Self-compassion in old age: confirmatory factor analysis of the 6-factor model and the internal consistency of the Self-compassion scale-short form

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Introduction

Self-compassion is a relatively new concept in psychology conceptualized as the ability to care for oneself in difficult life circumstances, to endure painful feelings, and to feel connected with others in moments of suffering (Neff, 2003). In later life, self-compassion can be particularly important, since a self-compassionate mindset can provide an accepting perspective on facing hardships related to ageing (Allen, Goldwasser, & Leary, 2012). For example, older adults with high levels of self-compassion had a more positive attitude to ageing than those with lower scores on this measure (Allen & Leary, 2013). Self-compassionate older adults in need of assistance were also found to be less reluctant to use assistive devices than those who were less self-compassionate (Allen et al., 2012). Self-compassion in older adults also seemed to be associated with higher levels of wisdom, integration, acceptance of one’s past life experiences, and higher levels of meaning in life (Phillips & Ferguson, 2013).

Self-compassion seems to increase with age (Neff & Vonk, 2009; Przedziewiecki et al., 2013; Potter, Yar, Francis, & Schuster, 2014; Homan, 2016). However, results are inconsistent, and most studies include young or middle-aged adults. In the Phillips and Ferguson study (2013) of 185 non-randomly selected older adults aged 65–92, 56.8% women, age and self-compassion were not related.

Men have been found to have slightly higher levels of self-compassion than women in several studies (Neff, 2003, Neff, Hsieh, & Dejitterat, 2005) including a meta-analysis conducted by Yarnell et al. (2015) on 88 different samples with a total of 13,339 non-randomly selected participants aged 15–73 (mean age 28, 66% women). Whether levels of self-compassion differ by gender in adults aged ≥66 years is not yet fully known. Phillips and Ferguson (2013) found no gender differences, other than women’s higher scores on the subscale of common humanity (CH).

The most widely used measure of self-compassion in research is the Self-Compassion Scale (Neff, 2003, 2016), developed in two versions, a long and a short form. The SCS Long Form (SCS-LF) includes 26 items measuring three major aspects of self-compassion, each of which includes two ways of relating to oneself: compassionately or uncompassionately. These six types of self-relating constitute the six factors of the scale: self-kindness (SK) – the ability to be warm and kind to oneself rather than self-judgmental (SJ); common humanity (CH) – seeing one’s suffering as part of the human condition rather than feeling isolated (I); and finally, mindfulness (MI) – keeping a balanced perspective towards difficult experiences rather than over-identifying (OI) with them (Neff, 2003). The SCS-LF has shown good internal consistency in young to middle-aged adults in American
(Neff, 2003), Spanish (Garcia-Campayo et al., 2014), Portuguese (Castilho, Pinto-Gouveia, & Duarte, 2015), Greek (Mantzios, Wilson, & Giannou, 2015), and Turkish (Deniz, Kesici, & Sümer, 2008) samples. However, several studies have not been able to replicate the six-factor SCS-LF described above (Phillips & Ferguson, 2013; López et al., 2015; Costa, Maróco, Pinto-Gouveia, Ferreira, & Castilho, 2016). For instance, in the study by López et al. (2015) in a sample of 1643 participants aged 20–97 (54.8% women), confirmatory factor analyses (CFAs) showed that the original six-factor structure of the SCS-LF could not be replicated. Exploratory factor analyses showed that a two-factor solution, formed by the positive (SK, CH, and MI) and negative (SJ, I, and OI) items had the best fit and good internal consistency. Similar results were found by Costa et al. (2016) in their study with 361 participants aged 13–56 (84.5% women), in which a CFA supported the two-factor model proposed by López et al. (2015), but the six-factor model was a poor fit to the data. In another CFA, Phillips and Ferguson (2013) also found that the six-factor model had a poor fit. When they conducted principal axis factoring, the two-factor solution again provided the best fit, with an internal consistency for the SCS-LF of α = 0.88. Neff (2016) argued that most psychometric problems have been found when the scale has been translated to other languages or cultural contexts. The generalizability of the scale to different populations or older adults should thus also be considered.

