQ-8). The CSQ-8 consists of eight items with response scores ranging from *lowest degree of satisfaction* (1) to *highest degree of satisfaction* (4). Higher sum scores indicate higher participant satisfaction with the PPI. An example item was: “Did you get the kind of service you wanted?” The questionnaire revealed good psychometric properties with a high internal consistency of ($\alpha = 0.91$) similar to prior validation studies (Attkisson & Zwick, 1982).

Further information regarding satisfaction with the self-help book was gathered by asking participants to specify which chapter(s) helped them in experiencing more resilience and/or more wellbeing. This section consisted of nine questions, one for each chapter and an additional one in case no chapter was perceived as helpful. An example question was the following: “Which chapter(s) of the book “This is your life” helped you experience more resilience and / or well-being? - Chapter 5: Give yourself a break”. Participants were able to select from two response scores, either *no* (0) or *yes* (1).

Lastly, participants’ engagement was measured by inquiring how intensive they perceived their work among each chapter. Response ratings ranged from *no time at all* (1) to *lots of time* (5). While high sum scores revealed high perceived engagement with the chapters, lower scores indicated lower perceived engagement.

Data Analyses

Data analyses were conducted in IBM SPSS Statistics version 26.0, using two-tailed tests and $p < 0.05$. The final data set was determined by excluding participants with missing data. A median split was used to code self-compassion difference-scores into a categorical

variable; Participants with a difference-score <4 were sorted into the group of participants with the lowest growth in self-compassion and participants with a difference-score >9 were sorted into the group of participants with the highest growth in self-compassion. Exploratory subgroup analyses were conducted to examine differences in person characteristics of participants with the lowest increase and highest increase in self-compassion. To investigate differences in person characteristics between participants with high and low growth in self-compassion, mean scores of baseline measures concerning person characteristics were calculated and compared between groups using χ^2 -tests for all dichotomous variables, such as gender, and independent t -tests for all continuous scales, such as the NEO-FFI. In order to examine differences between groups across the intervention interaction, mean scores established at post-measurement were calculated and compared using independent t -tests.

Results

Self-Compassion

Participants with lower increases in self-compassion revealed significantly higher baseline self-compassion levels compared to participants with higher growth, $t(80) = 5.23, p < .001$. This finding shows that participants with lower growth in self-compassion were not necessarily less self-compassionate than participants who were able to increase their self-compassion levels the most during the intervention, yet they were not able to improve in self-compassion to the same extent.

Person Characteristics

Socio-demographics. The distribution of demographics and characteristics among participants with high and low growth in self-compassion is displayed in Table 1. Results of independent t -tests and χ^2 -tests showed that neither mean age, $t(80) = -.27, p = .788$, nor gender, $\chi^2(1) = 0.13, p = 0.723$ differed significantly between participants with the highest and lowest growth in self-compassion, similar to most of the socio-demographical variables (see Table 1). However, participants with higher growth in self-compassion during the intervention were more often not living alone compared to those who showed the least growth in self-compassion, $\chi^2(1) = 5.23, p = 0.022$. These results indicate that participants with low and high growth in self-compassion revealed similar socio-demographics, with the exception of the living situation.

Personality. Conscientiousness levels, $t(80) = -.94, p = .351$ and neuroticism, $t(80) = .23, p = .821$, did not differ significantly between participants who improved in self-compassion versus participants who did not. Yet, participants with lower self-compassion growth revealed significantly higher extraversion scores, $t(80) = 2.32, p = .023$. These

findings indicate that all participants revealed similar personality traits with the exception of extraversion being more prominent across participants with lower growth in self-compassion.

Table 1

Baseline mean scores concerning person features of participants with low and high increases in self-compassion.

