Assessing hyperactivation and deactivation strategies of the caregiving behavioral system: Psychometric studies of the Portuguese version of the Caregiving System Scale

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Abstract

According to attachment theory, the main goal of the caregiving behavioral system is to relieve others' distress and promote their health and welfare. This is accomplished through a set of caregiving behaviors that are the primary strategy of this system. However, some individuals develop nonoptimal or secondary strategies (hyperactivation or deactivation). The Caregiving System Scale (CSS) is a self-report measure that assesses these nonoptimal caregiving strategies. This study examined the factor structure of the Portuguese version of the CSS using a bifactor model and a two-factor correlated model; it also examined validity evidence for CSS scores in relation to other relevant variables. The sample comprised 417 women from the general population who completed the CSS, with a subsample of 124 women completing additional measures of attachment, mental representations of caregiving, compassion, and difficulties in emotional regulation. The bifactor model showed the best fit to the data, supporting an orthogonal and reliable two-factor structure (hyperactivation and deactivation). This model also suggested that the hyperactivation scale is multidimensional. With regard to the validity evidence for the CSS, the results showed that individuals engaged in volunteering activities presented lower levels of deactivation than those who were not engaged in these activities. The CSS scores also correlated as expected with the other measures. In conclusion, this study supports the utilization of deactivation and hyperactivation subscales as two statistically distinct constructs and demonstrates that the Portuguese version is an adequate measure of nonoptimal caregiving strategies.

Public Significance Statement

This study suggests that the Portuguese version of the CSS is a psychometrically solid measure of caregiving deactivation and hyperactivation strategies. In addition, this study supports the multidimensionality of the CSS, which comprises two specific factors with

unique explanatory power, which should be used as distinct subscales (i.e., deactivation and hyperactivation subscales). This study also provided evidence of the validity of the CSS scores.

Keywords: Caregiving System Scale; caregiving system; hyperactivation; deactivation; attachment.

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Attachment theory (Bowlby, 1969/1982, 1973) suggests that an individual's caregiving behaviors or reactions to a needy other's distress are organized by an innate behavioral system, the Caregiving Behavioral System. The caregiving behavioral system is reciprocal to the attachment behavioral system, and both share the same adaptive function: the child's protection and, ultimately, the species' survival and continuity (George & Solomon, 1996; Mikulincer & Shaver, 2007; Shaver, Mikulincer, & Shemesh-Iron, 2010). Although the biological function of the caregiving behavioral system focuses initially on the child's protection in threat/danger conditions (Solomon & George, 1996), it has been extended through education and socialization processes to include genuine concern for others, aiming to relieve others' distress and responding to their needs for comfort, protection and support (Mikulincer & Shaver, 2007; Shaver et al., 2010). The caregiving behavioral system is an altruistic system that focuses on others' well-being and development rather than on the individual's emotional state (Mikulincer & Shaver, 2007).

Similar to other behavioral systems, the caregiving behavioral system has a specific goal: to relieve others' distress and promoting their health and welfare. This goal guides the choice, activation and deactivation of a behavioral repertoire (e.g., in the case of the parental caregiver, to keep the child close, to signal the child's presence by calling or smiling; in the case of adult caregiver interactions, to show interest by the person's problems or to provide instrumental support; George & Solomon, 1996; Mikulincer & Shaver, 2007; Solomon & George, 1996), which constitutes the *primary strategy* of the caregiving system (Shaver et al., 2010). These caregiving behaviors are automatically activated by stimuli or situations that

make the particular goal salient (e.g., a distressed or needy person) and are deactivated when the goal is attained (Bowlby, 1969/1982).

The caregiving behavioral system is shaped by the individual's history of interactions with the social environment, which is codified and integrated into cognitive mental representations of caregiving (Bowlby, 1969/1982; George & Solomon, 1996; Mikulincer & Shaver, 2007). Individuals' mental representations of caregiving (of the self as a caregiver and of others as worthy of help) guide their caregiving behaviors when the behavioral system is activated (George & Solomon, 1996) and enable the goal-corrected adjustment of the behavioral system's programming when it is necessary to achieve important goals (Shaver et al., 2010). In some circumstances, the individual's experiences of systematic failures in attaining the caregiving system's goal may lead to the development of negative mental representations of caregiving and signal that the primary strategy of the caregiving system should be replaced by alternative or *secondary caregiving strategies,* such as hyperactivation or deactivation (Shaver et al., 2010).

Hyperactivation strategies are protest responses that intensify the caregiving system's primary strategy and keep the behavioral system chronically activated until its goal is achieved (Shaver et al., 2010). Hyperactivation caregiving strategies are characterized by hypervigilance and an exaggerated appraisal of others' needs, which translate into an inconsistent, excessive, effortful and intrusive provision of care that is often asynchronous with the other's needs (George & Solomon, 1996; Mikulincer & Shaver, 2007; Shaver et al., 2010). In contrast, deactivation strategies are avoidance responses in which the caregiving system's primary strategy is suppressed and the behavioral system is turned off to avoid the distress caused by failed efforts to attain the system's goal (Shaver et al., 2010). Deactivation caregiving strategies are characterized by a systematic dismissal or misinterpretation of the information that signals the other's needs, insufficient empathy, emotional distance, and

limited involvement in caregiving (George & Solomon, 1996; Mikulincer & Shaver, 2007; Shaver et al., 2010).

The Caregiving System Scale

With the goal of assessing individual differences in deactivation and hyperactivation caregiving strategies, Shaver et al. (2010) developed the Caregiving System Scale (CSS). This self-report questionnaire was the first to be designed to assess nonoptimal strategies of caregiving and its development was based on the Experiences of Close Relationships scale (Brennan, Clark, & Shaver, 1998), which measures hyperactivation (anxiety) and deactivation (avoidance) of the attachment behavioral system, as well as on existing caregiving scales, such as the Caregiving Questionnaire (Kunce & Shaver, 1994).

The CSS was developed and examined through an extensive program of validation that included a series of studies mainly conducted in Israeli samples (Shaver et al., 2010). As intended, exploratory factor analyses in Israeli and American samples yielded two factors (deactivation and hyperactivation), which explained more than 50% of the total variance. The CSS scores presented internal consistency (Cronbach's alphas > .80) and test-retest reliability (.72 for deactivation and .76 for hyperactivation). The correlation between the two subscale scores was not significant in both samples ($r < .08$), which suggests that caregiving strategies are orthogonal dimensions. Therefore, caregiving orientations can be represented in a continuous two-dimensional space in which low scores on deactivation and hyperactivation represent optimal caregiving; low scores on deactivation and high scores on hyperactivation represent anxious hyperactivation caregiving; high scores on deactivation and low scores on hyperactivation represent avoidant deactivation caregiving; and, finally, high scores on both strategies represent ambivalent or disorganized caregiving (Shaver et al., 2010).