The SCS-SF, reported to have a high correlation with the SCS-LF, includes only two items from each of the subscales. In constructing the SCS-SF, some items were selected to reflect the breadth of the original scale, but most were chosen for their high intercorrelations with the SCS-LF (Raes, Pommier, Neff, & Van Gucht, 2011). Good internal consistency (α ≥ .86) was reported for the SCS-SF in two samples: a Dutch sample of psychology students (214 women and 57 men, M = 18.14 years) and an English sample (131 women and 54 men, M = 33.04 years). Homan’s study (2016) also showed good internal reliability for the SCS-SF (α = 0.85) in a non-randomly selected sample of 126 older adults, aged 59–95. Although high internal consistency for total scores on the SCS-SF have been described (Raes et al., 2011; Garcia-Campayo et al., 2014; Castilho et al., 2015; Homan, 2016), internal consistency in the SCS-SF subscales has been found to be relatively low (Raes et al., 2011). Results seem to indicate that the total score on the SCS-SF is a better measure of self-compassion than subscale scores, which are not as valid individually. The reasons for these inconsistencies are not fully known, but it could be that the subscales contain too few items. In one exception, however, a Spanish study of 271 professionals (mean age 38.43, 67.9% women), Cronbach’s α was 0.85 for the total SCS-SF and between 0.71 and 0.77 for the six subscales (Garcia-Campayo et al., 2014).

In summary, the most widely used measure of self-compassion is the SCS-LF, checked for internal consistency in several different countries in samples mainly consisting of university students. Thus, the assessment of self-compassion among older people has been based on measurements designed and developed for younger age groups. Studies exploring the reliability and validity of the SCS-SF are scarce, and their results are contradictory, especially in the older population. Because of concerns about assessing older cohorts, existing instruments may need to be adapted. Whether self-compassion differs by age and gender in older ages needs further exploration. The psychometric properties of the Swedish version of the SCS-SF have, as far as we know, not yet been tested. Thus, the aims of this study were to translate the SCS-SF and test its psychometric properties with a focus on reliability (internal consistency) and validity, including factor structure, in a randomly selected sample of older Swedish adults.

Method

Participants and procedure

The sample of 698 participants aged 66–102 years, 300 men (43%) and 398 women (57%), was drawn from the region of Blekinge, one of four research areas in the Swedish National Study of Aging and Care (SNAC). The Blekinge part (SNAC-B) covers one municipality in the south-eastern part of Sweden, Karlskrona, with approximately 66,000 inhabitants in urban and rural areas. Karlskrona resembles other municipalities in Sweden in terms of age distribution, gender, and functional ability. Survey data were collected in 2013–2015 from randomly selected members of 10 age cohorts (66, 72, 78, 81, 84, 87, 90, 93, 96, and 99). Most participants in the total sample had higher education than Swedish elementary school (n = 383), 12 had lower education than elementary school, and 235 had completed elementary school (missing n = 34). The study was approved by the Regional Ethics Review Board of Lund (Dnr 128-00, LU 604-00). For more information about the sample see earlier studies (Bratt, Stenström, and Rennemark, 2016, Bratt, Stenström, and Rennemark, 2017).

Invitations to participate in the study were posted to potential participants on two occasions. Those who did not respond to the letter were invited by telephone. The response rate was 73.3% and all participants provided written informed consent. Of those who did not participate, 13.5% died before the study started. Other reasons for non-participation were poor health (2.6%), having moved from the area (2.4%), not contacted (1.6%), or unknown (6.6%). Data were collected at the research centre if possible or in the respondents’ homes. If necessary, respondents were offered help to complete the questionnaire by staff on the research team. Four individuals received help from staff to fill in the form and 34 participants with reading difficulties were assisted by a family member.

Measures

Self-compassion

In this study, the 12-item Self-Compassion Scale – Short form (SCS-SF) was used to measure self-compassion (Raes et al., 2011). The SCS-SF items are rated on a 5-point response scale ranging from 1 (almost never) to 5 (almost always) including two items on each of the six components. The six components represent three compassionate and three uncompassionate approaches to oneself in the face of suffering. The first component, SK (supporting and being kind to oneself in times of suffering), opposes the second component, SJ (being self-critical about one’s inadequacies); the third component, CH (feeling connected to
Note: SJ, I, and OI are negative, and scores are reversed, meaning higher scores show lower levels of SJ, I, and OI.

Table 1. Age, total SCS-SF scores, SCS-SF item scores, and mean differences between women and men.

| Subscale | Total sample | Women | Men | p-value women vs. men |
|----------|--------------|-------|-----|----------------------|
| Age      | 76.55        | 77.41 | 75.42 | .001                 |
| SCS-SF   | 41.64        | 40.73 | 42.72 | .001                 |
| SJ       | 3.58         | 3.56  | 3.60  | .001                 |
| I        | 3.86         | 3.75  | 3.99  | .001                 |
| OI       | 2.86         | 2.74  | 3.10  | .001                 |

Table 2. Cronbach’s alphas and means for total SCS-SF and subscale scores in total sample and in 66-year-olds.