Person Aspects	Low Self-Compassion Growth	High Self-Compassion Growth
Self-Compassion Scale, <i>M (SD)</i>		
Baseline	49.29 (8.37)	38.76 (8.5)
Posttest	45.98 (8.04)	57.4 (10.78)
Age, <i>M (SD)</i>	49.28 (9.69)	49.93 (11.8)
Gender, <i>n (%)</i>		
Female	35 (87.5)	36 (90)
Male	5 (12.5)	4 (10)
Educational Status, <i>n (%)</i>		
Low	2 (5)	2 (5)
Intermediate	9 (22.5)	8 (20)
High	29 (72.5)	30 (75)
Employment Situation, <i>n (%)</i>		
Paid employment	25 (62.5)	25 (62.5)
Unemployed	13 (32.5)	10 (25)
Retired, student or homemaker	2 (5)	5 (12.5)
Marital Status, <i>n (%)</i>		
Married	13 (32.5)	23 (57.5)
Single	14 (35)	8 (20)
Separated or Divorced	13 (32.5)	9 (22.5)
Living Situation, <i>n (%)</i>		
Living alone	15 (37.5)	6 (15)
Living not alone	29 (62.5)	34 (85)
Living with Children, <i>n (%)</i>	12 (30)	17 (42.5)
Living without Children, <i>n (%)</i>	28 (70)	23 (57.5)
Personality, <i>M (SD)</i>		
Conscientiousness	39.53 (5.95)	40.9 (7.11)

Extraversion	7.13 8 (3.15)	5.5 (3.11)
Neuroticism	7.08 (2.72)	6.93 (3.16)
Pessimism	5.18 (2.23)	4.23 (1.96)
Optimism	6.33 (1.79)	6.1 (1.79)

Intervention Interaction

Satisfaction. Satisfaction levels with the intervention were significantly higher among participants with higher growth in self-compassion ($M = 3.28$, $SD = 0.62$) compared to participants with lower growth in self-compassion ($M = 2.88$, $SD = 0.52$), $t(80) = -3.1$, $p = .003$. Similar to the expectations, these findings indicate that participants with higher growth in self-compassion levels were more satisfied with the intervention.

Among both groups, the self-compassion chapter (Chapter 5) was rated as the most helpful chapter of the self-help book in order to improve well-being (Figure 2). This suggests that regardless of growth in self-compassion, Chapter 5, including its theory and exercises, was perceived as most helpful by the majority of participants.

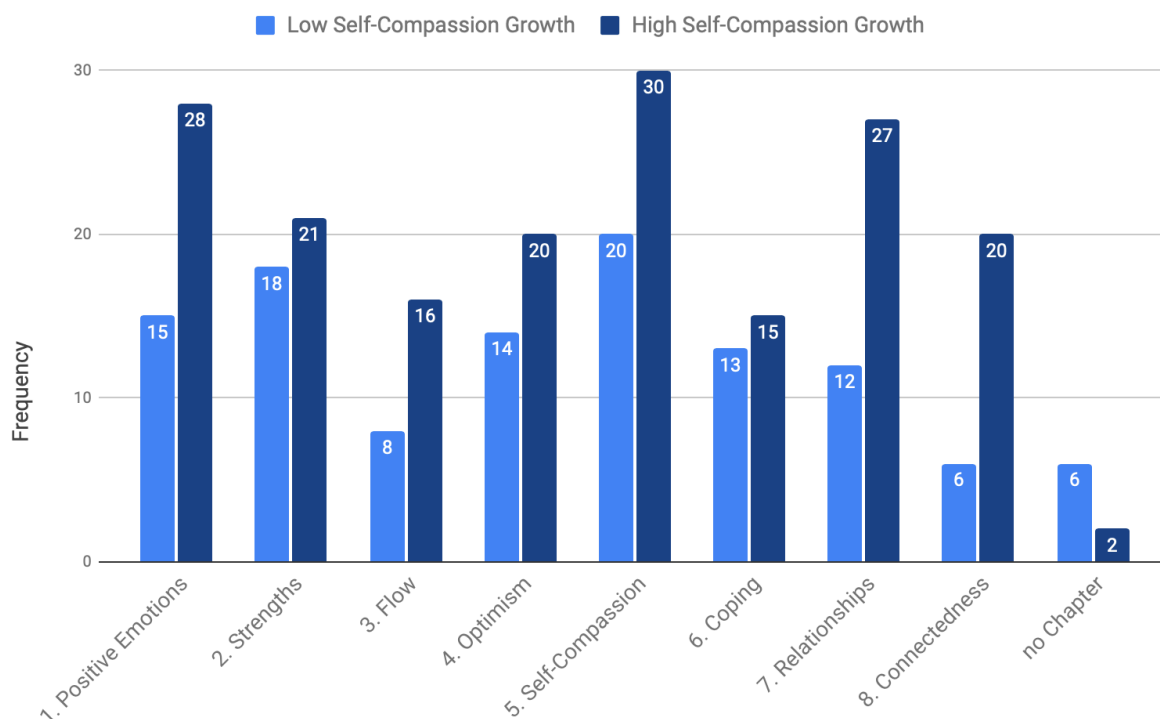


Figure 2: Frequencies of chapters rated as helpful in experiencing well-being.

