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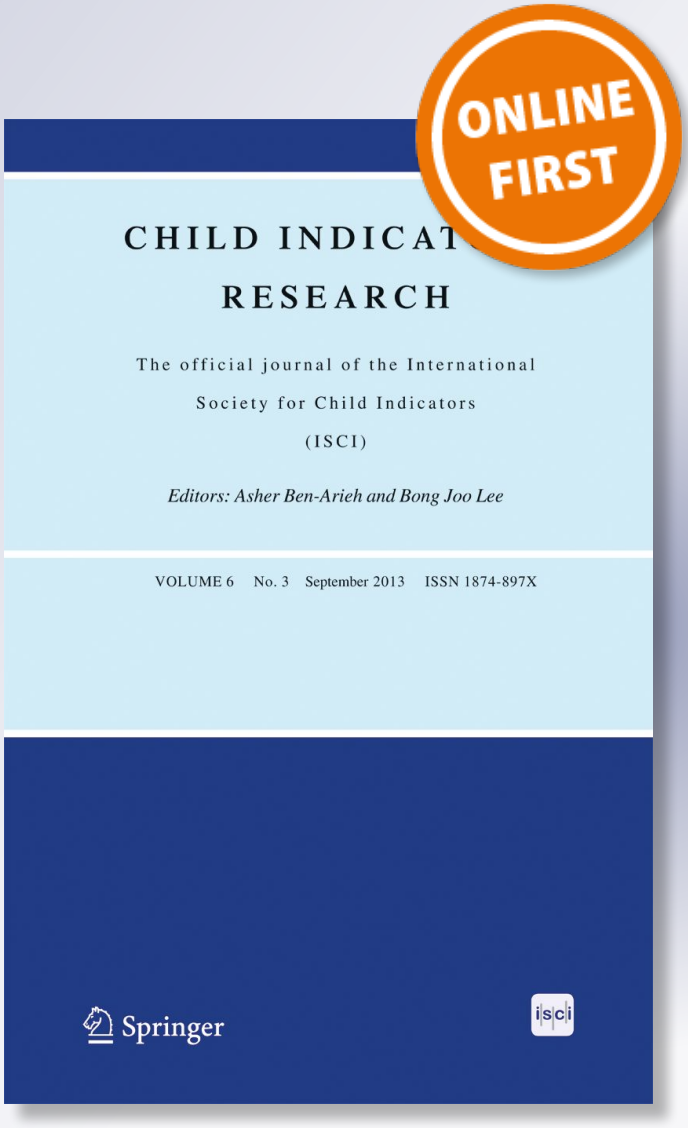

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Evaluating the Reliability and Validity of the Self-Compassion Scale Short Form Adapted for Children Ages 8–12

Essie Sutton[1] · **Kimberly A. Schonert-Reichl**[2] · **Amery D. Wu**[2] · **Molly Stewart Lawlor**[2]

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Abstract Research on self-compassion in adults and adolescents has consistently shown positive associations of self-compassion to mindfulness, psychological and physical well-being, self-esteem, and compassion towards others. Yet, self-compassion in children has not been examined. The present study was conducted to explore the reliability and validity of the Self-Compassion Scale for Children (SCS-C). A sample of 406 children, ages 8 to 12, completed the SCS-C and measures of mindfulness, self-concept, well-being and psychological adjustment, empathic-related responding, and prosocial goals. Results indicated a two-factor structure for the SCS-C with negatively-worded items and positively-worded items forming two discrete subscales, each with acceptable internal consistency (Cronbach's alpha = .81–.83). Children's scores on the positive and negative self-compassion subscales were significantly related to most of the self-reported measures in the expected directions. These findings provide insight into the factor structure of the SCS-C and are consistent with previous research on the Self-Compassion Scale with adult and adolescent populations. Limitations and future directions are discussed with regard to the two-factor structure of the SCS-C and its relevance for research and applications.

Keywords Self-compassion · Children · Mindfulness · Well-being · Measurement

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1 Introduction

Over the past decade, self-compassion—which has been defined as a way of thinking about and relating to oneself during times of suffering (Neff 2003a)—has become a highly-researched construct in the areas of mindfulness and well-being. Originating from Buddhist philosophy, self-compassion involves being "touched by and open to one's own suffering, not avoiding or disconnecting from it, generating the desire to alleviate one's suffering and to heal oneself in kindness" (Neff 2003a, p. 87). Research with adults and adolescents has shown that self-compassion is associated with many dimensions of psychological well-being, such as higher optimism and happiness and lower anxiety and depression (Barnard and Curry 2011; MacBeth and Gumley 2012; Neff 2011; Zessin et al. 2015). Due to its emphasis on self-kindness, as opposed to self-judgment and social comparison, self-compassion has been proposed as a healthier alternative to the promotion of self-esteem (Neff 2003a; Neff 2011). Yet, little is known about self-compassion in childhood and how it develops in relation to other aspects of social and emotional well-being. The first step towards studying self-compassion in childhood is the development of reliable and valid measures of self-compassion that can be used with children. This gap is addressed in the present study, the primary goal of which was to examine the reliability and validity of a new self-report measure assessing self-compassion in late childhood and early adolescence (ages 8–12).

