Current Psychology
https://doi.org/10.1007/s12144-021-02097-5

The flows of compassion in adolescents as measured by the compassionate engagement and action scales

Marina Cunha[1,2] · Ana Galhardo[1,2] · Paul Gilbert[3] · Cátia Rodrigues[1] · Marcela Matos[2]

Accepted: 8 July 2021

Abstract

The development of self-report instruments assessing the different facets of compassion adapted for different age groups is crucial for research and clinical practice. This study examined the factor structure and psychometric properties of the adaptation to adolescents of the Compassionate Engagement and Action Scales (CEAS-A) in a sample of 674 Portuguese adolescents. Confirmatory factor analyses showed that the factor structure of the CEAS-A was similar to the one found in the adults' version, with higher-order factor models encompassing two first/s-order factors in each scale (Engagement and Actions). The CEAS-A revealed good construct validity, reliability, and temporal stability. Gender differences were found in Self-compassion and Compassion for Other scales. Path analysis results indicated that self-criticism had a direct negative impact on adolescents' life satisfaction, whereas the impact of self-reassurance on life satisfaction was partially mediated by self-compassion and compassion from others. The CEAS-A is the first self-report instrument that allows for the assessment of the three different flows of compassion in adolescents and may be an important and useful tool for research and clinical practice.

Keywords Compassion flows · Adolescents · Assessment · Factor structure · Mediator effect

Introduction

The last 20 years have seen accelerating research into the role of compassion in the promotion of well-being and mental health in clinical and non-clinical populations (for reviews see Gilbert, 2017; Seppälä et al., 2017). Some studies have emerged aiming to clarify the definition and assessment of compassion (Gilbert, 2020; Goetz et al., 2010; Strauss et al., 2016; Neff, 2016). Research has documented that compassion is associated with biopsychological, physical and emotional well-being indicators and prosocial qualities and behaviors (e.g., Hall et al., 2013; Klimecki et al., 2014; MacBeth & Gumley, 2012; Kirby, 2017; Gilbert et al., 2019; Weng et al., 2013, 2018), and has empirically supported the efficacy of compassionate-based interventions (e.g., Jazaieri et al., 2013; Neff & Germer, 2013; Kirby et al., 2017). Compassion has also become a focus for developments in psychotherapy (e.g., Gilbert, 2000, 2010; Neff & Germer, 2013; Kirby et al., 2017). The promotion of compassionate motives and skills is associated with a range of benefits in children, adolescents, adults, and the elderly (e.g., Bluth & Neff, 2018; Leaviss and Uttley, 2015; Neff & McGehee, 2010; Roeser & Eccles, 2015).

Particularly in adolescents, several studies showed benefits in promoting compassionate competencies (Carona et al., 2017; Bluth et al., 2018; Bluth & Neff, 2018; Neff & McGehee, 2010), however, there is a need for further research aiming to consolidate the assessment of compassion, allow for the assessment of different compassion flows, and broaden the understanding of the functioning of this construct in this age group. In fact, adolescence is characterized by changes and

✉ Marina Cunha
marina_cunha@ismt.pt

Ana Galhardo
anagalhardo@ismt.pt

Paul Gilbert
P.Gilbert@derby.ac.uk

Cátia Rodrigues
rodriguescatia30@gmail.com

Marcela Matos
marcela.matos@fpce.uc.pt

[1] Instituto Superior Miguel Torga, Psychology, Coimbra, Portugal

[2] Center for Research in Neuropsychology and Cognitive and Behavioural Intervention (CINEICC), University of Coimbra, Coimbra, Portugal

[3] College of Health and Social Care Research Centre, University of Derby, Derby, UK

Published online: 23 July 2021

challenges at biological, emotional, cognitive, and social levels, including changes in the brain's structure and function that will permeate the numerous developmental tasks typical of this developmental stage, thus making it a critical period (Steinberg, 2005, 2010). This set of challenges, simultaneously with the social pressures and expectations of the school and the family, can contribute to the emergence of psychopathology in adolescents (Kessler et al., 2001; Olfson et al., 2015). According to the World Health Organization, about 20% of children and adolescents have at least one mental disorder before reaching 18 years old. It is, therefore, essential to study adaptive psychological processes (e.g., compassion) and how these can reduce vulnerability and increase adolescents' resilience, having a positive impact in the present moment and later in life (Keyes et al., 2010; Bluth et al., 2018). Froh et al. (2010) found significant associations between lifestyle based on prosocial behaviors (gratitude, caring for someone not feeling well or comforting a peer who is experiencing suffering, cooperating) during adolescence and emotional and social well-being (happiness, self-satisfaction, social integration).

Based on different theoretical models, research on compassion has also focused on the development of valid and reliable measures addressing this construct. Even though different definitions of compassion (Gilbert et al., 2017; Goetz et al., 2010; Jazaieri et al., 2013; Strauss et al., 2016) highlight different dimensions of compassion, there is a broad consensus around the importance of compassionate motivation and actions. A recent meta-analysis on studies of compassion (Kirby et al., 2017) showed that the Self-Compassion Scale (SCS; Neff, 2003, 2016) and Fears of Compassion Scales (FCS; Gilbert et al., 2011) are the two most widely used self-report instruments for the assessment of compassion.

According to Neff (2003), self-compassion is the ability to be kind and understanding with oneself in difficult situations, which includes being able to understand suffering as part of the human condition, having a clear and non-judgmental conscience of thoughts and painful feelings, not avoiding or neglecting them, and recognizing that all human beings have their imperfections and make mistakes. Based on this definition, three bipolar constructs are used to assess self-compassion: kindness vs. self-judgment; mindfulness vs. over-identification, and common humanity vs. isolation (Neff, 2003, 2016). There is ample evidence of the usefulness of SCS in subjects of different ages, maintaining, however, controversy regarding the use of a total score resulting from the combination of positive and negative items (Brenner et al., 2017; Costa et al., 2016; Muris & Petrocchi, 2016). It is also pointed out that this scale does not include the flows of compassion (for example, the evaluation of compassion directed at others or received from others), nor does it focus on compassionate actions. More recently, brief versions of the SCS have been developed (Raes et al., 2011), namely a version targeting children (Sutton et al., 2018), and a scale oriented to assess feelings of compassion for others (Pommier et al., 2020).

The Fears of Compassion Scales (FCS; Gilbert et al., 2011) were developed based on the theoretical background of the biopsychosocial model of compassion proposed by Gilbert, and seek to assess fears, blocks, and resistances (FBRs) of giving compassion to others and oneself, and receiving compassion from others (Gilbert et al., 2011; Gilbert & Mascaro, 2017). According to this model, it is possible to consider the existence of three directional flows of compassion. Compassion for oneself designated as self-compassion; the compassion we direct towards others, namely compassion for others; and the compassion we receive from others (compassion from others). Thus, the assessment of FBRs of the three compassion flows allows for the identification of existing barriers to the cultivation and practice of compassion (Gilbert et al., 2011). These scales have shown significant associations with mental health, revealing strong correlations with symptoms of anxiety, depression, and stress (Gilbert et al., 2011, Kirby et al., 2019), as well as strong correlations with self-criticism and shame (Braehler et al., 2013; Kirby et al., 2019), and insecure attachment (Gilbert et al., 2011).

Recently, to overcome some limitations in the existing compassion self-report instruments, Gilbert and colleagues developed a new measure, the Compassionate Engagement and Action Scales (CEAS; Gilbert et al., 2017). The CEAS was designed based upon an evolutionary motivational and competencies approach to compassion and seeks to assess compassionate attributes and actions oriented towards the self, towards others, and to receive compassion from others. This new measure is based on the standardized definition of compassion as "a sensitivity to suffering in self and others with a commitment to try to alleviate and prevent it" (Gilbert et al., 2017, p. 1). Taking into account this background, the items integrating each of the three scales aim to reflect competencies considered relevant for the clinical and non-clinical population, more than the combination of negative and positive processes, since this combination may inflate the association between compassion and mental health problems. The items are focused on domains of helpful attending, thinking, behaving, and feeling. Each scale consists of two sections, the *Compassionate Engagement*, that is, the motivation and ability to deal with suffering by an attitude of warmth, understanding, and acceptance (8 items); and *Compassionate Actions* corresponding to the way the person deals with negative emotions and thoughts in difficult situations (5 items). The Self-Compassion Scale measures self-directed compassion in situations of difficulty and suffering. The Scale of Compassion for Others measures the sensitivity to the suffering of others and how the individual is motivated to prevent or alleviate the suffering of others. The third and final scale, the Scale of Receiving Compassion from Others, aims to assess the ability to receive compassion from significant others.

The CEAS was translated into European Portuguese and its validation study, conducted on samples of adults from three different countries (UK, Portugal, and the USA), showed that all three scales presented good validity. The findings revealed that the scales were valid and reliable measures, with good test-retest reliability. The CEAS can be used as independent subscales (Engagement and Actions) for each orientation or compassion flow, aiming to address more specific contents, or as a single factor scales (Gilbert et al., 2017). Factor analysis of the scale of self-compassion showed that being sensitive to and emotionally moved by one's own suffering/distress may comprise two distinct factors. Nevertheless, the self-compassion engagement subscale may be used as a single factor scale, as confirmed by CFA results. The three compassionate orientations showed a moderate correlation with each other ($r < .5$). More recently, a CEAS adolescents' version was studied in a Swedish sample showing a similar factor structure and adequate psychometric characteristics (Henje et al., 2020).

