Assessment

Validation of the Psychometric Properties of the Self-Compassion Scale. Testing the Factorial Validity and Factorial Invariance of the Measure among Borderline Personality Disorder, Anxiety Disorder, Eating Disorder and General Populations

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Background: During the last years, there has been a growing interest in self-compassion. Empirical evidences show that self-compassion is associated with psychological benefits among young adults and it might be considered a buffer factor in several mental disorders.
Aims: The aim of this study was to validate the psychometric properties of the Self-compassion Scale (SCS: Neff, 2003a) after the initial lack of replicating the original six-factor structure.
Method: Data were collected from the overall database of a research centre (56 men and 305 women; mean age = 25.19) and comprised four groups: borderline personality disorder, anxiety disorder, eating disorder and general population.
Results: Confirmatory factor analysis supported a two-factor model (self-compassionate attitude versus self-critical attitude) with good internal consistencies, construct-related validity and external validity. Configural, weak measurement and structural invariance of the two-factor model of SCS were also shown.
Conclusions: Findings support the generalizability of the two-factor model and show that both properties and interpretations of scores on self-compassion are equivalent across these population groups. Copyright © 2015 John Wiley & Sons, Ltd.

Key Practitioner Message:
- A two-factor structure of SCS with strong psychometric validity was supported in clinical and non-clinical samples.
- Helping individuals with limited experiences of compassion to develop positive internal processing systems seems to be related with better mental health, self-acceptance and self-nurturing abilities.
- The non-probabilistic sampling limits the generalization of our conclusions.

Keywords: Self-compassionate Attitude, Self-critical Attitude, Two-factor Model, Factorial Invariance

INTRODUCTION

During the last years, there has been a growing interest in self-compassion and its potential benefits (Hofmann, Grossman, & Hinton, 2011; Petrocchi, Ottaviani, & Couyoumdjian, 2013) related to mental health and well-

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being (Banard & Curry, 2011; Leary *et al.*, 2007; MacBeth & Gumley, 2012; Neff, 2003a, 2003b; Neff, Kirkpatrick, & Rude, 2007; Neff & Lamb, 2009; Neff & Vonk, 2009; Wei, Liao, Tsun, & Shaffer, 2011).

Empirical evidences show that self-compassion is associated with psychological benefits among young adults (Banard & Curry, 2011; Neff, 2011) and it might be considered a buffer factor against not only the development but also the maintenance of several mental disorders such as depression and anxiety (Longden & Proctor, 2012;

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Petrocchi *et al.*, 2013). Indeed, there are already some data that suggest that self-compassion may represent an important psychological resource for older adults as they strive to achieve a positive ageing (Phillipps & Ferguson, 2012).

Compassion is typically defined as one's awareness of the suffering of the self and the others, along with the desire to relieve and prevent it (e.g., http://www.thefreedictionary.com/compassion). Adding to a long-standing interest in self-compassion, over the last decade, there has been an increased focus in understanding and measuring it. Gilbert (2009; Gilbert & Choden, 2013) used a typical Buddhist definition of self-compassion. According to Gilbert, compassion is thought as a social motivation, which involves several competencies and attributes such as sympathy, empathy, distress tolerance and courage. A Buddhist definition of self-compassion is also underlain by the Buddhist scholar Geshe Thupten Jinpa, who developed the Stanford compassion cultivation training (Jazaieri *et al.*, 2013). Compassion is therefore seen as a multidimensional process composed of four key components: (1) an awareness of the suffering (cognitive/empathic awareness); (2) a sympathetic concern related to being emotionally moved by the suffering (affective component); (3) a desire to see the relief of that suffering (intention); and (4) a responsiveness or readiness to help to relieve it (motivational). According to this perspective, the motivational and empathic aspects are fundamental.

From another perspective, Neff (2003a) defines self-compassion as a healthier way of relating to oneself, which involves

> (…) being touched by and open to one's own suffering, experiencing feelings of caring and kindness, taking an understanding, nonjudgmental attitude towards one's inadequacies, failures and recognizing experience as part of a common human experience.

