

The added value of self-compassion in the context of psychological flexibility and somatic symptoms

Masterthesis Clinical Psychology

Maaïke Meerveld, 4272455

Supervisor: R. Geenen

13-12-2019

Abstract

In the treatment of chronic pain, psychological flexibility has shown to be a relevant concept. Mindfulness is an essential component in psychological flexibility, which states that being aware of the pain will change the suffering. Self-compassion adds the ability of being kind towards oneself during negative experiences, instead of solely contemplating them, and helps to provide comfort in the suffering. This study examined whether the non-mindfulness components of self-compassion offer added value to the association between psychological flexibility and somatic symptoms. The interaction between these variables was also investigated, with the expectation that particularly the combination of low psychological flexibility and low self-compassion would be related to more somatic symptoms. 240 participants of the general population filled out questionnaires on somatic symptoms (PHQ-15), psychological flexibility (FIT-60) and self-compassion (SCS). Regression analysis showed no significant additive association for self-compassion and psychological flexibility with somatic symptoms. There was no interaction effect between these variables. Self-compassion did offer an additive value to two separate components of psychological flexibility.

These results only marginally support the importance of self-compassion over and above psychological flexibility. Future research should focus on the components of psychological flexibility where self-compassion did offer an additive value and examine in what way self-compassion should be taken into account in clinical practice.

Introduction

For the last decade, the trend of positive psychology has been increasingly implemented in psychological practice. Positive psychology claims to be a science of positive subjective experience, positive individual traits and positive institutions (Csikszentmihalyi & Seligman, 2000). Acceptance and Commitment Therapy (ACT; Hayes et al., 2006) is an example of a cognitive behavioural treatment that focuses on positive experiences. In ACT, clients learn to accept their problems and to commit their actions to what they value most in life. Research on the treatment has shown promising results (A-tjak et al., 2015; Hughes, Clark, Colclough, Dale & McMillan, 2017; Veehof, Trompetter, Bohlmeijer & Schreurs, 2016). According to Hayes et al., psychological flexibility consists of six core processes, as displayed in Figure 1 (Hayes, Luoma, Bond, Masuda & Lillis, 2006).

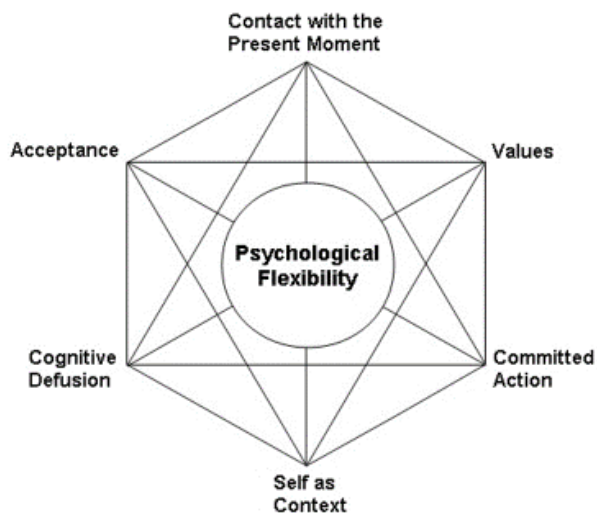


Figure 1. *Psychological flexibility divided into six core processes.*

These core processes can be described as follows.

1. *Acceptance* means to let thoughts and feelings come and go freely, without struggling with them.
2. *Contact with the present moment* covers the non-judgmental awareness of events in the present.
3. *Values* are what one considers to be most important in one's life.
4. With *Committed action*, one aims for concrete goals, corresponding the chosen values.
5. *Self as context* means being aware of one's own experiences without attaching to them, thus preserving a transcending sense of self.
6. *Cognitive defusion* changes how one relates to one's thoughts and lessens the tendency to treat them as if they were true.

