Further validation of The Compassionate Engagement and Action Scales

Masterthesis

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Abstract

Objectives: There is increasing evidence that developing compassion improves mental health. Recently, Gilbert and colleagues created The Compassionate Engagement and Action Scales (TCEAS) in order to measure compassion from a new theoretical perspective. These scales measure compassion for self, compassion to others and compassion for others. The scales aid in assessing the precise value of compassion for mental health, and in identifying relations between these three directions in which compassion flows. The current study aims to further validate the TCEAS by assessing its reliability, factor structure and external validity.

Design: This is a cross-sectional study in the Dutch general public. Correlations were computed and the factor structure was assessed through confirmatory factor analyses.

Methods: Participants (n = 195) completed measures of compassion (TCEAS), self-compassion (SCS), positive mental health (MHC - SF), psychological complaints (HADS) and affect (mDES).

Results: Reliability of the TCEAS is good to excellent (Cronbach's α .83 - .90). Compassion for self, compassion to others and compassion from others intercorrelated weakly to modestly. Compassion for self correlated weakly to modestly to positive mental health, psychological complaints and positive affect. Compassion to others had no relation to any of these constructs. Compassion from others correlated weakly to positive mental health and psychological complaints. The factor structure of the scales was not confirmed. This may be partly due to the limited sample size and partly due to the fact that the model was underidentified and could not be tested fully in structural equation modeling.

Conclusions: The TCEAS are a reliable and valid measure of three flows of compassion, as long as total scale scores are used in group- level research. The factor structure could be further investigated. Of the three flows of compassion, compassion for self has strongest links to indicators of mental health. This element may therefore be first the focus of clinical interventions.

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Introduction

During the past fifteen years, research in psychology has increasingly focused on characteristics and psychological processes that contribute to wellbeing. (Seligman & Csikszentmihalyi, 2000). Recently, compassion was identified as relevant to mental health (MacBeth & Gumley, 2012; Zessin et al., 2015). Compassion-focused meditations reduce stress- linked immune and behavioural responses (Pace et al., 2008) and increase feelings of relatedness (Hutcherson, Seppala & Gross, 2008).

Various models of compassion have been proposed. Neff (2003a, p. 87) focuses on self-compassion and sees this as "being touched by and open to one's own suffering, not avoiding or disconnecting from it, generating the desire to alleviate one's suffering and to heal oneself with kindness". In her view, self-compassion consists of three elements with both a positive and a negative pole. The poles represent compassionate versus uncompassionate behavior. The pairs are self-kindness versus self-judgment, common humanity versus isolation and mindfulness versus over-identification. Self-kindness is being kind and understanding to oneself; self-judgment consist of being harsh and judgmental. Common humanity means viewing oneself as part of mankind; isolation means feeling as an isolated individual. Mindfulness means keeping feelings and thoughts in awareness; over-identification is being absorbed by them (Neff, 2003a). Self-compassion represents the interaction between these six elements (Neff, 2016).

Gilbert (2014b) defines compassion as 'a sensitivity to the presence of suffering in self and others with a commitment to try to alleviate and prevent such suffering'. His approach (Gilbert, 2005; Gilbert, 2014a; Gilbert, 2014b) explains compassion from an evolutionary point of view. Compassion may have emerged out of caregiving, which ensures survival of kin. In this perspective, behavior is seen as stemming from one of three emotion regulation systems, i.e. the threat system, the resource system and the soothing system. The soothing system is thought to be the biological basis of compassion. It is formed through healthy attachment to caregivers. A well-functioning soothing system calms down over activity of the threat system and resource system; thereby influencing wellbeing (Gilbert, 2005). According to Gilbert (2005; 2014b), compassion flows in three directions: to the self, to others and from others to the self. He conceptualizes compassion as consisting of two dimensions. The first dimension is engagement with suffering and consists of approaching, understanding and engaging with suffering. The second dimension is action and comprises working to alleviate and prevent suffering and acquiring wisdom. While compassion is thought to emerge through the biological infrastructure of the soothing system, it goes beyond affiliation. Compassion can be felt for all beings; not only those to whom we closely relate. As the Dalai Lama says: "Real compassion is based on reason. Ordinary compassion or love is limited by desire or attachment" (2002a: 76; in Wang, 2005).