Neff (2003a) identified three interacting components of self-compassion, each of these consisting of two opposite dimensions: self-kindness versus self-judgment, common humanity versus isolation and mindfulness versus over-identification. The self-kindness versus the self-judgment dimension is related to the ability to be caring and understanding with oneself, rather than being harshly self-critical, under the presence of suffering or failure. The common humanity versus the isolation dimension involves the ability to remind ourselves that suffering is part of the human nature. Finally, the mindfulness-versus-over-identification dimension entails awareness of, attention to and acceptance of one's painful experiences in a balanced and non-judgmental way (Neff, 2003a, 2003b).

Based on this theoretical framework, Neff has developed the Self-compassion Scale (SCS: Neff, 2003b). The SCS contains 26 items measuring the three interacting components of self-compassion. Neff (2003b) found that a two-factor model for each of the three components fitted the data better than a one-factor model for each component. The positive and the negative items in each of the three proposed components were therefore separated resulting in the six intercorrelated subscales: self-kindness, self-judgment, common humanity, isolation, mindfulness and over-identification. Indeed, Neff found that a single higher-order factor of self-compassion explains the intercorrelations among these subscales (Neff, 2003b). The presence of this higher-order factor is used by Neff (2003b) as an evidence that the scale represents a coherent construct rather than a collection of related but distinctive components.

Despite the use of a single-factor construct of self-compassion (Neff, 2003a, 2003b; Neff, Pisitsungkagarn, & Hseih, 2008; Neff *et al.*, 2007), recent studies with SCS have failed to confirm this higher-order single-factor structure (Garcia-Campayo *et al.*, 2014; Petrocchi *et al.*, 2013; Phillipps & Ferguson, 2012).

Recent evidence has shown that the subscales are independent and do not measure a single overarching compassion construct (Williams, Dalglseih, Karl, & Kuyken, 2014). These studies tested both the original six-factor model and alternative models. None of these studies found an acceptable fit for the data. Indeed, these studies showed that the addition of a higher-order factor actually reduced the model fit. This is consistent with the current Functional magnetic resonance imaging (fMRI) evidence of Longe *et al.* (2010), which provides indirect support to this view, as it identifies different cortex regions involved in self-criticism and self-reassurance. Although the fMRI responses suggest that critical and compassionate responses are, at least, partially independent, subjective responses to the scenarios were not evaluated (Longe *et al.*, 2010). Additionally, there is already some research that shows the relevance of a deconstruction of self-compassion construct into two factors (i.e., self-compassion factor and self-criticism factor) when we discuss its relationship with psychopathology (Ferreira, Pinto-Gouveia, & Duarte, 2013; Galhardo, Cunha, Pinto-Gouveia, & Matos, 2013; MacBeth & Gumley, 2012).

This study sets out to explore the factor structure of the SCS in both clinical and non-clinical samples. A set of several disorders ranging from a more severe psychopathology to the general population allows us to find a suitable and strong SCS structure and its use in a large amount of clinical and non-clinical settings. Thus, the current study specifically addresses the following aims: (1) to replicate the factor structure identified by Neff (2003a) in borderline personality disorder, anxiety disorder, eating disorder and general population; (2) to explore

an alternative two-factor model; and (3) to examine the measurement invariance of the SCS across these four groups.

METHOD

Sample and Participants Selection

Participants were selected from the overall database of a research centre because they belong to one of four diagnostic groups ($n_{(borderline\ personality\ disorder)} = 74$; $n_{(anxiety\ disorder)} = 84$; $n_{(eating\ disorder)} = 104$; and $n_{(general\ population)} = 999$). The selection of the groups did not result from any theoretical option but a convenience sample. The main sample included 361 participants, 56 men and 305 women, with a mean age of 25.19 (standard deviation = 7.63; age range 13–56 years). Since the overall sample was large enough, it was randomly divided into approximately two groups ($n_{(group\ test)} = 220$; $n_{(validation\ group)} = 132$) to address the question of generalizability (i.e., the replicability of the model with independent data). No differences were found regarding age and years of school attendance.