Engagement. Figure 3 displays the perceived engagement of participants with low and high growth in self-compassion. Both groups spent the majority of their time on Chapter 2, regarding strengths. The perceived work intensity was not significantly different across the participants among Chapter 1 through 4. Significant differences were detected among the self-

compassion chapter with higher work intensities for participants with higher growth in self-compassion ($M = 3.78$, $SD = 1.07$) than for participants with lower growth ($M = 3.05$, $SD = 1.26$), $t(80) = -2.77$, $p = .007$. Additionally, participants with higher self-compassion growth spend significantly more time among Chapter 6 ($t(80) = -2.49$, $p = .015$), Chapter 7 ($t(80) = -3.81$, $p = .00$), and Chapter 8 ($t(80) = -2.75$, $p = .007$), indicating that participants with higher self-compassion growth were more engaged with the final four chapters of the book compared to participants with lower self-compassion growth.

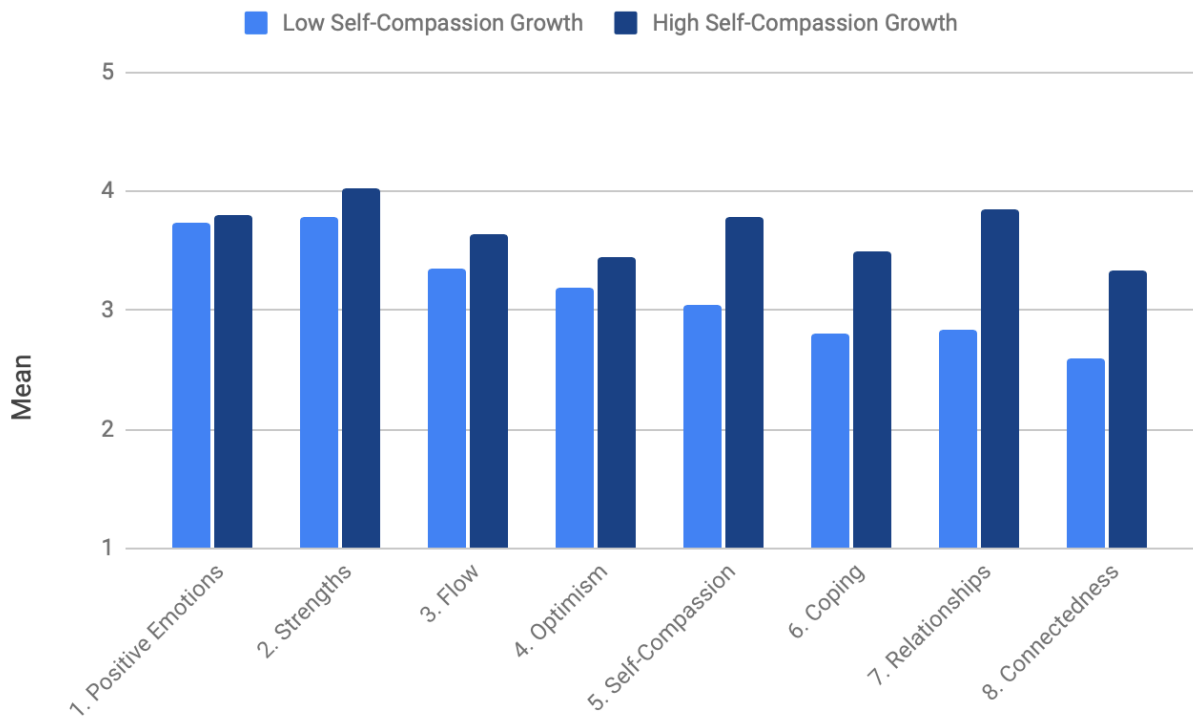


Figure 3. Distribution of work intensity among the Chapters displayed in means.