Both Neff and Gilbert expect compassion to be beneficial to mental health (Neff, 2003a; Gilbert, 2005). Mental health is currently operationalized in two distinct, but related continua: positive mental health and mental illness (Lamers, Westerhof, Bohlmeijer, Ten Klooster & Keyes, 2011). While mental illness refers to psychological complaints, positive mental health refers to a state of well-being, effective functioning in individual life and effective functioning in community life (Lamers et al., 2011). Early research indeed shows these expected relations of compassion to various aspects of mental health. In youth, self-compassion has been shown to be predictive of depressive symptoms (Stolow, 2015). A recent meta-analysis shows that throughout different populations self-compassion is indeed related to psychopathology (Macbeth & Gumley, 2012); while another meta-analysis reveals its association to positive mental health (Zessin, Dickhäuser & Garbade, 2015). Intervention research shows that it is possible to improve compassion (Jazaierie et al., 2013) and early systematic reviews suggest this can have beneficial effects on mental health (Leavis & Uttley, 2015; Shonin et al., 2015; Zhen et al., 2015). Most research so far has focused exclusively on self-compassion using Neff's framework.

Currently, there are several questionnaires measuring compassion (Chang, Fresco & Green, 2014; Hwang, Plante & Lackey, 2008). Neff's Self- Compassion Scale (2003b) is widely used to measure compassion to the self (MacBeth & Gumley, 2012). Sprecher and Fehr's Compassionate Love Scale (2005) focuses on compassion to others. Gilbert, Clarke, Hempel, Miles & Irons (2004) devised scales measuring self-criticism and self-reassurance, closely related phenomena. Gilbert, McEwan, Matos & Rivis (2012) measure fears of compassion. However, until recently it was not possible to measure different flows of compassion within the same conceptualization.

Gilbert and colleagues have recently developed the Compassionate Engagement and Action Scales (TCEAS) (Gilbert et al., 2015). TCEAS are three individual scales inquiring into compassion to the self, compassion to others and compassion experienced from others. The TCEAS have been validated in a study including British, American and Portuguese university students and Portugese community members (Gilbert et al., 2015). Cronbach's alpha of the scales varied between .84 and .95. Exploratory factor analyses of the separate scales revealed a structure with two factors, mirroring the two dimensions of compassion. In the scale measuring self-compassion, the first factor was additionally split into two dimensions. The one comprised sensitivity to suffering, the other engagement with suffering. This structure was confirmed in a different sample. The three scales showed moderate intercorrelations and weak to moderate correlations to psychological complaints and well-being (Gilbert et al., 2015). To confirm that the TCEAS are reliable and valid measures of compassion, and thereby be eventually be better able to assess the clinical significance of the concept, further research into the psychometric properties of the scales is needed.

The present study examines the structure, reliability, and the concurrent, convergent and

discriminant validity of TCEAS in the general population in The Netherlands. The hypotheses are as follows. First, it is expected that the three scales have high internal reliability, i.e. a Cronbach's alpha >.80 (Kline, 2000). Second, it is expected that in a confirmatory factor analysis, Gilbert's model with two factors per scale is confirmed. Third, it is expected that the scales of TCEAS show good concurrent, convergent and divergent validity with theoretically related constructs. It is expected that the TCEAS scales intercorrelate modestly, as they did in Gilbert's original study (Gilbert et al., 2015). Compassion to the self is expected to have a moderate positive correlation with an existing measure of self-compassion: they measure the same construct, though in a different operationalization (Gilbert et al., 2015; Neff, 2003a). Based on Gilbert et al.'s (2015) research and additional studies (Klimecki, Leiberg, Lamm & Singer, 2012; Mongrain, Chin & Shapira, 2011), all three TCEAS scales are expected to correlate modestly to indicators of positive mental health. Based on the same study, compassion to self and compassion from others are expected to have low correlations to psychological complaints. Based on Zessin, Dickhäuser & Garbade's (2015) earlier research, it is expected that compassion to the self has a positive and moderate correlation to positive emotions; with negative emotion, a moderately negative correlation is expected. Based on a recent study by López, Sanderman, Ranchor & Schroevers (submitted), it is expected that compassion to others has no relation to psychological complaints, positive or negative affect.

