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**Revisiting the Self-Compassion Scale-Short Form:**

**Stronger Associations with Self-Inadequacy and Resilience**

Abstract

**Objectives**

The Self-Compassion Scale-Short Form (SCS-SF) was developed as an economical alternative for the Self-Compassion Scale (SCS), one of the few scales to assess self-compassion. Despite the active use of the SCS-SF, a psychometric evaluation of this scale remains limited. This study analysed the factor structure, reliability, and construct validity of the SCS-SF in UK university student populations.

**Methods**

Of 365 students approached, 333 completed the SCS-SF, and other measures including negative psychological constructs (mental health problems, self-criticism, and mental health shame) and positive psychological constructs (self-reassurance, resilience, and wellbeing). Data were analysed through confirmatory factor analyses and correlations.

**Results**

CFA revealed that the six-factor structure, reported in the validation paper, was not replicated. The positive factor, consisting of the three positive subscales, was not strongly related to any variable, but moderately related to reassured-self, resilience, wellbeing, and inadequate-self. The negative factor, consisting of the three negative subscales, was strongly related to inadequate-self, and moderately related to resilience, reassured-self, stress, wellbeing, depression, and internal shame. Coefficients in the negative factor were in general larger than those in the positive factor. The total SCS-SF score was most strongly related to inadequate-self, followed by resilience. Inter-correlations of the six subscales did not follow Neff (2003b)'s theoretical model of self-compassion nor the full-scale factor solution.

**Conclusions**

Findings do not accord with the common use of the global SCS-SF score as an assessment of six factors of self-compassion, and suggest a two factor solution assessing self-criticism and self-compassion.

**Introduction**

Self-compassion - being understanding and accepting of one's weaknesses and inadequacies (Neff, 2003a) - has been receiving increasing attention (Lopez et al., 2015), particularly in the fields of mental health and psychology (Barnard and Curry, 2011; Kotera et al., 2018a; Kotera et al., 2018b; Kotera et al., 2018c; Kotera et al., 2019). A meta-analysis of 20 studies reported large (as defined Cohen, 1988) associations between self-compassion and various types of mental distress including depression and anxiety (MacBeth and Gumley, 2012). Further, intervention studies found that enhancing self-compassion also improved various outcomes including mental health (Gilbert and Procter, 2006), wellbeing (Mantelou and Karakasidou, 2017), and life satisfaction (Neff and Germer, 2013). These studies reported that practicing compassion towards one's inadequacies and life challenges can counter shame and self-criticism, which otherwise might lead to poor mental health and wellbeing (Gilbert, 2009).

Self-compassion is most commonly regarded (Lopez et al., 2015) as a healthful formulation of self-acceptance, based upon (i) self-kindness: an understanding of oneself when facing inadequacy, rather than self-criticism and self-judgement, (ii) common humanity: a notion that suffering is an unavoidable human condition, as opposed to viewing it as a source of isolation (e.g., 'Why me?'), and (iii) mindfulness: being presently aware of hurtful thoughts, instead of over-identifying with them (Neff, 2003a; Neff 2003b). These three components are theorised to interplay with each other: improvement in one element can lead to improvement in another (Neff, 2003b). Self-compassion, therefore, is based on positive constructs of self-kindness, common humanity, and mindfulness, and the absence of their opposites, the negative constructs of self-judgement, isolation, and over-identification (Neff, 2003a). The positive constructs may be explained by significant relationships between self-compassion and positive affects (e.g., happiness and optimism) and personality traits

(e.g., agreeableness) (Neff et al., 2007). On the other hand, the negative constructs may be explained by the strong associations with mental health problems (e.g., depression, anxiety, stress) and shame (Kotera et al., 2018b; Kotera et al., 2018c; Kotera et al., 2019; Leary et al., 2007; Neff, 2003a; Raes et al., 2011).