The six core processes are all overlapping and interrelated. They can however, be divided into two groups (Hayes et. al., 2006): acceptance and mindfulness consist of acceptance, defusion, contact with the present moment and self as context. Secondly, commitment and behavioral change involves contact with the present moment, self as context, values and committed action. This division illustrates the essence of mindfulness is within psychological flexibility. Mindfulness states that being open to suffering and being aware of the pain, will change the suffering (Germer & Neff, 2013). It seems, however, that being aware of the suffering is insufficient for dealing with the painful situation. When facing pain, one should not just be able to be aware of the pain, but also know how to comfort oneself in the suffering.

A factor that provides comfort in suffering, is self-compassion. Self-compassion consists of 3 core elements, as described by Neff (2003a): self-kindness (having a kind and understanding attitude towards oneself in painful circumstances, instead of being harshly self-critical), common humanity (the ability to see one's experience as part of the larger human experience, instead of isolating) and mindfulness (maintaining a balanced awareness in painful thoughts and feelings, instead of over-identifying with them). Therefore, where mindfulness focuses mainly on one's experiences and how to contemplate them, self-compassion also provides comfort in the suffering through the concepts of self-kindness and common humanity.

Although the concept of self-compassion is still relatively unknown, research is showing its influence in several domains. This influence is observed in positive psychological strengths such as happiness, personal initiative, optimism and extraversion (Neff, Rude & Kirkpatrick, 2007), and also in distressing experiences such as failure, rejection and embarrassment (Leary, Tate, Adams, Batts Allen & Hancock, 2007). Dewsaran-van der Ven et al. (2018) showed that self-compassion might be a relevant concept in somatoform disorder: lower levels of self-compassion were associated with more physical symptoms and lower health-related quality of life. In people with chronic pain, higher levels of self-compassion are associated with lower negative affect and a lower reported likelihood of rumination and avoidance (Purdie & Morley, 2015). Similar correlations are found between self-compassion and depression, anxiety, and stress symptoms in patients with chronic pain (Costa & Pinto-Gouveia, 2013). This research also suggested that lower levels of experiential avoidance are associated with lower levels of stress symptoms. The authors suggest however, that it is not the nature of a coping mechanism such as experiential avoidance that can be harmful, but rather the inflexible manner some apply them. Their results indicate that symptoms will decrease, when people with chronic pain are open to face certain experiences without attempting to control them. These skills correspond with the core processes of psychological flexibility.

In line with previous research, Costa and Pinto-Gouveia's study (2013) demonstrates the importance of both self-compassion and flexibility in somatic symptoms. In ACT, patients learn to

improve their psychological flexibility. Although ACT appears to have promising results as a psychological treatment for chronic pain (Hughes et al., 2017; Veehof et al., 2016), Gu, Strauss, Bond and Cavanagh (2015) found preliminary results that self-compassion might be one of the underlying mechanisms of change in mindfulness-based interventions. It seems that patients should not just be aware of the pain, but also able to provide comfort to oneself. To investigate this, current study aims to examine on an individual level whether self-compassion might offer added value to the association between psychological flexibility and somatic symptoms. As stated before, self-compassion might provide this value by adding the ability of being kind towards oneself during negative experiences, instead of solely contemplating them. Hence, a preliminary hypothesis is that the non-mindfulness components of self-compassion (self-kindness and common humanity), together with psychological flexibility, are additively associated with somatic symptoms.

Since both psychological flexibility and self-compassion are shown to be relevant factors in people with somatic symptoms separately, current study also aims to examine the interaction of self-compassion and psychological flexibility with somatic symptoms. This interaction effect is expected to be significant, showing that particularly the combination of low psychological flexibility and low self-compassion will be related to more somatic symptoms.

Methods

Design and participants

The study follows a cross-sectional between groups design, using single data collection via online questionnaires on LimeSurvey. The questionnaires could only be entered after reading the provided information about the study and signing for informed consent. Responses were processed anonymously. Participants were recruited by sending e-mails and posting messages on several Facebook pages. 240 participants from the general population completed the questionnaires. Participants provided demographic data (gender, age and education). Age was correspondent with the general population, ranging from 18 to 87 and mean age being 43.3 ($SD = 14.3$). The majority of the sample was female, with 83.3% being female ($N = 200$) and 16.7% being male ($N = 40$). Education was divided into 2 classes: university education (university and university of applied sciences, $N = 154$) and non-university education ($N = 83$).