| Subscale     | Total sample, n = 594 | 66-year-old sample, n = 191 |
|--------------|-----------------------|----------------------------|
| Total SCS-SF | 0.68                  | 0.76                       |
| Self-kindness| 0.15                  | 0.27                       |
| Self-judgement| 0.72                  | 0.75                       |
| Common humanity| 0.35                  | 0.19                       |
| Isolation    | 0.49                  | 0.55                       |
| Mindfulness  | 0.49                  | 0.47                       |
| Over-identification| 0.46                  | 0.66                       |
| Positive (SK, CH, MI) | 0.53                  | 0.54                       |
| Negative (SJ, I, OI) | 0.76                  | 0.82                       |

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Missing values

A total of 104 (17.5%) respondents did not fill in the SCS-SF questionnaire, 36 because of poor health. If there were missing values in one or two of the SCS-SF items, the mean score of the rest of the items was used. However, if there were more than two values of the 12 items missing, the individual’s response was excluded. One participant was excluded because of missing data. Of the included participants with missing data, two individuals had one missing item and one individual had two.

Translation procedure

The original SCS-SF in American English was translated into Swedish by a forward-backward translation process (Brinilin, 1986). In the first step, a bilingual native English-speaker with excellent knowledge of the field as a therapist translated the American version of SCS-SF into Swedish. The translation was controlled, and after minor revision for clarity and meaning, the Swedish version was translated back to English by another native American English-speaker who has lived in Sweden for many years and has exceptionally good knowledge of and interest in the English language. In the last step, the English translation was retranslated to Swedish and the researchers (AB, CF) checked the three translations’ correspondence to each other to identify possible differences in meaning between the forward-backward translations. Differences in meaning and nuance were discussed and sent back to the translators for review until agreement was reached.

Cognitive telephone interviews were conducted to strengthen the content validity and reliability of the SCS-SF instrument (Knaff et al., 2007). The questionnaire was administered to 10 older adults (5 men and 5 women aged 75–87 years) after they provided informed verbal consent. The interviews started with the interviewer reading each item and asking respondents to repeat them in their own words. Respondents were then asked to explain how they had reached each answer, their understanding of each question, and whether anything in the questions was difficult to understand. None of the participants found the questions hard to understand. However, all participants explained that the questions were abstract and different to other questionnaires in the SNAC-B survey. Two women and one man had difficulty remembering the reverse scores. Question 12 (I am intolerant and impatient towards those aspects of my personality I do not like) was considered difficult by two participants. One participant was unsure of the meaning of ‘aspects of my personality’ and the other had difficulty with ‘intolerant and impatient’ since he understood these two words to be very different and thought himself impatient but not intolerant.

Statistical analysis

Descriptive statistics for the 12 SCS-SF items were calculated. The data were checked for normality as assessed by histogram, box plots, and levels of skewness, and kurtosis. Skewness indicated normality (–.079, SE .100), while kurtosis was slightly pointy and heavy-tailed (.575, SE .200). Differences between men and women in age and self-compassion were investigated using independent-samples t-test (Table 1). Effect size was calculated using Cohen’s criteria (Cohen 1992) to evaluate the substantive significance of the mean differences (i.e., small effect size = 0.20, medium = 0.50, and large effect size = 0.80). Cronbach’s alphas and other human beings) opposes the fourth, I (feeling alone in times of hardship); and the fifth component, MI (keeping my emotions in balance) opposes the fourth, I (feeling alone in my failure) (Raes et al., 2011). Each of the two subscale items on the components SJ, OI, and I are negative and are reversed before computing the total score. Thus, scores range from 12 to 60, with higher scores indicating higher self-compassion.

Table 2. Cronbach’s alphas and means for total SCS-SF and subscale scores in total sample and in 66-year-olds.

| Subscale     | Total sample, n = 594 | 66-year-old sample, n = 191 |
|--------------|-----------------------|----------------------------|
| Total SCS-SF | 0.68                  | 0.76                       |
| Self-kindness| 0.15                  | 0.27                       |
| Self-judgement| 0.72                  | 0.75                       |
| Common humanity| 0.35                  | 0.19                       |
| Isolation    | 0.49                  | 0.55                       |
| Mindfulness  | 0.49                  | 0.47                       |
| Over-identification| 0.46                  | 0.66                       |
| Positive (SK, CH, MI) | 0.53                  | 0.54                       |
| Negative (SJ, I, OI) | 0.76                  | 0.82                       |