The Self-Compassion Scale (SCS; Neff, 2003a) is the most commonly used measure of self-compassion in research (Lopez et al., 2015), although other self-compassion scales have been developed recently (e.g., Gilbert et al., 2017; Smith et al., 2018; Gu et al., 2019). However, this 26-item scale has been criticised for its limited reliability; in Lopez et al.'s study (2015) of 1643 Dutch participants aged 20–97 years, confirmatory factor analyses (CFAs) could not replicate the original six-factor structure of the SCS. Indeed, exploratory factor analyses (EFAs) indicated a two-factor solution with the positive components (self-kindness, common humanity, and mindfulness) and the negatives ones (self-judgement, isolation, and over-identification), as the best fit model with good internal consistency. Similar results were also yielded in other studies, reporting a best and good fit of a two-factor solution (Coroiu et al., 2018; Costa et al., 2016; Phillips and Ferguson, 2013). Neff (2016) attributed these poor fits with the six-subscale model to the language translation and the specific study contexts, in line with her previous research into differences of self-compassion in different cultures (Neff et al., 2008). However, the generalisability of SCS needs to be refined. Recently, following other research supporting the validity of SCS (Cleare et al., 2017; Zhang et al., 2019), Neff et al. (2019) conducted more comprehensive analyses ($n$=11,685) which confirmed the reliability of the six-factor model of the SCS.

In order to reduce the time and effort for participants, a brief version of SCS, the 12-item Self-Compassion Scale-Short Form (SCS-SF; Raes et al., 2011) was developed; this was particularly desirable in clinical research where patients often have to complete large batteries of assessments. The global score of SCS-SF was almost perfectly correlated with the global

score of SCS (Raes et al., 2011). Raes et al. recruited two Dutch samples (271 undergraduate psychology students and 185 from general population), using the Dutch version of SCS, and one American sample (415 students), using the original English version of SCS. Raes et al. selected two items from each subscale that were strongly correlated with the global score of SCS, and their intended subscale score (recommended by Stöber and Joormann, 2001), while qualitatively considering the breadth of the original subscale contents (to counter the risk of suboptimal content domain coverage; Thompson, 2007). While the global SCS-SF score was almost perfectly correlated with the global SCS score ($r \geq .97$), the internal consistencies of the subscales in the SCS-SF (the English version) were less good, varying between .54 and .75; hence, only the global SCS-SF score, and not the subscales, was recommended for use (Raes et al., 2011).

The validity of the SCS-SF has been tested in various populations. Among 594 randomly recruited elder participants, the Swedish SCS-SF did not yield reliable results. Good reliability was only found in the group of 66-year-olds ($\alpha > .70$), and only the negative components of the two-factor model (self-judgement, isolation, and over-identification) showed good internal consistency, both in the entire sample and in the 66-year-old group (Bratt and Fagerström, 2019). Likewise, Hayes, Lockard, Janis and Locke (2016) explored the factor structure and construct validity of the SCS-SF for a clinical population (1609 American university students who have mental health problems), and could not replicate the six-subscale model, but identified a two-factor model: self-disparage and self-care. These were similar results to Costa et al. (2016), who noted the two-factor model for the full SCS from other clinical populations. Lastly, Sutten, Schonert-Reichl, Wu and Lawlor (2018) investigated 406 Canadian children between 8 and 12 years old, using the Self-Compassion Scale for Children (SCS-C), an adjusted brief version of the SCS-SF to more children-friendly language, which, again, supported the two-factor model. Despite the significant

differences of the levels of self-compassion in different cultures (Neff et al., 2008), the SCS-SF to date has not been evaluated in UK populations. Indeed, high internal consistency of SCS-SF in UK populations has been reported in recent studies (e.g., $\alpha$ =.90-.92 in $n$=105; Ivtzan et al., 2018; α=.84 in $n$=145; Kotera, Green & Sheffield, 2019), however these studies did not recruit a large sample, and did not examine the factor structure nor the construct validity of the scale. Accordingly, this study aimed to explore the factor structure, reliability, and construct validity of the SCS-SF in UK students. First, the factor structure was examined using CFA: whether we could replicate the hierarchical six-factor structure (as reported by Raes et al., 2011). Second, the reliability of the SCS-SF (internal consistency) was calculated. Lastly, the relationships between the SCS-SF, and self-report measures regarding mental health, self-criticism, self-reassurance, mental health shame, emotional resilience (hereafter 'resilience'), and mental wellbeing (hereafter 'wellbeing') were explored, in order to appraise construct validity of the SCS-SF.