Taking into account the good results and usefulness of CEAS in adults and adolescents, the current study aimed to adapt and study the psychometric properties of the CEAS in the adolescent population. Specifically, this study sought out to adapt the language of the scale, facilitating its comprehensibility among the adolescent population. Then, the main aim of the current study was to study the CEAS psychometric properties, namely to analyze the scale's dimensionality, quality of the items, internal consistency, temporal stability, gender differences, and convergent and divergent validities. The inter-relationship between the three flows of compassion, as measured by the CEAS-A scales, is considered a key aspect of the CFT/CMT approach (Gilbert et al., 2017; Gilbert, 2020), as they are highly interactive but can also be independent (Lopez et al., 2018). Thus, we aimed at exploring how the three flows of compassion were associated with each other in adolescents and providing evidence for the validity of the scales, in line with the procedures followed in the CEAS original study (Gilbert et al., 2017). Moreover, another aim related to investigating the convergent and divergent validities of the CEAS-A was to examine their association with other variables. Following the procedures of the CEAS original study and further research using the CEAS in adults (Asano et al., 2020) and adolescents (Henje et al., 2020), and given the well-documented negative association between self-criticism and compassion (e.g., Gilbert, 2020), and the positive relationship between compassion, self-reassurance and well-being (e.g., Hall et al., 2013; Lopez et al., 2018), self-criticism, life satisfaction (as a measure of well-being), self-reassurance and self-compassion were used to address the CEAS-A validity. It was expected that the compassion assessed by CEAS would be positively associated with self-compassion (assessed by SCS), with life satisfaction, and with the individual's ability to self-reassure. In turn, it was expected that the CEAS would reveal a negative association with self-criticism and self-judgment. Finally, the current study tested the mediator effect of the CEAS-A scales on the relationship between self-criticism, self-reassurance, and life satisfaction. This hypothesized model was defined based upon previous evidence, reviewed above, on the associations between these variables, and specifically on the path model tested in the original CEAS study (Gilbert et al., 2017), where compassion for self was found to mediate the impact of self-criticism and self-reassurance on well-being. In addition, this analysis sought out to explore the CEAS-A incremental validity over current measures of self-criticism and self-reassurance in the prediction of life satisfaction.

Material and Methods

Participants

A total of 674 adolescents, recruited in public schools of the center region of Portugal, were enrolled in this study. The sample comprised 261 boys (39%) and 413 girls (61%), from 6th to 12th grade (years of education $M = 9.14$, $SD = 1.67$). The mean age was 14.88 ($SD = 1.67$) years old, ranging from 12 to 19 years. There were gender differences concerning age, $t_{(672)} = -2.78$, $p = .006$, and years of education, $t_{(672)} = -.2.95$, $p = .003$, indicating that girls were older and had more years of education than boys ($M_{age} = 15.04$, $SD_{age} = 1.68$ vs. $M_{age} = 14.63$, $SD_{age} = 1.86$, $d = 0.23$; $M_{years.education} = 9.29$, $SD_{years.education} = 1.64$ vs. $M_{years.education} = 8.90$, $SD_{years.education} = 1.68$, $d = 0.23$).

A subsample of 336 adolescents (91 boys and 245 girls) completed other questionnaires in addition to the CEAS-A to analyze convergent and divergent validities. The mean age was 15.48 ($SD = 1.62$) years old, and the mean years of schooling was 9.36 ($SD = 1.37$).

Seventy-six participants (8 boys and 68 girls) were randomly selected from the total sample to complete a second administration of the CEAS-A to test the scale's temporal stability (after one month). Their mean age was 15.87 ($SD = 2.27$) years old, and the mean of years of education was 9.75 ($SD = 1.97$).

The three samples presented statistically significant differences regarding age [$F_{(2, 671)} = 39.91$; $p < .001$], years of education [$F_{(2, 671)} = 8.56$; $p < .001$] and gender distribution ($\chi^2 = 49.61$; $p < .001$). Through Tukey's pos hoc tests, it was found that the retest sample did not significantly differ from the 336 subsample in terms of age ($p = .079$) and showed differences in years of schooling on the threshold of significance ($p = .048$). Compared to the total sample ($N = 674$), the retest sample showed significant differences regarding age ($p < .001$) and years of schooling ($p < .001$).

Instruments

The Compassionate Engagement and Action Scale (CEAS; Gilbert et al., 2017) is a self-report instrument comprising three scales that measure motivation and compassionate actions oriented towards the self (Self-Compassion Scale - SC), oriented towards others (Compassion for Others Scale - COS) and oriented to the experience of receiving compassion from others (Receiving Compassion from Others Scale - RCO). Each of these scales encompasses two sections: 1) Compassionate Engagement, consisting of 8 items that assess motivation and the ability to deal with suffering from a warm and accepting attitude (e.g., SC: "*I am motivated to engage and work with my distress when it arises"; COS:* "*I tolerate the various feelings that are part of other people's distress."; RCO: "Others notice and are sensitive to my distressed feelings when they arise in me."*); and 2) the Compassionate Actions section, consisting of 5 items focused on helpful and tolerant ways to deal with negative emotions and thoughts in difficult situations (e.g., SCA: "*I think about and come up with helpful ways to cope with my distress."; COS:* "*I am able to take the actions and do the things that will be helpful to others."; RCO: "Others treat me with feelings of support, helpfulness, and encouragement."*). Items are answered on a 10-point response scale where 1 corresponds to *Never* and 10 to *Always*. The total of each section results from the sum of its component items, excluding reverse coded items (items 3 and 7 from the Engagement section and item 3 from the Actions section). The higher the score, the greater the compassion directed to oneself, to others, and the ability to receive compassion from others.

The Forms of Self-Criticizing and Self-Reassuring Scale (FSCSR; Gilbert et al., 2004; Portuguese version for adolescents by Silva & Salvador, 2010) consists of a set of 22 items that assess how people self-criticize and self-reassuring "when things go wrong." Participants are asked to rate a range of situations using a 5-point scale (ranging from 0 – *I'm not like that* to 4 – *I'm extremely like that*). This measure includes three subscales: the Inadequate Self that assesses the sense of the inadequacy of the self in the face of failures and setbacks (e.g., "I am easily disappointed with myself"); the Hated Self that addresses a sense of self-loathing/hatefulness and destructive response to failure characterized by aggressive persecution to hurt oneself (e.g., "I have become so angry with myself that I want to hurt or injure myself"); and the Reassuring Self that assesses the ability of the self to be reassured, supported, calmed, and compassionate to itself (e.g., "I am able to remind myself of positive things about myself"). In adolescents' samples FSCSR Cronbach's alphas ranged from .87 to .90 for the Inadequate Self, .76 to .80 for Hated Self and .82 to .86 for Reassured Self (e.g., Cunha & Paiva, 2012; Silva & Salvador, 2010; Xavier et al., 2016). According to a recent study addressing the FSCRS factor structure (Halamová et al., 2018), a two-factor structure (Self-criticism and Self-reassurance) can be used in a range of nonclinical contexts across countries and cultures, suggesting that the Inadequate Self and the Hated Self might not be distinct factors in nonclinical samples. In the current study, a Cronbach's alpha of .81 was found for the Inadequate Self subscale, of .74 for the Hated Self, and .87 for the Reassured Self subscale. Concerning the total self-criticism dimension (resulting from the sum of the Hated and the Inadequate Self subscales), Cronbach's alpha was .86.

The Self-Compassion Scale (SCS; Neff, 2003; Portuguese version for adolescents by Cunha et al., 2016) is a 26 item self-report questionnaire that comprises 6 subscales: Self-Kindness; Self-Judgement; Common Humanity; Isolation; Mindfulness; Over-identification. Each item is rated on a 5-point scale (1 = *Never*; 5 = *Always*). In the original version, the total score showed an excellent internal consistency (alpha = .92), and the six subscales revealed adequate internal consistency coefficients, ranging from .75 to .81 (Neff, 2003). In this study, we used the two factors solution, respectively, the positive dimensions (Self-kindness, Common Humanity, and Mindfulness) and negative dimensions (Self-judgement, Isolation, Overidentification). Both revealed a good internal consistency (Cronbach's alpha was .87 and .90, respectively).

The Students' Life Satisfaction Scale (SLSS; Huebner, 1991; Portuguese version by Marques et al., 2007) is a 7-item self-report instrument designed to measure satisfaction with general life targeting students from 8 to 18 years old (e.g., "My life is going well"). Participants are asked to answer each item on a 6-point Likert scale (1 = *Strongly Disagree*, 6 = *Strongly Agree*). The SLSS original version showed a Cronbach's alpha of .82 (Huebner, 1991). The Portuguese version revealed similar results, also presenting good internal consistency (Cronbach's alpha = .89; Marques et al., 2007). In this study, Cronbach's alpha was .80, indicating a good internal consistency.

Procedures

Given that the Compassionate Engagement and Action Scale (CEAS) had not yet been applied to adolescents, there was a need to adapt it to this specific population. When considering the constructs addressed, the CEAS-Adolescents are similar to the adults' version of the scale. However, the items were revised to warrant they were understandable for this target group age. Maintaining the content validity of the items, we proceeded to the analysis and critical discussion of the items with a group of adolescents ($N = 18$). Thus, the differences between the CEAS and the CEAS-A consist in changing the scale's template, making it easier to fill in, using simpler and less formal language, and including examples in the formulation of some items (items 1 and 4). For instance, item 1 was reformulated to "I am motivated to engage and work with my

distress when it arises (example: trying to be understanding and tolerant)".