1.1 Self-Compassion

Compassion has commonly been defined as the awareness and sensitivity to the experience of suffering coupled with the desire to alleviate that suffering (Goetz et al. 2010). Neff (2003a) conceptualized self-compassion as essentially compassion turned inwards and described it as consisting of three core elements: self-kindness, as opposed to self-criticism; a sense of common humanity, as opposed to feelings of isolation; and mindfulness, the ability to be aware of and open to experiencing one's emotions and thoughts without over-identifying with them or persistently dwelling on them. Although these three components of self-compassion are conceptually separate, in reality they are interdependent. For example, having kind and non-judgmental feelings towards oneself should provide the emotional safety required to become aware, mindful, and accepting of one's experiences in the present moment. In addition, being aware that mistakes, failures, and other forms of suffering, are part of the common human experience and shared among others may also provide emotional safety and make it easier to relate to oneself in a kind, caring, and compassionate way (Neff 2003a). It is also the combination of these three elements that differentiates self-compassion from self-absorption, self-pity, and passivity towards the self. Theoretically, self-compassion should not lead to self-absorption or self-centeredness due to its incorporation of the common humanity component. This is also why self-compassion is different from self-pity, which focuses on the separation of the self from others. Finally, instead of creating passivity towards the self, self-compassion includes being mindfully aware of one's emotions, feelings, and experiences so that one can relate to themselves in a kind and compassionate way, rather than ignore or be passive towards the self (Neff 2003a).

1.2 Self-Compassion and Mindfulness

Although it has several definitions, mindfulness is commonly defined as a way of directing attention towards the present moment in an open, balanced, and non-judgmental manner (Brown and Ryan 2003; Kabat-Zinn 2003). The mindfulness component within the self-compassion framework is narrower than mindfulness in general because it does not refer to all kinds of awareness, but specifically the awareness of one's own suffering (Neff 2003a). Self-compassion can be seen as an outcome of mindfulness in general as well as an antecedent for mindful awareness in future moments, allowing individuals to continue to become aware of their experiences in an open and non-judgmental way. Therefore, it is theorized that mindfulness and self-compassion are related and mutually enhance each other (Neff 2003a; Neff and Germer 2012).

Investigations of the relations between self-compassion and mindfulness with adolescents and adults have supported these theories. Researchers have found significant correlations between self-compassion and mindfulness using the Mindfulness Attention and Awareness Scale (MAAS; Van Dam et al. 2011), the Five Factor Mindfulness Questionnaire (FFMQ; Baer et al. 2012), and the Children and Adolescent Mindfulness Measure (CAMM; Bluth and Blanton 2014). Longitudinal studies have also found changes in self-compassion associated with mindfulness-based interventions (Bergen-Cico and Cheon 2013; Birnie et al. 2010). For example, in a study with young adults Bergen-Cico and Cheon (2013) found that individuals who participated in a weekly mindfulness-based stress reduction program increased in their self-reported mindfulness and self-compassion across the course of the intervention and that changes in mindfulness were associated with changes in self-compassion.

1.3 Self-Compassion and Indicators of Social-Emotional Well-Being

Over the past decade, research on self-compassion has consistently identified positive associations between self-compassion and multiple aspects of social and emotional well-being (Barnard and Curry 2011; MacBeth and Gumley 2012; Neff 2011; Zessin et al. 2015). In both adult and adolescent samples, self-compassion has been positively associated with self-esteem, life satisfaction, happiness, optimism, positive affect and social-connectedness and negatively associated with depression, anxiety, negative affect, and stress (Bluth and Blanton 2014; Neff 2003a; Neff and Vonk 2009; Neff et al. 2007; Sirois et al. 2015). A recent meta-analysis investigating the association between self-compassion and indicators of well-being, across 79 samples, found an overall moderate effect size (Zessin et al. 2015).

Studies have also investigated the links between self-compassion and feelings and behaviors towards others. Self-compassion has been found to be positively associated with empathy, perspective-taking, altruism, and forgiveness among community adults and practicing Buddhists (Neff and Pommier 2013). Welp and Brown (2014) found that individuals high in self-compassion were more likely to be willing to help a stranger in a hypothetical situation. In a study of adult romantic relationships, self-compassion was associated with emotional connectivity, acceptance, and autonomy supportiveness according to self-reports as well as partner-reports (Neff and Beretvas 2013).

1.4 The Development and Validation of the Self-Compassion Scale

In almost all the research studies referenced above, self-compassion was measured using Neff's Self-Compassion Scale (SCS; Neff 2003b). Items in the SCS were developed in a two-phase pilot study with undergraduate students at a large southwestern university (Neff 2003b). In a subsequent study, the 71 items, which were generated from the pilot study, were administered to a sample of 391 undergraduate students (Neff 2003b). Participants responded to the items on a 5-point Likert-type scale, ranging from 1 (*Almost never*) to 5 (*Almost always*). Approximately one-third of the items were intended to tap into each of the three sub-components of the self-compassion construct (self-kindness, common humanity, and mindfulness). The scale consisted of a roughly equal amount of positively and negatively-worded items. Participants were also asked to complete questionnaires and items measuring constructs predicted to be related to self-compassion, such as, self-criticism, connectedness, perfectionism, anxiety, depression, and life satisfaction.

Items intended to assess each of the three sub-components were grouped into subscales and were first analyzed separately using exploratory factor analysis (EFA). Items with factor loadings lower than .40 on their proposed subscale were omitted from the final version of the scale and not examined in the following analyses. Next, items within each subscale were analyzed using confirmatory factor analysis (CFA) to investigate the fit of a one-factor model. For each proposed subscale, a one-factor model did not fit the data well and it was hypothesized that the positively-worded items and the negatively-worded items were forming two separate factors. The resulting two-factor model for each subscale fit the data well resulting in six subscale factors: self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification. Next, a CFA, assessing the fit of the six intercorrelated factors, revealed that a single higher-order self-compassion factor fit the data marginally well (Non-normed fit index = .88; Comparative fit index = .90). This final 26-item scale was supported by an overall internal consistency of .92. The internal consistency of the individual subscales ranged from .75 to .81. The measure had good test-retest reliability over a 3-week period with correlations ranging from .85 to .93. Responses on the SCS were also significantly correlated with the predicted related constructs, such as depression, anxiety, and life satisfaction, in the expected directions (Neff 2003b).