**Method**

*Sample and Procedure*

This is part of a research project where the mental health of students in the UK was explored. Ethical approval was granted by the university's research ethics committee. Student participants, who were aged 18 years old or older and were studying at a UK university, were recruited from healthcare and social care programmes at a UK university in the East Midlands via opportunity sampling. Students who were on a study break at the time of the study were excluded. No incentives were offered for participation. Of 365 students approached, 333 ($M_{age}$=29.28, $SD_{age}$=9.06 years old) completed the SCS-SF and other self-report measures about mental health, self-criticism, self-reassurance, shame, resilience, and wellbeing. There were: 287 females, 45 males and 1 unanswered; 281 undergraduates and 52

postgraduates; 299 home students and 34 international students including 14 other Europeans, 13 Africans, 4 Asians, 2 North Americans, and 1 unanswered.

*Measures*

The Self-Compassion Scale-Short Form (SCS-SF; Raes et al., 2011) is a 12-item on five-point Likert scale (0='Almost never' to 5='Almost always') to record how often you behave kindly and caringly towards yourself in difficult life situations. The global SCS-SF score had high internal consistency ($\alpha$=.86; Raes et al., 2011). As with the original 26-item Self-Compassion Scale (Neff, 2003a), Raes et al. calculated internal consistency for all the six subscales (self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification), however it was not high ($\alpha$=.54-.75; self-kindness had the lowest, and over-identification had the highest $\alpha$ values) therefore they recommended only using the glocal score in the SCS-SF. Six items are positively worded (e.g., 'When something painful happens I try to take a balanced view of the situation') and the other six are negatively worded (e.g., 'When I fail at something that's important to me, I tend to feel alone in my failure') thus inversely rated.

The Depression, Anxiety, and Stress Scale 21 (DASS 21), a shortened version of DASS 42 (Lovibond and Lovibond, 1995), was used to measure *mental health*. Reflecting on the past week, participants respond to these 21 items on four-point Likert scale (0='Did not apply to me at all' to 3='Applied to me very much or most of the time'), relating to the levels of depression (e.g., 'I found it difficult to work up the initiative to do things'), anxiety (e.g., 'I felt I was close to panic'), and stress (e.g., 'I was intolerant of anything that kept me from getting on with what I was doing') (seven items each). These subscales had good reliability ($\alpha$=.87-.94; Antony et al., 1998).

*Self-criticism and self-reassurance* were examined employing the Forms of Self-Criticising/Attacking and Self-Reassuring Scale (FSCRS; Gilbert et al., 2004), entailing 22 items on five-point Likert scale (0='Not at all like me' to 4='Extremely like me'). FSCRS appraises how people treat themselves in challenging times, referring to self-criticalness (inadequate-self and hated-self), and self-reassurance (reassured-self). Inadequate-self considers a sense of personal inadequacy (e.g., 'I feel beaten down by my own self-critical thoughts.'; nine items), hated-self considers a desire to persecute the self (e.g., 'I have a sense of disgust with myself.'; five items), and reassured-self considers a sense of supporting the self (e.g., 'I find it easy to forgive myself.'; eight items). These subscales had high internal consistency ($\alpha$=.86-.90; Gilbert et al., 2004).