Measure

The SCS (Castilho & Pinto-Gouveia, 2011; Neff, 2003a) is a 26-item self-report questionnaire of self-compassion, rated on a five-point Likert-type scale (from 1 = *never* to 5 = *always*).

Procedure

Databases were limited to adult samples; studies were eligible for inclusion if they included SCS (Neff, 2003a). Diagnosis was established by using the following diagnostic interviews: Structured Clinical Interview for DSM-IV Axis II Personality Disorders (First *et al.*, 1997), Anxiety Disorders Interview Schedule for DSM-IV (DiNardo, Brown, & Barlow, 1994) and Eating Disorder Examination 16.OD (Fairburn, Cooper, & O'Connor, 2008; Ferreira, Pinto-Gouveia, & Duarte, 2010). Only patients without co-morbidity with other disorders were selected. All analyses were performed with SPSS-AMOS (V.18, SPSS Inc., Chicago, IL, USA).

Psychometric Data Evaluation

Confirmatory factorial analyses (CFAs) were conducted in Sample 1 (test sample) to confirm the underlying structure of SCS. A six-factor model and a higher-order one-factor model, previously identified by Neff (2003a), were independently tested against the proposed two-factor model.

The replicability of the best solution was tested with an independent sample (validation group).

The model fit was evaluated using several descriptive fit indices: χ^2, comparative fit index (CFI), root mean square error of approximation (RMSEA) and its *p*-value for H$_0$: RMSEA ≤ 0.05, Tucker–Lewis Index (TLI), Akaike Information Criterion (AIC), Browne–Cudeck Criterion (BCC) and Expected Cross-Validation Index (ECVI). The following cut-off criteria were considered: (1) CFI and TLI values equal to 0.90 or greater; (2) RMSEA values of 0.06 or below; and (3) AIC, BCC and ECVI small values of cross-validation are better (Hu & Bentler, 1999; Kline, 1998).

A multigroup analysis was performed to show the equivalence of the proposed two-factor model across the four groups under study. Configural invariance, measurement invariance (e.g., metric/weak measurement invariance and scalar/strict measurement invariance) and structural invariance across the samples were tested in that order. Both significant $\Delta\chi^2$ and ΔCFI decreases greater than 0.01 were used as a criterion to reject the null hypothesis (Dimitrov, 2010).

RESULTS

Testing Alternative Models

An *a priori* sample size calculator for structural equation models was used to compute the sample size required for the current study, given the number of observed and latent variables in the model, the anticipated effect size and the desired probability and statistical power levels. *A posteriori*, it was used as a Web-available macro from Preacher and Coffman (2006, available from http://quantpsy.org/). Based on this procedure, the minimum sample size to detect a small effect (0.1), 0.8 power and 26 manifest variables for $\alpha = 0.05$ is 152 subjects. Thus, besides being available, the groups were considered together in the first CFA performed to develop a good-fitting solution and also due to evidences of a two-factor solution that arise in some individual studies (Ferreira *et al.*, 2013; Galhardo *et al.*, 2013; MacBeth & Gumley, 2012).

Since the overall sample was large enough ($n = 361$), it was randomly divided into two subsamples. In this strategy, the first sample (test sample) was used to develop a good-fitting solution where some parameters were freely estimated. The 26 items of SCS were subjected to CFAs. The following models were tested: (a) a six-factor model (self-kindness, self-judgment, common humanity, isolation, mindfulness and over-identification); (b) a higher-order factor model (self-compassion); and (c) a two-factor model (self-compassionate attitude and self-critical attitude).

The SCS six-factor model provided a poor fit to the variance–covariance matrix data in the test sample. The

modification indices showed several correlations between items that belong to different factors. There were also strong intercorrelations between the factors, which indicate higher-order factors. However, the second-order CFA did not show an acceptable fit, as well.

