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ORIGINAL PAPER

The (non)Protective Role of Self-Compassion in Internalizing Symptoms: Two Empirical Studies in Adolescents Demonstrating Unwanted Effects of Using the Self-Compassion Scale Total Score

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Abstract

Objectives Several scholars have questioned the use of the total Self-Compassion Scale (SCS) score as an appropriate index for measuring self-compassion as a protective psychological trait.

Methods We present two new studies to further examine the relationships between SCS or SCS-Short Form scores and symptoms of anxiety and depression in non-clinical samples of adolescents (*N*s being 106 and 52).

Results Both studies showed that most of the variance in internalizing symptoms was explained by the uncompassionate self-responding (USR) components of the SCS and that the share of the compassionate self-responding (CSR) was fairly small. Moreover, when controlling for other relevant variables (study 1: neuroticism and extraversion; study 2: self-esteem and lack of self-esteem), the unique contribution of CSR in explaining variance was even completely abolished.

Conclusions We argue that the inclusion of the USR components in the SCS (1) hinders the proper investigation of the protective role of self-compassion, (2) inflates the relationship with internalizing symptoms, and (3) obscures the (fair) comparison with other etiological factors of psychopathology. Within a context of internalizing problems, the SCS or SCS-SF can better be viewed as an index of vulnerability than as a measure of protection.

Keywords Self-Compassion Scale · Compassionate and uncompassionate self-responding · Internalizing symptoms · Neuroticism · Self-esteem

Internalizing symptoms such as anxiety and depression are prevalent during the developmental stage of adolescence. For example, large-scale epidemiological studies conducted in the general population have shown that a substantial minority of the young people will likely suffer from anxiety and depressive disorders (Ford et al. 2003; Merikangas et al. 2010), with cumulative prevalence rates of 9.9 and 9.5% respectively by the age of 16 years (e.g., Costello et al. 2003). Most importantly, the proportion of these internalizing disorders in the total psychiatric morbidity increases during the adolescent years, from an estimated percentage of 25% during middle childhood to a percentage as high as 68% during late adolescence (Costello et al. 2003). This developmental pattern is probably due to the fact that adolescence is a transitional stage characterized by an amalgam of physical, cognitive, social, and academic changes that can bring about considerable stress (Stroud et al. 2009). It is assumed that especially in adolescents with an underlying vulnerability and a lack of resilience this turmoil will lead to the development of internalizing symptoms and in its extreme form to internalizing psychopathology such as anxiety and depressive disorders (e.g., Hankin et al. 2015).

Self-related concepts refer to how people feel about, think of, and behave towards themselves. They represent a class of individual difference variables that might also be relevant for understanding the etiology of internalizing problems such as anxiety and depression (Leary and Tangney 2012). One self-related concept that has received an increasing amount of

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empirical attention is self-compassion, which refers to how people deal with themselves when confronted with personal failures and adversities. According to Neff (2003b), self-compassion consists of three main components on bipolar ends: (1) being kind and supportive to oneself rather than harsh and judgmental (self-kindness vs. self-judgment), (2) recognizing that all human beings experience failures and personal setbacks rather than feeling isolated from other people as a result of one's imperfection (common humanity vs. isolation), and (3) keeping thoughts and feelings about the difficulties in life in a healthy equilibrium rather than becoming fully absorbed by one's problems (mindfulness vs. over-identification). To measure self-compassion, the Self-Compassion Scale (SCS; Neff 2003a) was developed which has been widely employed to quantify the presence of these three components and combines them into a total score of self-compassion. A substantial amount of studies have revealed that self-compassion measured in this way negatively correlates with symptom scores of anxiety and depression in adults (MacBeth and Gumley 2012), a finding that has been heralded by many scholars as evidence for the protective qualities of the construct (e.g., Neff and Germer 2017). In recent years, the focus of investigation has also shifted towards adolescents, and this research has found some support for the preventive role of self-compassion in the development of anxiety and depression in this vulnerable population (Marsh et al. 2018; Pullmer et al. 2019).

Meanwhile, an increasing number of researchers are questioning the validity of the SCS (e.g., Brenner et al. 2017; Geiger et al. 2018; Lopez et al. 2015) and have signaled that this validity problem compromises the proper investigation of the protective role of self-compassion in the etiology of psychopathology (see for a review: Muris and Otgaar 2020). A main issue of this criticism concerns the inclusion of the negatively formulated (reversed) items that measure self-judgment, isolation, and over-identification. Factor analytic studies have revealed that these uncompassionate self-responding (USR) items form related but nevertheless distinct factors that do not act as the dimensional opposites of their compassionate self-responding (CSR) counterparts. Moreover, we and others (Brenner et al. 2017; Geiger et al. 2018; Lopez et al. 2015; Muris et al. 2018) noted that USR and CSR correlate in a different way to external measures (e.g., positive and negative personality features), which provides further support for the notion that they do not tap a similar construct.

The inclusion of the USR components in the SCS is especially problematic when studying the relevance of self-compassion within a context of psychopathology. That is, items belonging to the USR components are formulated in such a way that they resemble psychopathological phenomena (e.g., self-judgment parallels self-criticism, isolation shares similarities with loneliness, while over-identification is comparable to worry and rumination). Indeed, face validity checks have revealed that USR items are often viewed as symptoms rather than as intended self-directed, cognitive coping (Muris et al. 2018; Muris and Otgaar 2020). Not surprisingly, a meta-analysis statistically comparing the relations with psychopathology between CSR and USR has shown that USR is more strongly related to internalizing symptoms such as anxiety and depression than CSR (Muris and Petrocchi 2017). Furthermore, regression analyses exploring the relative contributions of CSR and USR to internalizing symptoms have confirmed this finding, but also convincingly demonstrated that the inclusion of the (reversed) USR items in the SCS total score inflates the relation between self-compassion and such symptoms (Muris et al. 2019b; Muris and Otgaar 2020). As such, it has been argued that the use of the SCS total score will not only obscure the true protective nature of the self-compassion construct but also hinder the examination of its unique contribution to symptoms of anxiety and depression beyond other vulnerability and protective psychological factors.