Measures

Informed consent concerning the procedure and purpose of the questionnaires was required for completing the questionnaires. The survey consisted of the Self-Compassion Scale (SCS; Neff, 2003b), the Patient Health Questionnaire (PHQ-15; Kroenke, Spitzer & Williams, 2002) and the Flexibility Index Test (FIT-60; Batink, Jansen & De Mey, 2012).

The Dutch version of the SCS (Neff & Vonk, 2009) consists of 24 items and covers six elements of self-compassion: self-kindness (e.g. “I’m kind to myself when I’m experiencing suffering.”), common humanity (e.g. “When things are going badly for me, I see the difficulties as part of life that everyone goes through”), mindfulness (e.g. “When I fail at something important to me I try to keep things in perspective”), self-judgment (e.g. When times are really difficult, I tend to be tough on myself”), overidentification (e.g. When something upsets me I get carried away with my feelings”) and isolation (e.g. “When I fail at something that’s important to me I tend to feel alone in my failure”). Besides the total score of the SCS, the non-mindfulness components will be used in this study, which are self-kindness (consisting of the subscales self-kindness and self-judgement) and common humanity (consisting of the subscales common humanity and isolation). The questionnaire uses a 5-point Likert scale, with responses varying from “almost never” to “almost always”. The SCS has shown convergent validity, discriminant validity, concurrent validity and an internal consistency of .92 (Neff, 2003b). Cronbach’s alpha of the total score of the SCS was .93 in current study.

The Dutch version of the PHQ-15 comprises 15 items to measure somatic symptoms on a scale from 0 (“not bothered at all”) to 2 (“bothered a lot”). Research on the PHQ-15 has established its psychometric characteristics, such as test-retest reliability, internal reliability ($\alpha = .80$), convergent validity and discriminant validity (Kroenke et al., 2002; van Ravesteijn et al., 2009). Cronbach’s alpha of the PHQ-15 was .84 in current study.

The FIT-60 covers the six core processes of psychological flexibility, as described by Hayes et al. (2006): Acceptance, Contact with the present moment, Values, Committed action, Self as context and Cognitive defusion. Every subscale consists of ten statements, responses can be given through a 7-points Likert scale (from 0 “completely disagree” to 6 “completely agree”). The FIT-60 appears to have good psychometric characteristics, as its internal reliability ($\alpha = .69 - .95$), test-retest reliability and convergent validity have been established (Batink et al., 2012; Batink, Jansen & Peeters, 2015). Cronbach’s alpha of the total score of the FIT-60 was .95 in current study.

Data analysis

The data analyses were performed using the Statistical Package for Social Sciences (IBM SPSS version 25.0). Levels of statistical significance were set at $p < .05$ (two-tailed). Plots in regression analyses showed that the assumptions of linearity and normality were met. To examine the added variance of the non-mindfulness components of self-compassion to psychological flexibility in terms of association with health, Hayes’ PROCESS macro for SPSS (2017) was used for the regression analyses. The PHQ-15 score was entered as dependent variable and the FIT-60 score as moderator variable. For the independent variable, the SCS score was used in two ways: firstly the total score of the SCS was entered and subsequently the non-mindful

components of self-compassion (self-kindness and common humanity) were explored. Gender, age and education were included as covariates. Hayes' PROCESS macro also tested the interaction of psychological flexibility and self-compassion.

Ad hoc analysis

Since the results rejected both hypotheses, regression analyses on the separate components of the FIT-60 (acceptance, contact with the present moment, values, committed action, self as context and cognitive defusion) were conducted to provide more insight in the underlying associations. Besides the components of the FIT-60, the non-mindfulness components of the SCS were entered as independent variable. Since the variables gender, age and education showed to be of significance in the first model, they were entered as covariates again.