Participants' recruitment was carried out in four public schools of Portugal's centre region by the third author (convenience sample). Prior to data collection, authorization to conduct the research was obtained from the relevant authorities (General Direction of Education), the education institutions' boards, and the participants' parents or legal guardians. The General Direction of Education provided ethical approval (n°. 0082000020). Adolescent participants also provided their informed consent. The questionnaires were completed individually, in the classroom, in the presence of the researcher and the class director. Clarifications were provided when necessary. Participants who did not want to participate or were not authorized by their parents or legal guardians to participate were given an academic task by the teacher in the classroom. The current study followed the recommendations of the Declaration of Helsinki (World Medical Association, 2013).

Data Analyses

Data analyses followed similar procedures to the ones used in the CEAS adult's version (Gilbert et al., 2017). Items 3 and 7 of the compassionate engagement subscale and item 3 of the compassionate actions subscale of each scale are filler items and therefore not accounted for either in the total sum of the scale or the factor analysis.

Statistical analyses were conducted using SPSS version 24 and the CEAS-A factor structure was examined through confirmatory factor analysis (CFA), using the Maximum likelihood method, through AMOS software (v.21, Chicago, IL, USA). Mean substitution was used to account for missing data completely at random (occurring in less than 5% of the sample), substituting a missing value with the overall sample's mean (Tabachnick & Fidell, 2013). The data were checked for outliers using box plots. The normality of the variables was evaluated by the skewness (Sk) and kurtosis's (Ku) values. No variable had indicators of severe violations to the normal distribution (Sk < | 3 | and Ku < | 10 |; Kline, 2005).

The factor structure of the CEAS for each scale was tested through confirmatory factor analysis (CFA) with Maximum Likelihood as the estimation method. For the Self-Compassion Scale, a three-order factor model was tested through a CFA, in which the items of the Engagement second-order factor were specified to load on two latent first-order factors: one being emotional sensitivity to suffering and being moved by one's suffering, and the other being composed by the other four items of the scale. The Actions subscale items were specified to load on the Actions factor. In turn, the Engagement and Actions factors were specified to load on the higher-order factor Compassion for Self (Fig. 1). For the Compassion for Others and Compassion from Others scales, the items were specified to load on two latent-first order factors - Engagement and Actions factors –, which were in turn specified to load on the higher-order factors of Compassion for Others and Compassion from Others, respectively (Figs. 2 and 3).

Model fit was ascertained using the following goodness of fit indicators: Normed Chi-Square ($\chi 2/df$), with 2 to 5 indicating good fit; Comparative Fit Index (CFI), Goodness of Fit Index (GFI) and Tucker-Lewis Index (TFI), with values above .90 suggesting good fit; Root Mean Square Error of Approximation (RMSEA) and its 90% confidence interval (CI), with .05 to .08 indicating a reasonable error and acceptable fit; and Standardized Root Mean Square Residual (SRMR), with values less than .08 indicating good fit (Arbuckle, 2012; Kline, 2005; Tabachnick & Fidell, 2013).

The internal consistency of each scale and its subscales was assessed by Cronbach's alpha calculation, as well the item-total correlation and Cronbach's alpha of each item if deleted were analyzed in the assessment of item quality. The reliability statistic for the Sensitivity to Suffering scale (a two-item subscale) was analysed through the Spearman-Brown coefficient (Eisinga et al., 2013). Additionally, a Composite Reliability Calculator (CR) was used (estimates CR based on standardized factor loadings and error variances) (Raykov, 1997).

Pearson product-moment correlation coefficients were conducted to explore the relationships between the three orientations of compassion and to analyze convergent and divergent validity of the CEAS-A and association with sociodemographic variables (age, education). The size of these associations was interpreted according to the recommendations of Pallant (2016), where *r* values between .10 and .29 correspond to weak correlation, *r* values between .30 and .49, a moderate correlation, and *r* values between .50 and 1.0 a strong correlation. Intraclass correlation coefficients were used to estimate the stability of the scale´ score over one month. Gender differences were examined through Student's independent samples t-tests. Effect sizes were interpreted according to Cohen et al. (2003), considering *d* values between 0.20 and 0.49 small, between 0.50 and 0.79 medium, and above 0.80 large.

Multiple regression analyses were calculated using the three compassion scales to predict life satisfaction. Variance Inflation Factor (VIF) was computed and showed the absence of multicollinearity issues (VIF < 5) (Tabachnick & Fidell, 2013).

A path analysis (Fig. 4) was performed using AMOS software (Analysis of Momentary Structure, software version 21.0, SPSS Inc. Chicago, IL) to estimate whether compassion for self and compassion from others (endogenous mediator variables) would mediate the association between self-reassurance and self-criticism (measured as the

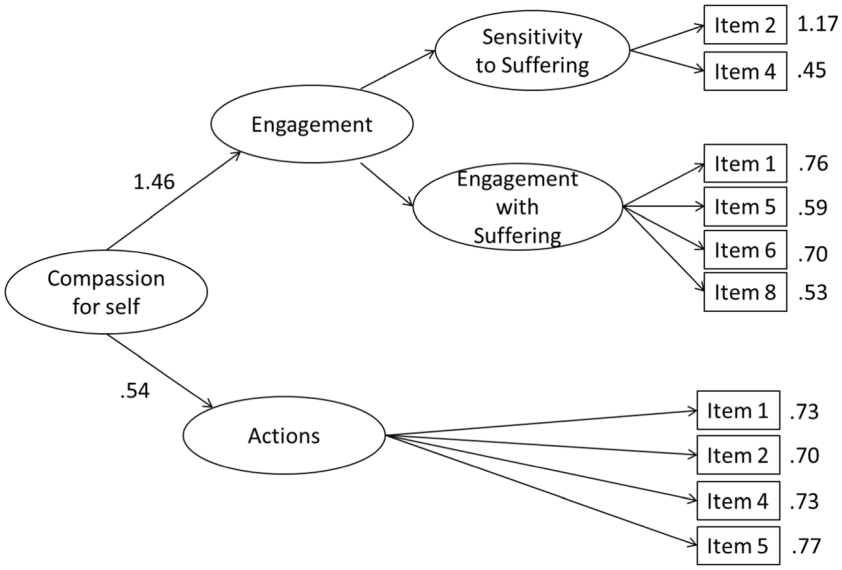

Fig. 1 Specification of the CFA theoretical model for the Compassion for Self scale factorial structure tested in the Portuguese adolescents' sample and standardized regression weights for each item

combination of the inadequate and hated self-subscales of the FSCRS; exogenous variables) and life satisfaction (endogenous variable). The significance of the regression coefficients and the fit statistics were established using the Maximum Likelihood estimation method. The model adjustment was confirmed using the following goodness-of-fit indices: Chi-square ($\chi 2$), Comparative Fit Index (CFI), the Goodness of Fit Index (GFI), Tucker Lewis Index (TLI), the Root Mean Square Error of Approximation (RMSEA), and its 90% confidence interval (CI), and the Standardized Root Mean Square Residual (SRMR; Browne & Cudeck, 1993). The significance of the total, direct and indirect effects were evaluated using Chi-Square tests, and the significance of the mediational path was further supported by the Bootstrap resampling method, with 5000 Bootstrap samples and 95% bias-corrected confidence intervals (CI) around the standardized estimates [MacKinnon et al., 2007).

Results

Confirmatory Factor Analysis

An exploratory factor analysis (EFA) of the CEAS was conducted in a previous study with a sample of 336 adolescents (Cunha et al., 2017). Results revealed for the Self-compassion Scale, the *attributes section* showed to be bifactorial (Factor 1 "*Engagement* with suffering" and Factor 2 "Emotional sensitivity to suffering and being moved by one's suffering"). Concerning the Compassion to Others Scale and the Compassion from Others Scale, the *Engagement* and the *Actions* sections were also found (Cunha et al., 2017), similar to what had been found in the CEAS adults' version (Gilbert et al., 2017). Therefore, a CFA was conducted on each of the CEAS-A scales as previously described.