*Mental health shame* was appraised using the Attitudes Towards Mental Health Problems (ATMHP) scale (Gilbert et al., 2007), consisting of 35 items on four-point Likert scale (0='Do not agree at all' to 3='Completely agree'), dividing into four sections. The first section gauges the perception of their community and family towards mental health problems (e.g., 'My community/family would tend to look down on somebody with mental health problems'; eight items). The second section appraises the perception of their community and family towards them, if they had a mental health problem (i.e., external shame; e.g., 'I think my family/community would see me as inadequate'; ten items). The third section considers their own perception towards themselves if they have a mental health problem, namely, internal shame (e.g., 'I would see myself as a weak person', five items). The fourth section comprising 12 items relates to reflected shame: a) worries of reflected shame on their family, if they had a mental health problem (family-reflected shame; e.g., 'I would worry about the effect on my family') and b) worries of reflected shame on themselves, if a close relative had a mental health problem (self-reflected shame; e.g., 'I would worry that if this were known I

would lose status the community'). All of the subscales had high internal consistency ($\alpha$=.85-.97; Gilbert et al., 2007).

Brief Resilience Scale (BRS), a six-item on five-point Likert scale measure (1='Strongly Disagree' to 5='Strongly Agree') assessing the ability to bounce back from difficulties (Smith et al., 2008) was used to measure *resilience* (e.g., 'It does not take me long to recover from a stressful event'). Items 2, 4, and 6 are inversely scored. BRS demonstrated high internal consistency ($\alpha \geqq .80$, Smith et al., 2008).

Lastly, *wellbeing* was measured using the Short Warwick–Edinburgh Mental Wellbeing Scale (SWEMWBS; Stewart-Brown et al., 2009), a seven-item scale, shortened from the original 14-item version (Stewart-Brown and Janmohamed, 2008). Participants reflect on the past two weeks to respond to items including 'I've been feeling optimistic about the future', on a five-point Likert scale ('1' being 'None of the time' to '5' being 'All of the time'). SWEMWBS had high internal consistency ($\alpha$=.85; Stewart-Brown et al., 2009).

*Data Analysis*

First, the factor structure of the SCS-SF was examined through CFA using RStudio version 1.1.463 (RStudio Team, 2015). The goodness of fit of the models was checked using the chi-squared to degrees of freedom ratio ($\chi^2$/df), the comparative fit index (CFI), the Tucker-Lewis Index (TLI), the root mean square error of approximation (RMSEA), and the standardised root mean residual (SRMR). $\chi^2$/df values less than 5.00 are considered an acceptable fit of the model and values close to or less than 2.00 are considered a good fit (Watkins, 1989). CFI and TLI values greater than .90 are interpreted as an acceptable, and greater than .95 are interpreted as a good model fit. Lastly, RMSEA and SRMR values between .06 and .08 indicate an acceptable model fit, and smaller than .06 indicate a good fit

(Hu and Bentler, 2009). Recent studies reported that these fit indices can be affected by sample size and data normality (DiStefano et al., 2018; Nye and Drasgow, 2011), a satisfactory model fit was determined when all assessments assured either an acceptable or a good fit.

None of the 12 items in the SCS-SF was deemed to have severe non-normal distribution, assessed from the skewness ($< 2$) and kurtosis ($< 7$) values (Fabrigar, Wegener, MacCallum and Strahan, 1999). Internal consistency was determined with Cronbach's alpha statistic ($\alpha$): $\alpha \geq .80$ was considered as good/high (Nunnally, 1978). Pearson correlations were performed to examine the associations between the SCS-SF and other psychological constructs; correlations coefficients below .19 were interpreted as 'very weak', .20-.39 as 'weak', .40-.59 as 'moderate', .60-.79 as 'strong', and .80-1.0 as 'very strong' (Evans, 1996).