Note: min 2 and max 10 per subscale item

Note: SJ, I, and OI are negative, and scores are reversed, meaning higher scores show lower levels of SJ, I, and OI.
Table 3. Spearman’s rho between total score and the 12 items on the SCS-SF

| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 |
|----|----|----|----|----|----|----|----|----|----|----|----|
| 1. Total SCS-SF | 1.00 |  |  |  |  |  |  |  |  |  |  |
| 2. SCS-SF1 | .538** | 1.00 |  |  |  |  |  |  |  |  |  |
| 3. SCS-SF2 | .416** | .101* | 1.00 |  |  |  |  |  |  |  |  |
| 4. SCS-SF3 | .427** | .130** | .269** | 1.00 |  |  |  |  |  |  |  |
| 5. SCS-SF4 | .565** | .318** | .201** | .194** | 1.00 |  |  |  |  |  |  |
| 6. SCS-SF5 | .336** | .062 | .373** | .223** | .125** | 1.00 |  |  |  |  |  |
| 7. SCS-SF6 | .375** | .131** | .089** | .150** | .069 | .110** | 1.00 |  |  |  |  |
| 8. SCS-SF7 | .372** | .141** | .107** | .339** | .113** | .122** | .155** | 1.00 |  |  |  |
| 9. SCS-SF8 | .563** | .434** | .114** | .130** | .326** | .038 | .061 | .071 | 1.00 |  |  |
| 10. SCS-SF9 | .597** | .311** | .151** | .193** | .395** | .108** | .064 | .169** | .370** | 1.00 |  |
| 11. SCS-SF10 | .118** | .097** | .106** | .082** | .072 | .230** | .112** | .069 | .136** | .085** | 1.00 |
| 12. SCS-SF11 | .554** | .281** | .134** | .035 | .262** | .099** | .092** | .032 | .312** | .296** | .127** | 1.00 |
| 13. SCS-SF12 | .585** | .307** | .137** | .107** | .293** | .109** | .138** | .072 | .322** | .328** | .126** | .576** |

Note: N = 594; *p < 0.05; **p < 0.01; 
SCS-SF 1, SCS-SF 4, SCS-SF 8, SCS-SF 9, SCS-SF 11, and SCS-SF 12 are negative, and scores are reversed.

Table 4. Spearman’s rho between total score, age, gender, and subscale scores

| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 |
|----|----|----|----|----|----|----|----|----|----|
| 1. Total SCS-SF | 1.00 |  |  |  |  |  |  |  |  |
| 2. Age | –.031 | 1.00 |  |  |  |  |  |  |  |
| 3. Gender | –.195** | –.05** | 1.00 |  |  |  |  |  |  |
| 4. SK | .511** | .034 | –.030 | 1.00 |  |  |  |  |  |
| 5. SJ | .626** | –.194** | –.082* | .151** | 1.00 |  |  |  |  |
| 6. CH | .262** | .117** | .060 | .226** | –.062 | 1.00 |  |  |  |
| 7. I | .683** | –.035 | –.213** | .138** | .398** | –.057 | 1.00 |  |  |
| 8. MI | .482** | .060 | –.155** | .250** | .065 | .360** | .172** | 1.00 |  |
| 9. OI | .692** | .019 | –.192** | .144** | .394** | –.066 | .558** | .215** | 1.00 |
| 10. POS | .597** | .081* | –.059 | .695** | .067 | .660** | .118** | .655** | .121** | 1.00 |
| 11. NEG | .850** | –.097* | –.205** | .194** | .747** | –.067 | .802** | .192** | .815** | .137** |

Note: N = 594; *p < 0.05; **p < 0.01; 
man = 1, woman = 2; POS = SK, CH, MI; NEG = SJ, I, OI.

means for total SCS-SF and subscales were calculated (Table 2) to test the scales’ internal consistency. An acceptable Cronbach’s value is usually considered to be 0.7 to 0.9, although these cut-off values can be discussed (Lance, Butts, & Michels, 2006). Sub-analyses were also performed to investigate whether internal consistency differed between all the age cohorts included in the SNAC-B. Higher internal consistency of the SCS-SF was found in the group of participants aged 66 years; therefore, results from this age group and of the total group are presented in Table 2.