Evidence of the convergent validity of the CSS scores was provided by significant correlations between the CSS subscales scores and scores from measures of empathy,

compassion, and attitudes towards a person in need. Whereas deactivation was significantly associated with lower empathy and compassion and with more negative attitudes toward others (e.g., low endorsement of benevolence and universalism values, lack of esteem for humanity, or stronger beliefs that others do not deserve help), hyperactivation was significantly associated with personal distress when others need assistance, with lower perceived self-efficacy as a caregiver, and with an attitude toward others that includes a compulsion to help or high interdependence (Shaver et al., 2010). Shaver et al. (2010) also provided evidence of the discriminant validity of the scale scores by showing that deactivation was only moderately correlated with attachment avoidance and some personality dimensions (e.g., low agreeableness, low openness to experience) and that hyperactivation was only moderately correlated with attachment anxiety and neuroticism.

In additional studies, Shaver et al. (2010) explored the predictive validity of the CSS scores in three contexts. In the context of the parent-child relationship, the authors found that higher levels of hyperactivation were associated with higher levels of parenting stress. In addition, two judges rated mothers with higher levels of hyperactivation as more distressed and less helpful when interacting with their child in a puzzle-solving task, whereas mothers with higher levels of deactivation were rated as less warm and less helpful in the same situation. In the context of a couple relationship, individuals with higher levels of deactivation were found to be less responsive and more controlling when caring for the other and were classified by two independent judges as less supportive toward their partner when discussing a personal problem with him/her. In contrast, those with higher levels of hyperactivation reported higher levels of compulsive caregiving and were classified by the judges as less supportive and more distressed during the interaction. Finally, in another study, Shaver et al. (2010) found that individuals with higher levels of deactivation were involved in fewer volunteer activities and presented less altruistic reasons for this involvement. In contrast,

hyperactivation was not associated with engagement in volunteer activities but was significantly correlated with more egoistic reasons for volunteering.

According to Shaver et al. (2010), optimal caregiving depends on a number of factors, including emotion regulation, social skills, and prosocial motivation. In the original validation study, the authors found that hyperactivation was significantly correlated with deficits in emotion regulation and self-regulation and in social skills as well as with rumination and interpersonal problems (e.g., being subassertive or overly nurturing). In contrast, deactivation was only correlated with interpersonal problems, such as being cold, overly autocratic and competitive. With regard to the motivation to provide help, the authors found that deactivation was associated with less altruistic reasons and more negative appraisals of others, whereas hyperactivation was associated with more self-focused motives to provide help and concerns about self-efficacy as a caregiver.

To the best of our knowledge, in addition to the English and Hebrew versions of the CSS, the scale has only been translated into and validated in Italian (Meneghini et al., 2015). In the validation study of the Italian version, exploratory and confirmatory factor analyses resulted in a two-dimensional structure similar to the original one. Specifically, Meneghini et al. (2015) tested a two-factor correlated model, a two-factor uncorrelated model, and a unidimensional model, and found that the two-factor correlated model, in which some errors were allowed to correlate (errors from items 2 and 14, 2 and 16, and 14 and 16), was the factor structure that better fit the data (with item loadings from .39 to .81 in the deactivation subscale and from .31 to .76 in the hyperactivation subscale). In addition, the CSS scores demonstrated internal consistency (Cronbach's alphas > .80) and construct validity. In this study, the authors also found that men presented higher scores on deactivation than women and that women presented higher scores on hyperactivation than men.

The Current Study

Validation studies in other cultures are essential to establish the psychometric robustness of the questionnaire and to enable its adequate utilization in other populations. Therefore, one of the main goals of the present study was to examine the factor structure of the Portuguese version of the CSS, since only Meneghini et al. (2015) used confirmatory procedures to test the two-factor orthogonal structure proposed by the authors of the scale (Shaver et al., 2010). Two models were investigated (see Figure 1). First, following recent recommendations (Chen, Jing, Hayes, & Lee, 2013; Reise, Moore, & Haviland, 2010), we examined a bifactor model with a general factor of maladaptive caregiving strategies and two uncorrelated domain specific factors of hyperactivation and deactivation. With a bifactor model we can test whether the CSS comprises a general factor that explains some proportion of common item variance for all items and two specific and orthogonal factors that account for the unique influence of the specific domains (i.e., deactivation and hyperactivation) over and above the general factor. If deactivation and hyperactivation are two different constructs, the two subscales will form two specific uncorrelated factors that are independent of the general factor. However, if deactivation and hyperactivation are a unique construct, one general factor (termed maladaptive caregiving strategies) that accounts for the commonality shared by the two dimensions, rather than two specific factors, will emerge. Second, we examined a correlated two-factor model, consistent with the results found by Meneghini et al. (2015). Since a two-dimensional structure is strongly supported by the attachment literature and previous validation studies (Meneghini et al., 2015; Shaver et al., 2010) and considering that Shaver et al. (2010) argued that caregiving strategies are orthogonal dimensions, we expect the bifactor model to yield two specific uncorrelated factors rather than a general factor. We also expect the bifactorial model to present a better fit than the correlated two-factor model.

This study was also intended to examine evidence for the validity of the CSS scores based on their associations with other variables. First, we examined differences in CSS scores between participants who were engaged or not engaged in social volunteering and those with and without a professional activity involving the provision of care to others. We hypothesized that participants involved in social volunteering and those with a professional activity involving the provision of care to others were expected to present lower scores on deactivation than those not involved in these activities.

In addition, the correlations between the CSS subscales and variables that were expected to be associated with caregiving strategies (attachment, compassion, mental representations of caregiving, and difficulties in emotion regulation; Shaver et al., 2010) were explored. We expected deactivation to be significantly correlated with higher attachment avoidance, lower compassion, and negative caregiving representations of others, and hyperactivation to be significantly correlated with higher attachment anxiety, more egoistic motivations to provide help, more negative representations of the self as a caregiver, and more difficulties in emotion regulation.

Method

Participants

The sample included 417 women aged 18 to 65 years (M = 35.10, SD = 7.50). The majority (n = 299, 71.7%) were married or living with a partner and 28.3% (n = 118) were single, divorced or widowed and were not living with a partner. With regard to professional activity, 78.7% (n = 328) were employed; 11.3% (n = 47) were unemployed, retired, or housewives; 0.7% (n = 3) were employed college students; and 9.4% (n = 39) were college students. The majority of participants had completed higher education (n = 330, 79.1%); 20.9% (n = 87) had completed basic or secondary education. Most of the participants (n =

330, 79.1%) had at least one child (M = 1.56, SD = 0.67, range: 1 – 5), and 20.9% (n = 87) had no children. Finally, most participants lived in urban areas (n = 312, 74.8%).