A first set of factors that may be relevant to consider when studying the unique role of CSR and USR in psychopathology are the personality traits of neuroticism and extraversion, also known as the Big 2 (Tian et al. 2019), which are both thought to make an important contribution to the etiology of psychopathology (Widiger and Trull 1992). Neuroticism has been defined as a susceptibility to experience unpleasant emotions such as fear, anxiety, sadness, and anger and hence has been viewed as a negative trait, while extraversion is described as the general tendency to be sociable, assertive, active, and lively and thus seems to reflect a positive disposition (Eysenck and Eysenck 1985). A meta-analysis by Kotov et al. (2010) has indeed revealed that anxiety and depressive disorders in adults are associated with high levels of neuroticism and low levels of extraversion, and there is also evidence that a similar pattern can be noted in adolescents (e.g., Goldstein et al. 2018).

Previous studies exploring the relationship between self-compassion and personality traits in adult populations have indicated that the SCS total score is strongly negatively correlated to neuroticism and modestly but significantly positively correlated to extraversion (e.g., Neff et al. 2007; Pfattheicher et al. 2017; Pyszkowska 2020). Pfattheicher et al. (2017) took this research one step further and investigated the relations between CSR and USR and personality traits. Their results indicated that the relation with neuroticism was predominantly explained by USR, whereas the link with extraversion was mainly carried by CSR. Comparable findings have been documented in a study with adolescents (Muris et al. 2019a). Given the overlap with neuroticism, it will come as no surprise that the predictive value of self-compassion for symptoms of anxiety and depression is smaller when controlling for the influence of this personality trait (Neff et al. 2018), and this might be even more the case when discarding the

USR components from the construct and only focusing on CSR (Geiger et al. 2018; Muris and Otgaar 2020).

Self-esteem, which has been defined as the level of global positive regard that one has for the self as a person (Harter 1993), is another individual difference variable that seems to play a role in internalizing problems. Studies have indicated that self-esteem protects adolescents against symptoms of anxiety and depression. For example, Dumont and Provost (1999) found that following life stress, adolescents with high levels of self-esteem showed more resilience and better adjustment in the sense that they were less depressed than adolescents with lower levels of self-esteem. Similar results have been obtained by Gurung et al. (2019) in a sample of Indian adolescents ($N = 500$) who were exposed to varying levels of stress. These researchers argued that high self-esteem is an important factor that buffers the negative effects of stressful life events and protects youths against symptoms of anxiety and depression. Note in passing that the reverse is true for low self-esteem, which is considered to be a vulnerability factor and has been shown to be positively associated with such internalizing symptoms in adolescents (Harter 1993, 1999; Keane and Loades 2017).

While self-esteem is characterized by self-evaluation and self-compassion is typified by self-acceptance, they are clearly allied concepts as they are both concerned with the way people affectively and cognitively relate to themselves. Not surprisingly then researchers have found substantial positive correlations between self-esteem and self-compassion, although the exact nature of their relationship is far from clear (e.g., Donald et al. 2018; Marshall et al. 2015). With regard to their relative importance for understanding internalizing symptoms, research in both adult and adolescent samples has indicated that both self-compassion and self-esteem emerge as significant negative predictors, accounting for a unique proportion in symptoms of anxiety and depression (e.g., Marshall et al. 2015; Neff and Vonk 2009). However, little is known about the relative contributions of CSR and USR in competition with self-esteem, but a study by Muris et al. (2016) has revealed that when discarding USR items from the SCS, the role of self-compassion becomes marginal.

The current set of studies further examined the relationships between self-compassion and symptoms of anxiety and depression in adolescents, with a special focus on the unique contributions of CSR (as defined by the positive items included in the SCS) versus USR (as defined by the negative items of the SCS). We also explored to what extent CSR and USR can compete with other psychological factors that are deemed relevant in the etiology of internalizing symptomatology. In study 1, we examined the role of self-compassion versus the Big 2 personality traits (neuroticism and extraversion) in the prediction of anxiety and depression symptoms, while in study 2, we investigated the unique predictive value of self-compassion versus (lack of) self-esteem.

Study 1

Study 1 explored the relationship of self-compassion, and in particular the separate components of CSR and USR, with symptoms of anxiety and depression, while taking into account the influence of the general personality traits of neuroticism and extraversion. We hypothesized that (a) the SCS total score would correlate negatively with neuroticism, and that this negative correlation can be mainly attributed to the inclusion of the (reversed) USR component; (b) self-compassion as measured by the SCS total score would account for unique variance in symptoms of anxiety and depression beyond neuroticism and extraversion, but that (c) the predictive value of this self-related construct would become smaller when only focusing on its positive components (CSR) and discarding the negative elements (USR).

Method

Participants

One hundred and six high school students (54 boys and 52 girls) of a regular high school in Maastricht, which is a medium-sized city with about 120,000 inhabitants situated in the southeastern part of The Netherlands, participated in this study. Participants had a mean age of 13.65 years ($SD = 1.24$; range 12–17 years). The vast majority of them (i.e., 95%) were native Dutch and Caucasian; other children came from families with an Asian (Chinese, Turkish) and North-African (Moroccan) background. All students followed higher general secondary education (40%) or pre-university education (60%), which are school levels preparing for higher professional education and university, respectively.