Discussion

The study explored possible differences across participants with different levels of growth in self-compassion during a PPI. Participants with higher growth in self-compassion did not reveal different socio-demographics and personality with the exception of their living situation being more frequently a shared household. The interaction with the intervention was higher for participants with increased growth in self-compassion as they indicated higher satisfaction and engagement levels compared to participants with less growth in self-compassion.

Person Characteristics (Socio-Demographics and Personality)

The results revealed several unexpected findings. For one thing, participants with higher and lower growth in self-compassion during the intervention did not differ across socio-demographical variables as well as personality to a great extent. For instance, neither

gender nor age differences were detected. For another thing, participants with lower growth in self-compassion showed higher extroversion levels compared to participants with higher self-compassion growth. These findings contradict the expectations based on prior research and the Positive Activity Model, which suggested various differences across person features as well as linked extroversion to high self-compassionate individuals. (Bluth, Campo, Futch & Gaylord, 2017; Lyubomirsky & Layous, 2013; Yang, Guo, Kuo & Liu, 2019; Yarnell et al., 2015; Homan, 2016). A possible explanation for this might be that participants with the lowest improvement in self-compassion showed significantly higher baseline self-compassion levels compared to participants with the highest growth in self-compassion during the PPI. Thus, participants with the lowest improvement were not necessarily less compassionate with themselves but might have already been more experienced in self-compassion. Prior research, such as the study by Neff and et al. (2007) used a correlational design to link self-compassion levels at one point in time to personality traits such as extroversion. However, the current study investigated on different levels of growth in self-compassion over the course of an intervention. Due to the fact, that participants with the lowest growth in self-compassion revealed higher baseline self-compassion scores, the assumptions based on prior research might be more applicable to these participants and thus, account for the fact why lower growth participants were detected to be significantly more extroverted compared to higher growth participants.

A further explanation might be attributed to the fact that the sample of participants was too similar across many variables in order to detect any differences. The majority of participants revealed moderately to high baseline self-compassion scores, which might indicate a ceiling effect. Additionally, the sample included mainly females in their mid-forties until end-fifties and thus, were too close in age (and gender) to discover any differences. This was similar to a study by Neff and McGehee (2010) who were also not able to detect a trend in age differences because their participants were mainly around the same age.

Nonetheless, findings indicated that participants revealing larger growth in self-compassion were more likely to live in a shared household compared to participants with less growth. To my knowledge, no other study has yet examined differences in living situation between participants with varying self-compassionate levels. However, research has already linked living situation to well-being with particularly older adults revealing a more positive life orientation (Fragerström, 2010) as well as higher well-being (Lawton, Moss, Kleban, 1984) when they did not live alone. Due to the fact that self-compassion positively relates to well-being, these findings may be translatable.

Intervention Interaction (Satisfaction and Engagement)

In line with the expectations based on the Positive Activity Model, participants with higher growth in self-compassion were more satisfied and engaged with the intervention compared to lower self-compassionate participants. While higher-growth participants were more engaged in the self-compassion chapter than lower-growth participants, both lower- and higher growth participants perceived the self-compassion chapter as the most helpful chapter. One explanation for the latter might be that self-compassion has been proven to increase well-being in general, regardless of gender or personality variables (Zhang et al., 2017).

The majority of participants reported the highest work intensity among Chapter 2, concerning strengths. A possible explanation for this finding might be disclosed in theory, which suggests that identifying one's own strengths and applying them serves as the foundation for engagement (Schutte and Malouff, 2019; Seligman, 2002). Hence, the chapter concerning exploring one's strength might have promoted specific engagement with the module. Besides, this finding might also be a representation of ceasing motivation along the intervention. For example, among a study exploring participants' perceptions about online courses, the majority of participants reported to feel excited and engaged, specifically in the beginning of a course (Conrad, 2002). Thus, the module concerning strength as well as its early timing might have initiated specific engagement within the participants.

Interestingly, participants with higher self-compassion growth spent significantly more time among the final four chapters of the self-help book than participants with lower self-compassion growth, who spend gradually less and less time on the chapters along the intervention. Hence, the occurrence of ceasing motivation might have been particularly common across participants with less growth in self-compassion, while higher self-compassionate participants showed higher engagement, as suggested by Leary (2007).

Strengths, Limitations and Recommendations

To my best knowledge, this is the first study to focus on self-compassion growth during a PPI (baseline and posttest levels) and its relation to person characteristics while prior research has merely used baseline self-compassion levels. Of particular value was the study design, which was based on an RCT by Schotanus-Dijkstra et al. (2019), that had already demonstrated the intervention's effectiveness in increasing participants' self-compassion and well-being.