Results

Descriptives of the scales are presented in Table 1. The FIT-60 had a mean total score of 227.6 ($SD = 46.3$), the PHQ-15 had a mean total score of 9.9 ($SD = 5.8$), the SCS had a mean total score of 102.1 ($SD = 24.4$) and the non-mindfulness components of the SCS had a mean score of 66.5 ($SD = 17.0$). Skewness showed to be acceptable for all scales. Independent samples t-test showed no significant association between the scores on the PHQ-15 and the covariates gender ($p = .230$), age ($p = .387$) and education ($p = .738$).

Table 1

Mean and Standard Deviation of the FIT-60, PHQ-15 and SCS

Scale	Mean	Standard Deviation
FIT-60	227.6	46.3
PHQ-15	9.9	5.8
SCS (Total score)	102.1	24.4
SCS (non-mindfulness)	66.5	17.0

Note. FIT-60 = Flexibility Index Test 60; PHQ-15 = Patient Health Questionnaire 15; SCS = Self-Compassion Scale.

Correlation analysis between the PHQ-15, the total score of the FIT-60, the total score of the SCS and the non-mindfulness components of the SCS showed significant correlations between all variables. Results of the correlation analysis are shown in Table 2. A moderate correlation was shown between the FIT-60 and the PHQ-15 ($r = -.498$) and a strong correlation was shown between the FIT-60 and both the total score of the SCS ($r = .773$) and the non-mindfulness components of the SCS ($r = .754$). The correlations between the PHQ-15

and the total score of the SCS ($r = -.318$) and the non-mindfulness components of the SCS ($r = -.318$) were both found to be moderate.

Table 2

Pearson Correlation and p-value of the PHQ-15, the FIT-60 total score, the SCS total score and the non-mindfulness components of the SCS

	FIT-60	PHQ-15	SCS (total score)	SCS (non-mindfulness)
FIT-60	1	-.498 ($p < .001$)	.773 ($p < .001$)	.754 ($p < .001$)
PHQ-15	-.498 ($p < .001$)	1	-.318 ($p < .001$)	-.318 ($p < .001$)
SCS (total score)	.773 ($p < .001$)	-.318 ($p < .001$)	1	.979 ($p < .001$)
SCS (non-mindfulness components)	.754 ($p < .001$)	-.318 ($p < .001$)	.979 ($p < .001$)	1

Note. FIT-60 = Flexibility Index Test 60; PHQ-15 = Patient Health Questionnaire 15; SCS = Self-Compassion Scale.

Regression analyses were executed to test the added value of the non-mindfulness components of self-compassion (self-kindness and common humanity) and the interaction effect of self-compassion and psychological flexibility on somatic symptoms. Table 3 shows the results of the regression analysis and the interaction effect.

First, the total FIT-60 score and the total score of the SCS were entered as independent variables to examine whether self-compassion adds variance to psychological flexibility in association with somatic symptoms. The model demonstrated a significant result ($p < .001$), showing however that higher psychological flexibility ($t = -6.023, p < .001$), but not higher self-compassion ($t = 1.140, p = .256$) was associated with lower levels of somatic symptoms. One unit increase of psychological flexibility was associated with a .068 unit decrease of somatic symptoms. Significant associations were found between somatic symptoms and the covariates gender ($p < .001$), age ($p = .013$) and education ($p = .033$), showing that the female gender, increase in age and lower education are associated with more somatic symptoms.

Secondly, the non-mindfulness components of the SCS and the total score of the FIT-60 were entered as independent variable, to examine whether specifically the non-mindfulness components of self-compassion add variance to psychological flexibility in terms of somatic symptoms. This model showed a significant result as well ($p < .001$), again indicating that only higher psychological flexibility ($t = -5.991, p < .001$) was associated with lower levels of somatic symptoms. The non-mindfulness components of self-compassion were not

additively associated ($t = .837, p = .403$). One unit increase of psychological flexibility was associated with a .066 unit decrease of somatic symptoms. Also in this model, significant associations were found between somatic symptoms and that covariates gender ($p < .001$), age ($p < .010$) and education ($p = .030$), showing that the female gender, higher age and lower education are associated with more somatic symptoms.