Procedure

Two independent samples were collected online through a data collection website (LimeSurvey®) in which the assessment protocol was available. Participants in one of the studies were invited to participate in a study about parenting issues through social networks, including parenting forums and Facebook® pages. The only inclusion criterion was to have at least one child younger than 18 years. Participants in the second study were invited to participate in a study about caregiving and emotion regulation, also through social media websites and through emails. The only inclusion criterion was to be aged 18 to 65 years old. In both studies, participants replied to advertisements posted on social networks explaining the main goals of the study, presenting the study's inclusion criteria, and containing a web link to the survey. In both studies, the first page of the online protocol described the study's objectives, the inclusion criteria, and the ethical issues underpinning the study. Participants were informed that their participation in the study was voluntary and anonymous and that no information that could identify them would be collected. Only individuals who agreed to the study's conditions completed the survey. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

In the first study, a total of 293 participants completed the CSS. In the second study, to examine the associations between the CSS and other measures, 148 individuals completed the assessment protocol, which included the CSS and additional measures of compassion, caregiving representations, attachment, difficulties in emotion regulation, and two questions about participants' involvement in volunteering activities and the caregiving nature of their

professional activity. Due to their low number (n = 24), men were excluded from the analyses. Accordingly, the final sample of the second study comprised 124 women.

Measures

Caregiving strategies. The original version of the CSS (Shaver et al., 2010) has 20 items rated on a 7-point Likert scale ranging from 1 (*not at all*) to 7 (*very much*). The respondents indicate the extent to which they agree with each item, considering the way they usually feel, think, and act when helping other people (i.e., anyone who needs help rather than a specific person). The CSS comprises two subscales with 10 items each that assess hyperactivating (e.g., "I sometimes try to help others more than they actually want me to") and deactivating (e.g., "I don't often feel an urge to help others") strategies of caregiving. Each subscale score is obtained by calculating the sum of the items (possible range: 10 – 70), with higher scores indicating higher levels of hyperactivating or deactivating strategies.

The Portuguese version of the CSS was developed through a forward-backward translation procedure. After obtaining authorization from the authors of the original version to translate and validate the questionnaire, two authors of this study (H. M. and A. F.) independently translated the items. The two translated versions were compared, and after discussing and analyzing their similarities and differences, the first Portuguese version was obtained. This preliminary version was subsequently translated back into English by another researcher in psychology who is fluent in English and who was not familiar with the questionnaire. Finally, the original and the back-translated versions were compared, and translation difficulties were analyzed and resolved between the translators to obtain a comprehensible instrument that was conceptually consistent with the original.

Caregiving representations. The Portuguese version of the Mental Representation of Caregiving Scale (MRCS; Fonseca, Nazaré, & Canavarro, 2013; Reizer & Mikulincer, 2007) was used to assess mental representations of caregiving. The Portuguese version of this self-

report questionnaire includes four subscales: (1) Perceived Ability to Provide Effective Help (e.g., "I know I can help others in need"), (2) Perceived Ability to Recognize Other's Needs (e.g., "I sometimes miss the subtle signs that show me how the other person is feeling"), (3) Appraisal of Others as Worthy of Help (e.g., "In my opinion, a person should solve his problems on his own"), and (4) Egoistic Motives to Provide Help (e.g., "I help others while expecting to get help from them in the future"). Subscales 1 and 2 assess representations of the self as a caregiver, and subscale 3 assesses representations of others as care recipients. The MRCS has 27 items answered on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The subscale scores consist of the mean of the items, with higher scores indicating more positive representations of caregiving and more self-focused motives for providing care. The original MRCS has a five-factor structure and subscale scores exhibited reliability (Cronbach's alphas ≥ .75) and convergent, discriminant, and construct validity in different samples of Israeli undergraduates, married couples, and individuals from the general population (Reizer & Mikulincer, 2007). The Portuguese version was validated in a sample of parents of one-month-old healthy babies and its scores demonstrated internal consistency (Cronbach's alphas ≥ .70) and validity. The factor structure confirmed the original one, with the exception of the "altruistic motives for helping" dimension, which in the Portuguese version integrates the "perceived ability to provide help" dimension (Fonseca et al., 2013).

Attachment. The Portuguese version of the Experiences in Close Relationships – Relationship Structures questionnaire (ECR-RS; Fraley, Heffernan, Vicary, & Brumbaugh, 2011; Moreira, Martins, Gouveia, & Canavarro, 2015) was used to assess attachment-related anxiety (e.g., "I'm afraid that this person may abandon me") and avoidance (e.g., "It helps to turn to this person in times of need") in close relationships. This instrument is composed of nine items rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly*

agree). The subscale scores consists of the mean of the items, with higher scores indicating higher attachment avoidance and anxiety. Fraley et al. (2011) provided evidence of the validity and reliability of the ECR-RS scores (Cronbach's alpha ranged from .85 to .92) in a large sample of individuals collected online. The Portuguese version (Moreira et al., 2015) confirmed the original two-factor structure and its scores revealed internal consistency (Cronbach's alpha ranged from .72 to .91) and construct validity (convergent and known-groups) in a sample of individuals from the general community.

Compassion. Levels of compassion toward others were assessed by the Portuguese version of the Compassion scale (Pommier, 2011; Vieira, 2013). This instrument has 24 items rated on a 5-point Likert scale that ranges from 1 (*almost never*) to 5 (*almost always*) and measures six components of compassion: (1) Kindness (e.g., "I like to be there for others in times of difficulty"), (2) Indifference (e.g., "Sometimes when people talk about their problems, I feel like I don't care"), (3) Common Humanity (e.g., "It's important to recognize that all people have weaknesses and no one's perfect"), (4) Separation (e.g., "I don't feel emotionally connected to people in pain"), (5) Mindfulness (e.g., "I tend to listen patiently when people tell me their problems"), and (6) Disengagement (e.g., "I don't think much about the concerns of others"). The subscale scores consist of the mean of the items, with higher scores indicating higher levels of the dimensions assessed by each subscale. In the original validation studies of the Compassion scale, scores demonstrated internal consistency (Cronbach's alpha = .90) and validity (convergent and discriminant) among undergraduate students from the USA (Pommier, 2011). Scores on the Portuguese version confirmed the multidimensional factor structure of the scale and yielded evidence of internal consistency (Cronbach's alpha = .92), temporal stability (r = .63), and validity (convergent and discriminant) among a sample of Portuguese individuals from the general community (Vieira, 2013).