To test bivariate correlations between total score and the 12 SCS-SF items (Table 3) and between total score, age, gender, and subscale scores (Table 4), we used Spearman rank order correlation (rho). The bivariate correlations were followed by principal component analysis (PCA) to identify the latent structures of all 12 SCS items in our data set. Thereafter, structural equation modelling and CFAs were performed. The modelling was conducted to investigate whether the six-factor structure as in the original version by Raes et al. (2011) could be confirmed, and also to compare it with the two-factor model, which has been described as having a better fit (Lopez et al., 2015; Costa et al., 2016) and with a single factor model. Analyses using structural equation modelling (here CFA) can be reported using different goodness-of-fit statistics (Jackson, Gillaspy Jr et al., 2009). The estimator used in the analysis of a moment structures (AMOS) to fit the model is the maximum likelihood (ML) estimation method. In this study, we used normed chi-square ($\chi^2$), comparative fit index (CFI), Tucker-Lewis index (TLI), and root mean square error of approximation (RMSEA). For a good model fit, $\chi^2$ should be nonsignificant, the normed $\chi^2$ should be as low as possible (~2) and an acceptable fit ranges between 2 and 3 (Schermelleh-Engel, Moosbrugger et al., 2003). The CFI ranges from zero to one, and higher values indicate a better fit. An acceptable fit of CFI is 0.90 or higher and TLI values above 0.90 are regarded as acceptable. In the literature, RMSEA values of 0.08 or lower are described as an adequate fit, values between 0.08 and 0.10 as a mediocre fit, and values over 0.10 are not acceptable. The Akaike information criterion (AIC) and the expected cross validation index (ECVI) were used to compare the competing models, where the model with the smallest AIC and ECVI has the better fit. Mahalanobis distance scores were used to identify multivariate outliers (Jackson, Gillaspy Jr et al., 2009), and 35 outliers were found and removed from the dataset. Since the data suggested multivariate kurtosis, ML estimation was not regarded as an appropriate estimator of model fit (Byrne, 2016). Therefore, Bollen-Stine bootstrapping procedure with 1000 resamples was used to address the issue of non-normality and to test the models fit. This statistical procedure uses normal theory ML estimation, albeit with nonparametric bootstrapping with no assumption of normality.

SPSS version 24 was used for all the analyses except for the CFA analyses, which were conducted in IBM SPSS AMOS version 24.

Results

The mean age of the total sample was 76.55 years (SD = 9.21) and the women were older than the men, p < 0.01.
The mean total of self-compassion was 41.64 (SD = 5.31), with women reporting lower self-compassion than men, $p < 0.001$. Gender differences were found in all subscales but SK, CH, and MI had lower SJ and higher CH. Higher total SCS-SF scores were correlated with total SCS-SF and the six subscale scores, gender, and age (shown in Table 4). All subscale scores were significantly correlated with total SCS-SF scores. Total SCS-SF score was not related to age, but higher age was associated with lower SJ and higher CH. Higher total SCS-SF scores were associated with being a man, but the subscales SJ, I, MI, and OI were negatively related to being a man.

Table 5. Pattern and structure matrix for PCA with oblimin rotation of two-factor solution for SCS-SF.

| Item                                                                 | Pattern coefficients | Structure coefficients |
|----------------------------------------------------------------------|----------------------|------------------------|
|                                                                      | Component 1 | Component 2 | Component 1 | Component 2 | Communalties |
| 12. I'm intolerant and impatient towards those aspects of my personality I don't like. | .703      | .702       | .493        |           |             |
| 8. When I fail at something that's important to me, I tend to feel alone in my failure. | .703      | .698       | .488        |           |             |
| 11. I'm disapproving and judgemental about my own flaws and inadequacies. | .698      | .692       | .480        |           |             |
| 1. When I fall at something important to me I become consumed by feelings of inadequacy. | .633      | .642       | .415        |           |             |
| 9. When I'm feeling down I tend to obsess and fixate on everything that's wrong. | .622      | .641       | .431        |           |             |
| 4. When I'm feeling down, I tend to feel like most other people are probably happier than I am. | .581      | .605       | .398        |           |             |
| 5. I try to see my failings as part of the human condition. | .667      | .661       | .437        |           |             |
| 3. When something painful happens I try to take a balanced view of the situation. | .648      | .653       | .445        |           |             |
| 2. I try to be understanding and patient towards those aspects of my personality I don’t like. | .617      | .631       | .408        |           |             |
| 7. When something upsets me I try to keep my emotions in balance. | .506      | .519       | .278        |           |             |
| 10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people. | - .408    | .447       | .408        | .318        |
| 6. When I’m going through a very hard time, I give myself the caring and tenderness I need. | .400      | .392       | .170        |           |             |

Note: N = 594; Major loadings for each item are bolded. Only coefficients above 0.3 are shown.