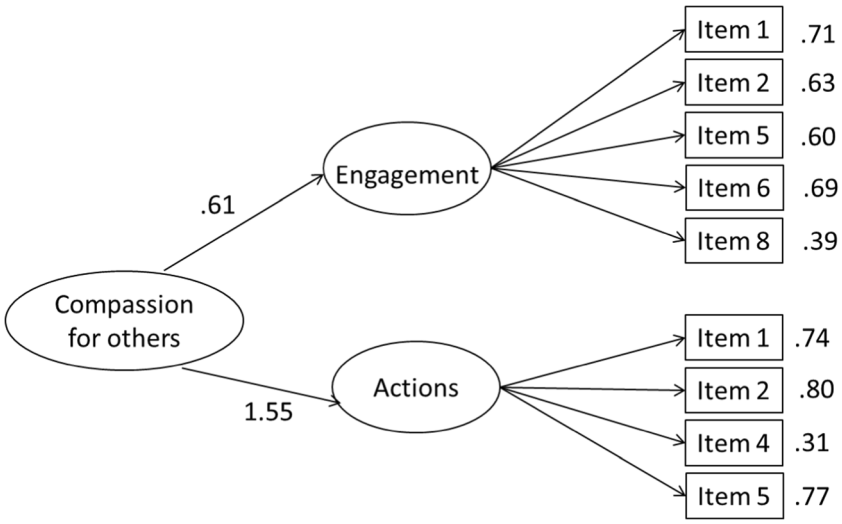

Fig. 2 Specification of the CFA theoretical model for the Compassion for Others scale factorial structure tested in the Portuguese adolescents' sample and standardized regression weights for each item

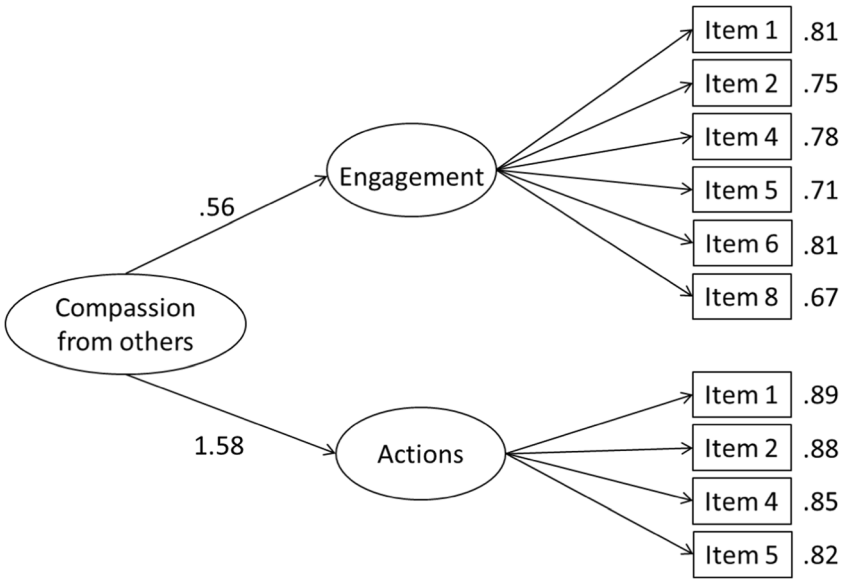

Fig. 3 Specification of the CFA theoretical model for the Compassion from Others scale factorial structure tested in the Portuguese adolescents' sample and standardized regression weights for each item

Compassion for Self

A three-order factor model was tested through a CFA, in which the items of the Engagement second-order factor were specified to load on two latent first-order factors, the Actions subscale's items were specified to load on the Actions factor, and finally, the Engagement and Actions factors were specified to load on the higher-order factor Compassion for Self (Fig. 1).

Results revealed that this model showed an acceptable fit to the data: $\chi^2_{(32)} = 176.66$; $p < .001$, CMIN/DF = 5.52; CFI = .94; GFI = .95; TLI = .92; RMSEA = .08 [90% CI .07–.09; $p < .001$] and SRMR = .04. An inspection of modification indices indicated that correlating the measurement errors of two pair of items of the Actions factor (items 4 and 5, and 1 and 2) would improve the model fit. Therefore, the correlation between these two pairs of items was estimated in the model. Results revealed an improvement in the model fit, with this adjusted model presenting a very good fit to the data $\chi^2_{(32)} = 115.84$; $p < .001$, CMIN/DF = 3.86; CFI = .97; GFI = .97; TLI = .95; RMSEA = .07 [90% CI .05–.08; $p < .001$] and SRMR = .04.

Results showed that in the Engagement subscale, the two first-order factors: emotional sensitivity to suffering and engagement with suffering significantly loaded on the Engagement factor (.25 and 1.17, respectively). Furthermore, the Engagement and Actions factors were significantly loaded on the higher-order factor Compassion for Self (1.46 and .54, respectively). This indicates that the scale can be used as a two-factor scale or one-factor scale.

Local adjustment indicators analysis confirmed the adequacy of the Model, with all items revealing adequate standardized regression weights (SRW) (Fig. 1). In the emotional sensitivity to suffering dimension SRW ranged from .45 (item 4) to 1.17 (item 2), in the engagement with suffering dimension from .53 (item 8) to .76 (item 1), and in the Engagement subscale from .45

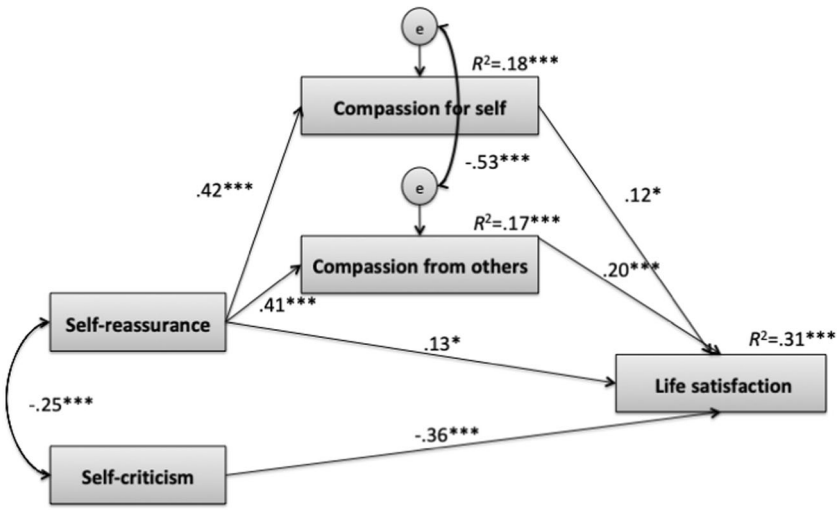

Fig. 4 Path model testing the mediator effect of Compassion for Self and Compassion from Others on the association between Self-reassurance and Self-criticism (exogenous variable) and Life satisfaction (endogenous variables), with standardized estimates and squared multiple correlations. *$p < .05$; ***$p < .001$

(item 4) to 1.17 (item 2). In the Actions subscale, the SRW of the items varied between .70 (item 2) to .77 (item 5). Squared multiple correlation results showed that in the dimension emotional sensitivity to suffering values were 1.36 (item 2) and .20 (item 4); in the dimension engagement with suffering values ranged from .28 (item 8) to .57 (item 1), and in the Actions subscale from .50 (item 2) to .60 (item 5).

Compassion for Others

Regarding the Compassion for Others scale, the items were specified to load on two first order factors—Engagement factor and Actions factor, which were in turn specified to load on a higher order factor of Compassion for others (Fig. 2). Results indicated that this model showed a poor fit to the data: $\chi^2_{(34)} = 418.43$; $p < .001$, CMIN/DF = 12.31; CFI = .84; GFI = .87; TLI = .79; RMSEA = .13 [90% CI .12–.14; $p < .001$] and SRMR = .04.

An analysis of local fit indicators showed that item 4 of the Engagement factor presented a low standardized regression weight (.33) and squared multiple correlations (.11), and reliability analysis further confirmed that the removal of this item would improve the subscale internal consistency. Therefore, item 4 of the Engagement factor was removed, and the model recalculated (subsequent analyses did not include this item). However, results revealed that the model fit was still unacceptable, even though it slightly improved. An inspection of modification indices indicated that correlating the measurement errors of one pair of items of the Engagement factor (items 2 and 5) and item 8 of the Engagement and item 4 of the Actions factor would significantly increase the model fit. Thus, the correlation between these two pairs of items was estimated in the model. Results revealed an improvement in the model fit, with this adjusted model presenting an acceptable fit to the data $\chi^2_{(24)} = 153.20$; $p < .001$, CMIN/DF = 6.38; CFI = .94; GFI = .95; TLI = .91; RMSEA = .09 [90% CI .08–.10; $p < .001$] and SRMR = .05.

The first-order factors Engagement and Actions were significantly loaded on the second-order factor of Compassion for Others (.61 and 1.55, respectively).

Regarding local fit, in the Engagement subscale, items revealed Standardized Regression Weights (SRW) ranging from .39 (item 8) to .71 (item 1), and in the Actions subscale from .31 (item 4) to .80 (item 5) (Fig. 2). Squared Multiple Correlations' (SMC) results indicated that in the Engagement subscale values ranged from .15 (item 8) to .50 (item 1), and from .10 (item 4) to .64 (item 2) in the Actions subscale.

Compassion from Others

The items of the Compassion from Others scale were specified to load on two first order factors -Engagement factor and Actions factor, and these were specified to load a higher order factor of Compassion from others (Fig. 3). Results indicated that this model showed a very good fit to the data: $\chi^2_{(34)} = 141.11$; $p < .001$, CMIN/DF = 4.15; CFI = .98; GFI = .96; TLI = .97; RMSEA = .07 [90% CI .06–.08; $p < .001$] and SRMR = .03.

The two first-order Engagement and Actions factors were significantly loaded on the second-order factor of Compassion from Others (.56 and 1.58, respectively).

Local adjustment indicators analysis confirmed the adequacy of the model with all items revealing adequate standardized regression weights, which varied from .67 (item 8) to .81 (item 6) in the Engagement subscale, and from .82 (item 5) to .89 (item 1) in the Actions subscale (Fig. 3). Squared multiple correlations results also confirmed the scale reliability, with items showing values ranging from .45 (item 8) to .66 (item 6) in the Engagement subscale, and from 68. (item 5) to .79 (item 1) in the Actions subscale.