Procedures

Following permission of the director and the school board, 564 students in the two abovementioned education levels and their parents were approached with a letter describing the purpose of the study and asking whether they were willing to participate. One hundred eleven adolescents and their parents responded favorably to our invitation and signed the informed consent form. These adolescents received an email linking them to the survey on the online platform Qualtrics. Five adolescents did not fully complete the set of questionnaires and were excluded from the study, resulting in a final response rate of 18.8%. Eleven cinema tickets (7.50 euro) were raffled among the participating students.

Measures

The Short Form of the SCS (SCS-SF; Raes et al. 2011) consists of 12 items that have to be rated on a 5-point scale (1 = almost never, 5 = almost always). Like the full-length version, half of the items of the SCS-SF are phrased in a positive way and thus measure the CSR components of self-kindness, common humanity, and mindfulness, while half of the items are formulated in a negative way and hence assess the USR components of self-judgment, isolation, and over-identification. As noted above, many researchers compute a total SCS-SF score, which includes the reversely scored negative items. In the present study, the reliability coefficients (Cronbach's αs) of the SCS-SF were .73 for the total score, .70 for CSR, and .80 for USR, which indicates that the scale has acceptable to good reliability (Iacobucci and Duhachek 2003). Because the SCS-SF also includes negatively formulated items, the validity of the scale is subject to similar critique as has been raised with regard to the full-length version (Muris and Otgaar 2020).

Neuroticism and extraversion were measured by means of the Big Five Questionnaire for Children (BFQ-C; Barbaranelli et al. 2003). Each trait is represented by 13 items that have to be scored on a 5-point scale with anchors 1 = never and 5 = always. The psychometric properties of the BFQ-C have been demonstrated to be good (Barbaranelli et al. 2003), and this is also true for the Dutch translation of the scale (Muris et al. 2005). In the present sample, Cronbach's αs were .80 for BFQ-C neuroticism and .81 for BFQ-C extraversion.

The Youth Anxiety Measure for DSM-5 (YAM-5; Muris et al. 2017) is a questionnaire for measuring fear and anxiety symptoms in young people. Part I that was used in the present study assesses symptoms of generalized anxiety disorder, separation anxiety disorder, social anxiety disorder, selective mutism, and panic disorder. The 28 items are rated on a 4-point scale ranging from 0 (never) to 3 (always). A total anxiety score can be obtained by summing ratings across all items, which is reliable (in the present sample, Cronbach's $\alpha = .93$) and also possesses good validity (Simon et al. 2017).

The Children's Depression Inventory (CDI; Kovacs 1985) is a widely used self-report scale of depressive symptoms in children and adolescents that consists of 27 items relating to sadness, anhedonia, self-blame and guilt, loss of appetite, insomnia, and interpersonal problems. Items have to be rated on a 3-point scale with 0 = not true, 1 = somewhat true, and 2 = very true, and are combined to yield a total score (Cronbach's $\alpha = .94$), which has shown to be a reliable and valid index of depression in youths (e.g., Timbremont et al. 2004).

Data Analyses

The Statistical Package for the Social Sciences (SPSS) was used to compute descriptive statistics (means, standard deviations, gender differences, reliability coefficients). The main hypotheses were investigated by means of correlational and regression analyses. The regression analyses were used to examine the independent contributions of the self-compassion-related variables and the Big 2 personality traits of neuroticism and extraversion in the prediction of internalizing symptoms. A hierarchical (stepwise) method was employed in which SCS-SF variables were entered on step 1 and Big 2 variables were added to the model on step 2 as predictors of both types of internalizing symptoms. In this way, we explored the unique contributions of (a) the SCS-SF total score versus neuroticism and extraversion (model 1), (b) the separate CSR and USR components of the SCS-SF versus neuroticism and extraversion (model 2), and (c) CSR versus extraversion (which both can be considered "protective" variables; model 3).

Results

Statistically significant gender differences were found. Girls scored higher on neuroticism ($t(104) = 3.37$, $p < .01$) and symptoms of anxiety and depression ($t(104)$s being 3.53 and 2.70, both ps $< .01$), whereas boys displayed a higher SCS-SF total score ($t(104) = 2.46$, $p < .05$) and extraversion ($t(104) = 3.41$, $p < .01$). Given the clear differences between boys and girls, we decided to control for gender in all further analyses. This was done by computing partial correlations and by entering gender on step 0 of all regression models.

Partial correlations (corrected for gender) among all variables are displayed in Table 1. As can be seen, the hypothesized correlations were all statistically significant. More specifically, the total SCS-SF score correlated negatively with neuroticism and symptoms of anxiety and depression (rs ranging between − .52 and − .58), whereas a positive correlation was found with extraversion ($r = .27$). A similar pattern of correlations was found for CSR although it should be mentioned that the negative correlations with neuroticism and symptom scores were considerably smaller (rs between − .20 and − .32). USR was substantially and positively correlated with neuroticism and symptoms of anxiety and depression (rs between .47 and .61), and there were also robust positive correlations between neuroticism and both types of symptoms (rs being .65 and .66). While CSR and USR are often shown to be negatively correlated, in study 1, the correlation between these SCS components appeared to be non-significant ($r =$ − .09; see also Lopez et al. 2015).