Following the development of the SCS, a shortened, 12-item, version of the scale was constructed and studied with both Dutch and English-speaking samples (Raes et al. 2010). The Self-Compassion Scale-Short Form (SCS-SF) was created by taking the two items from each of the six SCS subscales that showed the highest correlations with the overall scale. The shortened SCS had adequate internal consistency (Cronbach's alpha greater than .86) in all samples and strong correlations with the longer version of the scale (Pearson's correlation greater than .97; Raes et al. 2010).

1.5 Self-Compassion in Adolescence

A few studies have used the SCS to investigate the correlates of self-compassion in adolescent samples. Neff and McGehee (2010) found self-compassion to be negatively associated with anxiety and depression and positively associated with social connectedness among adolescents aged 14–17. Self-compassion was positively associated with mindfulness and satisfaction with life and negatively associated with negative affect

and perceived stress among adolescents ages 13–18 (Bluth and Blanton 2014, 2015; Bluth et al. 2016). Self-compassion also moderated the relation between self-esteem and improved mental health among students in grades 9 and 10 (ages 14–16); for students low in self-compassion, low self-esteem predicted significant reductions in mental health one year later (Marshall et al. 2015).

Recently, Muris et al. (2016a, b) developed the Shortened Self-Compassion Scale for Adolescents (S-SCS-A) by modifying the language of items belonging to the positive SCS subscales (self-kindness, common humanity, and mindfulness). The authors found preliminary evidence of the scale's reliability and validity when used with a sample of adolescents (ages 12–17) in the Netherlands. Muris et al. (2016a, b) also found that among non-clinical youth scores on the S-SCS-A were negatively associated with depression and anxiety.

1.6 Self-Compassion in Childhood

Missing from this field of research is the study of self-compassion in childhood. Neff (2003a) theorized that self-compassion is present throughout development and is derived from interactions with caregivers and attachment style at an early age. However, no study to date has investigated self-compassion in individuals under the age of 12. It is critical to understand how self-compassion develops in relation to experiences in childhood and whether it is associated with positive social and emotional competencies as seen in adolescence and adulthood.

Investigating self-compassion during the period of late childhood and early adolescence is especially important given the critical biological, social, cognitive, and environmental changes that occur over these years (Eccles 1999; Oberle et al. 2010). Between the ages of 8 and 12, there is a marked increase in self-awareness, self-reflection, and perspective-taking abilities that contribute to the development of a sense of identity and self-concept (Butler 1998; Cole et al. 2001). During these years, children's social worlds expand beyond the family and start to include peers as well as other adults in schools and communities (Steinberg 2005; Wigfield et al. 2006). Along with these new social contexts and opportunities to learn and grow, some adverse developmental trends may occur during the shift to early adolescence. It is during these years that behavioral and psychological problems may begin to emerge (Dahl and Gunnar 2009; Steinberg et al. 2008). Specifically, in the context of school, students at this age become prone to test anxiety, learned helplessness, and self-consciousness that make it difficult to concentrate on learning tasks (Eccles 1999; Eccles and Roeser 2009). It is also a period in development where there is increased social comparison and evaluation of the self against others and certain performance standards (Harter 2006).

The dearth of research on self-compassion in childhood is likely due to the lack of measures of self-compassion specifically for children. The SCS and SCS-SF, which have almost exclusively been used in self-compassion research to date, were developed and validated with adults. Although studies have been done using the scales with adolescents, the phrasing of some of the items may be confusing or interpreted differently by children (e.g., "When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people."). The S-SCS-A, which was developed for adolescents, has limited evidence of reliability and validity and was constructed with a sample of Dutch youth; therefore, this measure may not be appropriate for North American

children under the age of 12. To investigate self-compassion in childhood an age-appropriate measure of self-compassion must be developed and validated.

1.7 The Present Study

In light of the limited empirical research on the construct of self-compassion among child populations, the primary purpose of this study was to assess the reliability and validity of a modified version of the Self-Compassion Scale—Short Form (SCS-SF; Raes et al. 2010), the Self-Compassion Scale for Children (SCS-C) that was adapted by the fourth author on this paper for the population of late childhood and early adolescence. In the present study, scores on the SCS-C, along with a battery of additional measures, were analyzed to answer the following research questions: 1) What is the factor structure and internal consistency of the SCS-C when used with a population of children, ages 8–12? and 2) Does the SCS-C relate to other constructs (namely, mindfulness, self-concept, well-being and psychological adjustment, empathy, and prosocial goals and behavior) as predicted by previous research with adolescents and adults?

2 Method

2.1 Participants

Data for the present study were collected as part of a randomized controlled trial (RCT) evaluating the effectiveness of a universal social and emotional learning (SEL) program which was being implemented in a large western Canadian city. For the purposes of this study, only data that were collected prior to the implementation of the SEL program within classrooms were analyzed. Students in 4th–7th grade classrooms, draw from 14 elementary schools representative of a diverse range of socioeconomic statuses and racial/ethnic backgrounds, were eligible to participate in the research study. Participation required both parent/guardian consent and student assent. The consent rate across all eligible students (N = 442) was 92%, resulting in a total of 406 (51% female) surveyed participants. After excluding data from participants who reported reading English as "hard" or "very hard," on a 4-point Likert-type scale (n = 24), the final sample included 382 students (50% female), ages 8 to 12 (M = 11.3; SD = .90). With regard to first language learned, 71% of students reported English as their first language, 13% reported Cantonese, 2% reported Filipino, 14% reported one of several other languages (e.g., Hindi, Japanese, or Korean) or *Other* (e.g., Arabic or German).