Difficulties in emotion regulation. The Difficulties in Emotion Regulation Scale - Short Form (DERS-SF) was used to assess emotion regulation problems (Kaufman et al., 2015). The DERS-SF consists of 18 items that load onto six subscales: (1) Nonacceptance of Emotional Responses (e.g., "When I'm upset, I feel guilty for feeling that way"), (2) Difficulties Engaging in Goal-directed Behavior (e.g., "When I'm upset, I have difficulty concentrating"), (3) Impulse Control Difficulties ("When I'm upset, I become out of control"), (4) Lack of Emotional Awareness (e.g., "I pay attention to how I feel"), (5) Limited Access to Emotion Regulation Strategies (e.g., "When I'm upset, it takes me a long time to feel better"), and (6) Lack of Emotional Clarity (e.g., "I am confused about how I feel"). Items are answered on a 5-point Likert scale that ranges from 1 (*almost never*) to 5 (*almost always*). Each subscale score consists of the mean of the items, with higher scores indicating more difficulties in regulating emotions. Scores on the original DERS-SF evidenced internal consistency (Cronbach's alpha for the subscales ranged from .78 to .90) and concurrent validity among different samples of adolescents and undergraduate students from the USA (Kaufman et al., 2015). The scores of the Portuguese version demonstrated internal consistency among adolescents (e.g., Cronbach's alpha = .90; Gouveia, Canavarro, & Moreira, 2016) and adults (e.g., Cronbach's alpha = .89; Costa, 2016).

Volunteerism and professional activity. Two single items were created to assess the individual's involvement in volunteer activities ("Do you participate or have you participated in social volunteering?") and the caregiving nature of their professional activity ("In the context of your professional activity, are you responsible for providing care to others?"). Both questions were answered in a yes-or-no response format.

Statistical Analyses

A confirmatory factor analysis (CFA) using maximum likelihood estimation was conducted in AMOS© 20 to test the adequacy of the bifactor and correlated two-factor

models. The bifactor model allows the investigation of multidimensional constructs that are comprised of several different dimensions (Chen, West, & Sousa, 2006; Reise, Bonifay, & Haviland, 2013). In a bifactor model, items load on a general factor (in this study, termed maladaptive caregiving strategies) as well as on a domain specific factor (in this study, hyperactivation and deactivation factors). Therefore, this model allows the investigation of whether an instrument comprises a general factor that accounts for the commonality shared by the dimensions or subscales (in this study, corresponding to the maladaptive caregiving strategies) as well as multiple domain specific factors (in this study, corresponding to the deactivation and hyperactivation subscales) that account for the unique influence of the specific dimension or subscale (i.e., the shared variance in their set of items) over and above the general factor (Chen et al., 2006; Reise et al., 2010). In bifactor models, the domain specific factors are orthogonal to one another (i.e., they are hypothesized to capture the unique variance of subscales) and of the general factor, which is partialled out. In the CSS bifactor model, we have determined that (a) items had nonzero loadings on the domain specific factor that they were designed to measure, and zero loadings on the other factor; (b) the two factors were not correlated with each other; and (c) error terms associated with each item were also not correlated. To estimate the variances of the factors, one of the factor loadings on the general factor was set to equal one, as well as one of the loadings in each of the domain specific factors. In the correlated two-factor model, items load on one of the two domain specific factors (hyperactivation and deactivation factors), which were correlated.

Several indices were used to assess and compare the model fits. Because the chi-square index (χ^2) is very sensitive to sample size and to minor or potentially nonconsequential violations of model fit, the assessment of fit was based on four additional indicators: the goodness of fit index (GFI), the comparative fit index (CFI), the root-mean-square error of approximation (RMSEA), and the standardized root-mean-square residual (SRMR). Criteria

for adequate and good model fit were CFI values ≥ .90 and ≥ .95, RMSEA values ≤ .08 and ≤ .06, and SRMR values ≤ .10 and ≤ .08, respectively (Browne & Cudeck, 1993; Hu & Bentler, 1999). The Akaike's Information Criteria (AIC; Akaike, 1987) was used to compare the models. The model associated with the smallest AIC values is considered the best fitting model. The magnitude of the loadings on the factors was interpreted according to the guidelines proposed by Tabachnick and Fidell (2007): factor loadings of .32 or above were considered meaningful.

Concerning the bifactor model, to examine the potential unidimensionality of the CSS total score, the explained common variance (ECV; Sijtsma, 2009; Ten Berge & Socan, 2004) and the percentage of uncontaminated correlations (PUC) were also computed (Rodriguez, Reise, & Haviland, 2016). ECV is an index of the degree of unidimensionality and assesses the relative strength of the general factor or the amount of common variance explained by the general factor. It is calculated by dividing the common variance explained by a general factor by the total common variance (i.e., the variance explained by a general and group factors) (Rodriguez et al., 2016). Higher values of ECV suggest unidimensionality and indicate a strong general factor. PUC is another strength index and is calculated by dividing the number of unique correlations in a correlation matrix that are influenced by a single factor by the total number of unique correlations (Rodriguez et al., 2016). Higher values of PUC suggest that the parameter estimates in a unidimensional model are less likely to be biased.

Given the limitations of Cronbach's alpha as a measure of reliability, particularly for multidimensional measures (Deng & Chan, 2016), in this study we computed the omega index and the omega hierarchical (omegaH; McDonald, 1999). The omega index has been suggested by many researchers to be a more sensible index of internal consistency and is a ratio of a measure's estimated true score variance (i.e., variance due to factors) to the measure's estimated total score variance (i.e., variance due to the factors and their

uniqueness). OmegaH compares the variance of just one construct (general factor or domain specific factor) to the total score variance. Therefore, while omega provides an estimate of the amount of the score variance due to all common factors, omegaH estimates the amount of the score variance due to a single common factor (i.e., the general or specific factor; Reise et al., 2013). Finally, we have also calculated the percentage of reliable variance in CSS scores due to the general factor (OmegaH/Omega). The standardized estimates from the bifactor model were used to compute both indices.

The validity of the CSS scores based on their relation to other variables was explored in the subsample of 124 individuals. Differences in CSS subscales between individuals involved and those not involved in social volunteering, as well as between individuals reporting having or not having a professional activity involving the provision of care to others were analyzed through univariate analyses of variance or univariate analyses of covariance. Correlations between the CSS subscales and other variables expected to be associated with caregiving strategies were also analyzed. These analyses were conducted among the subsample of 124 individuals as well as in the subgroups defined by participants' involvement in social volunteering and their professional activity. Cohen's (1988) guidelines were used to describe the effect sizes of Pearson's correlations (i.e., small for correlations around .10, medium for those near .30, and large for correlations at .50 or higher) and comparison analyses (small: $d \geq .20$; medium: $d \geq .50$; large: $d \geq .80$).