Table 2 presents the main results of the stepwise regression analyses that were carried out to investigate the unique roles of self-compassion versus the Big 2 variables in the prediction of internalizing symptoms. In model 1, the SCS-SF total score and both neuroticism and extraversion were the predictor variables. As can be seen, total self-compassion accounted for a

Table 1 Correlations (corrected for gender) among SCS-SF scores and other variables measured in study 1

	M (*SD*)	1	2	3	4	5	6
1. SCS-SF total score†	39.37 (7.41)						
2. SCS-SF CSR	18.48 (4.52)	.69***					
3. SCS-SF USR	13.40 (5.35)	− .79***	− .09				
4. BFQ-C neuroticism	22.05 (5.23)	− .54***	− .32*	.47***			
5. BFQ-C extraversion	36.03 (6.07)	.27*	.24*	− .17	− .07		
6. YAM-5 anxiety	14.60 (11.22)	− .52***	− .20*	.55***	.66***	− .15	
7. CDI depression	7.26 (8.90)	− .58***	− .23*	.61***	.65***	− .34***	.68***

N = 106. *SCS-SF* Self-Compassion Scale-Short Form, *CSR* compassionate self-responding, *USR* uncompassionate self-responding, *BFQ-C* Big Five Questionnaire for Children, *YAM-5* Youth Anxiety Measure for DSM-5, *CDI* Children's Depression Inventory. † Including reversed negative (i.e., USR) items. *$p < .05$; ***$p < .001$

significant proportion of the variance in both anxiety and depression symptom scores (step 1). When entering neuroticism and extraversion in the model (step 2), the contribution of the SCS-SF total score substantially decreased although its negative beta value remained statistically significant for both types of internalizing symptoms (anxiety: $\beta = -.21$; depression: $\beta = -.25$). Neuroticism also emerged as a unique positive predictor of internalizing symptoms (anxiety: $\beta = .54$; depression: $\beta = .51$), and—in the case of depression symptoms—extraversion also made a unique negative contribution ($\beta = -.24$).

In model 2, the contributions of the CSR and USR components and the Big 2 in the prediction of internalizing symptoms were explored. The results of step 1 revealed that in particular USR accounted for a significant proportion in both types of symptoms (anxiety: $\beta = 51$; depression: $\beta = .58$). The contribution of CSR was clearly more modest and only statistically significant in the case of depression symptoms ($\beta = -.17$). When adding the Big 2 variables to the model (step 2), it was noted that the contribution of USR was substantially reduced but remained statistically significant (anxiety: $\beta = .28$; depression:

Table 2 Results of the regression analyses (standardized beta coefficients and changes in R^2 for each step) with SCS-SF and personality traits scores as predictor and internalizing symptoms as dependent variables (study 1)

	YAM-5 anxiety		CDI depression	
	β	ΔR^2	β	ΔR^2
Model 1				
1. SCS-SF total score	− .51***	.24***	− .58***	.32***
2. SCS-SF total score	− .21*	.19***	− .25*	.20***
BFQ-C neuroticism	.54***		.51***	
BFQ-C extraversion	− .06		− .24*	
Model 2				
1. SCS-SF CSR	− .14	.29***	− .17*	.37***
SCS-SF USR	.51**		.58***	
2. SCS-SF CSR	.01	.18***	.02	.19***
SCS-SF USR	.28***		.34***	
BFQ-C neuroticism	.53***		.49***	
BFQ-C extraversion	− .07		− .25***	
Model 3				
1. SCS-SF CSR	− .19*	.03*	− .22*	.05*
2. SCS-SF CSR	− .16	.01	− .15	.08*
BFQ-C extraversion	− .11		− .31*	

N = 106. *SCS-SF* Self-Compassion Scale-Short Form, *CSR* compassionate self-responding, *USR* uncompassionate self-responding, *BFQ-C* Big Five Questionnaire for Children, *YAM-5* Youth Anxiety Measure for DSM-5, *CDI* Children's Depression Inventory. *$p < .05$; ***$p < .001$. Regression models were controlled for gender on step 0

$\beta = .34$). The contribution of the CSR was almost reduced to null (βs being .01 for anxiety and .02 for depression) once controlling for the Big 2, of which again neuroticism accounted for the largest proportion of variance in internalizing symptoms (anxiety: $\beta = .53$; depression: $\beta = .49$).

In model 3, only the contributions of the positive psychology concepts of CSR and extraversion in the prediction of internalizing symptoms were examined. When looking at the results, it is noticeable that the percentages of explained variance of model 3 were far more modest (anxiety: 4%; depression: 13%) as compared to those found for models 1 and 2 in which vulnerability variables (USR and neuroticism) were also taken into account (i.e., 43–56%). Furthermore, while CSR was a significant predictor of both anxiety and depression symptoms in step 1 (βs being − .19 and − .22), this was no longer the case once extraversion was entered into the model (step 2). In the case of anxiety symptoms, neither of the two positive concepts was found to have significant unique predictive value, while in the case of depression symptoms, only extraversion accounted for an independent proportion of the variance ($\beta = -.31$).

Discussion

The results of study 1 confirmed our hypotheses. To begin with, a robust and statistically significant negative relationship was found between the SCS-SF total score and neuroticism (Muris et al. 2019a; Neff et al. 2007, 2018; Pfattheicher et al. 2017; Pyszkowska 2020), which indicated that adolescents with higher levels of total self-compassion display lower levels of neuroticism and vice versa. Further inspection revealed that this negative relation was mainly attributable to the inclusion of (reversed) USR components (Geiger et al. 2018; Pfattheicher et al. 2017). Another notable finding was that the SCS-SF total score correlated negatively with adolescents' symptom levels of anxiety and depression, and that this was still the case after controlling for the Big 2 personality traits of neuroticism and extraversion. However, a more detailed analysis evaluating the relative contributions of CSR and USR revealed that only USR accounted for a significant proportion of the variance in internalizing symptom scores, which indicates that increased vulnerability was associated with higher symptom levels. The contribution of CSR was negligible, implying that little was left of the purported protective nature of the self-compassion construct once the influence of USR was canceled out (Geiger et al. 2018; Muris and Otgaar 2020).