2.2 Measures

2.2.1 Self-Compassion

Twelve self-report items were pilot-tested to assess children's self-compassion (see Table 1). The items were adapted from the SCS-SF (Raes et al. 2010), which has primarily been used with adults. The fourth author of the current study modified items on the SCS-SF to use with younger populations by altering the language to be age-appropriate. For example, item 1 on the SCS-SF, "When I fail at something important

Table 1 The self-compassion scale modified for children

	Never	Almost never	Sometimes	Almost always	Always
1. When I fail at something important to me, I feel like I'm not good enough.	1	2	3	4	5
2. I try to be kind towards those things about myself I don't like.	1	2	3	4	5
3. When something bad happens, I try not to focus only on the bad, but think about the good things as well.	1	2	3	4	5
4. When I'm feeling sad, I feel like most other kids are happier than I am.	1	2	3	4	5
5. When I fail at something, I try to remember that everybody fails sometimes too.	1	2	3	4	5
6. When I'm going through a very hard time, I'm really nice to myself.	1	2	3	4	5
7. When something upsets me I try to stay calm.	1	2	3	4	5
8. When I fail at something that's important to me, I feel like I'm all alone.	1	2	3	4	5
9. When I'm feeling sad, I can't stop thinking about everything that's wrong.	1	2	3	4	5
10. When I feel like I'm not good enough at something, I try to remind myself that everyone feels that way sometimes.	1	2	3	4	5
11. I am hard on myself about my own flaws and weaknesses.	1	2	3	4	5
12. I get frustrated or upset about the things about myself I don't like.	1	2	3	4	5

to me I become consumed by feelings of inadequacy" was changed to "When I fail at something important to me, I feel like I'm not good enough". As a result, items on the Self-Compassion Scale for Children (SCS-C) addressed each of the six components of Neff's definition of self-compassion: Self-kindness (e.g.,"I try to be kind towards those things about myself I don't like."), Self-judgment (e.g., "I am hard on myself about my own flaws/weaknesses."), Common humanity (e.g., "When I fail at something, I try to remember that everybody fails sometimes too."), Isolation (e.g., "When I fail at something that's important to me, I feel like I'm all alone."), Mindfulness (e.g., "When something upsets me I try to stay calm."), and Over-identification (e.g., "When I'm feeling sad, I can't stop thinking about everything that's wrong.").

Students were asked to respond on a five-point Likert-type scale, which ranged from 1 (*Never*) to 5 (*Always*). The items assessing self-judgment, isolation, and over-identification (1, 4, 8, 9, 11, 12) were reverse-scored. This was the first study to investigate the factor structure and internal reliability of these items together as a scale with a sample of children.

2.2.2 Mindfulness

Student's mindful awareness was assessed using the Mindful Attention and Awareness Scale for Children (MAAS-C; Lawlor et al. 2014), an adapted version of the Mindful Attention and Awareness Scale (Brown and Ryan 2003). The MAAS-C consists of 15 items that assesses the frequency of mindful states over time. Benn (2004) modified the MAAS to use with younger populations by altering the language to be age appropriate. In addition, the 6-point Likert-type scale was reversed, so lower numbers on the scale represented less frequent mindless states (e.g., 1 = *Almost Never*) and higher numbers

on the scale represented more frequent mindless states (e.g., 6 = *Almost Always*); this was done to maintain consistent response scales across all measures in the study and therefore reduce the amount of cognitive load on participants. Brown and Ryan proposed that "statements reflecting mindlessness are likely more accessible to most individuals, given that mindless states are much more common than mindful states" (p. 826), thus, items on the MAAS-C reflect mindless states (e.g., "I could be feeling a certain way and not realize it until later."). Total scores were created by reverse scoring all the items and averaging ratings from each item, with higher scores representing more mindful states. Evidence for reliability and construct validity of the MAAS-C has been demonstrated (Lawlor et al. 2014; Oberle et al. 2012). For the present study, Cronbach's alpha for the MAAS-C was .86.

2.2.3 Self-Concept

Students' self-concept, which has been broadly defined as a multifaceted construct that describes how individuals perceives themselves (Marsh and Shavelson 1985), was assessed using two subscales from the Self Description Questionnaire (SDQ; Marsh 1988). The 16-item scale used in this study consisted of the following two subscales (8 items each): General Self-concept (e.g., "In general, I like being the way I am."), and School Self-concept (e.g., "I am good at school subjects."). Students' rated items on a five-point Likert-type scale ranging from 1 (*Never*) to 5 (*Always*). A total score was created for each subscale by averaging ratings for each item with higher scores representing higher self-concepts. Evidence of the reliability and validity of this scale has been demonstrated by Marsh (1988, 1990, 1994) and Gilman et al. (1999). For the present study, Cronbach's alpha for both subscales were satisfactory; Cronbach's alpha = .84 (General Self-concept) and .87 (School Self-concept).