## Results

### *Descriptive Statistics*

Table 1 presents the mean scores and standard deviations of all the study variables.

| Table 1. Descriptive statistics for self-compassion, mental health, self-criticism, self-reassurance, mental health shame, resilience, and wellbeing in 333 UK students | | | | |
|---|---|---|---|---|
| Scales | Measured variables | Sub/scales (RNG) | M | SD |
| Self-Compassion Scale Short-Form | | Self-Compassion (1-5) | 2.79 | .68 |
| Depression, Anxiety, and Stress Scale 21 | Mental Health | Depression (0-42) | 11.08 | 9.14 |
| | | Anxiety (0-42) | 10.90 | 8.73 |
| | | Stress (0-42) | 16.39 | 9.43 |
| Forms of Self-Criticising/Attacking and Self-Reassuring Scale | Self-Criticism | Inadequate-Self (0-36) | 18.19 | 7.99 |
| | | Hated-Self (0-20) | 3.55 | 4.21 |
| | Self-Reassurance | Reassured-Self (0-32) | 19.89 | 5.96 |
| Attitudes Towards Mental Health Problems Scale | Mental Health Shame | Community Attitudes (0-12) | 4.31 | 3.07 |
| | | Family Attitudes (0-12) | 2.21 | 2.85 |
| | | Community External Shame (0-15) | 5.36 | 4.21 |

| | | | |
|---|---|---|---|
| | Family External Shame (0-15) | 2.19 | 3.43 |
| | Internal Shame (0-15) | 7.05 | 4.61 |
| | Family-Reflected Shame (0-21) | 5.68 | 5.04 |
| | Self-Reflected Shame (0-15) | 3.02 | 4.06 |
| Brief Resilience Scale | Resilience (1-5) | 3.30 | .84 |
| Short Warwick–Edinburgh Mental Wellbeing Scale | Wellbeing (7-35) | 23.13 | 4.92 |

Table 2. Inter-correlations between the subscales of the Self-Compassion Scale Short-Form (SCS-SF) and correlations with the total score in 333 UK students.

| SCS-SF Subscales | 1 | 2 | 3 | 4 | 5 | 6 | Total SCS-SF |
|---|---|---|---|---|---|---|---|
| 1 Self-Kindness | - | | | | | | .73*** |
| 2 Self-Judgement | .46*** | - | | | | | .81*** |
| 3 Common Humanity | .57*** | .32*** | - | | | | .62*** |
| 4 Isolation | .31*** | .61*** | .17** | - | | | .72*** |
| 5 Mindfulness | .56*** | .36*** | .50*** | .21*** | - | | .66*** |
| 6 Over-Identification | .33*** | .66*** | .20*** | .68*** | .28*** | - | .76*** |

** $p < .01$, *** $p < .001$ (2-tailed). Scores in the negative subscales (2, 4, 6) were reversed.

SCS-SF subscales were strongly inter-correlated with each other and the total score, with most of the coefficients greater than .3; these correlations are presented in Table 2.

### *Confirmatory Factor Analysis*

A model with six correlated factors, reported by Raes et al. (2011), was tested. The fit indices computed that the model fit the data to an acceptable to good degree: $\chi_2 = 89.324$ (df = 39, p < .000), $\chi_2/df = 2.29$ (i.e., < 3 indicating an acceptable fit), CFI = .96 (i.e., > .95 indicating a good fit), TLI = .94 (i.e., > .90 indicating an acceptable fit), RMSEA = .062 (i.e., < .08 indicating an acceptable fit), SRMR = .046 (i.e., < .06 indicating a good fit). However, the covariance matrix of latent variables was not positive definite, therefore the results did not replicate the six-factor model (Beaujean, 2014).

Further, as re-appraisal research of the original SCS has reported (e.g., Lopez et al., 2015), we examined the model fit of the two-factor model of the SCS-SF. This time, the covariance matrix of latent variables was not a concern, and an acceptable model fit was calculated: $\chi_2 = 150.335$ (df = 53, p < .000), $\chi_2$/df = 2.84 (i.e., < 3 indicating an acceptable fit), CFI = .93 (i.e., > .90 indicating an acceptable fit), TLI = .91 (i.e., > .90 indicating an acceptable fit), RMSEA = .074 (i.e., < .08 indicating an acceptable fit), SRMR = .061 (i.e., < .08 indicating an acceptable fit). Table 3 summarises the factor loadings of each item. In general, the negative factor yielded higher loadings than the positive one.