Study 2

Study 2 evaluated the predictive value of self-compassion in contrast with self-esteem. In order to make a fair comparison between self-compassion and self-esteem and to demonstrate the effect of incorporating negative items in the measurement of a positive psychology construct, we created a modified version of Harter's (1985) self-esteem scale, in which one half of the items were positive indicators of self-esteem, while the other half of items were formulated in a negative way and thus actually measured a lack of self-esteem. Here, we anticipated that (a) self-compassion and self-esteem are positively related as they are both considered to be protective self-related traits, (b) both self-compassion and self-esteem would explain a significant proportion of the variance in symptoms of anxiety and depression, but (c) that especially the negative components of USR and lack of self-esteem would account for these effects.

Method

Participants

Fifty-two high school students (15 boys and 33 girls; 4 children did not report their gender) of another high school in Maastricht, The Netherlands, took part in this study. Their mean age was 13.31 years ($SD = 1.29$, range 11–16 years). All of them were Caucasian and followed either higher general secondary education (25%) or pre-university education (75%).

Procedures

Prior to the study, adolescents and parents gave their informed consent. Initially, 250 students of randomly selected classes at the junior high school were approached for this research, implying that the response rate was 20.8%. In this study, the participants completed the anonymous questionnaires on paper, which were spread and handled by the care coordinator of the school. The coordinator asked the participating students to carefully check their surveys on completeness before handing them in, and as a result, none of the questionnaires contained missing values. All adolescents received a small snack in return for their participation.

Measures

The full-length version of the Self-Compassion Scale (Neff 2003a) consists of 26 items that are rated on a 5-point scale and can be combined to yield a total score of self-compassion. However, just like the short form, half of the items represent the positive features of self-kindness, common humanity, and mindfulness and thus measure CSR, while the other half reflect the negative characteristics of self-judgment, isolation, and over-identification that jointly assess USR. In general, the basic psychometric properties of the SCS have been demonstrated as satisfactory (e.g., Neff 2003a). In the present study, reliability coefficients of the SCS were all in the good to excellent range (Iacobucci and Duhachek 2003), with

Cronbach's α values being .92 for the SCS total score, .87 for CSR, and .92 for USR.

Harter's (1985) Self-Perception Profile for Children (SPPC) contains 36 items measuring five specific domains of self-esteem, namely academic competence, social acceptance, athletic skills, physical appearance, and behavioral conduct, as well as global self-worth. For the purpose of the present study, we construed a modified SPPC version that analogous to the SCS consisted of positive and negative items. More precisely, for each domain of self-esteem as well as for global self-worth, half of the items were phrased in a positive way (e.g., "I do very well at school") and as such reflected self-esteem, whereas the other half of the items was formulated in a negative way (e.g., "I often forget what I have learned") and thus were indicative for a lack of self-esteem. Items had to be rated on a 4-point scale with 1 = not true, 2 = somewhat true, 3 = true, and 4 = very true. In the present study, three scores were derived from this modified SPPC: (a) the SPPC total score, which was computed using all 36 items including the reversely scored negative items (Cronbach's $\alpha = 88$), (b) a self-esteem score (SPPC self-esteem) that was only composed of the 18 positively phrased items (Cronbach's $\alpha = 83$), and (c) a lack of self-esteem score (SPPC lack of self-esteem) that consisted of the 18 negatively phrased items (Cronbach's $\alpha = 74$). The original SPPC is a reliable and valid scale for measuring self-esteem in children and adolescents (e.g., Muris et al. 2003).

The YAM-5 and the CDI were again used to measure symptoms of anxiety and depression, respectively. In study 2, these scales also displayed good internal consistency, with $\alpha = .89$ for the YAM-5 and $\alpha = .86$ for the CDI.

Data Analyses

The statistical approach was highly similar to that employed in study 1. Following the computation of correlations, stepwise regression analyses were conducted in which we compared the unique contributions to symptoms of anxiety and depression of (a) the SCS total score versus the SPPC total score (model 1), (b) the separate SCS components of CSR and USR versus the separate components of self-esteem and lack of self-esteem (model 2), and (c) CSR versus self-esteem (being the pure protective variables; model 3).

Results

In study 2, no statistically significant gender differences for any of the variables were found, and so there was no need to control for this demographic variable in further analyses.

Pearson correlations among all variables are shown in Table 3. As expected, the correlations were all statistically significant. More precisely, the SCS total score correlated positively with the SPPC total score and SPPC self-esteem (*r*s being .60 and .53), whereas negative correlations were found with SPPC lack of self-esteem, anxiety, and depression (*r*s ranging between − .54 and − .63). The correlations for CSR were comparable as those found for SCS total score but in general weaker: a positive correlation was found with the SPPC total score and SPPC self-esteem (*r*s being .46 and .41), while negative correlations were noted with SPPC lack of self-esteem and both types of internalizing symptoms (*r*s between − .31 and − .41). A reverse pattern of correlations was found for USR, which correlated negatively with the SPPC total score and SPPC self-esteem (*r*s being − .59 and − .51) and positively with lack of self-esteem and symptoms of anxiety and depression (*r*s between .55 and .73). Furthermore, the SPPC total score and SPPC self-esteem correlated negatively with anxiety and depression (*r*s between − .53 and − .73), while lack of self-esteem correlated positively with such symptoms (*r*s being .62 and .76). Finally, in study 2, CSR and USR were negatively and statistically significantly correlated ($r = -.53$).