However, some limitations apply to the current study and should be considered when interpreting the results. First of all, the study was limited by the selection criteria of the groups. Participants were sorted into groups based on their growth in self-compassion.

However, both groups revealed moderate self-compassion levels either before or after the intervention. Hence, they might have revealed similar characteristics which can be attributed to self-compassionate individuals, limiting the detection of differences. In future research, more subgroups are suggested by, for example, sub-dividing participants with the lowest growth in self-compassion into participants with higher and lower baseline self-compassion scores. The same should be done for participants that showed higher growth. Hereby, it should be kept in mind, that with more subgroups, also a bigger sample is required. This could be achieved by broadening the inclusion criteria, as suggested in the following.

The detection of differences might have also been limited by the study's sample which included mainly Dutch, middle-aged women with higher education. Thus, the sample of participants did not differ across characteristics to a great extent. This represents a challenge for researchers to address a broader variety of people e.g. more men with lower-educational status. This could be done by promoting the intervention beyond newspapers and advertising it among platforms that are more common and accessible for the lower-educated population, such as social media platforms. The intervention itself could be offered in different languages via courses or online platforms in order to appeal to individuals with various educational statuses and cultural backgrounds. Hence, a larger-scale implementation could be enabled in order to detect further differences in characteristics of participants with higher growth in self-compassion during a PPI.

Next, this study examined variances in gender based on merely two categories (female and male). Thereby, this study excluded non-binary individuals, while current research outlined that a growing amount of the population identifies with non-binary gender identities (Goldberg et al., 2019). This should be kept in mind as the latest APA regulations concerning gender strongly suggest adapting to terms people use to describe themselves with (APA 2020, Section 5.5).

Finally, this study was based on an existing study dataset of a previous study by Schotanus-Dijkstra et al. (2019). Therefore, this study was limited to data that was already gathered for a different purpose, while it might have been interesting to include different types of data. For example, it might have been reasonable to measure levels of agreeableness, which was also suggested to be related to self-compassion (Neff, Rude and Kirckpatrick, 2007). Possible measurements might also be variables that are involved in the three basic components of self-compassion as defined by Neff (2003), such as wisdom, emotional intelligence or curiosity, in order to explore more differences between people with more or less growth in self-compassion.

Implications

Findings of this study are relevant for the mental health sector, with specific regards to the field of Positive Psychology. Differences in participants' self-compassion scores from baseline to post-measurement imply that self-compassion is indeed a skill that can be trained. From a theoretical as well as practical stance, this highlights the potentials of self-compassion and encourages the use of self-compassion exercises across interventions or therapy.

Furthermore, the current research enabled first insights into characteristics of people who were able to increase their self-compassion levels the most during a PPI. A next step could be taken by tailoring PPIs and self-compassion exercises to the participant's characteristics. For instance, more focus on self-compassion could be implemented for people living alone, as they are not as likely to grow among self-compassion, compared to people living in a shared household, who might not need as much support because they are more likely to grow in self-compassion. Additionally, PPIs could be tailored to foster participant satisfaction. Due to high satisfaction with the self-compassion module by all participants the great potential of self-compassion among PPIs with specific regards to the user's satisfaction was highlighted. This does not only underline that self-compassion increases general satisfaction and well-being, but also prompts practice to emphasize self-compassion among PPIs. Nonetheless, more research supporting these implications is required in order to tailor self-compassion exercises and enhance the potential across positive interventions.

Conclusion

The study demonstrated that individuals with higher growth in self-compassion did not differ to a great extent from individuals with lower growth in self-compassion during a PPI, specifically across person characteristics. However, the detection of more distinct characteristics between participants might have been impaired because the sample of this study was too similar across person characteristics and self-compassion levels. Future research is inclined to broaden the sample and group selection criteria in order to establish a more generalizable sample with distinct characteristics. Further comparison analyses showed that individuals with higher growth in self-compassion during a PPI were more likely to live alone and be satisfied as well as engaged with the intervention compared to individuals with less growth in self-compassion. Thereby, this study was able to outline the great potentials of self-compassion exercises across PPIs while providing implications for further research and practice.

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