Results

Confirmatory Factor Analyses

The bifactor model presented an adequate fit to the data, $\chi^2(150) = 380.36$, $p < .001$; CFI = .92; SRMR = .07; RMSEA = .06, $p = .010$, 95% CI = [.053, .068]; AIC = 500.36. The correlated two-factor model failed to provide an adequate fit to the data, $\chi^2(169) = 532.10$, $p <$

.001; CFI = .87; SRMR = .07; RMSEA = .07, $p < .001$, 95% CI = [.065, .079]; AIC = 614.10. Therefore, the bifactor model provides a better fit to the data.

As presented in Table 1, in the bifactor model, all standardized factor loadings for the hyperactivation and deactivation factors were significant ($p < .001$). They ranged from .25 to .72 on the hyperactivation factor and from .42 to .79 on the deactivation factor. Based on Tabachnick and Fidell's (2007) criteria, the vast majority of items on the hyperactivation factor and all items on the deactivation factor have meaningful factor loadings on their respective factor. In contrast, most of the item loadings on the general factor were non-significant and not meaningful (< .32), suggesting that most of the items' variance is not shared with the general factor. From the deactivation subscale, all items loaded more strongly on that specific factor than on the general factor. For the hyperactivation subscale, item loadings were also stronger on the specific factor than on the general factor, with the exception of four items (items 2, 4, 14, and 16, all of which target individuals' self-evaluation of their ability to help others). This suggests that on the hyperactivation subscale, some of the item variance is shared between the hyperactivation factor (assessing hyperactivation strategies) and another dimension assessing individuals' self-evaluation of their ability to help others.

The computed ECV is .191 and the PUC is .526, which suggests that the general factor explains only 19.1% of the common variance extracted and, therefore, supports the non-unidimensionality of the CSS.

Insert Table 1 about here

Reliability

The omega index was .860 for the total score and .876 and .848 for the deactivation and hyperactivation subscales, respectively, indicating that the majority of total variance in the scores may be attributed to both the total score and the subscales. However, the OmegaH

index was .106 for the total score, which indicates that only a small proportion of the total score variance can be accounted for by the general factor. These results were consistent with the index of degree of unidimensionality (ECV) and suggest that the total score should not be interpreted as a measure of a single common construct. Moreover, the general factor accounts only for 12.33% of the reliable variance in the total score. OmegaH indices for subscales were .874 (deactivation) and .577 (hyperactivation), which indicates that deactivation accounts for 99.77% of the reliable variance in the deactivation score, and hyperactivation accounts for 68.04% of the reliable variance in the hyperactivation score.

Taken together with the results from the bifactor model, these results support the multidimensionality of the CSS (two different dimensions: hyperactivation and deactivation), with the total score not being interpretable as a global construct. Moreover, while deactivation seems to account for almost all of the reliable variance in the deactivation score, the results suggest that the hyperactivation scale may present additional dimensionality (assessing hyperactivation strategies and individuals' self-evaluation of their ability to help others).

Descriptive Statistics and the Correlation between Subscales

In the complete sample, the mean for deactivation was 19.96 (*SD* = 8.52, range = 10 - 70), and the mean for hyperactivation was 32.66 (*SD* = 10.71, range = 10 - 62). The correlation between the deactivation and hyperactivation subscales was low but significant ($r = .10$, $p = .041$).

Validity evidence of the CSS scores in relation to other variables

Caregiving through Volunteerism and Professional Activity. Differences in CSS subscale scores between individuals involved ($n = 75$) and those not involved ($n = 49$) in social volunteering were analyzed. Before comparing the two groups on the CSS subscales, differences in demographic variables were analyzed. Participants in the volunteering group were significantly younger ($M = 28.47$, $SD = 7.77$) than participants in the non-volunteering

group [M = 34.78, SD = 11.51; $t(122) = -3.65$, $p < .001$, $d = 0.64$]. The associations between social volunteering and marital status [$\chi^2(1) = 2.11$, $p = .146$, $\phi_{Cramer} = .13$, *ns*], educational level [$\chi^2(1) = 0.46$, $p = .496$, $\phi_{Cramer} = .06$, *ns*], and professional status [$\chi^2(3) = 4.31$, $p = .230$, $\phi_{Cramer} = .19$, *ns*] were not significant. Therefore, only participant's age was entered as a covariate in the comparison analyses of the CSS subscales. Controlling for age, participants who reported being involved or having been involved in volunteering activities evidenced lower levels of deactivating strategies than those who were not involved [volunteering group: M = 16.45, SD = 5.66; non-volunteering group: M = 21.08, SD = 8.03; $F(1, 121) = 10.87$, p = .001, $d = 0.67$]. No significant differences were found for the hyperactivation subscale [volunteering group: M = 33.12, SD = 9.28; non-volunteering group: M = 35.43, SD = 10.37; $F(1, 121) = 2.37$, $p = .126$, $d = 0.23$].

Second, differences in the CSS subscales between individuals who reported having (n = 49) or not having (n = 75) a professional activity that involved the provision of care to others were also analyzed. No significant differences in age were found [$t(122) = -0.52$, p = .604]. Moreover, the associations between having a professional activity involving the provision of care to others and marital status [$\chi^2(1) = 0.448$, $p = .488$, $\phi_{Cramer} = .06$, *ns*], and educational level [$\chi^2(1) = 3.34$, $p = .068$, $\phi_{Cramer} = .16$, *ns*] were not significant. With regard to differences in the CSS subscales, no significant differences were found between groups for the deactivation subscale [caregiving professional activity: M = 17.04, SD = 6.16; non-caregiving professional activities: M = 19.09, SD = 7.49; $F(1, 122) = 2.55$, $p = .113$, $d = 0.30$] or for the hyperactivation subscale [caregiving professional activity: M = 32.69, SD = 8.10; non-caregiving professional activities: M = 34.91, SD = 10.65; $F(1, 122) = 1.53$, $p = .218$, d = 0.23].

Associations between the CSS and Other Measures. As presented in Table 2, deactivation was significantly correlated with attachment-related avoidance, whereas

hyperactivation was significantly correlated with attachment-related anxiety. With regard to caregiving representations, deactivation correlated significantly with all caregiving subscales (except the appraisal of others as worthy of help subscale), whereas hyperactivation did not correlate significantly with any caregiving subscale. Similarly, whereas deactivation correlated significantly with almost all of the compassion subscales, hyperactivation did not correlate significantly with any compassion subscale. Finally, with regard to the strategies of emotion regulation, deactivation did not correlate significantly with any subscale, whereas hyperactivation correlated significantly and positively with almost all subscales except the impulse control difficulties subscale and the difficulties engaging in goal-directed behavior subscale. Correlations were also computed separately for subgroups defined by participants' involvement in social volunteering and their professional activity. The correlations are presented in Table 3.

Insert Tables 2 and 3 here

Discussion

The main goal of the present study was to investigate the factor structure of the Portuguese version of the CSS and to examine the validity evidence of the CSS scores based on the associations with other variables. Overall, the results of this study suggest that the Portuguese version of the CSS is a psychometrically adequate measure of caregiving deactivation and hyperactivation strategies.