The results of the stepwise regression analyses examining the unique contributions of self-compassion and (lack of) self-esteem in the prediction of symptoms of anxiety and depression are shown in Table 4. In model 1, the SCS and SPPC total scores were the predictors. On the first step of the model, the SCS total score accounted for a significant proportion of the variance in both anxiety and depression. When adding the SPPC total score to the model on step 2, the SCS total score still accounted for a significant proportion of the variance in anxiety symptoms ($\beta = -.39$), but no longer made a significant contribution to symptoms of depression. For both types of internalizing symptoms, the SPPC total score was found to be a significant negative predictor (anxiety: $\beta = -.40$; depression: $\beta = -.64$).

Model 2 examined the relative contributions of CSR, USR, SPPC self-esteem, and SPPC lack of self-esteem in the prediction of anxiety and depression. CSR and USR were entered on the first step and as can be seen in Table 4, only USR accounted for a unique and statistically significant proportion of the variance in internalizing symptoms (anxiety: $\beta = .74$; depression: $\beta = .61$). When adding the SPPC variables to the model in step 2, USR remained a significant predictor of symptoms (anxiety: $\beta = .55$; depression: $\beta = 26$). SPPC lack of self-esteem was the other variable that made a unique contribution to anxiety and depression symptoms (βs being .27 and .56).

In model 3, again only the predictive value of the positive psychology concepts CSR and SPPC self-esteem was investigated. CSR was entered on the first step and found to make a statistically significant negative contribution to both types of internalizing symptoms. When SPPC self-esteem was added to the model in step 2, the contribution of CSR was no longer statistically significant. SPPC self-esteem, however, did account for a unique and statistically significant proportion of the variance in both anxiety and depression symptoms (βs

Table 3 Correlations among SCS scores and other variables measured in study 2

	M (*SD*)	1	2	3	4	5	6	7
1. SCS total score†	84.90 (16.45)							
2. SCS CSR	40.19 (8.86)	.86***						
3. SCS USR	33.29 (9.97)	− .89***	− .53***					
4. SPPC total score††	117.48 (11.86)	.60***	.46*	− .59***				
5. SPPC self-esteem	53.85 (7.92)	.53***	.41*	− .51***	.93***			
6. SPPC lack of self-esteem	26.37 (5.32)	− .56***	− .41*	.55***	− .84***	− .59***		
7. YAM-5 anxiety	10.63 (8.67)	− .63***	− .34*	.73***	− .63***	− .53***	.62***	
8. CDI depression	4.79 (5.43)	− .54***	− .31*	.62***	− .73***	− .58***	.76***	.74***

N = 52. *SCS* Self-Compassion Scale, *CSR* compassionate self-responding, *USR* uncompassionate self-responding, *SPPC* Self-Perception Profile for Children, *YAM-5* Youth Anxiety Measure for DSM-5, *CDI* Children's Depression Inventory. † Including reversed negative (i.e., USR) items. †† Including reversed negative (i.e., lack of self-esteem) items. *$p < .05$; ***$p < .001$

being − .48 and − .57, respectively). On a final note, the percentages of explained variance in anxiety and depression symptoms when focusing only on the positive components of self-compassion and self-esteem were substantial (i.e., anxiety 34%, depression 39%), but still considerably lower than when the negative, vulnerability-based items were included in the measurement (i.e., 40–65%).

Discussion

The results of study 2 indicated that self-compassion and self-esteem are positively correlated constructs, a finding that has been documented previously in the literature (Donald et al. 2018; Marshall et al. 2015; Muris et al. 2016; Neff and Vonk 2009). In addition, the study made an attempt to examine the effect of including reversed, negatively phrased items when intending to measure a positive psychological construct. Our findings showed that the negative components accounted for most of the variance in symptoms of anxiety and depression, and that their inclusion in the assessment of both self-compassion and self-esteem tended to inflate the relation with these internalizing symptoms. A fair comparison between self-compassion and self-esteem that only focused on the positive

Table 4 Results of the regression analyses (standardized beta coefficients and changes in R^2 for each step) with SCS and SPPC scores as predictor and internalizing symptoms as dependent variables (study 2)

	YAM-5 anxiety		CDI depression	
	ß	ΔR^2	*ß*	ΔR^2
Model 1				
1. SCS total score	− .63***	.39***	− .54***	.29***
2. SCS total score	− .39*	.10*	− .15	.26***
SPPC total score	− .40*		− .64**	
Model 2				
1. SCS CSR	.05	.51***	.01	.36***
SCS USR	.74***		.61***	
2. SCS CSR	.12	.09*	.13	.29***
SCS USR	.55***		.26*	
SPPC self-esteem	− .14		− .20	
SPPC lack of self-esteem	.27*		.56***	
Model 3				
1. SCS CSR	− .38*	.14*	− .34*	.11*
2. SCS CSR	− .18	.20*	− .11	.28***
SPPC self-esteem	− .48*		− .57***	

N = 52. *SCS* Self-Compassion Scale, *SPPC* Self-Perception Profile for Children, *CSR* compassionate self-responding, *USR* uncompassionate self-responding, *YAM-5* Youth Anxiety Measure for DSM-5, *CDI* Children's Depression Inventory. *$p < .05$; ***$p < .001$

components of both constructs revealed that self-esteem was a more important predictor of both anxiety and depression symptoms than self-compassion (cf. Muris et al. 2016).