Table 6. Goodness-of-fit indicators for SCS-SF models

| Model               | $\chi^2$ | df | $\chi^2$/df | CH | TLI | RMSEA | RMSEA Lower | RMSEA Upper | AIC | ECVI |
|---------------------|----------|----|-------------|----|-----|-------|-------------|-------------|-----|------|
| Single factor       | 374.454*** | 54  | 6.93       | .688 | .619 | .103  | .094        | .114        | 422.454 | .763 |
| Two factors 273.231*** | 53  | 5.16 | 0.821 | .777 | .079 | .069  | .090        | .267.231    | 0.518 |
| Six factors 81.546*** | 39  | 2.09 | 0.875 | .789 | .044 | .031  | .058        | 159.546     | 0.288 |

Note: N = 594; ***$p < 0.001$

Two-factor correlated and six-factor correlated models

First bivariate intercorrelations between total SCS-SF and the 12 items were performed, see Table 3. All items were significantly associated with SCS-SF total score, however question 10 had a low correlation.

Bivariate intercorrelations were then conducted between total SCS-SF and the six subscale scores, gender, and age (shown in Table 4). All subscale scores were significantly correlated with total SCS-SF scores. Total SCS-SF score was not related to age, but higher age was associated with lower SJ and higher CH. Higher total SCS-SF scores were associated with being a man, but the subscales SJ, I, MI, and OI were negatively related to being a man.

Before PCA was performed, the data was assessed for suitability for factor analysis. Inspection of the correlation matrix revealed few variables of $\geq 0.3$, indicating that clusters of data would be hard to find. However, Bartlett’s test of sphericity reached statistical significance, with $<.000$ indicating correlations between items sufficiently large for PCA. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy verified the adequacy of the sample for the analysis, KMO = 0.77, exceeding the recommended value of 0.6. An initial analysis was run to obtain eigenvalues for each component in the data. Four components had eigenvalues over Kaiser’s criterion of 1, and in combination they explained 57.14% of the variance. The scree plot indicated inflexions that would justify retaining both components 2 and 3. A parallel analysis was conducted using Monte Carlo PCA for parallel analysis (Watkins, 2000), which showed a two-component solution to be most appropriate, since only two components had eigenvalues exceeding the corresponding criterion values for a randomly generated data
matrix of the same size (12 variables × 590 subjects). The two-component solution explained 39.65% of the variance, with factor 1, the negative component, contributing 24.98% and component 2, the positive, contributing 14.67%. In Table 5 factor loadings are shown after obli-

We performed a single, first-order general self-compa-

Discussion

The study was aimed to test the internal consistency and
validity of the Swedish version of the SCS-SF in a randomly
selected sample of older adults in Sweden. Overall, the
results suggest psychometric problems using SCS-SF in this
sample. Only in the youngest old group (66 years) was
internal consistency >.70. The six subscale scores of the
six-factor model in the total sample and in the youngest
group did not have acceptable internal consistency, except
on the subscale of self-judgement. Only the negative com-
ponent of the two-factor model showed good internal con-
sistency, both in the total sample and in the youngest old
group. CFA analyses indicated that the factor structure of
the SCS-SF did not meet the criteria for an acceptable
model fit in any of the tested models. Men had higher lev-
els of self-compassion than women, but self-compassion
did not differ by age in this sample. It is important to note
that the gender differences found are hampered by the
poor psychometric properties of the tool.

This study is the first, as far as we know, to perform an
examination of the reliability of the SCS-SF in a randomly
selected sample of older adults. The SCS-LF has been
described to have good psychometric properties in college
students; however, there are few studies that have exam-
ined the scale’s reliability in the general population and in
randomly selected samples. Furthermore, no studies have
been found that investigated the psychometric properties
of SCS-SF in older adults. In the PCA only the two-factor
model had acceptable fit, in line with the results by Phillips
and Ferguson (2013) and López et al. (2015). A two-factor
model comprising a compassionate or uncompassionate
way of relating to oneself may be more appropriate to use
in older adults. In the CFA however, the two-factor model
did not show an acceptable fit. Neff argues that different
results in validation studies of the SCS may be due to
method effects or issues related to translation or cultural
factors (Neff, Whittaker, & Karl, 2017). According to Neff
(2016), a bi-factor model as proposed by Reise, Moore, and
Haviland (2010), would fit the conceptualization of self-
compassion best. In Neff’s (2016) study, a bi-factor analysis
indicated that general self-compassion explained about
90% of the variance of SCS scores (Neff, 2016). It is beyond
the scope of this article to examine this subject.

The six-factor solution proposed by Raes et al. did not
have an acceptable fit in this study as shown by CFA,
 inconsis tent with results of its use in samples of younger
adults (Raes et al., 2011). Further studies are needed to
investigate whether the SCS structure differs between older
and younger adults.