Method

Participants

In the current study, 195 respondents participated. Their age varied between 16 and 72 years, with an average of 34,97 years (SD = 15.9). Of the respondents, 57.4% were female. Of the respondents 38.5% completed scientific education, while 26.2% completed higher secondary education and 24.1% completed higher vocational education. Respondents were predominantly unmarried (66.2%), while 27.7% was married; 4.6% was divorced and 1.5% was widowed. Most of the respondents were working (45.6%) or studying (37.4%), while others were retired (7.2%), unemployed (4.6%) and unfit for work (3.6%). Support from a philosophy of life was experienced by 24.6% of the respondents. Of these respondents, 41.7% had an unspecified philosophy of life (i.e. not one of the major religions), while 25% was catholic and 20.4% protestant.

Procedure

Respondents were approached via snowball sampling by graduate and undergraduate students. Respondents were mainly acquaintances of these students, or were approached via acquaintances. We aimed for a heterogenous sample with respect to age, gender and education. For inclusion, it was required that a respondent was 16 years or older and had a good command of Dutch. Questionnaires were filled out online through Qualtrics software. After consenting to participate, respondents received a link to the questionnaire. They filled out the questionnaire at their own time and pace. Anonymous handling of data was guaranteed. The questionnaire consisted of 188 questions in total. It took most respondents between 25 and 50 minutes to fill it out.

Measures

The Compassionate Engagement and Action Scales (TCEAS). TCEAS are three separate scales measuring compassion to the self, compassion to the other and compassion experienced from the other (Gilbert et al., 2015). Each scale consists of 13 items, which generate an engagement and an action sub scale. Two items are filler items and are excluded from the analysis, resulting in a 6 item engagement and a 4 item action sub scale. Responses are given on a 10 point Likert scale (*1 = never* to *10 = always*). High scores indicate high compassion. The scales have good psychometric properties in the original version (Gilbert et al., 2015). The Dutch version of the scale was translated and retranslated by a professional institution. Content analysis with a few participants had been done beforehand (H. Trompetter, personal communication, June 14, 2016).

Self-Compassion Scale (SCS). The SCS measures self-compassion (Neff, 2003b). The scale consists of six subscales, i.e. self-kindness, common humanity, mindfulness, self-judgment,

isolation and overidentification. Participants are asked how often they behave in a certain manner, using a five point Likert format (*1 = almost never* to *5 = almost always)*. The scale has repeatedly been validated (Neff, 2003b; López et al., 2015; Neff, 2015). Although it is debated whether use of a total scale score is justified (López et al., 2015), in this research the total scale score was used, based on Neff (2015). High scores indicate high self-compassion. In its Dutch translation (Neff & Vonk, 2009), the scale consists of 24 items. In the current study, the Cronbach's alpha of this scale was .75.

Mental Health Continuum – Short Form (MHC- SF). The MHC-SF (Keyes et al., 2008) is a 14 item scale measuring positive mental health. It consists of three items measuring emotional well-being, six items measuring psychological well-being and five items measuring social well-being. Participants rate the occurrence of feelings and experiences on a 6 point Likert scale (from *0 = never* to *5 = every day*). Higher scores indicate higher positive well-being. The MHC- SF has shown good psychometric properties in its Dutch translation (Lamers et al., 2011). In the current study, Cronbach's alpha was .85 for the total scale. For emotional well-being, Cronbach's alpha was .78, for social well-being it was .67 and for psychological well-being it was .74.

Hospital Anxiety and Depression Scale (HADS). The HADS is a 14 item questionnaire that consists of two sub scales, anxiety and depression (Zigmond & Snaith, 1983). Participants rate how often they experienced certain feelings in the past week. Response options vary between questions. Responses are always given on a four point Likert scale, varying from 0 to 3. Higher scores on the sub scales indicate higher anxiety respectively depression.The scale's Dutch translation has adequate psychometric quality for both sub scales (Spinhoven et al., 1997). In the current study, Cronbach's alpha was .65 for the depression scale and .79 for the anxiety scale.

