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Psychometric validity of the Compassionate Engagement and Action Scale for Adolescents: a Swedish version

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Abstract

Background: There is increasing evidence that compassion is linked to mental health and well-being while difficulties in receiving and expressing compassion to self and others is associated with mental health and social difficulties. For the most part the self-report scales that measure these processes have been developed for adults and little is known how they function in adolescents. This study investigates a Swedish adaption for adolescents of the Compassionate Engagement and Action Scales (CEAS), developed by Gilbert et al. (2017) for adults. This assesses different competencies associated with being compassionate to others, the experience receiving compassion from others, and being compassionate with one-self.
Objective: To evaluate the psychometric properties and gender differences of CEAS for Youths - Swedish version (CEASY-SE), in a school-sample of adolescents (n = 316) aged 15-20 years.
Method: The Compassionate Engagement and Action Scales were translated into Swedish. A back-translation method was used. It was then adapted for adolescents with age-appropriate language. Adolescents were recruited by research assistants at two public high schools.
Results: After removing one item of each subscale, the dimensionalities of the three scales were good. Confirmatory factor analysis showed that engagement and action constituted different dimensions in each scale. Internal consistency was good to excellent in all three sub-scales (α from 0.74 to 0.92). Intra Class Correlations demonstrated good to excellent test-retest reliability over a period of three weeks (0.67 to 0.85). Convergent and divergent validity were as expected, except for Compassion for others, which did not correlate with anxiety and depression symptoms as expected. Girls showed less self-compassion compared to boys and more compassion for others.
Conclusions: Present study suggests that CEASY-SE has good to excellent psychometric properties and further study is needed for more definite establishment of the psychometric properties. Girls and boys have different patterns of compassion.

Keywords: Compassion; adolescents; reliability; validity; confirmatory factor analysis; scale development

Introduction

The last 20 years have seen substantial developments in research on prosocial behavior in general and compassion in particular (1). Perceived social support and the giving and receiving of compassion are protective factors for perceived social threats, adverse life events, and self-criticism (2). Compassion is linked to healthy adjustment and well-being, especially for adolescents (3-12).

There remain, however, substantial disagreements and differences in the definition and self-report measurement of compassion (1, 13). For example, some see compassion as an affective state (14), others describe four or five core qualities (15), and yet others focus primarily on self-compassion and link it to bimodal constructs such as self-kindness vs. self-criticism (16, 17).

The majority of studies that have explored self-compassion in adolescent populations have used Neff's (16) definition and Self-Compassion Scale (SCS), and only one study, not yet published (only as a poster), investigated how adolescents receive and give compassion (18).

Neff's construct of self-compassion has been shown to be associated with adolescent psychopathology (6, 9, 19-21). Difficulties in generating and experiencing compassion and caring are associated with psychiatric symptoms for

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adolescents such as depressive symptoms (correlations between .60 to .62) (6, 9, 19), suicidality (compassion explained 3.4% variance in suicidality) (20), and anxiety (correlations between .26 to .73) (9, 21). From a salutogenic perspective compassion skills are also shown to be significant for adolescents' well-being (5, 7, 22), perceived life satisfaction (6), distress tolerance (5, 8), and sense of community.

One of the difficulties in interpreting the results generated from the SCS scale (17), is the six-factor structure where three of its factors are not measures of self-compassion, but rather measures of phenomena that have long been known to be linked to mental health difficulties, such as self-judgment (self-criticism) and sense of isolation (21, 23). Thus, it is not surprising that the SCS correlates with mental health difficulties, and there is a risk of losing focus specifically on care, focused attributes, and competencies.

An alternative approach to self-compassion is to consider the evolutionary roots of compassion as an emergent motivation that evolved with mammalian caregiving systems (1, 24, 25). Compassion basically utilizes the competencies and physiological systems of caregiving. It is now understood that the evolution of mammalian caring was associated with physiological and psychological adaptations that enabled the caregiver to be sensitive to the needs and distress of the other (usually the infant) and then to behave appropriately to try to relieve that distress (26).

A measure developed to tap into these compassion motives and competencies is the Compassion Engagement and Action Scales (CEAS) (1). The CEAS was designed around the stimulus (distress/need) and response (appropriate relieving action) algorithm of compassion, which is defined as "sensitivity to suffering in self and others with a commitment to try to alleviate and prevent it" (1, p. 1). This model has suggested the following six competencies underpinning engagement: being motivated to pay attention to suffering, being mindfully attuned to distress and need, having a sympathetic reaction, being able to tolerate the emotions arising, having an empathic understanding about the nature of suffering, and being nonjudgmental.

In regard to the action and response function, the corresponding modalities are likely to be helpful, running imaginary scenarios in one's mind, using one's capacity for reasoning, behaving compassionately (which can mean courageously), using the body to stabilize the mind, and allowing the appropriate feelings of action. Feelings and actions will vary according to context.