*Table 3. Factor loadings for each item in the two-factor model of the Self-Compassion Scale Short-Form (SCS-SF) with 333 UK students*

| Items | Description | Subscales | Negative | Positive |
|---|---|---|---|---|
| SCS-SF11 | Judgemental about my own flaws | Self-Judgement | **.78** | |
| SCS-SF12 | Impatient towards aspects I don't like | Self-Judgement | **.75** | |
| SCS-SF09 | Fixate on everything that's wrong | Over-Identification | **.71** | |
| SCS-SF01 | Consumed by feelings of inadequacy | Over-Identification | **.68** | |
| SCS-SF04 | Other people happier than I am | Isolation | **.67** | |
| SCS-SF08 | Feel alone in my failure | Isolation | **.64** | |
| SCS-SF03 | Balanced view of situation | Mindfulness | | **.70** |
| SCS-SF10 | Feelings shared by most people | Common Humanity | | **.66** |
| SCS-SF06 | The caring and tenderness I need | Self-Kindness | | **.66** |
| SCS-SF02 | Understanding of aspects I don't like | Self-Kindness | | **.58** |
| SCS-SF07 | Keep my emotions in balance | Mindfulness | | **.57** |
| SCS-SF05 | Part of the human condition | Common Humanity | | **.55** |

Exploratory factor analyses performed using principal components analysis also supported the two-factor model (see Appendix).

***Reliability: Internal Consistency***

Internal consistencies of the items related to negative subscales and positive subscales were calculated. Internal consistency for the negative subscale items was high (α=.86), and acceptable for the positive subscale items (α=.79). The SCS-SF total score also demonstrated good internal consistency (α=.85).

## *Construct Validity: Correlations with Other Self-Report Measures*

| Table 4. Correlations between the Self-Compassion Scale-Short Form (SCS-SF)'s positive factor, negative factor, and total score and other constructs: mental health, self-criticism, self-reassurance, mental health shame, resilience, and wellbeing in 333 UK students. | | | | |
|---|---|---|---|---|
| Measured variables | Sub/scales | SCS-SF Positive Factor | SCS-SF Negative Factor | SCS-SF Total |
| Mental Health | Depression | -.37** | .46** | -.50** |
| | Anxiety | -.27** | .36** | -.38** |
| | Stress | -.30** | .50** | -.51** |
| Self-Criticism | Inadequate-Self | -.41** | .66** | -.65** |
| | Hated-Self | -.35** | .39** | -.44** |
| Self-Reassurance | Reassured-Self | .49** | -.51** | .60** |
| Mental Health Shame | Community Attitudes | -.08 | .09 | .02 |
| | Family Attitudes | -.12* | .08 | -.12* |
| | Community External Shame | -.15** | .11* | -.15** |
| | Family External Shame | -.12* | .14* | -.15** |
| | Internal Shame | -.22** | .41** | -.39** |
| | Family-Reflected Shame | -.11* | .22** | -.20** |
| | Self-Reflected Shame | -.19** | .11* | -.18** |
| Resilience | | .49** | -.54** | .62** |
| Wellbeing | | .48** | -.48** | .58** |
| ** p < .01, *p < .05 (2-tailed). Unreversed scores were used for SCS-SF Negative Factor. | | | | |

Overall the positive factor, negative factor, and total of SCS-SF were broadly related to other psychological variables, apart from community attitudes. The positive factor was

moderately related to reassured-self, resilience, wellbeing, and inadequate-self ($r > .4$; Evans, 1996). No variable was strongly related to the positive factor. The negative factor was strongly related to inadequate-self ($r = -.66$), and moderately related to resilience, reassured-self, stress, wellbeing, depression, and internal shame ($r > .4$). Coefficients in the negative factor were, in general, larger than those in the positive factor. The total SCS-SF score was especially strongly related to inadequate-self, resilience, and reassured-self ($r \geqq .6$), and moderately related to wellbeing, stress, depression, and hated-self ($r > .4$).