2.2.4 Well-Being and Psychological Adjustment

Four measures were used to assess the multiple components of children's well-being and psychological adjustment including optimism, life satisfaction, affect, as well as anxiety and depression. To examine optimism, students completed the Optimism subscale of the Resiliency Inventory (RI; Song 2003). The Optimism subscale measures a person's positive perspective on the world and future (e.g., "More good things than bad things will happen to me.") and consists of nine items, of which five are reverse scored. Students responded to the items with a five-point Likert-type scale, ranging from 1 (*Not at all like me*) to 5 (*Always like me*). Ratings were averaged with higher scores representing higher levels of optimism. Evidence for internal consistency, test-retest reliability, and construct validity of this inventory has been described (Song 2003), and evidence supporting the reliability of the Optimism subscale has been identified in studies of childhood and early adolescence (e.g., Lawlor et al. 2014; Oberle et al. 2010). For the present study, Cronbach's alpha for the Optimism subscale was .77.

Students' life satisfaction was assessed using the *S*atisfaction With Life Scale for Children (SWLS-C; Gadermann et al. 2010), an adapted version of the Satisfaction With Life Scale (SWLS; Diener et al. 1985). The SWLS-C consists of five items that assess global life satisfaction (e.g., "If I could live my life over, I

would have it the same way."). Students rated the items on a five-point Likert-type scale ranging from 1 (*Disagree a lot)* to 5 (*Agree a lot*). Ratings were averaged to produce a total score with higher scores indicating higher levels of life satisfaction. Evidence supporting the validity and reliability of the SWLS-C has been documented with samples of children and early adolescents (Gadermann et al. 2010, 2011). In the present study, Cronbach's alpha for the SWLS-C was .83.

To assess positive and negative affect, students completed the Positive and Negative Affect Schedule for Children (PANAS-C; Laurent et al. 1999). The PANAS-C consists of 20 emotion words (e.g., "Interested," "Excited," "Miserable," "Afraid; 10 positive; 10 negative) that are rated according to how much the respondent has felt that emotion over the last week, from 1 (*Very slightly or not at all*) to 5 (*A lot*). Scores were averaged to create two total scores, one for positive affect and one for negative affect, with higher scores indicating higher levels of each. This measure was adapted from the original PANAS (Watson et al. 1988), by removing emotion words that children did not understand (e.g., "Irritable", "Hostile", "Inspired", "Enthusiastic"). Evidence supporting the validity and reliability of the PANAS-C has been documented with samples of children (Laurent et al. 1999). In the present study, Cronbach's alpha for the PANAS-C was .87 (positive affect) and .84 (negative affect).

Students' anxiety and depressive symptoms was examined using the Anxious Symptoms and Depressive Symptoms subscales from the Seattle Personality Questionnaire for Young School-Aged Children (Kusche et al. 1988). The Anxious Symptoms subscale consists of seven items (e.g., "Do you worry what other people think of you?"), and the Depressive Symptoms subscale consists of 11 items (e.g., "Do you feel unhappy a lot of the time?"). Students responded to each statement on a four-point Likert-type scale ranging from 1 (*Not at all*) to 4 (*Always*). Ratings were averaged for each subscale with higher scores representing higher levels of anxious and depressive symptoms. Evidence for the reliability and construct validity of this instrument has been demonstrated (Rains 2003; Greenberg and Lengua 1995). For the present study, internal consistency, assessed via Cronbach's alpha, was acceptable for the Anxious Symptoms subscale (α = .83) and for the Depressive symptoms subscale (α = .78).

2.2.5 Empathic-Related Responding

To assess students' empathic-related responding, two subscales modified for children from the Interpersonal Reactivity Index (IRI: Davis 1983; Oberle et al. 2010) were included: Empathic Concern and Perspective-taking. The Empathic Concern subscale consists of seven items that assess the tendency to feel concern for others (e.g., "I often feel sorry for people who don't have the things I have."). The Perspective-taking subscale consists of seven items that assess the tendency to consider things from others' viewpoints (e.g., "Sometimes I try to understand my friends better by imagining how they think about things."). Participants responded to items on a five-point Likert-type scale, ranging from 1 (*Not at all like me)* to 5 (*Always like me)*. Total scores for each of the subscales were calculated by averaging the ratings, with higher scores representing higher levels of each

dimension. Evidence in support of the construct validity of these subscales has been documented in studies of children and early adolescents (Schonert-Reichl et al. 2012; Wentzel et al. 2007). For the present study, internal consistency, assessed via Cronbach's alpha, was satisfactory for the Empathic Concern subscale (α = .84) and for the Perspective-taking subscale (α = .77).

2.2.6 Prosocial Goals

Students' self-reported prosocial goals were examined using the Prosocial Goals subscale from the Social Goals Questionnaire (Wentzel 1993). The 7-item subscale consists of questions that tap into prosocial goals and behavior (e.g., "How often do you try to cheer someone up when something has gone wrong?"). Students responded to each question on a five-point Likert-type scale ranging from 1 (*Never*) to 5 (*Always*). Ratings were averaged with higher scores indicating higher levels of prosocial goals. Evidence for the reliability and construct validity of this scale with early adolescents has been demonstrated (Wentzel 1993; Wentzel et al. 2007). For the present study, Cronbach's alpha for the measure was .84.

2.3 Procedure

Ethics approval to conduct the present study was obtained from the University's behavioral research ethics board. After receiving the University's ethics approval, permission to conduct research in the school district was obtained from the school board ethics committee. At the beginning of the research study elementary schools from a large public school district in Western Canada were contacted to request their participation. Purposeful sampling was used to recruit schools that represented a wide range of socioeconomic and racial/ethnic diversity. Following school and teacher recruitment, the Principal Investigator and/or research assistants visited each school and explained the study to students using child-friendly language, answered any questions the students had, and provided parental/guardian consent forms. On the day of data collection, students were asked to provide their own assent and were told that their participation was voluntary and that there would be no consequences if they decided not to participate. Students were encouraged to answer all the questions honestly and were reminded that their answers would be kept confidential. Trained research assistants administered the questionnaires during one 45-min class period. All items on the questionnaires were read aloud to students to control for differences in reading ability. This study was approved by the University ethics review board.