We can have compassion for ourselves, experience compassion from others, and have compassion for others. To measure these three dimensions of compassion, Gilbert et al. (1) developed the CEAS for adults. The psychometric properties of the CEAS showed a satisfactory factorial structure and good internal consistency for each of the subscales (α = .72—.90).The CEAS has also shown good convergent validity (1).The CEAS has not yet been adapted and validated for use in adolescent populations, which is crucial to better understanding the development of compassion and caring for self and for others, which has a range of benefits for adolescents (7, 10, 22).

With regard to gender differences in compassion (27), the findings are inconsistent. Several studies on adults have found that women have slightly lower levels of self-compassion compared to men (9, 17, 28-30) while other studies have found no gender differences (1, 29, 31). In studies of adolescents, the role of gender with regard to compassion is even more unclear (5). Female adolescents, and especially older females, have scored lower on self-compassion than boys (5, 22).

Aims and hypothesis

The main purpose of the current study was to translate and adapt the CEAS (1) to a Swedish adolescent version CEASY-SE and to validate it in a community sample of Swedish-speaking adolescents aged 15–20 years old. We hypothesized that the factor structures proposed by the original authors of the adult measures would be confirmed. It was also hypothesized that girls would show lower levels of self-compassion than boys (5, 22).

Methods

The study was conducted at two community high schools in Sweden, one public art school and one ordinary school. The project was approved by the Swedish Regional Ethical Review Board in Umeå (number 2018/59-31).

Procedure

Permission from the authors of the original questionnaires to translate the CEAS to Swedish and to adapt it for adolescent use was obtained. Semantic and content equivalence, needed for cross-cultural research, was established by a back-translation method. We used age-specific words in CEASY-SE and adapted it for Swedish adolescents, simplified the language, but did not alter the content of the items from the original adult version.

The students received verbal and written information by research assistants, and written consent was obtained from those who volunteered to participate.

Students were invited to fill out self-report questionnaires on an online web platform. Because

completing the survey can be tedious, we scheduled a short break with juice and snacks. Reimbursement was given after completion in the form of a gift card.

Participants

Participants were recruited from different high school programs (natural science, social science, media, and the arts) and constituted a convenience sample. Four hundred and forty-two adolescents were asked to participate and 316 (71%) agreed to participate in the study, of which 213 (67%) were girls, and the age ranged from 15 to 20 years old (M = 17.07, SD = 1.36). Sixty-seven percent were living with both parents. Most participants were Swedish-born (90%), and all of them were Swedish speaking. A Swedish socioeconomic classification system (32) was used to estimate the households' places in a socioeconomic ranking based on six different classes. In the current sample, the distribution was as follows: 17.60% workers, 30.90% assistant and intermediate non-manual workers, 32.80% professionals, civil servants, and executives, 7.60% self-employed of various kinds, and 11.10% unknown.

A subset of the original sample (n = 119 girls and n = 36 boys) completed the same questionnaires three weeks later to obtain data on test-retest reliability. The mean age was 16.91 years (SD = .84). Everyone in the original sample was asked but only a subsample answered (49%).

Self-assessment measures

The Compassionate Engagement and Action Scales Youth – Swedish version (CEASY-SE)

The 30-item CEASY-SE measures compassion in adolescents in three subscales with 10 items each (see Supplementary 1) – Compassion for others, Compassion from others, and Self-compassion. Each subscale assesses two orientations of competencies: A) engagement with distress/suffering (six items) and B) action, which focuses specifically on actions aimed to prevent and alleviate distress/suffering (four items). Each item is rated on a 10-point Likert scale from 0 (never) to 10 (always). The sum was calculated for engagement (items 1, 2, 4, 5, 6, and 8) and action (items 1, 2, 4, and 5), respectively. Reversed filler items (items 3 and 7) were not included in the analyses. The reversed filler items were only there to control the data from those who filling in randomly without having read the questions. A total sum score was calculated for each scale of compassion.

Convergent validity

Self-Compassion Scale (SCS; 17)

The SCS is a 26-item instrument that measures three positive self-related attitudes (Self-Kindness, Common Humanity, and Mindfulness) and three negative attitudes (Self-Judgment, Isolation, and Over-Identification). In the current study, we chose to only use the positive total score since those components have more in common with the CEASY-SE (23) and therefore would be a better measure of a similar construct. Participants rate each item on a 5-point Likert scale from 1 (almost never) to 5 (almost always). The SCS positive subscale has shown satisfactory convergent validity (23), good internal consistency (33), high test-retest reliability (.93; (17). Internal consistency in the current sample was .88 (95% CI = [.86, .90]).