Modified Differential Emotions Scale (M-DES). The M-DES is a 16 item questionnaire measuring various emotions (Fredrickson, Tugade, Waugh & Larkin, 2003). The scale consists of a positive and a negative emotions sub scale (Fredrickson et al., 2003), both comprising 8 items. Participants are asked to which extent they generally feel in a certain way. Responses are given in a 7 point Likert format, ranging from *1 = not at all* to *7 = very intense.* Higher scores indicate higher positive respectively negative emotion. The scale has adequate internal reliability in its original version (Fredrickson et al., 2003), and satisfactory psychometrical properties in its Greek translation (Galanakis, Stalikas, Pezirkianidis & Karakasidou, 2016). In the current study, Cronbach's alpha was .71 for the positive emotion subscale and .78 for negative emotion subscale.

Data-analysis

Confirmatory factor analysis was conducted in the student version of LISREL 9.2. A correlated two factor model is tested, as this model is mathematically equivalent to a hierarchical model with two subfactors. The additional split up in the engagement subfactor is left out of the analyses. The model has too few degrees of freedom to test it fully in structural equation modeling. Maximum likelihood was used as an estimation method. The data were not normally distributed, so a robust procedure had been most appropriate. However, LISREL was not able to run these analyses. Using maximum likelihood estimation in case of non-normal distributions can lead to deviant solutions. Various indices were used to assess model fit, i.e. the root mean square error of approximation, the comparative fit index and the goodness of fit index. Indices from various statistical backgrounds are considered, to overcome limitations of specific indices (see Moss, 2016). The model is regarded acceptable if the root mean square error of approximation < 0.08; if the goodness of fit index > .90; if the comparative fit index > .93. While some models overestimate fit for sample sizes < 200, the root mean square error of approximation and the comparative fit index seem to be less sensitive to this (see Moss, 2016).

Reliability and correlation analyses were conducted using SPSS 23.0. First, reliability analyses were conducted. Then sub scale and total scale scores were computed, assessed for normality and then the correlational analyses were conducted. As most data seemed to come from non-normal distributions, Spearman's rho was used as correlational measure. There were no missing values, as all respondents filled out the entire questionnaire. Results were interpreted according to the following guidelines. Reliability values above .70 are considered acceptable; values above .80 are considered high; values above .90 are considered excellent (Georg & Mallery, 2003; Kline, 2000). Correlations below .30 are seen as low, correlations between .30 and .60 are moderate and correlations above .60 are seen as high (Anderson & Finn, 1996).

Results

Structure

Table 1 shows the results for the confirmatory factor analyses. Contrary to expectations, the model did not fit to the data for all scales. Only the Compassion from others scale had acceptable model fit for most indices.

Table 1

Confirmatory Factor Analysis of TCEAS Using Maximum Likelihood Estimation

	Compassion for self [a]	Compassion to others	Compassion from others
RMSEA	0.130	0.117	0.096
GFI	0.868	0.879	0.913[b]
CFI	0.849	0.908	0.942[b]

Note. RMSEA = root mean square error of approximation; GFI = Goodness of Fit Index; CFI = Comparative Fit Index

[a] A reduced model was tested, leaving out the original split-up in the engagement subfactor.

[b] These values indicate good fit according to predefined criteria.

Reliability

For descriptive results of the TCEAS, see table 2. In line with the second hypothesis, internal reliability was high for all three scales. For Compassion for self, an alpha of .83 was found. Compassion to others had an alpha of .87. For Compassion from others, Cronbach's alpha was .90.

Concurrent validity

In line with the third hypothesis, two of the three TCEAS scales intercorrelated modestly; one intercorrelation was weaker. Compassion to self correlated to compassion from others with .28 ($p < .0001$), while its correlation to compassion to others was .37 ($p < .0001$) Compassion to others and compassion from others correlated with .53 ($p < .0001$) (table 2).

Convergent validity

Correlations to self-compassion. Compassion to self correlated modestly to self-compassion measured with the SCS ($r = .39$, $p < .0001$). Compassion from others had a weaker correlation to this measure ($r = .20$, $p = 0.002$). Compassion to others had no significant relation to self-compassion as measured with the SCS ($r = 0.10$, $p = 0.08$) (table 2).