Reliability

Regarding reliability in the Compassion for Self scale, Cronbach' alphas of .84, .70, and .85 were found for the total of Compassion for Self, the Engagement subscale, and the Actions subscale, respectively. The emotional sensitivity to suffering and the engagement with suffering dimensions revealed a Spearman-Brown coefficient of .69 and a Cronbach alpha of .75, respectively. CR results showed a value of .92 for the total of Compassion for Self, .87 for the Engagement subscale, and .82 for the Actions subscale. The sensitivity to suffering and the engagement with suffering dimensions showed CR values of .86 and .74, respectively.

The Compassion for Others total had a Cronbach' alphas of .84, and its Engagement and the Actions subscales of .74 and .74, respectively. As for CR results, the Compassion for Others total presented a value of .86, the Engagement subscale of .75 and the Actions subscales of .76.

Cronbach' alphas of .94, .89, and .92 were found for the total of Compassion from Others, the Engagement, and the Actions factors of, respectively. Additionally, the elimination of any item would not increase the reliability of the factors, suggesting that all items are relevant in assessing CEAS-A subscales. The Compassion from Others total scale revealed a CR = .95, the Engagement subscale a CR = .89, and the Actions subscale a CR = .92.

In terms of item-total correlations, in the Compassion for Self scale, all items revealed moderate to strong item-total correlations ranging from .40 (item 2 of the Engagement subscale) and .67 (item 5 of the Actions subscale), except for item 1 of the Engagement subscale. In the Compassion for Others scale, item-total correlations were moderate to strong, ranging from .32 (item 4 of the Actions subscale) and .69 (item 2 of the Actions subscale). Regarding the Receiving Compassion from Others scale, item-total correlations were strong, ranging

between .65 (item 8 of the Engagement subscale) and .81 (item 2 of the Actions subscale).

Test-Retest Reliability

The test-retest reliability of the scales was examined in a subsample of the Portuguese adolescents ($N = 76$). The stability of the scales' scores over 1 month was estimated using intraclass correlation coefficients. The relationship between the first and second administration was .97 for the scale Compassion for Others, .98 for Compassion from Others, and .98 for Compassion for Self.

Gender Differences and Associations with Age and Years of Education

Independent samples T-tests (see Table 1) revealed significant gender differences in the Actions factor of the Compassion for Self scale ($d = .17$), with girls showing lower mean scores than boys. Significant differences were also found in the Compassion for Others scale ($d = .27$), but in this case, girls showed significantly higher mean values than boys, both in the Engagement and the Actions factors. No significant differences were found for other factors.

Correlation analyses only showed a significant, albeit weak, positive association between age and the Compassion for Others scale ($r = .15$; $p < .001$). Years of education were positively and weakly associated with all CEAS-A scales, with correlation values ranging from .08 ($p < .05$) to .15 ($p < .001$). Although statistically significant, these correlation results are not indicative of association between these demographic variables and the CEAS-A scores.

Correlations between the Compassion Scales

The correlation analyses results for the associations between the three orientations of compassion (compassion for others, from others, and self-compassion) are presented in Table 2. All correlations between these scales were significant and positive, except for the link between Self-Compassion Sensitivity to the suffering component and the Compassion from Others Actions dimensions. For each specific orientation (for self, to others, from others), the correlations between the engagement and action dimensions were strong ($r = .69$ to .81). The correlations between the different foci for compassion were moderate to strong, with the Compassion from Others Engagement and Actions dimensions revealing strong correlations with Self-Compassion Actions and with Compassion for Others Engagement and Actions dimensions. Results further indicated that the three foci of compassion were strongly interrelated.

Convergent and Divergent Validity

Correlation coefficients were analyzed to assess the convergent and divergent validity of the CEAS-A and explore how

Table 1 Means and standard deviation of all study variables

	Total (N=674) *M*(*SD*)	**Boys** (*n*=261) *M*(*SD*)	**Girls** (*n*=413) *M*(*SD*)	*t*	*p*
SC Total	60.65 (14.59)	60.30 (13.51)	59.82(15.24)	.42	.676
SC – Engagement	35.13 (8.57)	34.63 (7.97)	35.45 (8.93)	−1.21	.228
SC - Actions	24.87 (7.69)	25.67 (7.33)	24.37(7.87)	2.15	**.032**
C_{for}Others Total	57.97 (13.91)	55.73 (12.15)	59.39 (14.76)	−3.35	**.001**
C_{for}Others – Engagement	32.00 (8.22)	30.91 (7.25)	32.69 (8.71)	−2.76	**.006**
C_{for}Others - Actions	25.97 (6.82)	24.82 (6.24)	26.69 (7.07)	−3.50	**.001**
CFO Total	60.53 (17.32)	60.19 (16.55)	60.75 (17.81)	−.41	.680
CFO – Engagement	35.68 (10.27)	35.49 (9.88)	35.79 (10.51)	−.37	.712
CFO - Actions	24.86 (7.95)	24.69 (7.60)	24.96 (8.17)	−.42	.673
Reassured Self	1.93 (1.83)	1.93 (.87)	1.92 (.82)	.11	.914
Inadequate Self	1.53 (.59)	1.52 (.55)	1.54 (.61)	−.21	.835
Hated Self	.90 (.71)	.87 (.63)	.91 (.74	−.42	.673
SCS positive	3.05 (.56)	3.09 (.53)	3.03 (.57)	.81	.400
SCS negative	2.91 (.64)	2.85 (.54)	2.93 (.67)	−.91	.367
SLSS	23.86 (5.98)	23.93 (6.32)	23.83 (5.85)	.14	.886

Note. SC = Self-Compassion; C_{for}Others = Compassion for Others; CFO = Compassion from Others; Reassured Self, Inadequate Self and Hated Self from the Forms of Self-Criticizing and Self-Reassuring Scale (FSCSR); SCS positive = Self-compassion Scale Positive factors; SCS negative = Self-compassion Scale Negative factors; SLSS = Students' Life Satisfaction Scale

Table 2 Correlations between the subscales compassion scales (N = 674)

CEAS-A	1	2	3	4	5	6	7
1.SC- Engagement (6 items)	1						
2. *Sensitivity* (2 items)	.65**	1					
3. *Eng. With Suffering* (4 items)	.89**	.23**	1				
4. SC Actions (4 items)	.61**	.15**	.69**	1			
5. C_{for}Others Engagement (5 items)	.55**	.36**	.49**	.52**	1		
6. C_{for}Others Actions (4 items)	.46**	.31**	.40**	.47**	.71**	1	
7. CFO Engagement (6 items)	.50**	.23**	.50**	.54**	.54**	.55**	1
8. CFO Actions (4 items)	.41**	.17	.42**	.53**	.50**	.57**	.81**

Note. CEAS–A = Compassionate Engagement and Action Scales for Adolescents; SC Sensitivity = Self-Compassion, Sensitivity to suffering; SC, Engagement with suffering; SC Actions = Self-Compassion Actions; C_{for}Others = Compassion for Others; CFO = Compassion from Others.

**Correlation is significant at the .001 level.

the CEAS-A scales were associated with measures of compassion, self-evaluation, and well-being (see Table 3).

Regarding convergent validity, the three CEAS-A scales were strongly correlated with each other. These three orientations of compassion were moderately and positively linked with the ability to be self-reassuring. The CEAS-A Compassion for Self and Compassion from Others scales showed strong correlations with the positive factor of the Self-Compassion Scale, and the Compassion for Others scale revealed a moderate association with this factor. The Compassion for Self, for Others, and from Others scales were also positively correlated with satisfaction with life.

In terms of divergent validity, in general, the correlations between the CEAS-A scales and these negative self-processes were weaker than the ones found for positive self-processes and well-being related variables. Compassion for Self and Compassion from Others were inversely and weakly correlated with the self-criticism and the negative dimensions of the Self-compassion Scale (Overidentification, Isolation, Self-judgment).

Multiple Regression with the Three Orientations of Compassion Predicting Life Satisfaction

A multiple regression analysis was conducted using Compassion for Self, Compassion for Others, and Compassion from Others, to predict life satisfaction.

The model accounted for 17% of the variance ($F = 22.17$, $p < .001$). Compassion from Others and Compassion for Self emerged as the best predictors of life satisfaction ($\beta = .29$ and $\beta = .25$, respectively; $p < .001$). Compassion for Others ($\beta = -.11$, $p = .128$) was not a significant predictor.

Path Model of the Mediator Effect of Compassion for Self and Compassion from Others on the Relationship between Self-Reassurance, Self-Criticism, and Life Satisfaction

Given prior research indicating that the compassion variables, in contrast to self-critical variables, may be distinctly linked to well-being, and the previous findings supporting the predictive effect of Compassion for Self and from Others on life

Table 3 Pearson correlation matrix (N = 336)

	1	2	3	4	5	6	7
1.SC - total	1						
2.C_{for}O - total	.61**	1					
3.CFO - total	.60**	.61**	1				
4.Self-reassurance	.42**	.40**	.41**	1			
5. Self-criticism	−.17**	.05	- .11*	−.25**	1		
6.SCS positive	.60**	.39**	.59**	.44**	−.33**	1	
7.SCS negative	−.20**	.05	−.07*	−.26**	.51**	−.33**	1
8.SLSS	.36**	.24**	.36**	.35**	−.43**	.49**	−.45**

Notes. SC = Self-compassion; C_{for}O = Compassion for Others; CFO = Compassion from Others; factors; Self-Reassure and Self-Criticism from the FSCSRS; SCS positive = Self-compassion Scale Positive factors; SCS negative = Self-compassion Scale Negative factors; SLSS = Students' Life Satisfaction Scale

**Correlation is significant at the .01 level;

*Correlation is significant at the .05 level

satisfaction, a path analysis was conducted to estimate whether the association between self-reassurance and self-criticism and adolescent's life satisfaction would be mediated by Compassion for Self and Compassion from Others.