A two-factor solution grounded on both theoretical conceptualization and observed poor fit was fitted to the data. Results showed 13 SCS items as manifestations of a self-compassionate attitude and 13 SCS items as manifestations of a critical attitude towards the self. The modification indices suggested four additional covariance errors.

The analysis of the improvement of the model fit showed a χ^2 difference value of 122.635 (degrees of freedom = 4; $p < 0.001$), illustrating that the model is significantly better than the two-factor model without correlated errors, by adding these covariance errors (Figure 1).
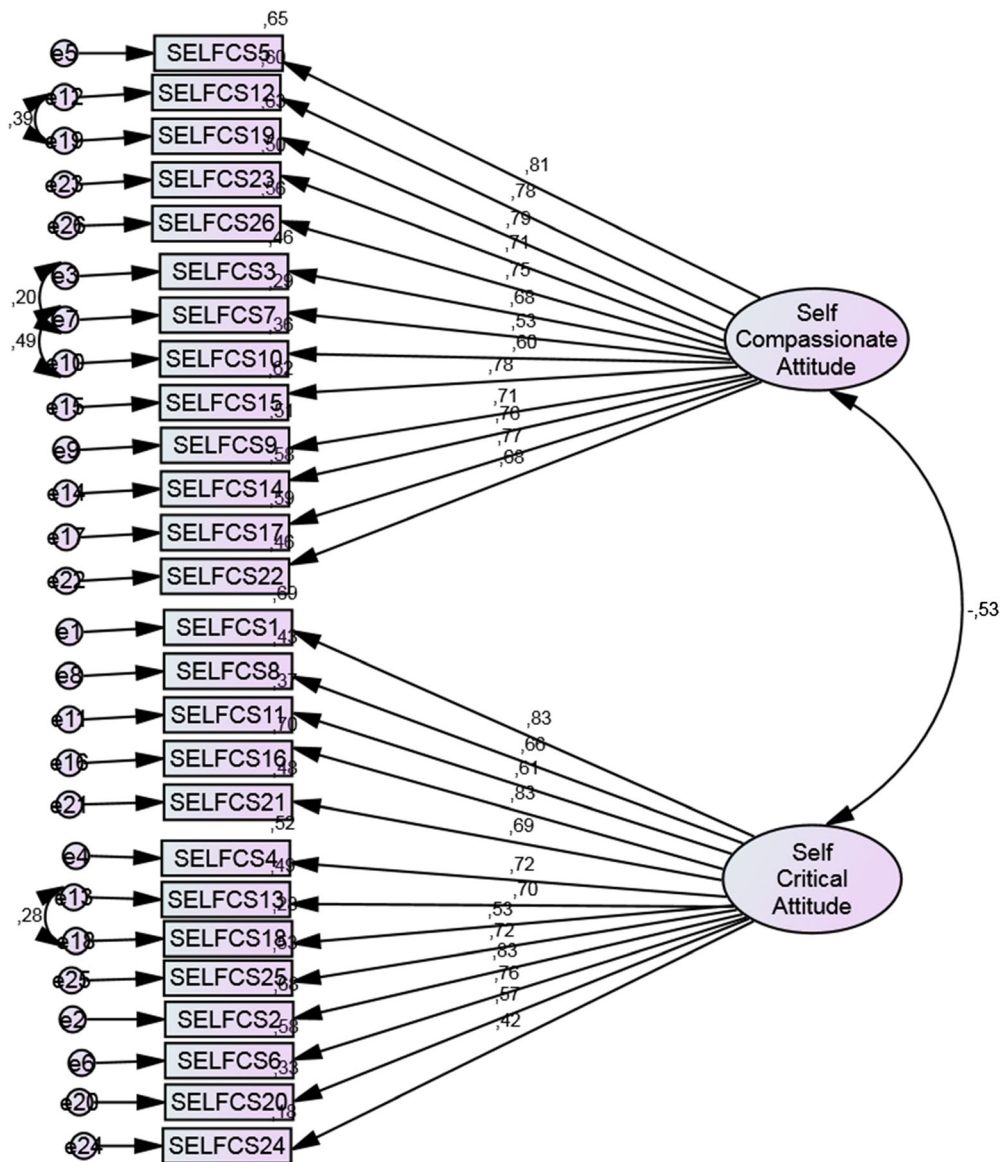