Positive mental health. As expected, compassion for self was modestly related to positive mental health ($r = .42$, $p < 0.0001$). Compassion from others was also related to positive mental health, although the correlation was weaker than expected ($r = .22$, $p = 0.001$). Compassion to others was, contrary to expectations, not related to positive mental health in the current sample ($r = 0.06$, $p = .21$) (view table 2). While all thee subscales covaried with positive mental health in the same direction, psychological well-being had the strongest relationship with compassion measures.

Positive emotion. Compassion for self correlated, as expected, positively with positive emotion ($r = .25$, $p < 0.0001$). Compassion to others ($r = 0.07$, $p = .17$) and compassion from others ($r = 0.06$, $p = 0.22$) were not significantly related to positive emotion (table 2).

Discriminant validity

Psychological complaints. Compassion for self was moderately and inversely related to psychological complaints ($r = -.27$, $p < 0.0001$); compassion to others was not related to this construct ($r = -.03$, $p = 0.32$). Compassion from others was weakly and inversely related to psychological complaints ($r = -.18$, $p = 0.005$). Compassion for self was negatively associated with both anxiety and depression ($r = -.20$, $p = 0.002$ respectively $r = -.24$, $p < 0.0001$); compassion from others was inversely related to depression ($r = -.25$, $p < 0.001$) while not to anxiety ($r = -.07$, $p = .18$) (table 2).

Negative emotion. Neither Compassion for self ($r = -.05$, $p = .25$), compassion to others ($r = -.09$, $p = .12$) nor compassion from others ($r = -.05$, $p = .26$) were significantly related to negative emotion (table 2).

Summary of results

Out of fourteen hypotheses with regard to the concurrent and external validity of the TCEAS, eight were confirmed completely. For four additional hypotheses, relations were significant and in the direction that was expected, but lower than expected. For the remaining two hypotheses, no empirical evidence was found.

Table 2

Descriptives of the TCEAS, Correlations Between TCEAS Scales and Correlations With Validation Measures (Spearman's Rho)

Measures	Compassion for self	Compassion to others	Compassion from others
Mean (sd)	65.5 (11.8)	71.7 (11.7)	65.0 (12.4)
Compassion for self (TCEAS)	-	-	-
Compassion to others (TCEAS)	.28**	-	-
Compassion from others (TCEAS)	.37**	.53**	-
Self-compassion (SCS)	.39**	.10	.20**
Positive mental health (MHC-SF)	.42**	.06	.22*
Emotional well-being (MHC-SF)	.25**	-.00	.22**
Psychological well-being (MHC-SF)	.41**	.03	.23**
Social well-being (MHC-SF)	.32**	-.01	.13*
Positive emotion (mDES)	.25**	.07	.06
Psychological complaints (HADS)	-.27**	-.03	-.18**
Anxiety (HADS)	-.20**	.05	.07
Depression (HADS)	-.24**	-.10	-.25**
Negative emotion (mDES)	-.05	.09	.05

* $p < 0.05$

** $p < 0.01$

Discussion

The current research suggests that the TCEAS are a reliable and valid measure of compassion. High internal reliability was found, internal correlations were as hypothesized and in general the scales had theoretically expected links to related constructs. However, the hypothesized factor model could not be reproduced.

The limited model fit may be explained by the fact that a test was run that is not suitable for non-normal distribution. Also, sample size was relatively small in the current study. The model could reach adequate fit when the sample size is larger. However, for the Compassion for self scale, the additional split up in the engagement factor could not be tested since the model was underidentified. This may have resulted in lower model fit for this scale. The items in this engagement factor have earlier been found to load on different sub factors and also relate to indicators of psychological complaints differently (Gilbert et al., 2015). In light of the current evidence, it would be advisable for now to use only TCEAS total scale scores and no separate factor scores.