## Discussion

This study evaluated the psychometric properties of the Self-Compassion Scale-Short in a large student sample in the UK. Results did not confirm the six-factor structure, as proposed by Raes et al. (2011). Contrarily, a two-factor model was identified; the positively formulated items and negatively formulated items, both with high internal consistency. These two factors were differently related to other variables, implying that the meaning of each factor was different. The positive factor was moderately, but not strongly, related to reassured-self, resilience, wellbeing, and inadequate-self: three of them were positive constructs. The negative factor was strongly related to inadequate-self, and moderately related to resilience, reassured-self, stress, wellbeing, depression, and internal shame.

One of the unique findings from this study is that the SCS-SF was deemed to have a two-factor structure of the positively and negatively formulated items, instead of the six-factor model as reported by Raes et al. (2011). This was consistent with other studies that explored the psychometric properties of the SCS-SF, which failed to replicate the six-factor model, but identified a two-factor model (Bratt and Fagerström, 2019; Hayes et al., 2016; Sutten et al., 2018). Our CFA did not replicate the six-factor model, but did replicate the two-factor model, where the negative factor as the primary factor, and the positive factor as the

secondary factor. This may suggest that the SCS-SF was psychometrically more fit to measure the negative aspects of self-compassion (e.g., self-criticism) than the positive aspects. Although the title of 'self-compassion' suggest a positive psychological construct, the SCS-SF may be more suited to measure the negative construct of self-criticism, as the factor loadings in this factor indicated a higher contribution to the total SCS-SF score than the positive factor. This may suggest a renaming of this scale: Self-Inadequacy and Resilience Scale.

Relatedly, our findings using SCS-SF did not support Neff's theoretical model of self-compassion (2003), where the three positive subscales contribute to self-compassion, and each positive subscale corresponds to the opposing negative subscale (e.g., self-judgment is an opposing construct to self-kindness). Common humanity was most strongly related to self-judgement, not isolation among the three negative subscales; and over-identification was most strongly related to self-kindness, not mindfulness among the three positive subscales. Moreover, the SCS-SF was more firmly associated with the negative psychological variables than the positive psychological ones. Both the negative factor and the total score were most strongly related to inadequate-self, suggesting that the utility of this scale may be better expressed using constructs such as 'self-inadequacy' in the title. Considering that it is a two-factor model with the positive items and negative ones, the positive aspects may be expressed using positive constructs such as 'resilience', contrasting to the negative 'self-inadequacy'. These words may better inform researchers and practitioners about what this scale primarily assesses, avoiding participants and patients' misinterpretation (which could cause serious consequences). This may be similar to the recent overuse of the word 'resilience'. Because this word has been used so frequently in diverse contexts, sometimes educators and students use it incorrectly, causing psychological damage to students (Traynor, 2018). The structure of

the SCS-SF may need to be re-evaluated to better capture the original six factors that were recently confirmed in a large multi-country study (Neff et al, 2019).

Several limitations need to be considered. First, this study only considered a student sample at a UK university via opportunity sampling, which limits the generalisability of the findings. Therefore, the findings may not be generalisable to clinical populations in the UK, while noting that there was no difference in self-compassion between a clinical sample and non-clinical sample (Williams et al., 2014). Moreover, it is unclear whether the findings would be replicated in samples from other countries, in addition to Sweden (Bratt and Fagerström, 2019), America (Hayes et al., 2016), and Canada (Sutten et al., 2018). Second, there might have been other scales to be included to assess the convergent and divergent validity of the SCS-SF. However, the scales included were strongly related to the SCS-SF, which included self-reassurance in the FSCRS, a relatively similar construct to self-compassion. Likewise, this paper did not compare SCS-SF with other newly developed compassion scales such as the Sussex-Oxford Compassion Scale (SOCS; Gu et al., 2019). Future research needs to compare these compassion scales to identify their characteristics to help practitioners and researchers to discern the most appropriate compassion scale to be used in their population and context. Third, the dropout rate was not insignificant (9%). This may be due to the length of the entire battery of the survey, implying that the response accuracy may be limited (i.e., even students who have completed all the questionnaires might have felt tired towards the end of the survey). Future research can benefit from using such short and reliable scales.