Preliminary analyses confirmed the multivariate normality assumption, with the data showing Skewness values ranging from −.08 to .66, and Kurtosis values ranging from −.40 to .16. The initial model comprised 23 parameters. In the initial model, the path regarding the direct effect of self-criticism on Compassion for Self and Compassion from Others failed to meet the critical value for two-tailed statistical significance at the .05 level (*b*compassion for self = −1.75; $Z = -1.40$; $p = .163$; $\beta = -.07$; *b*compassion from others = −.28; $Z = -0.20$; $p = .843$; $\beta = -.01$). These paths were therefore deleted and the model recalculated.

The parsimonious model (see Fig. 4) accounted for 31% of life satisfaction variance, and revealed an excellent model fit: $\chi 2(2) = 2351$, $p = .309$; CFI = .999; TLI = .995; RMSEA = .023 [90% CI .00–.11; $p < .001$]. Self-criticism presented a direct effect of −.36 (*b*self-criticism = −3.39; $Z = -7.61$; $p < .001$) on life satisfaction. Self-reassurance presented a direct negative effect of .13 (*b*self-reassurance = 0.93; $Z = 2.48$; $p = .013$) on life satisfaction, and a significant direct effect on Compassion for Self of .42 (*b*self-reassurance = 7,78; $Z = 8,49$; $p < .001$) and on Compassion from Others of .41 (*b*self-reassurance = 8.41; Z = 8.25; $p < .001$). Compassion from Others presented a direct effect of .20 (*b*compassion from others = 0.07; $Z = 3,38$; $p = .044$) on life satisfaction, and Self-compassion presented a direct effect of .12 (*b*self-compassion = 0.05; $Z = 2.01$; $p = .044$). Furthermore, self-reassurance presented a total effect of .26 on life satisfaction, with a direct effect of .13 (*b*self-reassurance = 0.93; Z = 2.48; p < .001), and an indirect effect of .13, being significantly mediated by Compassion from Others and by Self-compassion (95% CI = .074 to .197, $p = .002$), according to the Bootstrap resampling method, thus providing incremental evidence of the significance of the CEAS-A scales in the prediction of life satisfaction.

To sum up, results revealed that self-criticism has a direct negative impact on adolescents' life satisfaction, whereas the impact of self-reassurance on life satisfaction is partially mediated by Self-compassion and Compassion from Others.

Discussion

The current study investigated the factor structure and psychometric properties of three scales addressing Compassion for Self, Compassion for Others, and Compassion from Others in the adolescent population (CEAS-A). The final version of the CEAS-A resulted from the pilot study conducted in a sample of 18 adolescents. The CEAS factor structure was studied through a CFA for each of the three scales.

The three-order factor model tested regarding the Compassion for Self scale revealed a very good fit to the data, similar to the one found for the adults' version (Gilbert et al., 2017). Nevertheless, it is worth noting that this fit resulted from error term correlations between two pairs of items of the Actions subscale, which might be related to the similar phrasing in the Portuguese version of items 4 and 5, and the shared meaning of items 1 and 2. The higher-order factor Compassion for Self included two second-order factors, namely the Engagement and Actions subscales. Furthermore, the Engagement subscale comprised the Sensitivity to suffering and the Engagement with suffering dimensions.

Concerning the Compassion for Others scale, a higher-order factor encompassed two first-order factors: the Engagement and Actions subscales. This model presented a good fit to the data after the removal of item 4 of the Engagement subscale and after performing error term correlations between two pairs of items. This finding regarding item 4 corroborates the Swedish version of the CEAS for adolescents, where this item was removed from the CEAS three scales (Henje et al., 2020). One may hypothesize that the content of item 4 ("I am emotionally moved when others display negative feelings or are going through difficult situations") may be particularly subject to social desirability in this population. It may still be difficult for adolescents to acknowledge they may feel moved or affected by others' difficulties or negative emotions and interpret this as a signal of weakness. Moreover, their developmental stage may also influence their ability to take perspective and establish a sense of the self to others' feelings (Steinberg, 2005, 2010). In terms of the correlation between the error terms of items 2 and 5 of the Engagement subscale, it might be explained by the fact that being able to tolerate others' difficulties and suffering (item 5) is interdepend on being sensitive to others' difficulties and suffering (item 2). On the other hand, the correlation between the error terms of items item 8 (Engagement subscale) and 4 (Actions subscale) could be justified by the fact that to engage in helpful actions towards others (item 4), one must be able to have an accepting and no-judging attitude towards them (item 8).

Finally, two first-order factors: Engagement and Actions were found for the Compassion from Others scale replicating the model found in the adults' version (Gilbert et al., 2017).

To sum, all the three scales in the adolescents' population revealed a similar model to the one found for the adults' version, including two distinct processes: 1) engagement with suffering and 2) an action component to alleviate or prevent suffering. This suggests that the data are following the theoretical model of compassion proposed by Gilbert (2014, 2017). Furthermore, this model was also found in the Swedish version of the CEAS for adolescents (Henje et al., 2020). Although this was in line with results reported for the CEAS adults' version, a unidimensional structure was found for the three scales in a sample of young adults when studying the Japanese CEAS version (Asano et al., 2020).

The CEAS-A scales showed adequate reliability (Field, 2013). Test-retest reliability results indicated excellent

temporal stability over 1-month for the three scales. Nevertheless, the subsample used in the current study was older and presented more years of education than the total sample, and test-retest analyses should be replicated in future studies.

Gender differences were found regarding the Compassion for Others scale, with girls showing marginally higher values when compared to boys (small effect size). This result was in line with previous studies with adults (Gilbert et al., 2017) and with adolescents (Henje et al., 2020). Therefore, it seems that girls tend to be slightly more motivated to recognize signals of suffering in others, tolerate these painful feelings while trying to alleviate others' distress, and connect with them in a helpful and non-judgmental way. In fact, the predisposition to a caring-giving mentality and behaviors tends to be more prominent in females from an early age (Gilbert, 2009), with previous research corroborating this notion (Hermanto & Zuroff, 2016). Nevertheless, this tendency should be further explored in future research.

When considering the Compassion from Others scale, our findings were also in accordance with the original study of the CEAS (Gilbert et al., 2017) and the Swedish study with adolescents (Henje et al., 2020), suggesting no significant differences between males and females. As for the Compassion for Self scale no differences were found in the total score. This pattern of results was similar to that found in the adults' version of the CEAS (Gilbert et al., 2017). Nevertheless, in the current sample, a significant difference was found in the Actions subscale (very small effect size), with boys scoring higher than girls. In the adolescents' Swedish version study of the CEAS (Henje et al., 2020) boys also scored significantly higher than girls in the Compassion for Self scale. Taken together, using these measures it would appear that girls are more orientated than boys to the suffering of others whereas boys are more orientated to their own suffering compared to girls; in other words, girls tend to be more other-orientated whereas boys more self-orientated.

Studies reporting gender differences using the SCS (Neff, 2003) suggest that boys tend to show more engagement with their suffering, understand it as part of the human condition and deal with it with kindness and warmth. Whereas girls tend to be more self-judgmental about their inner experiences, feel less connected with others, and less able to observe and be aware of their painful thoughts and emotions (Xavier et al., 2016; Cunha et al., 2016; Bluth et al., 2018). Concerning age, results suggest older adolescents show a tendency to be more sensitive to others' suffering ad more motivated to alleviate and/or prevent it.

For each orientation (for self, to others, and from others) the association between the engagement and actions domains were strong. This indicates that the engagement with suffering and a more active approach to alleviating suffering correspond to two distinctive elements as indicated by the algorithm for caring (Gilbert, 2017). As for the association between the different subscales (Engagement and Actions) of the CEAS-A moderate to strong associations were found. These data are in line with the idea that some people can be high in one dimension of a compassion flow (e.g., SC-Engagement) but not so high in another dimension of another compassion flow (e.g., CforOthers Actions) and vice-versa.

In general, the data point that the CEAS-A have reasonable construct validity with other related measures. The CEAS-A associations with positive self-processes and well-being related measures were stronger than the ones found for negative self-processes. These results are congruent with the ones mentioned by Gilbert et al. (2017) and by Henje et al. (2020). The Compassion for Others scale was the one revealing non-significant correlations with measures of self-criticism and the negative dimensions of the SCS. One may theorize that dealing with inner difficulties in a self-critical way, or feeling isolated and entangled with painful thoughts and feelings seem not to influence being compassionate towards others.

As previously mentioned, it was hypothesized that compassion variables and self-critical variables may present different relationships with well-being, with Compassion for Self and from Others having a predictive effect on life satisfaction. This hypothesis led to the study of a potential mediation effect of Compassion for Self and Compassion from Others on the association between self-reassurance and self-criticism and adolescent life satisfaction. Path analysis results indicated that self-criticism has a direct negative impact on adolescents' life satisfaction, whereas the impact of self-reassurance on life satisfaction is partially mediated by Self-compassion and Compassion from Others. This suggests that being self-reassuring may be helpful but also having the competencies of Self-compassion and the ability to receive Compassion from Others associated with capacities like sensitivity to distress, empathy, distress tolerance, non-judgment, or helpful actions, may contribute to life satisfaction.