*WHO-5 Well-being Index (*WHO-5; 34)

The WHO-5 is a salutogenic scale that measures overall well-being, which is highly related to self-compassion (5, 7, 22). Each item is rated on a 6-point Likert scale from 0 (not present) to 6 (constantly present), and higher scores should be interpreted as better well-being. Cronbach's α in the current sample was excellent at .89 (95% CI = [.87, .91]).

Beck Youth Inventories (BYI; (35)

The BYI measures mental health problems in five subscales. The scales are rated on a 4-point Likert scale ranging from 0 (Never) to 3 (Always) (35). In this study we used only the depression and anger subscales. Depression (6, 9, 19) and anger are inversely related to self-compassion:

Beck Youth Inventories of Emotional and Social Impairment Depression (BYI-D).

The subscale consists of 20 questions. Internal consistency in the present sample was very high at .92 (95% CI = [.91, .94]).

Beck Youth Inventories of Emotional and Social Impairment Anger (BYI-A).

The internal consistency for the 20-item BYI-A subscale in the present sample was excellent at .92 (95% CI = [.90, .93]). Internal consistency for BYI-D and BYI-A were in line with a Swedish study (α = .91; (35)).

The Revised Child Anxiety Scale (RCADS; 36)

The RCADS long scale assesses symptoms of anxiety and depression compatible with the DSM-IV system. It consists of 47 questions on a 4-point Likert scale ranging from 0 (Never) to 3 (Always). The RCADS has been shown to be a reliable instrument for cross-cultural use (37). In the present study, we used the total anxiety scale (37 items). Anxiety is inversely related to self-compassion (9, 21). In the present sample, the internal consistencies were excellent (α = .94).

Divergent validity

Strength and Difficulties Questionnaire (SDQ; 38)

The SDQ is a short questionnaire for measuring the psychological adjustment of children and youths. In the present study, we only used the SDQ-impact subscale, which is considered a measure of global functioning. When doing divergent validity test, construct should have no or a small relationship. The SDQ impact subscale measure a different construct than CEASY-SE and are therefore used. The SDQ-impact subscale consists of 5 questions on a 5-point Likert scale. The answers range from 1 (Not at all) to 5 (All the time). The internal consistency was satisfying (α = .69) (95% CI = [.61, .75]).

Patient Reported Outcome Measurements Information System (PROMIS) Pain (39)

The test measures pain interference. Pain is a related but different construct than self-compassion and were therefore used for divergent validity. It consists of 20 questions on a five-point Likert scale ranging from 1 (Never) to 5 (Almost always). In our sample the internal consistency was excellent (α = .96) (95% CI = [.96, .97]).

Statistical analysis

Descriptive analyses of the sample and the CEASY-SE items were conducted using SPSS version 26.0. Gender differences in the CEASY-SE were examined with the Mann–Whitney U-test because of the small sample size and lack of normality. Bonferroni correction was used to control for the risk of family-wise error. We used $p = .008$ in Table 3. Corrected item-total correlations ($r_{it}{}^{c}$) were calculated (40). Cronbach's α was used to estimate the reliability of the scales (41).

Intraclass correlation coefficients (ICCs) were calculated to provide evidence of test–retest reliability of the CEASY-SE over a 3-week period (42).

The latent structure of the CEASY-SE for the Swedish sample and its internal consistency were tested using the Lavaan package for structural equation modeling version 0.6-3 (BETA, (43). Confirmatory factor analyses (CFA) were used to test the original two-factor model of the three measures. Due to the non-normality distribution found in the data and the ordinal scale response, diagonally weighted least squares (DWLS) estimator was conducted (44) using a polychoric correlation matrix that was not sensitive to non-normal distribution.

Evidence for the convergent and divergent validity of the CEASY-SE was provided using Spearman correlations (rho) (45). A variable correlation plot was constructed (46) and a principal component analysis was used.

Results

Factorial structure of the CEASY-SE

Before conducting the CFA, descriptive statistics of the items were obtained (table 1). The corrected item-total correlation ($r_{it}{}^{c}$) was higher than .3 in the total sample and in the male and female subsamples, except for one item. A correlation less than .3 indicates that the corresponding item does not correlate well with the overall scale and should be removed (40). Item number four in the Self-compassion engagement scale was lower ($r_{it}{}^{c} = .22$) and had the lowest item-total correlation in Compassion for others ($r_{it}{}^{c} = .44$) and Compassion from others ($r_{it}{}^{c} = .53$). A CFA was computed with all items but it had a bad fit. Therefore, item four was removed from further analyses in all three measures.