General Discussion

Anxiety and depression are highly prevalent among adolescents, and a substantial minority of the young people even display such intense and severe symptom levels that they qualify for a clinical disorder. Current etiological models assume that not only risk and vulnerability factors are important for understanding why some adolescents develop internalizing problems, but that also protective mechanisms are relevant as they may make youngsters more resilient in times of adversity and stress (Cicchetti and Rogosch 2002). The construct of self-compassion is certainly of interest in this regard as it may help adolescents to orient to and deal with personal adversity in a more positive way, thereby acting as a cognitive shield to ward off high levels of internalizing symptoms (Neff and Germer 2017). As such, we have nothing against the basic construct of self-compassion as we believe that it certainly is an important topic of scientific inquiry (see also Muris and Otgaar 2020). However, we do have serious concerns with the way many researchers currently measure the construct, namely by using the SCS total score. This is particularly relevant when one is interested in examining the assumed unique protective role of self-compassion within a context of psychopathological phenomena such as anxiety and depression.

As we have demonstrated previously and again illustrated with the findings reported in this article, the inclusion of the negative items in the SCS (1) hinders the proper interpretation of the role of self-compassion in terms of protection (CSR) and vulnerability (USR), (2) is very likely to inflate the relationship with internalizing symptoms, and (3) blurs the (fair) comparison with other etiological factors of psychopathology. To further clarify these points, we have summarized the main results of the present studies in Table 5. With regard to the first point, the most left columns in this table indicate that when employing the SCS total score, a robust negative relationship with internalizing symptoms was found, which is in keeping with what has been documented elsewhere in the self-compassion research (e.g., MacBeth and Gumley 2012; Marsh et al. 2018; Pullmer et al. 2019). Most researchers take this association as evidence for the protective role of self-compassion, but the fact is that without proper investigation of the share of CSR and USR, we simply do not know whether this finding should be interpreted in terms of protection, vulnerability, or both.

The next columns in Table 5 provide an answer with regard to the second issue. As can be seen, the unique contribution of CSR was rather weak: only in study 1, a small but statistically significant relation with symptoms of depression was found, but in all other cases, the role of CSR was insignificant once controlling for the influence of USR. In contrast, USR appeared to be a robust unique predictor of internalizing symptoms in both studies. Thus, the results as obtained with the SCS total score were mainly attributable to the USR components included in the scale and not (or to a far lesser extent) to the CSR components. This means that in the context of psychopathology, the findings obtained with the SCS total score are better interpreted in terms of vulnerability rather than in terms of protection and that when one considers self-compassion from a protective perspective—which is common practice in the literature—it is hard to evade the conclusion that the inclusion of the USR components will inflate its relation with internalizing psychopathology (Muris et al. 2019b; Muris and Otgaar 2020).

Table 5 Summary of the results on the relations between self-compassion (components) and internalizing symptoms in both studies

	r with total SCS-SF or SCS	Common interpretation (valid?)	Unique *r* with CSR	Unique *r* with USR	Interpretation	Inflation effect?	Unique *r* with CSR beyond other variable	Unique *r* with USR beyond other variable	Interpretation	Blurring comparison with other variable?
Study 1										
Anxiety	+++	Protection	-	+++	Vulnerability	Yes	-	++	Vulnerability	Yes
Depression	+++	Protection	+	+++	Vulnerability>protection	Yes	-	++	Vulnerability	Yes
Study 2										
Anxiety	+++	Protection	-	+++	Vulnerability	Yes	-	+++	Vulnerability	Yes
Depression	+++	Protection	-	+++	Vulnerability	Yes	-	++	Vulnerability	Yes

SCS-SF Self-Compassion Scale-Short Form, *SCS* Self-Compassion Scale. "+++" indicates large effect size; "++" indicates medium effect size; "+"indicates small effect size; "-" indicates no statistically significant effect

With regard to the third and final point, study 2 convincingly showed that negative items included in a "protective" measure account for most the variance in symptoms of anxiety and depression, not only leading to an unjustified conclusion regarding its protective role but also hindering a fair comparison with other protective constructs. More precisely, when using the SCS total score and comparing its predictive value to pure self-esteem (i.e., only measured with positive items), the conclusion seemed warranted that self-compassion is more important as a shield to symptoms of anxiety and depression. However, when making the competition between these protective constructs fairer by either adding negative items to the self-esteem scale or by completely removing the negative items from both the SCS and our self-esteem scale, self-esteem was the better predictor of such symptoms. The fact that self-esteem had better predictive power does not necessarily mean that self-compassion is a redundant construct. That is, while there is evidence that self-esteem is the more basic trait that acts as a developmental antecedent of self-compassion (Donald et al. 2018), it may still be the case that self-compassion is the more changeable characteristic and thus a better target for intervention (Moffitt et al. 2018).

While little support was found for the commonly advocated protective role of self-compassion (as this would have required finding robust and unique negative effects of the CSR components on internalizing symptoms), the present studies did indicate that the USR components included in the SCS were a consistent positive predictor of adolescents' symptoms of anxiety and depression. That is, even when controlling for other vulnerability indices such as neuroticism (study 1) and lack of self-esteem (study 2), USR still accounted for a significant proportion of the variance in both types of internalizing symptoms, suggesting that self-judgment, isolation, and over-identification represent unique vulnerability processes that are not covered by more general personality factors (although these USR components have been described elsewhere in the literature under different labels such as self-criticism, loneliness, and rumination, and hence could be considered as "old wine in new bottles"; e.g., Pfattheicher et al. 2017). This seems to fit well with hierarchical vulnerability models of psychopathology, which assume that a general vulnerability factor is linked to symptomatic manifestations of disorders via more specific cognitive variables. Previous research has shown that negative metacognition and intolerance of uncertainty act as cognitive links between neuroticism and symptoms of anxiety and depression (e.g., Norton and Mehta 2007), and so it seems worthwhile to explore the role of various USR components in these hierarchical models of psychopathology. Work by Cox and colleagues (Clara et al. 2003; Cox et al. 2004) has already shown that self-judgment has certainly potential in this regard: this variable was repeatedly found to act as a significant mediator in the relation between neuroticism and symptoms of anxiety and depression.