Figure 1. Standardized loadings and correlations for the two-factor model according to the modification indices and theoretical considerations

The overall goodness-of-fit indices gave a better fit to the data (CFI = 0.880; TLI = 0.868; parsimony CFI = 0.801; RMSEA = 0.070; AIC = 778.248; BCC = 801.029; ECVI = 3.554) as compared with both the original Neff (2003a) six-factor model and the models tested. Table 1 provides information regarding data fit of the different models. The model fit statistics comparison, AIC, BCC and ECVI, indicated that the two-factor solution model had a better fit, with the lowest values.

Results supported a two-factor solution (self-compassionate attitude and self-critical attitude) with a moderate negative correlation between the two factors ($r = -0.53$).

Both factors have good reliability (Cronbach's $\alpha = 0.91$, for self-compassionate attitude; Cronbach's $\alpha = 0.89$, for self-critical attitude). The analysis of the average variance extracted (AVE) values showed evidence of convergent validity for both self-compassionate attitude (0.65) and self-critical attitude (0.60).

The discriminant validity was supported by the comparisons between the AVE values and the square correlation between the factors. Since the AVE values obtained were higher than $r^2 = 0.28$, the discriminant validity was assumed.

The criterion-related validity was supported by a one-way analysis of variance with significant differences in both SCS factors for the four groups. Medium effect size (η^2) was found (0.12 for self-compassionate attitude and 0.06 for self-critical attitude). Table 2 presents the mean scores and standard deviations for both SCS factors for the four groups.

The clinical validity of the two-factor model was shown by the correlations of self-compassionate attitude and self-critical attitude with depression, anxiety and stress (DASS-42); i.e., self-compassionate attitude is more strongly negatively associated with psychopathology ($-0.566 \leq r \leq -0.253$), and self-critical attitude is more positively associated with psychopathology ($0.229 \leq r \leq 0.573$). These results showed the predictive value of SCS for specific clinical outcomes (e.g., depression, anxiety and stress symptoms), and it is primarily determined by the sensitivity and specificity with which the SCS identifies people with a defined clinical condition.

Table 2. Mean scores and standard deviations for SCS factors for the four groups

Factors		Mean	SD
Self-compassionate attitude	Borderline personality disorder group	26.40	7.77
	Anxiety disorder group	30.51	7.54
	Eating disorder group	30.34	8.77
	General population group	36.65	8.38
Self-critical attitude	Borderline personality disorder group	53.03	7.68
	Anxiety disorder group	46.25	8.69
	Eating disorder group	48.96	8.71
	General population group	45.79	9.04

SD, standard deviation; SCS, Self-compassion Scale.

The replicability of the two-factor model with an independent sample (validation group, composed by a second sample obtained by the randomization of the main sample of 361 participants) was supported by a multigroup confirmatory analysis. Results supported equal configural, strict measurement invariance (metric and scalar) across test and validation samples, based on significant values of $\Delta\chi^2$ changes. Structural invariance was supported based on CFI differences ($\chi^2(1) = 4.314$; $p = 0.038$; ΔCFI = 0.003). This means that the two-factor model can be generalized to an independent data set.

Multigroup Invariance of the Two-factor SCS across Borderline Personality Disorder, Anxiety Disorder, Eating Disorder and Normative Population Samples

The equivalence of the two-factor model across the four groups was tested with multigroup analysis. The invariance testing used the total sample and analyzed the configural, measurement and structural invariance.