CFA of the subscale Compassion for others yielded a two-factor model for the Swedish sample. Adjustment indexes showed a good fit of the model to the data: $\chi2\ (26) = 59.02$, $\chi2/df = 2.27$, CFI = 1.00, TLI = 1.00, RMSEA = .06 (90% CI .04, .08), supporting the suitability of the model. The subscale showed standardized factor loadings higher than .40 for all items (table 2).

Furthermore, a CFA of the Compassion from others subscale yielded a two-factor model. Adjustment indexes showed poor fit of the model to the data: $\chi2\ (26) = 116.19$, $\chi2/df = 4.47$, CFI = 1.00, TLI = .99, RMSEA = .10 (90% CI .08, .12), not supporting the suitability of the model. After improving the model by letting item one and two's residuals correlate from the action subscale, a better model was calculated: $\chi2\ (25) = 73.82$, $\chi2/df = 2.95$, CFI = 1.00, TLI = 1.00, RMSEA = .08 (90% CI .06, .10), supporting the suitability of the model. Correlated residuals means that these two items are more closely related than they should be, so that they might measure the same construct. The subscale showed standardized factor loadings higher than .40 for all items (table 2, showing the second model's factor loadings).

The CFA of the Self-compassion subscale also yielded a two-factor model. Adjustment indexes showed a good fit of the model to the data: $\chi2\ (26) = 89.66$, $\chi2/df = 3.44$, CFI = .99, TLI = .99, RMSEA = .08 (90% CI .06, .10), supporting the suitability of the model. The subscale showed standardized factor loadings higher than .40 for all items, except for item five (factor loading = .36) (table 2).

Internal consistency and test-retest reliability

Internal consistency for the total sample in all subscales (Table 3) showed good to excellent internal consistency (α from .74 to .92). When analyzing internal consistency by gender, Cronbach's α was also good to excellent, with a higher Cronbach's α for the girls than the boys for all subscales.

TABLE 1. Descriptive statistics for total sample, boys and girls in the Engagement and Action subscales of Compassion for others, Compassion from others and Self-compassion