The bifactor model presented a better fit than the correlated two-factor model, yielding two reliable and orthogonal factors that measure deactivation and hyperactivation caregiving strategies. In the bifactor model, the pattern of factor loadings (almost all item loadings on the general factor were non-significant), the ECV index of unidimensionality and the reliability indices (omegaH and the percentage of reliable variance in CSS scores due to the general factor) suggest that the total factor should not be interpreted as a global construct. Therefore,

these results support the multidimensionality of the CSS, which comprises two specific, orthogonal factors (deactivation and hyperactivation) with unique explanatory power, which should be used as distinct subscales.

Moreover, the results suggest that the hyperactivation subscale may comprise more than one dimension. Whereas all items in the deactivation subscale loaded more strongly on its specific factor than on the general factor, and the omegaH suggested that deactivation accounts for 99.77% of the reliable variance in the deactivation score, the pattern of results was different for the hyperactivation subscale. First, although most of the items of the hyperactivation subscale loaded strongly on its specific factor, the pattern was different for four items (items 2, 4, 14, and 16). Second, the omegaH indicated that hyperactivation accounts only for 68.04% of the reliable variance in the hyperactivation score. The four items (items 2, 4, 14, and 16) with the contrasting pattern of loadings share a particular content (i.e., they target individuals' self-evaluation of their ability to help others) and, therefore, may contribute an additional source of variance within the set of items hypothesized to measure the hyperactivation strategy. Consistent with this hypothesis, three of these items' (2, 14 and 16) residuals were also allowed to correlate in the Italian version of the CSS (Meneghini et al., 2015), supporting their similar content and shared variance. Therefore, our results suggest that the hyperactivation subscale is multidimensional, assessing both the hyperactivation strategy and one's self-evaluation of one's ability to help others. However, further studies should examine the structure of the CSS in other populations to verify whether the multidimensionality of the hyperactivation subscale is inherent to the scale structure or is a specific feature of our population.

The second goal of this study was to examine the validity of the CSS scores. As expected, we found that individuals involved in volunteering activities reported lower levels of deactivation than did those who had never participated in volunteering activities. These

results are in line with the results found by Shaver et al. (2010) and suggest that although hyperactivation does not impede involvement in volunteer caregiving activities, deactivation is associated with a lack of involvement in these activities and with a certain detachment from social responsibilities.

The validity of the scale scores was also supported by the results of the correlations between the CSS and other measures. As expected, and corroborating the results in the original validation studies (Shaver et al., 2010), deactivation was significantly correlated with attachment avoidance and hyperactivation was significantly correlated with attachment anxiety. According to attachment theory (Bowlby, 1969/1982; Mikulincer & Shaver, 2007), the attachment and caregiving behavioral systems are interconnected. Thus, attachment insecurity can negatively interfere with the functioning of the caregiving system because attachment-related avoidance and anxiety are secondary strategies of emotion regulation that focus on the protection of the self rather than on the needs of others (Mikulincer & Shaver, 2003; Reizer, Ein-Dor, & Shaver, 2014). Because avoidant individuals feel uncomfortable with closeness and intimacy and have negative representations of others, they tend to react in a cold and unresponsive manner when others need their help (Gillath, Shaver, & Mikulincer, 2005; Mikulincer, Shaver, Gillath, & Nitzberg, 2005), employing caregiving deactivating strategies. Their strong desire to be self-reliant and independent prevents them from helping others and responding empathetically to their needs because such a response would involve a greater proximity to others (Reizer et al., 2014). In contrast, anxious individuals are usually very concerned with the possibility of abandonment and rejection and tend to worry about their own lovability and their own attachment needs (Mikulincer & Shaver, 2007; Shaver et al., 2010). Although anxious individuals have some caregiving abilities, the provision of care to others may be seen as an egoistic strategy to obtain the attention and intimacy they desire (Reizer et al., 2014), which may lead to the employment of caregiving hyperactivation

strategies. In addition, these individuals tend to feel distressed when other people need their assistance (Mikulincer et al., 2005), which may interfere with the provision of sensitive care.

With regard to the mental representations of caregiving, we found that deactivation was significantly and negatively associated with caregiving representations of the self as a caregiver (i.e., with the perceived ability to provide help and to recognize others' needs) and significantly and positively correlated with egoistic motivations to provide help. It is possible that when individuals see themselves as less able to recognize others' needs and to provide effective care, they employ more deactivating strategies (i.e., reduced empathy, greater emotional distance and reduced involvement in caregiving) in order to avoid the distress caused by perceived failure in providing effective care. This finding is partially consistent with the results obtained in the original CSS validation study and with previous studies exploring the association between caregiving and attachment representations (Moreira & Canavarro, 2015; Reizer & Mikulincer, 2007). However, contrary to our expectations, the correlation between deactivation and the appraisal of the other as worthy of help was not significant. This may be associated with the fact that our sample was entirely composed by women, who tend to exhibit lower levels of deactivation and more positive representations of caregiving than men (Moreira & Canavarro, 2015; Reizer & Mikulincer, 2007). In addition, also contrary to our hypothesis, no association was found between self-focused motivations to provide help and caregiving hyperactivation strategies, although an association was found between self-focused motivations to provide help and deactivation. Because this study was conducted within a community sample, a significant part of the participants may not be exposed frequently to caregiving situations. In addition, the majority of the sample had a professional activity that did not involve the provision of care to others, and many participants had never been involved in volunteering activities. This may lead individuals with self-focused motivations to provide care to systematically ignore the signs that will activate the

caregiving behavioral system; that is, it may lead them to employ deactivating caregiving strategies instead of employing hyperactivation strategies.

With regard to the association between caregiving strategies and compassion, our results corroborate our hypothesis and are consistent with the results of Shaver et al. (2010). Specifically, we found that higher levels of deactivation were strongly and negatively associated with kindness and mindfulness and strongly and positively associated with indifference, separation and disengagement. In contrast, hyperactivation was not significantly correlated with any of the compassion subscales. These results suggest that deactivation strategies undermine compassionate behaviors and lead to emotional and cognitive distance from others. In turn, although hyperactivation strategies involve the desire for excessive closeness to others in need, they do not necessarily translate into compassionate attitudes and behaviors, probably because individuals who use these caregiving strategies are overly concerned with their own distress and needs.

As expected, significant and positive correlations were found between hyperactivation and almost all dimensions of difficulties in emotion regulation. These results suggest that individuals who tend to employ hyperactivation caregiving strategies struggle to adaptively regulate negative emotions (Shaver et al., 2010), although we should note that the associations found were small to moderate. In contrast, deactivation did not correlate significantly with any DERS-SF subscale.