The interaction of self-compassion and psychological flexibility on somatic symptoms showed no significant effect ($p = .671$), which contradicts the hypothesis that particularly the combination of higher levels of psychological flexibility and higher levels of self-compassion are associated with lower levels of somatic symptoms. When entering the non-mindfulness components of self-compassion instead of the total score, the interaction of those components and psychological flexibility on somatic symptoms also showed no significant effect ($p = .860$). This implies that the combination of higher levels of psychological flexibility and higher levels of the non-mindfulness components of self-compassion are also not associated with lower levels of somatic symptoms after having taken account of the main effects.

Table 3

Regression Analysis predicting Somatic Symptoms (PHQ-15) from Self-compassion (SCS), the Non-mindfulness Components of Self-compassion (SCS non mindfulness components), Psychological Flexibility (FIT-60), Gender, Age and Education

	Variable	p-value	Coefficient	B	Beta (β)	95% CI
SCS (total score)	Regression analysis total model	<.001	$R^2 = .325$			
	Constant	.195	$t = 1.299$	2.467	1.900	[-1.276 , 6.210]
	SCS score	.256	$t = 1.140$	.024	.021	[-.018 , .066]
	FIT-60 score	<.001	$t = -6.023$	-.068	-.011	[-.091 , -.046]
	Gender	<.001	$t = 3.699$	3.144	.850	[1.469 , 4.818]
	Age	.013	$t = 2.492$	.057	.023	[.012 , .101]
	Education	.033	$t = -2.149$	-1.471	.684	[-2.820 , -.122]
	Interaction SCS total score x FIT-60	.671	$R^2 <.001$			[.000 , .001]
SCS (non-mindfulness components)	Regression analysis total model	<.001	$R^2 = .323$			
	Constant	.188	$t = 1.321$	2.516	1.905	[-1.237 , 6.269]

SCS score	.403	$t = .837$	.024	.029	[-.033 , .082]
FIT-60 score	<.001	$t = -5.991$	-.066	.011	[-.087 , -.044]
Gender	<.001	$t = 3.657$	3.109	.850	[1.434 , 4.785]
Age	.010	$t = 2.588$	.058	.023	[.014 , .103]
Education	.030	$t = -2.183$	-1.495	.685	[-2.844 , -.146]
Interaction non- mindfulness components of the SCS x FIT-60	.860	$R^2 = <.001$			[-.001 , .001]

Note. FIT-60 = Flexibility Index Test 60; PHQ-15 = Patient Health Questionnaire 15; SCS = Self-Compassion Scale.

Ad hoc analysis

To examine the absence of expected significant results, regression analyses were performed on the separate components of the FIT-60 as independent variables. Results of the regression analyses are shown in Table 4. All models showed significant results ($p < .001$). All components of psychological flexibility showed a significant association with somatic symptoms ($p < .05$). The non-mindfulness parts of the SCS showed to be additively associated with somatic symptoms on the components ‘contact with the present moment’ and ‘committed action’. The covariates showed to be significantly associated in all models, showing again that the female gender, higher age and lower education are associated with more somatic symptoms. Age however, showed no significant association in ‘values’ and ‘committed action’. No significant interaction effects were found.

Table 4

Regression Analysis predicting Somatic Symptoms (PHQ-15) from the separate Components of Psychological Flexibility (Acceptance, Contact with the present Moment, Values, Committed Action, Self as Context and Cognitive Defusion; FIT-60), the non-mindfulness Components of Self-compassion (SCS non mindfulness Components), Gender, Age and Education

Component of FIT-60	Variable	p-value	Coefficient	B	Beta (β)	95% CI
Acceptance	Regression analysis total model	<.001	$R^2 = .283$			
	Constant	.176	$t = 1.358$	2.671	1.967	[-1.204 , 6.545]
	SCS	.297	$t = -1.046$	-.028	.027	[-.081 , .025]