		Total sample *N* = 316				Boys *N* = 103				Girls *N* = 213			
Items		M	SD	$r_{it}{}^{c}$	*α-i*	M	SD	$r_{it}{}^{c}$	*α-i*	M	SD	$r_{it}{}^{c}$	*α-i*
Engagement		47.44	8.53			44.05	9.56			49.08	7.47		
Compassion for others: When others are distressed or upset by things…													
Compassion from others: When I'm distressed or upset by things		37.80	10.63			37.21	9.53			38.08	11.14		
Self-compassion: When I'm distressed or upset by things		38.99	9.68			39.61	10.00			38.70	9.53		
1a	I want to help others to feel better	8.88	1.78	0.67	0.76	8.17	2.19	0.69	0.77	9.23	1.43	0.60	0.73
1B	others want to help me to feel better	6.97	2.35	0.58	0.82	6.50	2.34	0.49	0.78	7.19	2.33	0.62	0.84
1C	I want to help myself to feel better	6.65	2.72	0.49	0.66	7.02	2.74	0.50	0.69	6.47	2.70	0.49	0.68
2A	I notice the feelings of others	8.35	1.63	0.66	0.77	7.81	1.83	0.73	0.77	8.61	1.46	0.57	0.74
2B	others notice my feelings	5.88	2.61	0.62	0.81	5.94	2.51	0.58	0.76	5.85	2.66	0.64	0.83
2c	I notice my own feelings	6.97	2.42	0.52	0.65	7.12	2.36	0.55	0.68	6.90	2.45	0.50	0.68
4a	I feel moved	6.56	2.45	0.44	0.82	5.55	2.44	0.33	0.85	7.05	2.31	0.45	0.78
4b	others feel moved	5.31	2.25	0.53	0.83	5.07	2.09	0.40	0.80	5.42	2.32	0.58	0.84
4c	I feel moved	6.14	2.40	0.22	0.74	4.94	2.47	0.31	0.74	6.72	2.14	0.28	0.74
5a	I can stand their different types of feelings	7.64	2.15	0.58	0.78	7.19	2.38	0.59	0.79	7.86	2.00	0.55	0.74
5b	others can stand different types of my feelings	6.70	2.24	0.66	0.80	6.63	2.04	0.60	0.75	6.74	2.34	0.68	0.82
5c	I can stand my own different types of feelings	6.61	2.51	0.44	0.68	6.46	2.74	0.51	0.68	6.69	2.39	0.41	0.71
6a	can understand their feelings	7.55	1.95	0.60	0.77	7.33	2.17	0.62	0.79	7.66	1.83	0.60	0.73
6b	others can understand my feelings	5.79	2.42	0.63	0.81	6.05	2.30	0.61	0.75	5.67	2.47	0.65	0.83
6c	I can understand my feelings	6.17	2.47	0.58	0.64	6.73	2.46	0.60	0.66	5.90	2.43	0.57	0.66
8a	I accept their feelings	8.45	1.83	0.56	0.78	8.00	2.08	0.64	0.78	8.67	1.65	0.47	0.76
8b	others accept my feelings	7.14	2.42	0.67	0.80	7.01	2.24	0.62	0.75	7.20	2.50	0.69	0.82
8c	I accept my feelings	6.45	2.55	0.45	0.68	7.35	2.46	0.37	0.73	6.02	2.48	0.52	0.67
Action		32.47	6.85			29.75	7.58			33.79	6.06		
Compassion for others: When others are distressed or upset by things…													
Compassion from others: When I'm distressed or upset by things…		27.54	8.08			26.24	8.09			28.16	8.02		
Self-compassion: When I'm distressed or upset by things…		23.37	9.11			25.05	8.77			22.56	9.18		
1a	I focus my attention on things that can help them	8.15	1.92	0.83	0.85	7.50	2.12	0.86	0.85	8.46	1.74	0.78	0.83
1b	others focus their attention on things that can help me	6.67	2.31	0.85	0.89	6.38	2.34	0.85	0.90	6.81	2.29	0.85	0.88
1c	I focus my attention on things that can help me	5.95	2.59	0.84	0.89	6.36	2.39	0.83	0.89	5.75	2.67	0.84	0.89
2a	I find ways to help them handle their feelings	7.99	2.09	0.80	0.86	7.31	2.33	0.78	0.88	8.31	1.88	0.80	0.83
2b	others will find ways to help me handle my feelings	6.44	2.41	0.85	0.89	6.17	2.34	0.89	0.89	6.57	2.44	0.84	0.89
2c	I find ways to handle my feelings	5.98	2.60	0.79	0.91	6.34	2.56	0.77	0.91	5.80	2.61	0.79	0.90
4a	I do things that will help them to feel better	7.63	1.93	0.74	0.88	7.06	2.00	0.77	0.88	7.90	1.83	0.69	0.87
4b	others do things that will help me to feel better	6.72	2.16	0.82	0.90	6.41	2.12	0.83	0.91	6.86	2.16	0.81	0.89
4c	I do things that will help me to feel better.	6.10	2.43	0.83	0.89	6.41	2.37	0.84	0.88	5.95	2.45	0.83	0.89
5a	I am kind and supportive to them	8.70	1.88	0.74	0.88	7.87	2.15	0.72	0.90	9.11	1.59	0.71	0.86
5b	others are kind and supportive to me	7.71	2.08	0.77	0.92	7.27	2.12	0.76	0.93	7.92	2.03	0.77	0.91
5c	I am kind and supportive to myself	5.35	2.52	0.80	0.90	5.94	2.47	0.81	0.90	5.07	2.50	0.80	0.90
Compassion for others total scale		79.91	14.27			73.80	15.65			82.87	12.57		
Compassion from others total scale		65.33	17.40			63.45	16.31			66.24	17.87		
Self-compassion total scale		62.37	16.82			64.66	16.63			61.26	16.84		

Note. M = mean, *SD* = standard deviation, $r_{it}{}^{c}$ = corrected item-total correlation, *α-i* = ordinal alpha if the item is removed

TABLE 2. Standardized Factor Loadings for the Swedish CEASY-SE (N = 316)

Item number and meaning of item	Compassion for others: Engagement	Compassion for others: Action	Compassion from others: Engagement*	Compassion from others: Action*	Self-compassion: Engagement	Self-compassion: Action
1. Care for wellbeing	.88		.70		.84	
2. Attention /sensitive to suffering	.79		.73		.57	
5. Distress tolerance	.67		.74		.36	
6. Empathy	.69		.70		.70	
8. Being accepting and non-judgmental	.71		.81		.68	
1. Directing attention to what is helpful		.91		.85		.90
2. Thinking and reasoning – what is helpful		.89		.86		.85
4. Taking helpful actions		.81		.90		.89
5. Creating inner feelings of support and kindness		.86		.87		.88

Note. * = showing the final model's factor loadings

Test consistency over time was calculated using a subsample of 155 adolescents (49% of 316 answered 3 weeks later). The test-retest ICCs were .77 for the total score of the Compassion for others subscale (95% CI .68, .83; F = 4.34; $p \leq .001$), .67 for the Compassion for others engagement subscale (95% CI .54, .76; F = 3.01; $p \leq .001$), and .79 for the Compassion for others action subscale (95% CI .71, .84; F = 4.68; $p \leq .001$). The test-retest ICCs were .85 for the total score of the Compassion from others subscale (95% CI .79, .89; F = 6.62; $p \leq .001$), .83 for the Compassion from others engagement subscale (95% CI .77, .88; F = 5.98; $p \leq .001$), and .76 for the Compassion from others action subscale (95% CI .67, .83; F = 4.22; $p \leq .001$). The test-retest ICCs were .83 for the total score of the Self-compassion subscale (95% CI .77, .88; F = 5.93; $p \leq .001$), .77 for the Self-compassion engagement subscale (95% CI .68, .83; F = 4.34; $p \leq .001$), and .85 for the Self-compassion action subscale (95% CI .79, 0.89; F = 6.57; $p \leq .001$). Based on the criteria of Fleiss (1986), the ICCs were considered fair to excellent.