Some limitations should be considered in the current study. The cross-sectional design of the study does not allow to establish a causal ordering for the observed relationships between the study variables. Also, the study only included self-report measures, and it would be relevant to assess compassion through other methods (e.g., behavioral measurements). Although the sample had an adequate size, it was not representative, and, consequently, data cannot be generalized. Furthermore, this was a community sample, and future studies should also be conducted in clinical samples. Validation studies conducted in clinical samples are required to establish whether the CEAS-A is able to differentiate between clinical and non-clinical populations. Moreover, studies in clinical samples will also allow us to determine the scales' sensitivity to therapeutic change. It is also worth noting that the current study was conducted in a Portuguese adolescents´

sample and future research in more diverse samples in terms of ethnicity and across different cultures is needed. Despite these limitations, the current study extends prior research on the assessment of compassion, supporting the structure previously found for the CEAS adults' and adolescents' versions and presenting good psychometric properties.

The CEAS-A enables a direct assessment of the processes derived from the Compassion Focused Therapy (CFT) theoretical and clinical model and may be an important and useful tool for evaluating CFT/Compassion Mind Training (CMT) interventions. It is also worth noting that the CEAS-A is the first self-report instrument that allows for the assessment of the three different flows of compassion in adolescents. This may be of particular interest in the design of more tailored interventions addressing these distinct dimensions to promote compassionate competencies in adolescents.

Acknowledgments The authors would like to thank all participants for their cooperation.

Authors 'Contributions All authors contributed to the study conception and design. Material preparation, data collection, and analysis were performed by MC, MM, CR, and PG. The first draft of the manuscript was written by MC, MM, and AG and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Funding Information There was no funding for this study.

Data Availability The data that support the findings of this study are available from the corresponding author upon reasonable request.

Declarations

Conflict of Interest Disclosure The authors have no conflicts of interest.

Ethical Approval Approval was obtained from the ethics committee of the relevant authorities (General Direction of Education, n. ° 0082000020), and the education institutions' boards.

Informant Consent The participants' parents or legal guardians and adolescent participants also provided their informed consent. The procedures used in this study adhere to the tenets of the Declaration of Helsinki.

References

Arbuckle, J. (2012). *Analysis of moment structures (AMOS) version 21.0.* AMOS development corporation.

Asano, K., Kotera, Y., Tsuchiya, M., Ishimura, I., Lin, S., Matsumoto, Y., Matos, M., Basran, J., & Gilbert, P. (2020). The development of the Japanese version of the compassionate engagement and action scales. *PLoS One, 15*(4), e0230875. https://doi.org/10.1371/journal.pone.0230875.

Bluth, K., & Neff, K. D. (2018). New frontiers in understanding the benefits of self-compassion. *Self and Identity, 17*(6), 605–608. https://doi.org/10.1080/15298868.2018.1508494.

Bluth, K., Mullarkey, M., & Lathren, C. (2018). Self-compassion: A potential path to adolescent resilience and positive exploration. *Journal of child family Studies, 27*(9), 3037–3047. https://doi.org/10.1007/s10826-018-1125-1.

Braehler, C., Gumley, A., Harper, J., Wallace, S., Norrie, J., & Gilbert, P. (2013). Exploring change processes in compassion focused therapy in psychosis: Results of a feasibility randomized controlled trial. *British Journal of Clinical Psychology, 52*(2), 199–214. https://doi.org/10.1111/bjc.12009.

Brenner, R. E., Heath, P. J., Vogel, D. L., & Credé, M. (2017). Two is more valid than one: Examining the factor structure of the self-compassion scale (SCS). *Journal of Counseling Psychology, 64*(6), 696–707. https://doi.org/10.1037/cou0000211.

Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & L. S. Long (Eds.), *Testing structural equation models (pp. 136–162)*. Sage.

Carona, C., Rijo, D., Salvador, C., Castilho, P., & Gilbert, P. (2017). Compassion-focused therapy with children and adolescents. *BJPsych Advances, 23*(4), 240–252. https://doi.org/10.1192/apt.bp.115.015420.

Cohen, J., Cohen, P., West, S., & Aiken, L. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3th ed.). Lawrence Erlbaum Associates.

Costa, J., Marôco, J., Pinto-Gouveia, J., Ferreira, C., & Castilho, P. (2016). Validation of the psychometric properties of the self-compassion scale. Testing the factorial validity and factorial invariance of the measure among borderline personality disorder, anxiety disorder, eating disorder and general populations. *Clinical Psychology & Psychotherapy, 23*(5), 460–468. https://doi.org/10.1002/cpp.1974.

Cunha, M., & Paiva, M. J. (2012). Text anxiety in adolescents: The role of self-criticism and acceptance and mindfulness skills. *The Spanish Journal of Psychology, 15*(02), 533–543. https://doi.org/10.5209/rev_SJOP.2012.v15.n2.38864.

Cunha, M., Rodrigues, C., Matos, M., Galhardo, A., & Couto, M. (2017). Compassionate attributes and action scale for adolescents: Adaptation and validation (EV0094). *European Psychiatry, 41*(pp. S1-S910), S434. https://doi.org/10.1016/j.eurpsy.2017.01.423.

Cunha, M., Xavier, A., & Castilho, P. (2016). Understanding self-compassion in adolescents: Validation study of the self-compassion scale. *Personality and Individual Differences, 93*, 56–62. https://doi.org/10.1016/j.paid.2015.09.023.

Eisinga, R., Te Grotenhuis, M., & Pelzer, B. (2013). The reliability of a two-item scale: Pearson, Cronbach, or spearman-Brown? *International Journal of Public Health, 58*(4), 637–642. https://doi.org/10.1007/s00038-012-0416-3.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics: And sex and drugs and rock "n" roll* (4th ed.). Sage.

Froh, J. J., Bono, G., & Emmons, R. (2010). Being grateful is beyond good manners: Gratitude and motivation to contribute to society among early adolescents. *Motivation and Emotion, 34*(2), 144–157. https://doi.org/10.1007/s11031-010-9163-z.

Gilbert, P. (2000). *Compassion focused therapy*. Routledge.

Gilbert, P., Clarke, M., Hempel, S., Miles, J., & Irons, C. (2004). Criticizing and reassuring oneself: An exploration of forms, styles and reasons in female students. *British Journal of Clinical Psychology, 43*, 31–50. https://doi.org/10.1348/014466504772812959.

Gilbert, P. (2009). *The compassionate mind: A new approach to life's challenges*. Constable.

Gilbert, P. (2010). An introduction to compassion focused therapy in cognitive behavior therapy. *International Journal of Cognitive Therapy, 3*(2), 97–112. https://doi.org/10.1521/ijct.2010.3.2.97.

Gilbert, P. (2014). The origins and nature of compassion focused therapy. *British Journal of Clinical Psychology, 53*, 6–41. https://doi.org/10.1111/bjc.12043.

Gilbert, P. (2017). Compassion: Definitions and controversies. In P. Gilbert (Ed.), *Compassion: Concepts, research and applications (pp. 3–15)*. Routledge.

Gilbert, P. (2020) Compassion: From its evolution to a psychotherapy. *Frontiers in Psychology 11*, 3123. https://doi.org/10.3389/fpsyg.2020.586161.

Gilbert, P., Basran, J., MacArthur, M., & Kirby, J. N. (2019). Differences in the semantics of prosocial words: An exploration of compassion and kindness. *Mindfulness, 10*(11), 2259–2271. https://doi.org/10.1007/s12671-019-01191-x.

Gilbert, P., & Mascaro, J. (2017). *Compassion: Fears, blocks, and resistances: An evolutionary investigation. The Oxford handbook of compassion science (pp. 399–420)*. Oxford University Press. https://doi.org/10.1093/oxfordhb/9780190464684.001.0001.

Gilbert, P., McEwan, K., Matos, M., & Rivis, A. (2011). Fears of compassion: Development of three self-report measures. *Psychology and Psychotherapy: Theory, Research and Practice, 84*(3), 239–255. https://doi.org/10.1348/147608310X526511.

Gilbert, P., Catarino, F., Duarte, C., Matos, M., Kolts, R., Stubbs, J., Ceresatto, L., Duarte, J., Pinto-Gouveia, J., & Basran, J. (2017). The development of compassionate engagement and action scales for self and others. *Journal of Compassionate Health Care, 4*(1), 4. https://doi.org/10.1186/s40639-017-0033-3.

Goetz, J. L., Keltner, D., & Simon-Thomas, E. (2010). Compassion: An evolutionary analysis and empirical review. *Psychological Bulletin, 136*(3), 351–374. https://psycnet.apa.org/doi/10.1037/a0018807.

Halamová, J., Kanovský, M., Kupeli, N., Gilbert, P., Troop, N., Zuroff, D., Hermanto, N., Petrocchi, N., Sommers-Spijkerman, M., Kirby, J., Shahar, B., Krieger, T., Matos, M., Asano, K., Yu, F., & Basran, J. (2018). The factor structure of the forms of self-criticising/Attacking & Self-reassuring Scale in thirteen distinct populations. *Journal of Psychopathology and Behavioral Assessment, 40*, 736–751. https://doi.org/10.1007/s10862-018-9686-2.