Finally, the validity of the scale scores was supported by the results of the correlations between the CSS and other measures in each subgroup defined by participants' involvement in social volunteering and their professional activity.

The present study has some limitations that should be noted. First, the sample was entirely composed of women, which compromises the generalization of results to men. Second, both samples were collected online, which may lead to a self-selection bias that may

also compromise the representativeness of the sample. Third, the test-retest reliability of the scale was not determined because the assessment protocol was administered only once. Fourth, the validity of the results may be compromised because we used only self-report measures, which may be influenced by social desirability factors and do not reliably reflect what participants feel or think. Therefore, particularly for the assessment of caregiving strategies, it is important to use different assessment methods. Fifth, we examined a bifactor model and a correlated two-factor model. However, as previous confirmatory factor analytic investigations with the CSS also examined a two-factor uncorrelated model (Meneghini et al. 2015), future studies should compare the fit indices of the bifactor and the correlated two-factor models with the fit indices of a two-factor uncorrelated model.

Despite these limitations, this study supports the utilization of the Portuguese version of the CSS to measure deactivation and hyperactivation strategies of caregiving, representing an important contribution to the measurement of caregiving strategies and enabling further investigation of this construct as well as its evaluation in a clinical context. To the best of our knowledge, with the exception of the original Hebrew and English versions, the CSS has only been translated to Italian and Portuguese. Therefore, this study represents an additional contribution to the validation of the original CSS instrument. Future validations in other languages are necessary to consolidate the psychometric robustness of the scale and explore cultural differences in caregiving dimensions.

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Table 1

Standardized Factor Loadings for the Bifactor Confirmatory Model and the 2-Factor Correlated Model of CSS Items

Items	Bifactor model			2-factor correlated model	
	General Factor	**Deactivation**	**Hyperactivation**	**Deactivation**	**Hyperactivation**
1. When I see people in distress, I don't feel comfortable jumping in to help. *Quando vejo pessoas a sofrer, não me sinto confortável em meter-me para ajudar.*	.001 ns	.560***		.559***	
3. I sometimes feel that helping others is a waste of time. *Por vezes, sinto que ajudar os outros é uma perda de tempo.*	-.099 ns	.557***		.562***	
5. I often don't pay much attention to other people's discomfort or distress. *Muitas vezes, não presto muita atenção ao desconforto ou ao sofrimento das outras pessoas.*	.061 ns	.591***		.588***	
7. I don't invest a lot of energy trying to help others. *Não invisto muita energia a tentar ajudar os outros.*	-.048 ns	.630***		.634***	
9. Thinking about helping others doesn't excite me very much. *Pensar em ajudar os outros não me entusiasma muito.*	-.125 ns	.717***		.723***	
11. I don't often feel an urge to help others. *Não costumo sentir o impulso de ajudar os outros.*	-.075 ns	.761***		.764***	
13. I have no problem helping people who are troubled or distressed.* *Não tenho problemas em ajudar as pessoas que estão com algum problema ou a sofrer.*	-.043 ns	.418***		.419***	
15. When I notice or realize that someone seems to need help, I often prefer not to get involved. *Quando reparo que alguém parece precisar de ajuda, frequentemente prefiro não me envolver.*	.062 ns	.664***		.658***	
17. It's hard for me to work up much interest in helping others. *É difícil para mim desenvolver um grande interesse em ajudar os outros.*	-.130*	.789***		.792***	
19. I feel uncomfortable when I'm required to help others. *Sinto-me desconfortável quando tenho de ajudar os outros.*	.115 ns	.680***		.670***	

2.	When helping people, I often worry that I won't be as good at it as other people are. *Quando ajudo alguém, preocupa-me muitas vezes não ser tão bom a fazê-lo como as outras pessoas.*	.376***	.280***	.455***
4.	When I'm unable to help a person who is in distress, I feel worthless. *Quando não consigo ajudar uma pessoa que está a sofrer, sinto-me inútil.*	.458***	.251**	.474***
6.	I feel bad when others don't want my help. *Sinto-me mal quando os outros não querem a minha ajuda.*	.246**	.508***	.574***
8.	I sometimes try to help others more than they actually want me to. *Por vezes, tento ajudar os outros mais do que eles realmente querem que eu ajude.*	.079 ns	.716***	.608***
10.	When people don't want my help, I still sometimes feel compelled to help. *Quando as pessoas não querem a minha ajuda, por vezes sinto-me compelido a ajudar na mesma.*	.202*	.544***	.563***
12.	I often get anxious when I think nobody needs my help. *Costumo ficar ansioso quando penso que ninguém precisa da minha ajuda.*	.232**	.394***	.467***
14.	I often worry about not being successful when I try to help others who need me. *Preocupa-me muitas vezes não ser bem-sucedido quando tento ajudar pessoas que precisam de mim.*	.718***	.381***	.694***
16.	When I decide to help someone, I worry that I won't be able to solve the problem or ease the person's distress. *Quando decido ajudar alguém, preocupa-me não conseguir resolver o problema ou aliviar o sofrimento dessa pessoa.*	.658***	.402***	.687***
18.	I sometimes worry that I try to help others more than they want me to. *Por vezes, preocupa-me que eu tente ajudar os outros mais do que eles querem que eu ajude.*	.160 ns	.633***	.602***
20.	I sometimes feel that I intrude too much while trying to help others. *Por vezes, sinto que me intrometo demasiado quando tento ajudar os outros.*	.140 ns	.662***	.612***

Note. Item 13 is reverse-scored.
*$p < .05$, ** $p < .01$, *** $p < .001$

Table 2

Correlations Between the Deactivation and Hyperactivation Subscales of the CSS and Other Measures

	M (*SD*)	Range	α	Deactivation	Hyperactivation
Attachment dimensions					
Anxiety	3.44 (1.57)	1.00 – 6.67	.88	.10	.59**
Avoidance	3.01 (1.20)	1.00 – 6.00	.84	.21*	.18
Caregiving representations					
Perceived Ability to Provide Effective Help	5.75 (0.62)	3.67 – 6.89	.78	-.41**	-.01
Perceived Ability to Recognize Other's Needs	5.71 (0.88)	3.17 – 7.00	.81	-.43**	-.16
Egoistic Motives to Provide Help	1.70 (0.66)	1.00 – 4.00	.73	.35**	.08
Appraisal of Others as Worthy of Help	5.13 (1.35)	1.00 – 7.00	.86	-.09	-.10
Compassion					
Kindness	4.24 (0.54)	3.00 – 5.00	.67	-.42**	.15
Indifference	1.80 (0.53)	1.00 – 4.00	.60	.61**	.16
Common Humanity	4.46 (0.59)	2.25 – 5.00	.76	-.00	.07
Separation	1.67 (0.53)	1.00 – 3.75	.60	.51**	.07
Mindfulness	4.36 (0.47)	2.75 – 5.00	.68	-.32**	-.13
Disengagement	1.71 (0.51)	1.00 – 3.25	.60	.55**	-.01
Difficulties in Emotion Regulation					
Limited Access to Emotion Regulation Strategies	2.05 (0.87)	1.00 – 5.00	.79	.10	.29**
Nonacceptance of Emotional Responses	2.34 (0.89)	1.00 – 4.67	.76	.04	.37**
Impulse Control Difficulties	1.78 (0.79)	1.00 – 4.00	.82	.11	.11
Difficulties Engaging in Goal-directed Behavior	2.82 (1.02)	1.00 – 5.00	.91	.15	.16
Lack of Emotional Awareness	2.01 (0.76)	1.00 – 4.33	.72	.15	.18*
Lack of Emotional Clarity	1.75 (0.65)	1.00 – 4.33	.73	.12	.30**