2.4 Statistical Analysis

Confirmatory factor analysis was conducted using Lavaan package (version .5–20; Rosseel 2012) in R version 3.3.1 (R Core Team 2016). The number of missing items in the SCS-C were low (n = 19) and only one participant had more than one missing item. Therefore, missing values were estimated using maximum likelihood regression. Because all the items were normally distributed, the maximum likelihood estimator was used to test three competing models of the twelve items on the SCS-C. The latent variables were identified by fixing the factor variance to one and the mean of the factor scores to zero. The correlation analyses were conducted using SPSS (Version 23).

3 Results

3.1 Factor Structure and Reliability of the SCS-C

All tests of model significance and fit indices are presented in Table 2 and all standardized factor loadings are presented in Table 3. The first model assessed was uni-dimensional, where one common factor— self-compassion—was regressed onto the twelve items. This model had poor fit, χ^2 (54) = 747.79, $p < .001$; CFI = .51; RMSEA = .18 (90% CI .17–.20). An examination of the standardized factor loadings for Model 1 indicated that items 1, 4, 8, 9, 11, and 12 (negatively worded items) all had strong (.60–.72) factor loadings while items 2, 3, 5, 6, 7, and 10 (positively worded items) all had weak (.09–.26) factor loadings. Therefore, it was hypothesized that the negatively worded items and the positively worded items corresponded to different factors. This hypothesis was also based on findings from the original study evaluating the factor structure of the SCS long-form survey for adults, where Neff (2003b) found that the negatively and positively worded items within each subscale loaded onto separate factors.[1] The second model examined the fit of the negatively worded items and the positively worded items onto two separate but correlated factors. This model had adequate fit, χ^2 (53) = 183.32, $p < .001$; CFI = .91; RMSEA = .08 (90% CI .06–.09). The standardized factor loadings for Model 2 ranged from .60 to .72 for the negative self-compassion factor and .53 to .70 for the positive self-compassion factor. The correlation between the two factors was .18.

Based on recent recommendations by Neff (2016a), a bi-factor model was also examined. In a bi-factor model, a general factor is used to load onto all items and two additional factors are used to model the residual covariation among the items that is not captured by the general factor (Reise 2012). In the current bi-factor model, one of the additional factors accounted for the residual covariation among the positively worded items and the other additional factor accounted for the residual covariation among the negatively worded items. Neff (2016a) recommended using a bi-factor model for the SCS to capture the general self-compassion factor while at the same time capturing the residual covariation among items due to the positive and negative components of self-compassion (e.g., self-kindness vs. self-judgment; common humanity vs. isolation; and mindfulness vs. over-identification). In our sample, the bi-factor model displayed good fit, χ^2 (42) = 99.66, $p < .001$; CFI = .96; RMSEA = .06 (90% CI .05–.08). Because bi-factor models have been shown to inflate fit indices due to the additional parameters (Maydeu-Olivares and Coffman 2006), we also examined the standardized factor loadings of the items onto the general factor as well as their corresponding negative or positive self-compassion factors (see Table 3). The standardized factor loadings onto the general self-compassion factor ranged from −.08 to .84, with the majority of the loadings being less than .40. The standardized factor loadings of the positively worded self-compassion items onto the positive self-compassion factor and the negatively worded items onto the negative self-compassion factor ranged from .25–.69 with the majority above .40. Although the bi-factor model had adequate fit indices, the factor

[1] Because our scale was adapted from the SCS-SF, which only contained two items from each of the original six subscales, we were not able to test the six-factor model of the original SCS. At least three items are required to test the factor structure of a subscale.

Table 2 Goodness-of-fit tests for self-compassion scale–children data

Model	χ^2	*df*	*p*	CFI	RMSEA
One-factor model	747.79	54	<.001	.51	.18
Two-factor model	183.32	53	<.001	.91	.08
Bi-factor model	99.66	42	<.001	.96	.06

CFI comparative fit index, *RMSEA* Root mean square error of approximation

loadings indicated that the general self-compassion factor did not account for significant variance among the items. Instead, items loaded more strongly on their corresponding negative and positive self-compassion factors.

Two additional estimates were used to further evaluate the reliability of each of the three models of the SCS-C: alpha (α; Cronbach 1951, 1988) and omega hierarchical[2] (ω_h; McDonald 1999). Although Cronbach's alpha is typically used to assess the internal reliability of a scale, omega hierarchical has been described as a more sensitive and conservative estimate of internal reliability because it uses the observed covariance matrix to calculate the observed total variance instead of the correlation matrix (Dunn et al. 2014). Omega has also been identified as a useful reliability index when examining bi-factor models because it can estimate each subscale's reliability while controlling for the effects of the general factor and vice-versa (Reise et al. 2013). Table 4 presents the reliability estimates for all three models. As expected, the internal consistency for Model 1 was substandard (α = .79; ω_h = .66). In the two-factor model, both reliability estimates were .81 for the positively worded self-compassion items and .83 for the negatively worded self-compassion items. Finally, the reliability estimates for the bi-factor model differed across factors and indices. Cronbach's alpha for the general self-compassion factor was the same as the one-factor model (α = .79); however, the omega hierarchical estimate dropped to .23, indicating a weak reliability of all the items on the SCS-C, while controlling for the effects of the positive and negative worded factors. Although the omega value for the negatively worded items was .81 in the bi-factor model, the positively worded items revealed a low omega value (.45).