	Acceptance	<.001	$t = -4.312$	-.191	.044	[-.278 , -.104]
	Gender	<.001	$t = 3.882$	3.405	.877	[1.677 , 5.133]
	Age	.027	$t = 2.229$	.052	.023	[.006 , .098]
	Education	.006	$t = -2.787$	-1.947	.699	[-3.324 , -.571]
	Interaction Acceptance x SCS	.690	$R^2 = .001$			[-.004 , .003]
Contact with the present moment	Regression analysis total model	<.001	$R^2 = .241$			
	Constant	.333	$t = .970$	1.983	2.045	[-2.046 , 6.013]
	SCS	.005	$t = -2.854$	-.073	.026	[-.123 , -.023]
	Contact with the present moment	.024	$t = -2.269$	-.106	.047	[-.197 , -.014]
	Gender	<.001	$t = 3.867$	3.490	.902	[1.712 , 5.268]
	Age	.014	$t = 2.480$	.061	.024	[.012 , .109]
	Education	.007	$t = -2.708$	-2.001	.739	[-3.457 , -.545]
	Interaction Contact with the present moment x SCS	.567	$R^2 = .001$			[-.003 , .005]
Values	Regression analysis total model	<.001	$R^2 = .352$			
	Constant	.039	$t = 2.081$	3.924	1.886	[.208 , 7.641]
	SCS	.117	$t = -1.575$	-.035	.022	[-.078 , .009]
	Values	<.001	$t = -6.412$	-.312	.049	[-.408 , -.216]
	Gender	<.001	$t = 3.931$	3.285	.836	[1.638 , 4.932]
	Age	.223	$t = 1.221$	.027	.022	[-.017 , .072]
	Education	.002	$t = -3.094$	-2.038	.659	[-3.336 , -.740]
	Interaction Values x SCS	.972	$R^2 < .001$			[-.005 , .005]
Committed action	Regression analysis total model	<.001	$R^2 = .274$			
	Constant	.131	$t = 1.515$	3.001	1.981	[-.901 , 6.904]

	SCS	.002	$t = -3.192$	-.072	-.023	[-.117 , -.028]
	Committed action	<.001	$t = -3.610$	-.164	.046	[-.254 , -.075]
	Gender	<.001	$t = 3.780$	3.345	.885	[1.602 , 5.089]
	Age	.083	$t = 1.742$	.041	.024	[-.005 , .088]
	Education	.012	$t = -2.542$	-1.837	.723	[-3.262 , -.413]
	Interaction Committed action x SCS	.527	$R^2 = .001$			[-.003 , .006]
Self as context	Regression analysis total model	<.001	$R^2 = .246$			
	Constant	.306	$t = 1.025$	2.071	2.020	[-1.910 , 6.052]
	SCS	.063	$t = -1.867$	-.053	.028	[-.108 , .003]
	Self as context	.006	$t = -2.794$	-.171	.061	[-.292 , -.051]
	Gender	<.001	$t = 3.981$	3.569	.896	[1.803 , 5.335]
	Age	.010	$t = 2.615$	.064	.024	[.016 , .112]
	Education	<.001	$t = -3.699$	-2.592	.701	[-3.972 , -1.211]
	Interaction Self as context x SCS	.506	$R^2 = .001$			[-.003 , .005]
Cognitive defusion	Regression analysis total model	<.001	$R^2 = .271$	3.109		
	Constant	.110	$t = 1.605$	3.188	1.987	[-.726 , 7.103]
	SCS	.161	$t = -1.406$	-.038	.027	[-.092 , .015]
	Cognitive defusion	<.001	$t = -3.955$	-.155	.039	[-.232 , -.078]
	Gender	.001	$t = 3.457$	3.077	.890	[1.323 , 4.830]
	Age	.011	$t = 2.561$	.061	.024	[.014 , .107]
	Education	.002	$t = -3.066$	-2.133	.696	[-3.504 , -.762]
	Interaction Cognitive defusion x SCS	.253	$R^2 = .004$			[-.005 , .001]

Note. FIT-60 = Flexibility Index Test 60; PHQ-15 = Patient Health Questionnaire 15; SCS = Self-Compassion Scale.