Results for configural invariance indicated that the fit of the model was satisfactory, $\chi^2(1180) = 2198.547$; $p = 0.000$; CFI = 0.774; RMSEA = 0.053. Nested model comparisons were tested with each step imposing a more restrictive level of invariance across the samples. For metric

Table 1. Fit indices for confirmatory factorial analysis of the models tested

Model	χ^2	df	p	CFI	TLI	RMSEA	PCFI	AIC	BCC	ECVI
Six-factor model	597.596	284	0.000	0.882	0.865	0.071 (PCLOSE = 0.000)	0.771	783.596	809.752	3.578
Higher-order one-factor model	885.578	293	0.000	0.778	0.753	0.096 (PCLOSE = 0.000)	0.701	1053.578	1077.203	4.811
Two-factor model	738.883	300	0.000	0.835	0.822	0.082 (PCLOSE = 0.000)	0.771	892.883	914.540	4.077
Two-factor model (covariance between error terms 12, 19; 3, 7; 7, 10)	616.248	296	0.000	0.880	0.868	0.070 (PCLOSE = 0.000)	0.801	778.248	801.029	3.554

df = degrees of freedom. CFI = comparative fit index. TLI = Tucker–Lewis index. RMSEA, root mean square error of approximation. PCFI = parsimony comparative fit index. AIC = Akaike information criterion. BCC = Browne–Cudeck criterion. ECVI = expected cross-validation index.

invariance testing, a non-significant χ^2 difference statistic was found ($\Delta\chi^2(72) = 85.187$; $p = 0.137$), and equal factor loadings across the samples were assumed. For scalar invariance, a significant χ^2 difference statistic ($\Delta\chi^2(78) = 230.476$; $p < 0.001$) and a $\Delta\text{CFI} = 0.034$ were found, and equivalent item intercepts were assumed (weak measurement invariance). The structural invariance was also supported ($\Delta\chi^2(3) = 38.414$; $p < 0.001$; $\Delta\text{CFI} = 0.008$). This means that SCS operates in the same way, and the underlying constructs have the same factorial and metric structures for each group under study.

DISCUSSION

During recent years, there has been a growing interest in self-compassion due to its strong links to both mental and physical health (Hofmann *et al.*, 2011; Leary *et al.*, 2007; MacBeth & Gumley, 2012; Neff, 2003b; Neff & Lamb, 2009; Neff & Vonk, 2009; Petrocchi *et al.*, 2013). Despite increasing evidence that compassion enhances affective states through an awareness and non-judgmental acceptance of difficult emotions, recent research has failed to confirm the original structure of SCS purposed by Neff (2003b). It is now clear that additional research is required.

The purpose of the present study was to replicate the original non-hierarchical six-factor model, identified by Neff (2003b), in borderline personality disorder, anxiety disorder, eating disorder and general population, as well as to test an alternative structure model (i.e., a two-factor model).

Findings from the confirmatory factorial analyses showed that the six-factor SCS structure, ascertained from undergraduate participants (Neff, 2003b), was not observed in our study. Overall, the original SCS six-factor model was tested and provided a poor fit to the data. The χ^2 statistic test was significant, and there were several fit indices that showed a poor fit. Moreover, several modification indices pointed focal items that contributed to an ill model fit. Indeed, the results did not show a coherent intercorrelation among the six subscales that could be explained by a single higher-order latent variable. The results also showed that the addition of a higher-order self-compassion factor significantly lowers the model fit.

The current research identified two-factor model in our data set. These two factors represented a positive dimension, comprising the items related with self-kindness, common humanity and mindfulness, and a negative dimension containing items related to self-judgment, isolation and over-identification.

Our results showed that the identified two-factor solution was better than the previously tested models (i.e., a non-hierarchical six-factor structure and a hierarchical six-factor structure/single higher-order factor). Both factors showed good internal consistencies. Convergent and discriminant validity indicated that each factor is better explained by its own observed items than by some other items from a different factor. Findings also supported the external validity of the two-factor model, showing the configural invariance, strict measurement invariance and also the structural invariance of this two-factor solution, with independent data.