Gender differences

After Bonferroni correction ($p = .008$), Mann–Whitney U-tests showed that girls rated significantly more compassion for others than boys, with a small effect size according to Cohen (1988). Furthermore, girls rated less self-compassion than boys (small effect size). No other results were significant. See Table 3 for the numbers.

Intercorrelations between the CEASY-SE subscales

The lowest correlations between subscales were between Compassion for others and Self-compassion. The highest correlations were between Self-compassion and Compassion from others. In all three subscales, correlations between engagement and action components showed a strong correlation (table 4).

Convergent and divergent validity

Table 5 shows the descriptive of validity measures and table 6 shows the convergent and divergent validity. Convergent validity between the three subscales of CEASY-SE and six scales of self-compassion (SCS positive scale, overall well-being (WHO-5), anxiety (RCADS), depression (BYI-D), and anger (BYI-A), were investigated. The Compassion from others and Self-compassion scores showed small to high positive correlations to the SCS positive scale of self-compassion and well-being, and small to high inverse correlations to anxiety, depression, and anger, supporting the convergent validity of the subscales. Compassion for others engagement did not correlate with the scales of anxiety and depression, but had a small negative correlation with anger.

The examination of divergent validity between the CEASY-SE total subscales and the SDQ-functioning composite subscale and PROMIS Pain showed no to small but significant associations for the three subscales, supporting the divergent validity of the subscales. A small correlation was interpreted as .1 to .29, a medium as .3 to .49, and a large correlation as .50 and above (45).

Three principal component analyses were conducted to visualize the dimensionality of the constructs (SCS positive scale, BYI-D, BYI-A, and WHO-5) and the CEASY-SE subscales, see Figure 1. This showed that the CEASY-SE subscales measure a different dimension, distinct from psychological symptoms and quality of life. The Compassion for others subscale had the lowest correlations with the SCS positive scale, and Compassion from others and Self-compassion were more closely related to the SCS positive scale.

TABLE 3. Internal Consistency and Mann-Whitney U test between Boys and Girls

	Boys (n = 103)			Girls (n = 213)			Total			Mann-Whitney U		
	M	*SD*	α	*M*	*SD*	α	*M*	*SD*	α	*U*	*p*	*ES r*
Compassion for others Engagement	38.50	8.46	.91	42.04	6.13	.89	40.88	7.16	.82	8308.50	0.000*	-0.20
Compassion for others Action	29.75	7.58	.90	33.79	6.06	.88	32.47	6.85	.90	7303.50	0.000*	-0.27
Total	68.25	14.74	.80	75.83	11.41	.84	73.36	13.06	.91	7525.00	0.000*	-0.25
Compassion from others Engagement	32.14	8.51	.90	32.66	9.63	.92	32.49	9.27	.83	10638.00	0.663	-0.02
Compassion from others Action	26.24	8.09	.93	28.16	8.02	.92	25.54	8.08	.92	9408.00	0.040	-0.12
Total	58.38	15.12	.90	60.82	16.46	.92	60.02	16.05	.91	9933.50	0.173	-0.08
Self-compassion Engagement	34.67	8,96	.74	31.98	8.70	.74	32.85	8.86	.74	8864.00	0.006*	-0.16
Self-compassion Action	25.05	8.77	.92	22.56	9.18	.92	23.37	9.11	.92	9177.50	0.018	-0.13
Total	59.72	15.90	.87	54.54	16.32	.88	56.23	16.34	.88	8817.50	0.005**	-0.16

Note. M = mean; *SD* = standard deviation; α = Cronbach alpha. Bonferroni corrected p-values *p < .008. Effect size r = .1–.3 small effect, .3–.5 medium effect, ≥ .5 large effect

TABLE 4. Intercorrelations between CEASY-SE Subscales using Spearman's Rho

Measure	Self-compassion Action	Compassion for others Engagement	Compassion for others Action	Compassion from others Engagement	Compassion from others Action
Self-compassion Engagement	.642**	.242**	.182**	.456**	.315**
Self-compassion Action	1.000	.122*	.164**	.437**	.387**
Compassion for others Engagement		1.000	.699**	.350**	.367**
Compassion for others Action			1.000	.364**	.497**
Compassion from others Engagement				1.000	.714**
Compassion from others Action					1.000