In conclusion, our results did not accord with the proposed six-factor model of the SCS-SF, but did support the two-factor model, where the negative factor had more bearing on the total score than the positive factor. These results differ from the full SCS, which replicated the six-factor model but did not replicate the two-factor model across 20 samples

($n = 11,685$; Neff et al., 2019). Considering the SCS-SF's higher relevancy to the negative constructs than the positive ones, the current title of self-compassion - a rather positive construct - may be misleading. To acknowledge the positive factor, a title such as 'self-inadequacy and resilience' (or self-criticism and self-compassion) may capture the characteristics of the scale more accurately. More research is needed to re-appraise the structure of the SCS-SF in a range of populations.

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Appendix 1: Exploratory Factor Analyses

| | | | Rotated Component Coefficients | |
|---|---|---|---|---|
| Items | Description | Subscales | Component 1 | Component 2 |
| SCS-SF09 | Fixate on everything that's wrong | Over-Identification | **.80** | |
| SCS-SF08 | Feel alone in my failure | Isolation | **.77** | |
| SCS-SF11 | Judgemental about my own flaws | Self-Judgement | **.75** | |
| SCS-SF04 | Other people happier than I am | Isolation | **.73** | |
| SCS-SF01 | Consumed by feelings of inadequacy | Over-Identification | **.72** | |
| SCS-SF12 | Impatient towards aspects I don't like | Self-Judgement | **.72** | |
| SCS-SF03 | Balanced view of situation | Mindfulness | | **.76** |
| SCS-SF10 | Feelings shared by most people | Common Humanity | | **.71** |
| SCS-SF05 | Part of the human condition | Common Humanity | | **.69** |
| SCS-SF02 | Understanding of aspects I don't like | Self-Kindness | | **.69** |
| SCS-SF07 | Keep my emotions in balance | Mindfulness | | **.63** |
| SCS-SF06 | The caring and tenderness I need | Self-Kindness | -.37 | **.60** |

*Rotated Structure Matrix for PCA with Varimax Rotation of a Two-Component Scale. Self-Compassion Scale Short-Form (SCS-SF) with 333 UK students*

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Major loadings for each item are bolded.

Exploratory factor Analyses were performed on SPSS 25.0 to examine the factor structure of the SCS-SF, conducting a principal components analysis (PCA). The suitability of PCA was tested before analysis: the correlation matrix demonstrated that all variables had at least one correlation coefficient greater than .30. The overall Kaiser-Meyer-Olkin (KMO) measure was .88 with individual KMO measures all greater than .83, demonstrating 'meritorious' to 'marvelous' values (Kaiser, 1974). Bartlett's Test of Sphericity was statistically significant ($p < .0005$), indicating that the data were likely factorisable.

PCA revealed two components that had eigenvalues above one, and those components explained 38.08% and 16.65% of the total variance each. Visual inspection of the scree plot indicated that two components should be retained (Cattell, 1966). Moreover, a two-

component solution met the interpretability criterion (Schönrock-Adema et al., 2009). Based on those inspections, two components were retained.

The two-component solution explained 54.73% of the total variance. A varimax orthogonal rotation was employed to aid interpretability. The rotated solution exhibited 'simple structure' (Thurstone, 1947), except for Item 6. The interpretation of this two-component solution revealed that all the items related to the negative subscales (self-judgement, isolation, and over-identification) were categorised as Component 1 (explaining 38.08% of the total variance), whereas all the items related to the positive subscales (self-kindness, common humanity, and mindfulness) were categorised as Component 2 (explaining 16.65% of the total variance).

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