Of the three flows of compassion, compassion for self has the greatest link to indicators of mental health and positive affect, followed by compassion from others. This implies that people who have more compassion for themselves, have better mental health. To a lesser extent, also people who experience more compassion from others have better mental health. People who have more compassion for others, do not generally have better mental health. These findings may be explained by viewing compassion for self primarily as an adaptive emotion regulation strategy (Trompetter, De Kleine & Bohlmeijer, 2016). Compassion entails facing difficult experiences openly, allowing oneself to be touched by them. This approach enables people to become conscious about what touches them and taking some time to let their emotions unfold, while watching this vigilantly. Thereby, they manage to stay out of automatic responses which are known to lead to emotional problems over time (Williams, Teasdale, Segal & Kabat – Zinn, 2007). While this explanation closely mirrors the hypothesized effects of mindfulness, compassion may also elicit feelings of warmth in the face of drawbacks; as well as it promotes taking good care of oneself in daily life (Neff, 2003a). The following findings may further fit with this emotion regulation hypothesis. Only compassion for self was related to positive effect, while none of the flows of compassion was related to negative emotion. Possibly, negative emotions occur involuntarily; and someone's response to these negative emotions defines how much positive emotions are experienced besides. The fact that compassion to others and compassion from others scales were not related to affect, while compassion for self was, may hint to a strong emotion regulation effect of compassion for self specifically.

It comes as a surprise that compassion for others has no relations to mental health indicators

in the current study. In general, compassion to others may relate more strongly to other-oriented concepts like perspective taking, social support, volunteerism, attachment, romantic love et cetera than to individual mental health (Fehr, Sprecher & Underwood, 2009). However, one element that may make it hard to interpret the results with regard to compassion for others, is that various motivations may lay behind the attentive behavior. Overidentification with another person's suffering, taking care of other people as a defense mechanism or because of perceived cultural demands (López et al., 2016) may also lead to high Compassion for others scores. In that case, a possible relation of true "transcendental" compassion for others with mental health would be obscured. Compassion *from* others may be related to positive mental health indicators due to feelings of love and relatedness. For a recent conceptualization of love, see Fredrickson (2013). Relations to depression may be explained by reduced isolation (Grippo et al., 2007). It should however be noted that the current research comparing various forms of compassion is strictly correlational, so no causal links can be drawn yet.

As described above, the three TCEAS scales have different relations to psychological outcomes. Also, the scales intercorrelated only weakly to modestly. That means people who are self-compassionate are not necessarily more compassionate to others nor do they per se experience more compassion from others. From both findings it can be concluded that the three flows of compassion refer to relatively distinct psychological processes. This suggests that it is useful to consider them separately in future research.

With regard to the various conceptualizations of compassion, it is noted that SCS self compassion and TCEAS compassion to self correlate only modestly. This implies that the two concepts are rather distinct. The difference may lay in part in the fact that Neff (2003a) views compassion of consisting of both a positive and a negative pole, while Gilbert (2014b) considers it a unipolar concept. Another difference may lay be that Gilbert operationalizes compassion more in terms of behaviour, while Neff seems to refer more to a core view of oneself and life. In the current research, compassion as a unipolar, positively framed concept correlated more strongly to positive mental health than to mental illness. López et al. (2015) revealed this before, as well as they showed that the negative SCS pole correlates more strongly to an indice of mental illness than to positive mental health. These findings may imply that a unipolar conceptualization of compassion is more appropriate than a bipolar. Although highly relevant to mental health (Gilbert & Procter, 2006), negatively poled elements like self-criticism may be best considered conceptually distinct from compassion.

Limitations

Various respondents indicated that they found the TCEAS questions difficult to answer. The current

study did not address this issue. In this research, compassion for self is treated as a two-dimensional concept, while Gilbert et al.'s research (2015) has shown that the engagement factor in compassion for self can be further split up into a sensitivity and another engagement subfactor. Future research may further examine these subfactors and their linkages to indicators of mental health.

Conclusion and recommendations

The TCEAS proved to be a valid and reliable measure of compassion and can be used for research into compassion on group- level. The factor structure should be further researched. The current research provides further evidence that compassion is indeed relevant to mental health. Compassion for self, compassion to others and compassion from others seem to be three distinct, though related processes. Future research may identify the extent to which the three flows stem from one overarching compassion concept. Also, it may be investigated how compassion develops over time. The current research suggests compassion for self may be central in the fostering of mental health, relative to the other two flows of compassion. Mirroring Fredrickson's broaden and build theory (2004), it could be considered whether compassion for self may first lead to better mental health, which then in turn leads to being better able to empathize with other human beings and receive their care and comfort. Although much remains unclear about the linkages between the three flows of compassion, for now it seems that self-compassion might the most important one in mental health and interventions might focus on this attribute first.

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