The SCS is widely used in self-compassion research, des-
pite limited support for the scale’s validity. However, the
psychometric problems described in this study seem to
indicate that the questions included in the SCS-SF are too
abstract for the oldest old. Further studies are needed to
investigate whether a more psychometrically robust meas-
ure of self-compassion is needed in older adults.

Notwithstanding this psychometric ambiguity, the older
adults in this sample (N = 594, age 66–102, M = 41.64, SD
5.31) had higher self-compassion than the younger English
sample described above (N = 185, age 18–64, M = 36, SD
7.33). This, along with findings that higher age is associated
with higher CH and lower self-judgement could mean that
self-compassion continues to increase with age, consistent
with previous conjectures (Homan, 2016). The cognitive
interviews with people in this older cohort support this
argument, as some of the older adults mentioned spontane-
ously that they were more accepting of themselves and
their inadequacies than they had been when they were
younger. This may indicate that higher levels of self-com-
passion are in line with Erikson’s stage of ego integrity,
comprising acceptance of past experiences (Erikson, 1968)
and increased broadmindedness, tolerance, and wisdom.

The finding of men having higher self-compassion than
women on the total scale and some of the subscale scores
is in line with earlier studies of gender differences in self-
compassion (Yarnell et al., 2015). However, our results
show quite a complex pattern: women, for example, rated
SK as highly as men did, but tended to score lower on MI
than men, meaning they might be more emotional in diffi-
cult situations. Further studies are needed to investigate
these differences between men and women.

Reliability was low on all six subscale scores, as found in
the original study of Raes et al. (2011), who also found
lower internal consistency for the subscale scores. The con-
struct validity of the SCS-SF measure in older adults of α
=.68 indicates that the items included are not as coherent
as desirable. However, a short scale including only few
items lowers the Cronbach values, and therefore the longer
version of the scale may be more appropriate for investi-
gating the psychometric properties of the SCS in future
investigations.

Strengths and limitations

To our knowledge, this is the first study to investigate self-
compassion in a randomly selected sample of adults aged
66 to 102 years with a fairly even gender distribution. Such
methodological criteria have not been met in earlier stud-
ies in non-randomly selected populations.

Some limitations of the study are worth considering.
The SCS-SF is one of a series of instruments that older
adults complete in the SNAC-B. The SCS-SF questions may
be more abstract and need more individual reflection than
other questions included in the larger questionnaire, and
fatigue may be one reason for inconsistencies in the
results. It was shown during the cognitive interviews that
the oldest old had no difficulties understanding the mean-
ing of the questions, although some asked if they could
have a concrete example of a situation and had difficulty answering broad abstract questions. This may be worth considering when using the instrument in a sample of older adults. Some of the participants in the cognitive interview also might not have recognized the reversed items. This suggests that it may be more appropriate to avoid reversed items in scales for the oldest old, who may be more apt to misunderstand them. Another reason for inconsistencies may be the use of double negatives or the inclusion of two dimensions of personality in the same question (for example item 12: I am intolerant and impatient...) which might be too complex for oldest old to answer.

Conclusions

Our findings indicate psychometric problems using SCS-SF in the oldest old. Good internal consistency was found only in the 66-year-old group. There is a need to investigate whether adjustments are necessary to optimize and improve the fit of the scale for the oldest old cohorts. Gender differences in self-compassion in older adults seem small and should not be overemphasized. Although self-compassion appears to be higher in older ages than younger, the findings of this study suggest that self-compassion is not likely to increase substantially after 66 years of age.

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References

Allen, A. B., Goldwasser, E. R., & Leary, M. R. (2012). Self-compassion and well-being among older adults. Self and Identity : The Journal of the International Society for Self and Identity, 11, 428–453.

Allen, A. B., & Leary, M. R. (2013). Self-compassionate Responses to Aging.. The Gerontologist, 54, 190–200.

Bratt, A. S., Stenstrom, U., & Rennemark, M. (2016). The role of neuroticism and conscientiousness on mortality risk in older adults after child and spouse bereavement. Aging & Mental Health, 20,539–566.

Bratt, A. S., Stenstrom, U., & Rennemark, M. (2017). Effects on life satisfaction of older adults after child and spouse bereavement. Aging & Mental Health, 21,602–608.

Brislin, R. W. (1986). Research instruments. Field Methods in Cross-Cultural Research: Cross-Cultural Research and Methodology Series, 8, 137–164.

Byrne, B. M. (2016). Structural equation modeling with AMOS: Basic concepts, applications, and programming. New York: Routledge.