Taken together, these findings indicated that a two-factor model is the most appropriate for the SCS-C. For clarity purposes, the subscale representing the positively worded items was named "positive self-compassion" and the subscale representing the negatively worded items (not reverse-coded) was named "negative self-compassion".

3.2 Validity Evidence for the SCS-C: Convergent Validity

Table 5 summarizes the correlations found between the SCS-C subscales and indicators of mindfulness, self-concept, well-being and psychological adjustment, empathic related responding, and prosocial goals. The positive self-compassion subscale was significantly related to all the comparison indicators in the expected direction, except for negative affect. This subscale showed the strongest positive associations with general self-concept, optimism, empathetic-related responding, and prosocial goals and weaker associations with mindfulness in the positive direction and depression and anxiety in

[2] Omega hierarchical is the sum of the factor loadings squared, divided by the variance of the scaled scores.

Table 3 Standardized factor loadings for the self-compassion scale–children data

Item	One-factor model	Two-factor model		Bi-factor model		
	Self-compassion	Positive SC	Negative SC	General SC	Positive SC	Negative SC
2	.09[a]	.53	0	.16[a]	.58	0
3	.26	.67	0	.23[a]	.69	0
5	.24	.71	0	.84	.25[a]	0
6	.23	.68	0	.35	.59	0
7	.26	.57	0	.31	.47	0
10	.17	.70	0	.66	.35	0
1	.64	0	.64	−.24	0	.61
4	.65	0	.69	.10[a]	0	.72
8	.70	0	.72	-.09[a]	0	.72
9	.63	0	.64	-.08[a]	0	.63
11	.60	0	.60	.15	0	.58
12	.72	0	.71	.11[a]	0	.69

The correlation between the factors in the two-factor model is .18 (*SE* = .06)

N = 382

SC Self-Compassion

[a] Factor loadings are not significantly different from zero ($p > .05$)

the negative direction. The negative self-compassion subscale was negatively correlated to mindfulness, optimism, satisfaction with life, and positive affect and positively correlated to negative affect, depression, anxiety, and empathic concern. The strongest associations were between negative self-compassion and mindfulness, negative affect, depression, and anxiety. This subscale did not show significant correlations with self-concept, perspective-taking, or prosocial goals.

4 Discussion

The present study examined the psychometric properties of the SCS-C, a measure of self-compassion adapted for children. The pattern of results obtained in this study offers preliminary evidence for the reliability and validity of the SCS-C when used with a population of children and pre-adolescents, ages 8 to 12. We first examined the factor structure of the SCS-C by testing three different factor models. Results from the confirmatory factor analysis (CFA) revealed that a one-factor model did not have adequate fit.

Table 4 Reliability estimates for the self-compassion scale–children

Reliability estimate	One-factor model:	Two-factor model		Bi-factor model		
	Self-compassion	Positive SC	Negative SC	General SC	Positive SC	Negative SC
Cronbach's Alpha	.79	.81	.83	.79	.81	.83
Omega	.66	.81	.83	.23	.45	.81

Table 5 Correlations of SCS-C Subscales with Student Self-report Measures

Measure	Positive self-compassion	Negative self-compassion
Mindfulness	.16**	−.41**
Self concept		
General self-concept	.50**	−.10
School self-concept	.39**	−.05
Well-being and psychological adjustment		
Optimism	.45**	−.39**
Satisfaction with life	.40**	−.25**
Positive affect	.42**	−.16**
Negative affect	−.09	.46**
Depression	−.22**	.43**
Anxiety	−.13**	.51**
Empathic-related responding		
Empathic concern	.42**	.21**
Perspective taking	.54**	.08
Prosocial goals	.60**	.09

Sample sizes range from 379 to 382

**$p < .01$

Instead, a two-factor model, where the positively worded items (e.g., "I try to be kind towards those things about myself I don't like.") were represented by one factor and the negatively worded items (e.g., "When I fail at something important to me, I feel like I'm not good enough.") were represented by a separate factor, had better fit to the data. An examination of a third bi-factor model resulted in improved fit indices; however, the factor loadings onto a general self-compassion factor were weak. Additional analyses, via omega hierarchical index, revealed that the general self-compassion factor in the bi-factor model had weak internal reliability. Therefore, it was evident that the positive and negative worded self-compassion items were best represented by two distinct factors.

The results are not surprising given that recent studies investigating the factor structure of the original long version of the SCS, as well as the SCS Short Form (SCS-SF), have also found evidence of a two-factor model, where the positive and negatively worded items form two separate factors (Costa et al. 2015; Castilho et al. 2015; López et al. 2015). Researchers have also begun to question the standard practice of combining reverse-scored negatively worded items with positively worded items to create one overall self-compassion score. For example, Muris (2016) and Muris et al. (2016a, b) have argued that the negatively worded items on the SCS and SCS-SF should not be included in the total self-compassion scale score because they do not represent the protective nature of the self-compassion construct and instead are indicators of psychological maladjustment, such as anxiety and depression. These critiques were partially supported by a recent meta-analysis which found that the negatively worded subscales on the original SCS were strongly associated with indicators of psychopathology, compared to the subscales represented by the positively worded items (Muris and Petrocchi 2016). Neff (2016a, b) has responded to these critiques by asserting that the negatively worded items and subscales are

inherent components of the self-compassion construct. Neff (2016a) also recommended the use of a bi-factor model to capture the overall or general self-compassion factor while at the same time modeling the separate subscales; however, in the current study we found that the bi-factor model of the SCS-C had non-significant factor loadings and weak internal consistency. The findings from the present study indicate that for children, ages 8 to 12, the negative and positive components of self-compassion reflect two distinct constructs.