Note. *p < 0.05, **p < 0.01

TABLE 5. Descriptive statistics of validity measures

	Total sample N = 316	
Scales	*M*	*SD*
Self-Compassion Scale positive scale	35.88	9.65
WHO-5 Well-being Index total scale	55.67	21.54
Beck Youth Inventories Depression subscale	17.36	10.31
Beck Youth Inventories Anger subscale	10.74	8,64
The Revised Child Anxiety and Depression Scale – total Anxiety scale	29.46	17.78
Strength and Difficulties Questionnaire – Functioning Composite subscale	1.28	1.59
Patient Reported Outcome Measurements Information System - item bank Pain	29.52	13.59

Note. M = mean, *SD* = standard deviation

TABLE 6. Spearman's correlations between CEASY-SE subscales and validity measures

Measure	SCS positive scale	WHO-5	RCADS Anx	BYI-D	BYI-A	SDQ impact	PROMIS pain
Compassion for others total scale	.042	.050	-.012	-.075	-.128*	.002	-.094
Compassion from others total scale	.342**	.293**	-.265**	-.375**	-.371**	-.188*	-.175
Self-compassion total scale	.565**	.491**	-.462**	-.511**	-.414**	-.259**	-.251

Note. *$p < 0.05$, **$p < 0.01$.
SCS positive scale = Self-Compassion Scale positive scale (28); WHO-5 = WHO Well-being Index (34); BYI-D = Beck Youth Inventories Depression subscale (35); BYI-A = Beck Youth Inventories Anger subscale (35); RCADS Anx = The Revised Child Anxiety and Depression Scale - total Anxiety scale (36); SDQ impact = Strength and Difficulties Questionnaire - functioning composite subscale; PROMIS pain = Patient Reported Outcome Measurements Information System item bank Pain

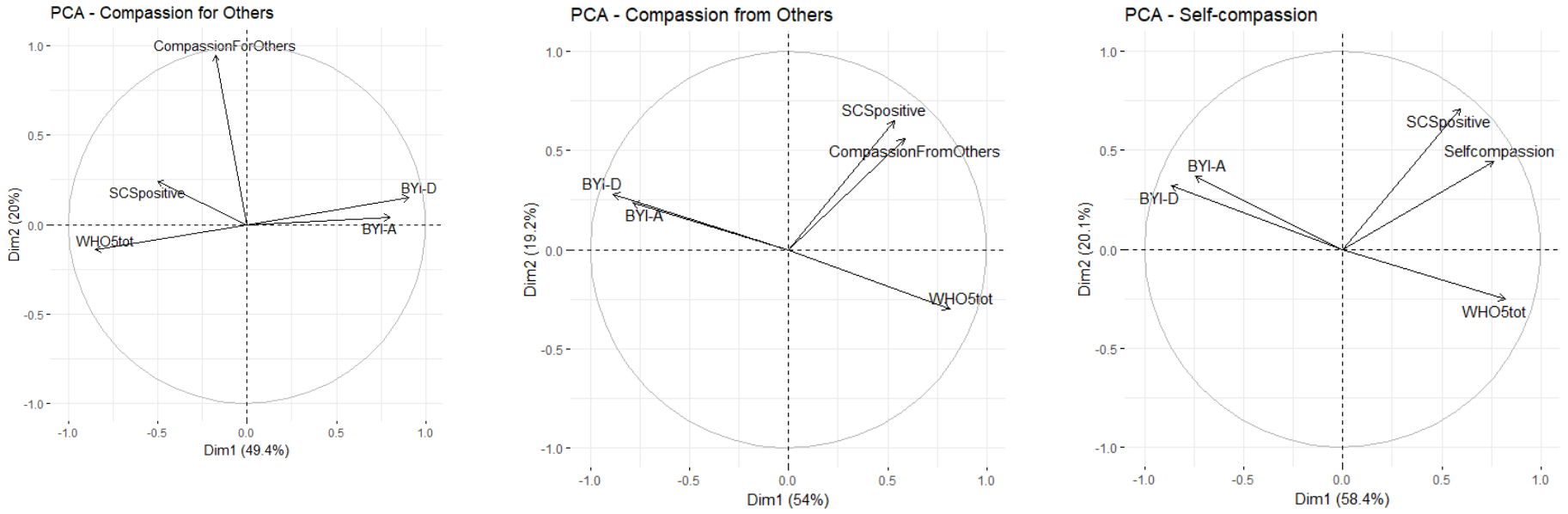

FIGURE 1. Principal Component Analyses of 1) Compassion for Others, 2) Compassion from Others, 3) Self-compassion.
WHO5tot = WHO-5 Well-being Index; SCSpositive = self-compassion positive scale; BYI-D = Beck Youth Inventories of Emotional and Social Impairment Depression; BYI-A = Beck Youth Inventories of Emotional and Social Impairment Anger