Castilho, P., Pinto-Gouveia, J., & Duarte, J. (2015). Evaluating the multi-factor structure of the long and short versions of the self-compassion scale in a clinical sample. Journal of Clinical Psychology, 71, 856–870.

Cohen, J. (1992). A power primer. Psychological Bulletin, 112, 155.

Costa, J., Marıço, J., Pinto-Gouveia, J., Ferreira, C., & Castilho, P. (2016). 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. Clinical Psychology & Psychotherapy, 23, 460–468.

Denz, M. E., Kesiçi, Ş., & Sürm, A. S. (2008). The validity and reliability of the Turkish version of the Self-Compassion Scale. Social Behavior and Personality, 36, 1151–1160.

Erikson, E. H. (1968). Identity: Youth and crisis. New York: Norton.

Garcia-Campayo, J., Navarro-Gil, M., Andrzeı, E., Montero-Marin, J., López-Artal, L., & Demarzo, M. M. P. (2014). Validation of the Spanish versions of the long (26 items) and short (12 items) forms of the Self-Compassion Scale (SCS). Health and Quality of Life Outcomes, 12, 4.

Homan, K. J. (2016). Self-compassion and psychological well-being in older adults. Journal of Adult Development, 23, 111–119.

Jackson, D. L., Gillaspy, J. A., & Purc-Stephenson, R. (2009). Reporting practices in confirmatory factor analysis: An overview and some recommendations. Psychological Methods, 14, 6.

Knaf, K., Beatrick, J., Gallo, A., Holcombe, G., Bakitas, M., Dixon, J., & Grey, M. (2007). The analysis and interpretation of cognitive interviews for instrument development. Research in Nursing & Health, 30, 224–234.

Lance, C. E., Butts, M. M., & Michels, L. C. (2006). The sources of four commonly reported cutoff criteria: what did they really say?. Organizational Research Methods, 9, 202–220.

López, A., Sanderman, R., Smink, A., Zhang, Y., van Sonderen, E., Rancho, A., & Schroeven, M. J. (2015). A Reconsideration of the Self-Compassion Scale ‘Total Score: Self-Compassion versus Self-Criticism. PLoS One, 10, e0132940.

Mantzios, M., Wilson, J. C., & Giannou, K. (2015). Psychometric properties of the Greek versions of the self-compassion and mindful attention and awareness scales. Mindfulness, 6, 123–132.

Neff, K. (2003). The development and validation of a scale to measure self-compassion. Self and Identity, 2, 223–250.

Neff, K. (2016). The Self-Compassion Scale is a valid and theoretically coherent measure of self-compassion. Mindfulness, 7, 264–274.

Neff, K. D., Hsieh, Y.-P., & Dejitterat, K. (2005). Self-compassion, achievement goals, and coping with academic failure. Self and Identity, 4, 263–287.

Neff, K., Whittaker, T. A., & Karl, A. (2017). Examining the factor structure of the self-compassion scale in four distinct populations: is the use of a total scale score justified. Journal of Personality Assessment, 99, 596–607.

Neff, K., & Vonk, R. (2009). Self-compassion versus global self-esteem: two different ways of relating to oneself. Journal of Personality, 77, 23–50.

Phillips, W. J., & Ferguson, S. J. (2013). Self-compassion: A resource for positive aging. The Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 68, 529–539.

Potter, R. F., Yar, K., Francis, A. J., & Schuster, S. (2014). Self-compassion mediates the relationship between parental criticism and social anxiety. International Journal of Psychology and Psychological Therapy, 14, 33–43.

Prezdziecki, A., Sherman, K. A., Baillie, A., Taylor, A., Foley, E., & Staligs-Bilinski, K. (2013). My changed body: Breast cancer, body image, distress and self-compassion. Psychooncology, 22, 1872–1879.

Raes, F., Pommier, E., Neff, K. D., & Van Gucht, D. (2011). Construction and factorial validation of a short form of the self-compassion scale. Clinical Psychology & Psychotherapy, 18, 250–255.

Reise, S. P., Moore, T. M., & Haviland, M. G. (2010). Bifactor models and rotations: Exploring the extent to which multidimensional data yield unidicial scale scores. Journal of Personality Assessment, 92, 544–559.

Schermelleh-Engel, K. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. Methods of Psychological Research Online, 8, 23–74.

Watkins, M. W. (2000). Monte Carlo PCA for parallel analysis [computer software] (pp. 432–442). State College, PA: Ed & Psych Associates.

Yarnell, L. M., Stafford, R. E., Neff, K. D., Reilly, E. D., Knox, M. C., & Mullarkey, M. (2015). Meta-analysis of gender differences in self-compassion. Self and Identity, 14, 499–520.