Hall, C. W., Row, K. A., Wuensch, K. L., & Godley, K. R. (2013). The role of self-compassion in physical and psychological well-being. *The Journal of Psychology, 147*(4), 311–323. https://doi.org/10.1080/00223980.2012.693138.

Henje, E., Rindestig, F. C., Gilbert, P., & Dennhag, I. (2020). Psychometric validity of the compassionate engagement and action scale for adolescents: A Swedish version. *Scandinavian Journal of Child and Adolescent Psychiatry and Psychology, 8*, 70–80. https://doi.org/10.1007/s10826-020-01800-7.

Hermanto, N., & Zuroff, D. C. (2016). The social mentality theory of self-compassion and self-reassurance: The interactive effect of care-seeking and caregiving. *The Journal of Social Psychology, 156*(5), 523–535. https://doi.org/10.1080/00224545.2015.1135779.

Huebner, E. S. (1991). Initial development of the student's life satisfaction scale. *School Psychology International, 12*(3), 231–240. https://doi.org/10.1177/0143034391123010.

Jazaieri, H., Jinpa, G. T., McGonigal, K., Rosenberg, E. L., Finkelstein, J., Simon-Thomas, E., Cullen, M., Doty, J. R., Gross, J. J., & Goldin, P. R. (2013). Enhancing compassion: A randomized controlled trial of a compassion cultivation training program. *Journal of Happiness Studies, 14*(4), 1113–1126. https://doi.org/10.1007/s10902-012-9373-z.

Kessler, R. C., Avenevoli, S., & Merikangas, K. R. (2001). Mood disorders in children and adolescents: An epidemiologic perspective. *Biological Psychiatry, 49*(12), 1002–1014. https://doi.org/10.1016/S0006-3223(01)01129-5.

Keyes, C. L., Dhingra, S. S., & Simoes, E. J. (2010). Change in level of positive mental health as a predictor of future risk of mental illness. *American Journal of Public Health, 100*(12), 2366–2371. https://doi.org/10.2105/AJPH.2010.192245.

Kirby, J. N. (2017). Compassion interventions: The programmes, the evidence, and implications for research and practice. *Psychology and Psychotherapy: Theory, Research and Practice, 90*(3), 432–455. https://doi.org/10.1111/papt.12104.

Kirby, J. N., Day, J., & Sagar, V. (2019). The 'flow' of compassion: A meta-analysis of the fears of compassion scales and psychological functioning. *Clinical Psychology Review, 70*, 26–39. https://doi.org/10.1016/j.cpr.2019.03.001.

Kirby, J. N., Tellegen, C. L., & Steindl, S. R. (2017). A meta-analysis of compassion-based interventions: Current state of knowledge and future directions. *Behavior Therapy, 48*(6), 778–792. https://doi.org/10.1016/j.beth.2017.06.003.

Klimecki, O. M., Leiberg, S., Ricard, M., & Singer, T. (2014). Differential pattern of functional brain plasticity after compassion and empathy training. *Social Cognitive and Affective Neuroscience, 9*(6), 873–879. https://doi.org/10.1093/scan/nst060.

Kline, R. B. (2005). *Principles and practice of structural equation modeling* (2nd ed.). The Guilford Press.

Leaviss, J., & Uttley, L. (2015). Psychotherapeutic benefits of compassion-focused therapy: An early systematic review. *Psychological Medicine, 45*(5), 927–945. https://doi.org/10.1017/S0033291714002141.

Lopez, A., Sanderman, R., Ranchor, A. V., & Schroevers, M. J. (2018). Compassion for others and self-compassion: Levels, correlates, and relationship with psychological well-being. *Mindfulness, 9*, 325–331. https://doi.org/10.1007/s12671-017-0777-z.

MacBeth, A., & Gumley, A. (2012). Exploring compassion: A meta-analysis of the association between self-compassion and psychopathology. *Clinical Psychology Review, 32*(6), 545–552. https://doi.org/10.1016/j.cpr.2012.06.003.

MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation analysis. *Annual Review of Psychology, 58*, 593–614. https://doi.org/10.1146/annurev.psych.58.110405.085542.

Marques, S. C., Pais-Ribeiro, J. L., & Lopez, S. J. (2007). Validation of a Portuguese version of the students' life satisfaction scale. *Applied Research in Quality of Life, 2*(2), 83–94. https://doi.org/10.1007/s11482-007-9031-5.

Muris, P., & Petrocchi, N. (2016). Protection or vulnerability? A Meta-Analysis of the relations between the positive and Negative Components of Self-Compassion and Psychopathology. *Clinical Psychology and Psychotherapy*. https://doi.org/10.1002/cpp.2005.

Neff, K. D. (2016). The self-compassion scale is a valid and theoretically coherent measure of self-compassion. *Mindfulness, 7*(1), 264–274. https://doi.org/10.1007/s12671-015-0479-3.

Neff, K. D., & Germer, C. K. (2013). A pilot study and randomized controlled trial of the mindful self-compassion program. *Journal of Clinical Psychology, 69*(1), 28–44. https://doi.org/10.1002/jclp.21923.

Neff, K. D., & McGehee, P. (2010). Self-compassion and psychological resilience among adolescents and young adults. *Self and Identity, 9*(3), 225–240. https://psycnet.apa.org/doi/10.1080/15298860902979307.

Neff, K. (2003). The development and validation of a scale to measure self-compassion. *Self and Identity, 2*, 223–250. https://doi.org/10.1080/15298860390209035.

Olfson, M., Druss, B. G., & Marcus, S. C. (2015). Trends in mental health care among children and adolescents. *New England Journal of Medicine, 372*(21), 2029–2038. https://doi.org/10.1056/NEJMc1507642.

Pallant, J. (2016). *SPSS survival manual a step by step guide to data analysis using SPSS program* (6th ed.) McGraw-Hill Education.

Pommier, E., Neff, K. D., & Tóth-Király, I. (2020). The development and validation of the compassion scale. *Assessment, 27*(1), 21–39 10.1177%2F1073191119874108.

Raes, F., Pommier, E., Neff, K. D., & Van Gucht, D. (2011). Construction and factorial validation of a short form of the self-compassion scale. *Clinical Psychology & Psychotherapy, 18*(3), 250–255. https://doi.org/10.1002/cpp.702.

Roeser, R. W., & Eccles, J. S. (2015). Mindfulness and compassion in human development: Introduction to the special section. *Developmental Psychology, 51*(1), 1–6. https://psycnet.apa.org/doi/10.1037/a0038453.

Raykov, T. (1997). Estimation of composite reliability for congeneric measures. *Applied Psychological Measurement, 21*(2), 173–184.

Seppälä, E. M., Simon-Thomas, E., Brown, S. L., Worline, M. C., Cameron, C. D., & Doty, J. R. (Eds.). (2017). *The Oxford handbook of compassion science*. Oxford University Press.

Silva, C., & Salvador, M. C. (2010). *A Escala das Formas de Autocriticismo e de auto-Tranquilização (FSCRS): Características psicométricas na população adolescente* [the Foms of self-criticism and reassuring scale (FSCRS): Psychometric characteristics in the adolescent population]. Unpublished master's thesis. Faculdade de Psicologia e Ciências da Educação da Universidade de Coimbra, Coimbra.

Steinberg, L. (2010). A behavioral scientist looks at the science of adolescent brain development. *Brain and Cognition, 72*, 160–164. https://doi.org/10.1016/j.bandc.2009.11.003.

Steinberg, L. (2005). Cognitive and affective development in adolescence. *Trends in Cognitive Sciences, 9*(2), 69–74. https://doi.org/10.1016/j.tics.2004.12.005.

Strauss, C., Taylor, B. L., Gu, J., Kuyken, W., Baer, R., Jones, F., & Cavanagh, K. (2016). What is compassion and how can we measure it? A review of definitions and measures. *Clinical Psychology Review, 47*, 15–27. https://doi.org/10.1016/j.cpr.2016.05.004.

Sutton, E., Schonert-Reichl, K. A., Wu, A. D., & Lawlor, M. S. (2018). Evaluating the reliability and validity of the self-compassion scale short form adapted for children ages 8–12. *Child Indicators Research, 11*(4), 1217–1236 https://self-compassion.org/wp-content/uploads/2018/05/Sutton2017-7.53.16-AM.pdf.

Tabachnick, B. & Fidell, L. (2013). Using multivariate statistics (6th ed.). Pearson.

Weng, H. Y., Fox, A. S., Shackman, A. J., Stodola, D. E., Caldwell, J. Z., Olson, M. C., et al. (2013). Compassion training alters altruism and neural responses to suffering. *Psychological Science, 24*(7), 1171–1180. https://doi.org/10.1177/0956797612469537.

Weng, H. Y., Lapate, R. C., Stodola, D. E., Rogers, G. M., & Davidson, R. J. (2018). Visual attention to suffering after compassion training is associated with decreased amygdala responses. *Frontiers in Psychology, 9*, 771. https://doi.org/10.3389/fpsyg.2018.00771.

World Medical Association. (2013). World medical association declaration of Helsinki: Ethical principles for medical research involving human subjects. *Jama, 310*(20), 2191–2194. https://doi.org/10.1001/jama.2013.281053.

Xavier, A., Pinto Gouveia, J., & Cunha, M. (2016). Non-suicidal self-injury in adolescence: The role of shame, self-criticism and fear of self-compassion. *Child & Youth Care Forum, 45*, 571–586 https://core.ac.uk/download/pdf/151538885.pdf.