Discussion

The CFA in the present sample confirmed that the factor structure of the translated adolescent subscales had a good fit to the model. However, we had to exclude item four (sensitive to suffering/emotionally moved) in the engagement subscales in all dimensions of compassion due to an insufficient correlation between that item and the total score. Item four is intended to capture sensitivity to distress and suffering, and we believe that the meaning may have been lost in the Swedish translation. Future studies of the CEASY in other languages will help to clarify this. On the other hand, Gilbert et al., (1) also noted that items such as sensitivity to suffering or being emotionally moved by suffering can be linked to increased depression if individuals do not have means to cope well with such sensitivity.

Internal consistencies were good to excellent in the sample for all subscales (range from .74 to .92), and the items underlying the subscales measured the same general construct. This was in line with Gilbert's study (1).Test-retest reliability in the CEASY-SE and the ICC as interpreted by the criteria of Fleiss (42) showed satisfactory to excellent reliability .This can be compared to the SCS (17) that showed similar scores.

The three dimensions of compassion and their relationships to each other

As found in the original study of the CEAS (1), the compassion constructs in our study were correlated within each direction in the engagement and action subscales. However, the three dimensions of compassion were not always as strongly related to one another. This supports the notion that the direction of compassion has distinct clinical implications and that high compassion in one direction, e.g. towards others, can coexist with low compassion towards oneself.

In the present study, Compassion for others was the least related construct compared to the other constructs and we found lower correlations than Gilbert et al. (1) between Self-compassion and Compassion for others ($r = .12$ to .24 vs. $r = .34$ to .41). It also had non-significant correlations with measures of anxiety, depression, well-being, and pain but a small inverse correlation with self-assessed anger. Similarly, this pattern was found in the adult sample of Gilbert et al. (1). One explanation for this is that the psychology of giving versus receiving is quite different. People can be happy to give because others appreciate that and people feel warmness inside, whereas receiving is a different process. Another explanation is developmental, i.e. adolescents may be less likely to give compared to adults and will develop this trait later on.

Compassion from others was moderately related to both Self-compassion and Compassion for others, in line with the Gilbert et al. (1) study. The subscale had moderate positive correlations to the SCS positive scale, WHO-5 well-being Index, and negative correlations to anxiety, depression, and anger. Small correlations to the scale of pain and function were shown. The correlations were in line with Gilbert et al. (1), but were slightly higher for depression and anxiety. Receiving compassion from others might be linked to actual access to social support, but it could also represent the feeling or perception of being socially supported, whether or not the support is actually there. To have high levels of perceived social support is in several studies linked to increased well-being and better mental health (11, 12, 47).

Self-compassion, as measured by the CEASY-SE, is the orientation of compassion that is most clearly related to well-being. The Self-compassion subscale had a moderate to large negative relationship to a self-assessed anxiety, depression, and anger. Our results confirm earlier studies showing that self-compassion is negatively related to depression (6, 19), anxiety (6, 9, 21) and negative affect (22).

Gender differences

In our sample, girls rated themselves lower than boys in self-compassion, and this has been shown in other studies of adolescents (5, 21, 22). In contrast, no gender differences with regard to self-compassion were seen in the adult sample of Gilbert et al. (1). Gender differences in Self-compassion might be more accentuated in adolescents because of gender identity formation or social influence.

Similarly, to the study by Gilbert et al. (1) with adults using the CEAS, we found higher scores for girls compared to boys on the subscale Compassion for others. Considering the developmental phase of adolescent girls, our results are important because late adolescent girls are particularly vulnerable to depression and other mental health issues (48). During adolescence, females tend to be more sensitive to and involved in relational issues, and this might lead to symptoms such as anxiety and depression (48).

Method discussion

Several limitations should be noted in this study. Even though the sample was sufficiently powered for the statistical analyses performed, the relatively modest sample size with an unbalanced gender ratio limited generalizability. The limitation of using a convenience sample is that we do not know if it was a group with special features that answered, perhaps the most compassionate. It is, though, common to use cross-sectional data to evaluate the psychometrics of a test.

Clinical significance

Cultivating compassion for self and others has become a central focus for several psychotherapeutic treatments for adults and adolescents. When developing compassion-focused therapies for adolescents, it is important to measure outcomes with the most adaptive instrument. However, most instruments are not adapted or validated for use in adolescent populations.

Self-compassion and the experience of receiving compassion from others can be protective factors. Compassion for others may be a prosocial skill and important for better relationships or social competence, and may develop later with age.

Conflicts of interest

All authors declare no conflicts of interest.

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