Finally, our study inspected the equivalence of the two-factor SCS model across four groups from borderline personality disorder to general population. Data support the configural invariance, weak measurement invariance and the structural invariance of the identified two-factor model. Based on these results, it can be assumed that the two-factor model has equivalency. Thus, constructs have similar meanings, the same structure and also the same measurement model in all groups, which support the general aspect of validity with equal properties and interpretations of SCS scores. As previously stated, a suitable and strong SCS structure, common in such a different set of disorders, ranging from the more severe psychopathology to the general population allows its use in several clinical and non-clinical settings.

These findings are inconsistent with Neff's conceptualization that self-compassion comprises three continuous dimensions ranging from positive to negative (i.e., from self-kindness to self-judgment) and with the six-factor structure model identified in undergraduate samples (Neff, 2003a, 2003b; Raes, Pommier, Neff, & Van Gucht, 2011).

Neff (2003a) did not provide a well-defined background or even an empirical and conceptual foundation for both the non-hierarchical six-factor model and the single higher-order factor model. The lack of information regarding the overall goodness-of-fit and both the interpretability and the strength of the parameters estimated in the original study is problematic. However, the model was considered to fit the data marginally well, only based on two absolute fit indices presented.

Some issues related to the initial scale construction should also be mentioned. In the original study, the exploratory factorial analyses performed to determine the overall factor structure were conducted on each of the three proposed subscales. As the positive and negative dimensions of each of the three subscales loaded on separate factors, the subsequent CFAs identified a six-factor model solution. Therefore, the scale items were assumed to be correlated with their assigned subscale, an assumption that, in fact, has never been tested by Neff (2003b). Also, the CFAs were performed in the same sample, which can artificially inflate the goodness of fit. Competing models were not provided in order to specify the best fit for the data.

Methodological and conceptual concerns regarding the intercorrelation underlying the SCS items should also be stated. In the original study, Neff (2003b) also found that

a single higher-order self-compassion factor explained the intercorrelations among the six subscales. However, the conceptualization of self-compassion as a unitary construct by reversing the items of the negative factors (e.g., isolation, self-judgment and over-identification subscales) is problematic since several of these items load heavily on shame and self-criticism (Mills *et al*., 2007). Neff's self-compassion measure suffers from another conceptual limitation since it does not distinguish between self-compassion and other-compassion, a useful differentiation as suggested by Allan and Knight (Gilbert, 2005). As the scale aims to assess self-compassion, it precludes the exploration of the empirical question of whether the development of self-compassion indeed enhances other-compassion. Although research suggested that self-compassion is a necessary aspect of the compassion scale, the findings do not support that it comprises all aspects of compassion.

Once the two-factor model is considered, each factor makes unique contributions to psychopathology (Costa *et al*., 2014). The current findings are in line with recent research that suggested the conceptual and factorial independence of the six factors (Phillipps & Ferguson, 2012; Van Dam, Sheppard, Forsyth, & Earley, 2011; Ying, 2009). Phillipps and Ferguson (2012) indicated that only the positive dimension of SCS (items of self-kindness, common humanity and mindfulness) contributed to the prediction of positive affect. In contrast, negative affect was predicted by the negative dimension (items of self-judgment, isolation and over-identification). This means that individuals are most likely to experience positive affect if they treat themselves with care and understanding, perceive adverse events as part of a larger human experience and hold painful thoughts and feelings in a balanced awareness. Indeed, individuals are likely to experience negative affect if they engage in self-criticism and feel alone in their suffering.

This two-factor model is consistent with a neurobiological perspective, in which self-compassion promotes affective regulation by balancing activity from separate systems (i.e., the soothing system and the threat system). On the one side, by activating the soothing system, the feelings of safety affiliation and warmth are experienced. On the other side, it deactivates the threat system associated with feelings of insecurity and defensiveness (Falconer, King, & Brewin, 2015; Gilbert, 2009; Phillipps & Ferguson, 2012).