Limitations and Future Research Directions

It should be acknowledged that the present studies were subject to a number of limitations. To begin with, only about one-fifth of the students that were approached for this study eventually decided to participate. Furthermore, students were recruited in the higher education levels of secondary school and the vast majority was Caucasian, all of which call the representativeness of the current samples into question. Second, the sample size, especially of study 2, was rather small ($N = 52$). It should be noted however that a post-hoc power analysis revealed that the number of participants included was more than sufficient to examine the main hypothesis of our study (i.e., to obtain the commonly reported r of .54 for the relation between self-compassion and internalizing symptoms (MacBeth and Gumley 2012) at $\alpha = .05$ and $\beta = .20$, the required N would be 29). Third, due to restrictions set by the participating school regarding the number of items included in the survey, the adolescents in study 1 completed the SCS-SF, whereas those participating in study 2 completed the full-length SCS as an index of self-compassion. Both scales have been shown to be highly correlated (Raes et al. 2011) and generally produce similar correlations with measures of psychopathology (Garcia-Campayo et al. 2014), and indeed the use of different measures did not seem to have a significant impact on the main results of our studies. Nevertheless, some inconsistent findings were noted (e.g., regarding the gender difference in self-compassion, the unique predictive value of CSR—beyond USR—for depression (step 1 of model 2), and the correlation between CSR and USR), which may have been due to the use of different scales as well as subtle differences between the samples of both studies. Fourth, it has been noted that items of the SCS and SCS-SF can be rather complex for younger adolescents and that it might be preferable to use an age-appropriate version (SCS Youth version; Neff et al. in press). However, at the time of testing, this new scale was not available yet, and therefore we used the adult versions of these scales. In passing, it should be noted that this SCS Youth version (SCS-Y) also contains negative, USR items and hence is prone to the same validity issues as the adult version. Fifth and finally, it is good to keep in mind that both studies were cross-sectional and correlational in nature. This means that although our regression models were built with SCS components and other variables as independent variables "predicting" symptoms of anxiety and depression as

the dependent variables, no conclusions can be drawn in terms of cause-effect relationships.

Possibilities for future studies are the following. With regard to the assessment of self-compassion, we recommend researchers to only employ the positive components of the SCS(-SF) or use an alternative index such as the Sussex-Oxford Compassion Scale (which is not fused by vulnerability characteristics; Gu et al. 2020) when investigating the role of this protective trait within a context of psychopathology. This recommendation is also relevant for intervention studies aiming to investigate the effects of self-compassion interventions on psychosocial outcomes (Ferrari et al. 2019). The inclusion of the negative components in the SCS(-SF) makes it impossible to establish whether the noted changes following intervention actually reflect a positive change in "true" self-compassion or are mainly indicative of symptom reduction (Wadsworth et al. 2018). Furthermore, it is important to note that the present study needs to be replicated in lower-educated adolescents (or adults), in other cultural/ethnic groups, and with other types of psychopathology (e.g., eating problems, externalizing behaviors). Future research should also rely more on prospective designs, which make it possible to study moderation effects of self-compassion (vs. self-esteem) as a hypothesized protective trait that actually buffers the negative impact of stress and other life adversities on psychopathological outcomes (e.g., Petrocchi et al. 2019). Finally, it is good to point out that the problems that we signal regarding the assessment of protective traits by means of negative items do not exclusively apply to the SCS(-SF). In fact, other examples of instruments can be found in the positive psychology literature that assess constructs such as optimism, psychological flexibility, and mindfulness by means of reversely scored negative items, and obviously the impact of this practice is in need of further investigation.

Findings of the present studies showed that researchers should be cautious with using the total score of the SCS or SCS-SF and interpreting this score as if it would reflect protection within a context of internalizing symptoms and disorders. Our results clearly demonstrated that the relations between the SCS(-SF) total score and symptoms of anxiety and depression are mainly carried by the USR components of the scale, which means that effects documented with the SCS(-SF) in the "prediction" of internalizing symptoms can better be interpreted in terms of vulnerability than in terms of protection. The data speak for itself and once again indicate that the inclusion of the reversed USR components inflates the relationship between "self-compassion" and internalizing symptoms and also obscures a fair comparison with other vulnerability and protective variables that are involved in the etiology of these psychopathological phenomena.

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Author Contributions Peter Muris designed the study, conducted the data analyses, and wrote and revised the manuscript. Henry Otgaar and Angélica López assisted with the writing. Iva Kurtic and Ingrid van de Laar helped with the design of the study and carried out the data collection.

Data Availability Data can be retrieved via the following links: file://caum-nas201/fpn_rdm$/DM1116_PM_selfcomesteem/09_Data_after_cleaning/ and file:\crca-um-nas201\fpn_rdm$\DM0728_PM_SelfCompassion\09_Data_after_cleaning.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Standards Ethical approval was obtained from the Ethical Research Committee of Psychology and Neuroscience at Maastricht University (ERCPN Master 209 07 06 2019 and ERCPN Master 192 15 04 2018 V02).

Informed Consent Informed consent was obtained from all participants as well as their parents.

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