It is also important to note the pattern of results obtained from the CFA in the current study is not unique to the SCS, SCS-SF, and SCS-C. Research studies using various self-report, Likert-type, scales have found that positively worded items and negatively worded items tend to form different factors (Ye and Wallace 2013). Although negatively worded items are often included in self-report scales to reduce acquiescence biases, response sets, and mindless responding (Barnette 2000), studies have found that negatively worded items may not function the same as their positively-worded counterpart (Spector et al. 1997). In other words, a negatively worded item may not simply represent the opposite or lack of a given construct. Evidence also suggests that individuals may respond differently to negatively worded items, compared to positively worded ones (Sliter and Zickar 2013). For example, in a study with middle school children, researchers found students were more likely to agree with a positively-worded item than they were to disagree with a negatively worded item even when doing so would indicate the same level of the construct (Benson and Hocevar 1985). Therefore, additional research on the SCS-C with child populations is needed to determine if the negative self-compassion subscale, which consists of only negatively worded items, does in fact reflect a separate underlying latent variable worth examining or if it a measurement artifact due to the wording of the items.

Relations of SCS-C subscale scores, to students' self-reported mindfulness, self-concept, well-being and psychological adjustment, empathic-related responding, and prosocial goals were also examined. The positive self-compassion subscale showed significant relations to all student-report measures in the expected directions, except for negative affect. These findings correspond with previous research using the SCS with adults and adolescents (Bergen-Cico and Cheon 2013; Bluth et al. 2016; Neff 2003b; Neff et al. 2007; Neff et al. 2007). However, the lack of a significant correlation between the positive self-compassion subscale and negative affect is unexpected. This finding indicates that kind and compassionate feelings towards the self may not be associated with daily negative emotions experienced by children during this developmental stage. Future studies should further examine the links between self-compassion in childhood and self-reported affect.

The negative self-compassion subscale exhibited significant correlations to negative affect, depression, anxiety, and empathic concern in the positive direction, and a significant correlation to mindfulness, optimism, satisfaction with life, and positive affect in the negative direction. The fact that these two subscales exhibited different associations with indicators of children's social and emotional well-being provides additional support towards the two-factor model of the SCS-C. For example, the negative self-compassion scale was strongly associated with indicators of psychological maladjustment, such as depression and anxiety, while the positive self-compassion scale had weaker associations with these indicators. In addition, the positive self-compassion subscale had moderate to large correlations to perspective-taking and prosocial goals, while the negative self-compassion subscale was not associated with

either of these indicators. These findings reveal that feelings of self-compassion, such as kindness and acceptance towards the self, may be strongly related to how children feel towards others and negative feelings towards the self, such as self-judgment and isolation from others, may be more strongly associated with psychopathology. Therefore, we suggest that when using the SCS-C in future studies researchers examine the two subscales separately.

4.1 Strengths and Limitations

Some generalizability of the findings is possible due to the relatively large and ethnically diverse sample of children living in Canada. The present study also utilized a battery of measures to assess the relevant constructs that have been validated in other research with children and demonstrated good internal consistency in our sample. In addition, we were able to match the majority of constructs, such as optimism, satisfaction with life, positive and negative affect, internalizing disorders, and empathy and perspective-taking that Neff (2003b) used in her validation of the original SCS used with adults.

Limitations of this study include the cross-sectional and correlational design, which limits the interpretations that can be made regarding our findings. Although the results suggest significant relations between self-compassion and multiple indicators of social and emotional well-being, they cannot be interpreted causally. Longitudinal, experimental, and intervention studies are required to support any causal relationship between self-compassion in childhood and the battery of constructs presented in this study. Additionally, our findings are primarily based on self-reports measures which may be influenced by under-reporting or over-reporting in our sample.

Although some generalizability of our findings is possible due to the relatively large and diverse sample, these results may not be generalizable to other contexts. For example, 71% of students reported English as their first language learned, which is representative for Western Canada, but possibly not for other countries. It is also important to note that the development of the SCS and SCS-SF, that our scale was adapted from, was conducted with a convenience sample of 54–58% White, undergraduate students. In our study, we did not collect information on other markers of diversity such as ethnicity, school size, and socioeconomic status (SES). The concept of self-compassion may be understood and interpreted differently, depending on culture, race, ethnicity, and SES. Therefore, it would be important to replicate these findings with additional populations.

Despite the limitations of this study, these findings provide preliminary support for the reliability and validity of the SCS-C when used with children ages 8 to 12. Because validation is an ongoing process (Hubley and Zumbo 2011), further validation research on the SCS-C is needed. The current study provides some implications for future research in the area of self-compassion in childhood, as well as the field of positive psychology and social and emotional development in general. Overall, the SCS-C fills a substantial gap in the toolbox of social and emotional assessments currently available for children and early adolescents. Providing that future validation research supports our psychometric findings, the SCS-C can be used to compliment other measures assessing overall well-being. It can then be utilized in research to expand our knowledge of the predictors of self-compassion as well as factors that mediate or moderate these outcomes. It can also be used for applied purposes, such as the evaluation of social and emotional programs and mindfulness interventions for children.

Compliance with Ethical Standards

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

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