A more detailed analysis of the content of some items such as 'I'm kind to myself when I'm experiencing suffering' or 'When I fail at something important to me I try to keep things in perspective' clearly shows that it reflects a compassionate attitude towards the self. It entails warmth and supportive abilities rather than being harshly critical or judgmental while dealing with difficult aspects of one's personality or life circumstances. Rather than attacking and berating oneself, individuals turn inwards to offer soothing and comfort, accepting mental and emotional phenomena as it arises (Neff, 2003a, 2003b). Therefore, we assumed that the identified self-compassion factor implied in SCS items is clearly related with a soothing, contentment and safeness system, and it reflects some qualities of the mind that enable us to bring quiescence and peacefulness to oneself. On the contrary, items such as 'When I'm feeling down I tend to obsess and fixate on everything that's wrong' seem to reflect a negative judgment and critical attitude towards the self, clearly linked with an over-stimulation of the threat system.

By assuming a unitary structure, items that are linked to opposite emotion-regulation systems are added in a single factor. Specifically, the issue that arises is whether shame and self-criticism should be or should not be considered different 'processes' of self-compassion, and by reversing bipolar constructs, Neff says that the presence of one pole implies the absence of the other pole, which does not make sense methodologically and conceptually speaking. Indeed, the use of SCS as a unitary construct does not allow us to clarify if the observed variations are the result of an increase in the positive score of self-compassion or the result of a reduction in the negative score of self-criticism.

Limitations of this study should also be considered when interpreting its results. This study used a non-probabilistic sample that limits the generalization of these conclusions to the overall population. Also, the invariance between men and women was not established since the gender compositions were not comparable across the groups.

These analyses should be considered preliminary investigations as empirical research in different cultural contexts is needed to examine the stability of the scale's factorial structure (Petrocchi *et al*., 2013; Phillipps & Ferguson, 2012). Future research should also consider the influence of age in the stability of the SCS factorial structure. Although previous studies have used multigenerational samples, only one of these reported a positive and significant association between age and self-compassion (Neff & Vonk, 2009). In line with previous findings, young adults scored significantly lower on self-kindness, common humanity and mindfulness than the other groups. This is not particularly unexpected since young age is generally characterized by higher emotion-regulation difficulties. Also, self-acceptance has been shown to increase with age (Orgeta, 2009).

The fMRI results of Longe *et al*. (2010) provide indirect support to the two-factor model for SCS items since it identifies different cortex regions involved in self-criticism and self-reassurance. According to Longe *et al*. (2010), the compassionate response is, at least, partially independent since different brain regions are activated during the response to specific scenarios.

It is well established that self-criticism and the inability to self-soothing and reassurance towards life difficulties are associated with psychopathological vulnerability (Blatt & Zuroff, 1992; Gilbert & Irons, 2005; Gilbert *et al.*, 2004; Neff, 2003a, 2003b). Thus, compassion self-soothing and reassurance have been seen as a natural regulator of shame and self-criticism (Gilbert, 2010; Leary *et al.*, 2007; Neff, 2003a, 2003b; Neff & Vonk, 2009), as they predict positive affect and happiness. It is also associated with feelings of self-warmth and coping strategies in stressful and failure situations (Neff, Hseih, & Dejiithirat, 2005; Neff & Vonk, 2009; Neely *et al.*, 2009).

Findings suggest that the SCS is a reliable tool in both clinical and non-clinical samples. In particular, this study supported the use of a two-factor model in the Portuguese context rather than the overall self-compassion score or the non-hierarchical six-factor model. Although self-compassion, as a psychological construct, has been considered central to positive mental states, there have not been any studies that enhance the knowledge of it and assess the outcomes in psychiatric disorders. Empirical research is needed to study the stability of the scale and advance the understanding of contextual variations in self-compassion and its conceptualization. The following question remains: are people becoming kinder or are they becoming less self-critical?

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