Discussion

This study examined the added value of self-compassion in the association between psychological flexibility and somatic symptoms. It was expected that the non-mindfulness components of self-compassion (self-kindness and common humanity) and psychological flexibility would be additively associated with somatic symptoms. The regression analysis contradicted this hypothesis, indicating that self-compassion does not add information to the effect of psychological flexibility on somatic symptoms, neither additively nor in interaction with psychological flexibility. This contradicts the expectation that particularly the combination of specific levels of psychological flexibility and specific levels of self-compassion is associated with individual differences in somatic symptoms. When analyzing the separate components of psychological flexibility, all components were associated with somatic symptoms. The non-mindfulness components of self-compassion were additively associated with somatic symptoms on the components 'contact with the present moment' and 'committed action'. The covariates gender, age and education showed a significant association with somatic symptoms in all models, showing that the female gender, higher age and lower education are associated with more somatic symptoms.

These results do not support the relevance of self-compassion on somatic symptoms in addition to psychological flexibility. Although previous research indicates an association between somatic symptoms and self-compassion and psychological flexibility separately (Dewasaran-van der Ven et al., 2018; Costa et al., 2013; Hughes et al., 2017), current study suggests that the combination of the two variables does not add significant value. This might be explained by a possible overlap between self-compassion and psychological flexibility: a strong correlation between the two factors was found. The non-mindfulness parts of self-compassion are, however, additively associated with somatic symptoms on the components 'contact with the present moment' and 'committed action'. This may indicate that the overlap between self-compassion and psychological flexibility mostly exists in the components acceptance, values, self as context and cognitive defusion. It is possible for example, that when someone practices the core process of 'self as context' (being aware of one's own experiences without attaching to them, thus preserving a transcending sense of self), the ability to see one's experience as part of the larger human experience (common humanity) also develops. This could explain why self-compassion does not add value over psychological flexibility. The absence of an interaction effect of self-compassion and psychological flexibility on somatic symptoms may also be explained by overlap between self-compassion and psychological flexibility.

There are several limitations to this study that should be mentioned. Since participants were mainly gathered using social media, the sample does not fully represent the general population. Only 20% of the participants were men, for example. Since gender showed to be of significant value in the association between self-compassion, psychological flexibility and somatic symptoms as well, the disproportion in gender may have affected the outcome. This might also be the case for education, since most participants were university or

university of applied sciences students or graduates. Another limitation is the fact that it has not been taken into account whether or not the participants were diagnosed with somatoform disorder and that there were no cut-off scores used to exclude deviant scores, such as errors or extreme scores. This may have affected the results of the analyses.

The results of this study showed no additive value for self-compassion in the association between psychological flexibility and somatic symptoms. Although this is not as expected from previous research, it is clinically relevant. The results suggest no need to focus separately on self-compassion, while focusing on psychological flexibility, since self-compassion may improve simultaneously. It may be relevant to pay attention to self-compassion however, when patients have difficulty with the core processes of ‘contact with the present moment’ and ‘committed action’.

Since the results of this study are not in line with the expectations, further research on the relevance of self-compassion is needed. This research should focus on the components of psychological flexibility where self-compassion did offer an additive value (contact with the present moment and committed action) and examine in what way self-compassion could add to these processes. Patients that score low on those components of psychological flexibility, might benefit from treatment that also focus on improving self-compassion. It needs to be further examined if this is the case and how this could be implemented.

References

- A-tjak, J. G., Davis, M. L., Morina, N., Powers, M. B., Smits, J. A., & Emmelkamp, P. M. (2015). A meta-analysis of the efficacy of acceptance and commitment therapy for clinically relevant mental and physical health problems. *Psychotherapy and Psychosomatics*, *84*(1), 30-36. doi:10.1159/000365764
- Batink, T., Jansen, G., & De Mey, H. (2012). De Flexibiliteits Index Test (FIT-60): Een beknopte beschrijving. *GZ-Psychologie*, *4*(5), 18-21.
- Batink, T., Jansen, G., & Peeters, F.P.M.L. (2015). Nieuwe generatie gedragstherapie, nieuwe generatie meetinstrumenten. *Tijdschrift voor Psychiatrie*, *57*(10), 739-748.
- Costa, J., & Pinto-Gouveia, J. (2013). Experiential avoidance and self-compassion in chronic pain. *Journal of Applied Social Psychology*, *43*(8), 1578-1591. doi:10.1111/jasp.12107
- Csikszentmihalyi, M., & Seligman, M. E. (2000). Positive psychology: An introduction. *American Psychologist*, *55*(1), 5-14.

- Dewsaran-van der Ven, C., van Broeckhuysen-Kloth, S., Thorsell, S., Scholten, R., De Gucht, V., & Geenen, R. (2018). Self-compassion in somatoform disorder. *Psychiatry research*, 262, 34-39. doi:10.1016/j.psychres.2017.12.013
- Germer, C. K., & Neff, K. D. (2013). Self-compassion in clinical practice. *Journal of Clinical psychology*, 69(8), 856-867. doi:10.1002/jclp.22021
- Gu, J., Strauss, C., Bond, R., & Cavanagh, K. (2015). How do mindfulness-based cognitive therapy and mindfulness-based stress reduction improve mental health and wellbeing? A systematic review and meta-analysis of mediation studies. *Clinical psychology review*, 37, 1-12. doi:10.1016/j.cpr.2015.01.006
- Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Publications.
- Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes and outcomes. *Behaviour research and therapy*, 44(1), 1-25. doi:10.1016/j.brat.2005.06.006
- Hughes, L. S., Clark, J., Colclough, J. A., Dale, E., & McMillan, D. (2017). Acceptance and Commitment Therapy (ACT) for chronic pain. *The Clinical journal of pain*, 33(6), 552-568. doi:10.1097/AJP.0000000000000425
- Kroenke, K., Spitzer, R. L., & Williams, J. B. (2002). The PHQ-15: validity of a new measure for evaluating the severity of somatic symptoms. *Psychosomatic medicine*, 64(2), 258-266.
- Leary, M. R., Tate, E. B., Adams, C. E., Batts Allen, A., & Hancock, J. (2007). Self-compassion and reactions to unpleasant self-relevant events: The implications of treating oneself kindly. *Journal of personality and social psychology*, 92(5), 887. doi:10.1037/0022-3514.92.5.887
- Martin, M. M., Staggars, S. M., & Anderson, C. M. (2011). The relationships between cognitive flexibility with dogmatism, intellectual flexibility, preference for consistency, and self-compassion. *Communication Research Reports*, 28(3), 275-280. doi:10.1080/08824096.2011.587555
- Neff, K. (2003a). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and identity*, 2(2), 85-101. doi:10.1080/15298860309032

- Neff, K. D. (2003b). The development and validation of a scale to measure self-compassion. *Self and identity*, 2(3), 223-250. doi:10.1080/15298860309027
- Neff, K. D., Hsieh, Y. P., & Dejitterat, K. (2005). Self-compassion, achievement goals, and coping with academic failure. *Self and identity*, 4(3), 263-287. doi:10.1080/13576500444000317
- Neff, K. D., Rude, S. S., & Kirkpatrick, K. L. (2007). An examination of self-compassion in relation to positive psychological functioning and personality traits. *Journal of research in personality*, 41(4), 908-916. doi:10.1016/j.jrp.2006.08.002
- Neff, K. D., & Vonk, R. (2009). Self-compassion versus global self-esteem: Two different ways of relating to oneself. *Journal of personality*, 77(1), 23-50. doi:10.1111/j.1467-6494.2008.00537.x
- Purdie, F., & Morley, S. (2015). Self-compassion, pain, and breaking a social contract. *Pain*, 156(11), 2354-2363. doi:10.1097/j.pain.0000000000000287
- van Ravesteijn, H., Wittkamp, K., Lucassen, P., van de Lisdonk, E., van den Hoogen, H., van Weert, H., ... & Speckens, A. (2009). Detecting somatoform disorders in primary care with the PHQ-15. *The Annals of Family Medicine*, 7(3), 232-238. doi:10.1370/afm.985
- Veehof, M. M., Trompetter, H. R., Bohlmeijer, E. T., & Schreurs, K. M. G. (2016). Acceptance-and mindfulness-based interventions for the treatment of chronic pain: a meta-analytic review. *Cognitive behaviour therapy*, 45(1), 5-31. doi:10.1080/16506073.2015.1098724