Note. $N = 124$

*$p < .05$, ** $p < .01$.

Table 3

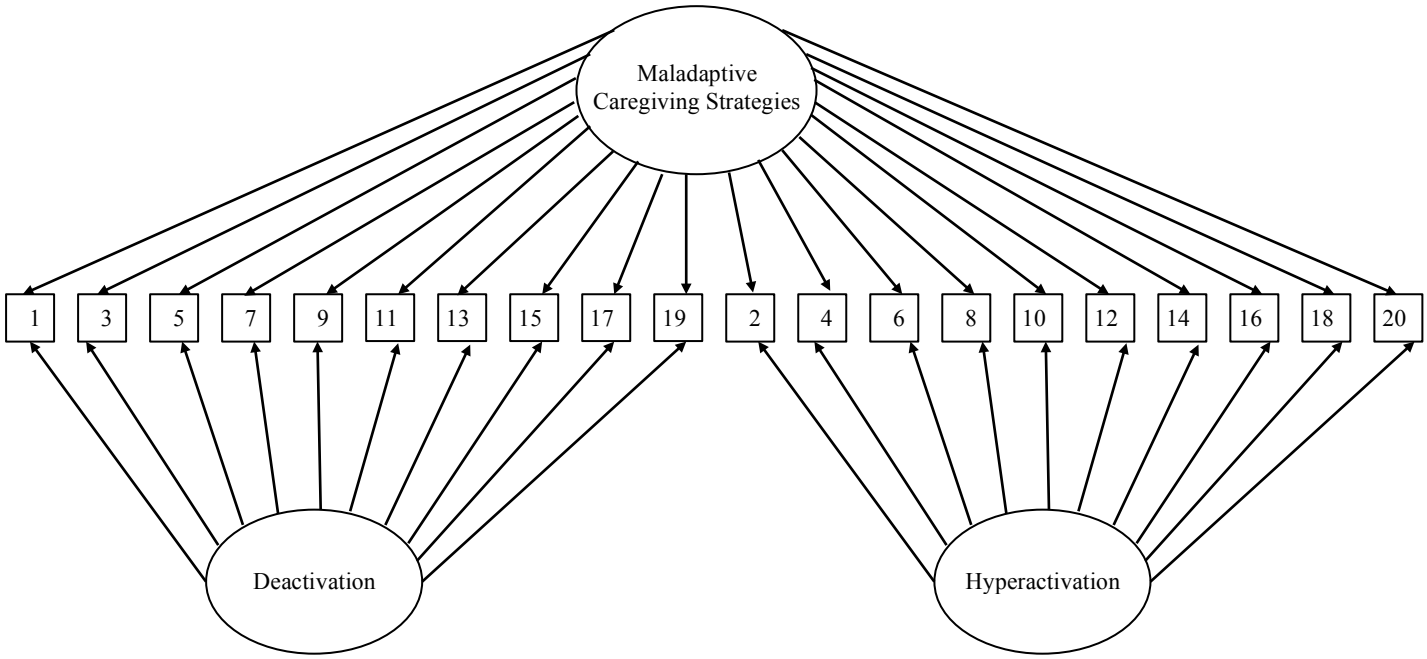
Correlations Between the Deactivation and Hyperactivation Subscales of the CSS and Other Measures in Sub-groups Defined by Participants' Involvement in Social Volunteering and their Professional Activity.

	Volunteering group *n* = 75		**Non-volunteering group *n* = 49**		**Caregiving professional activity *n* = 49**		**Non-caregiving professional activity *n* = 75**	
	DE	**HY**	**DE**	**HY**	**DE**	**HY**	**DE**	**HY**
Attachment dimensions								
Anxiety	.08	.53**	.06	.65**	-.15	.52**	.20	.62**
Avoidance	.06	.22†	.20	.07	.19	.16	.20	.17
Caregiving representations								
Perceived Ability to Provide Effective Help	-.14	-.04	-.56**	.13	-.33*	-.10	-.45**	.07
Perceived Ability to Recognize Other's Needs	-.39**	-.13	-.48**	-.17	-.30*	-.11	-.47**	-.15
Egoistic Motives to Provide Help	.18	.10	.49**	.03	.39**	.10	.32**	.05
Appraisal of Others as Worthy of Help	-.06	.01	-.03	-.20	-.18	.04	-.03	-.12
Compassion								
Kindness	-.22†	.03	-.62**	.31*	-.36*	-.10	-.44**	.26*
Indifference	.36**	.17	.71**	.09	.49**	-.07	.65**	.21
Common Humanity	.15	.05	-.04	.14	.12	-.13	-.03	.18
Separation	.17	.07	.71**	.00	.44**	.20	.52**	-.01
Mindfulness	-.09	-.10	-.49**	-.14	-.15	-.18	-.39**	-.10
Disengagement	.35**	.07	.67**	-.17	.39*	-.08	.60**	-.00
Difficulties in Emotion Regulation								
Limited Access to Emotion Regulation Strategies	-.10	.24*	.26	.35**	.19	.36*	.03	.25*
Nonacceptance of Emotional Responses	-.13	.43**	.19	.29**	-.04	.48**	.04	.31**
Impulse Control Difficulties	-.02	.18	.22	-.01	.34**	.05	-.04	.12
Difficulties Engaging in Goal-directed Behavior	-.06	.24*	.35*	.04	.21	.11	.12	.17
Lack of Emotional Awareness	-.08	.15	.17	.16	-.12	.14	.31**	.21
Lack of Emotional Clarity	-.14	.20	.19	.37**	.06	.28*	.14	.31**

Note. DE = Deactivation subscale; HY = Hyperactivation subscale. $N = 124$

† $p < .06$; *$p < .05$, ** $p < .01$.

A) Bifactor model of the CSS



B) Two-factor correlated model of the CSS

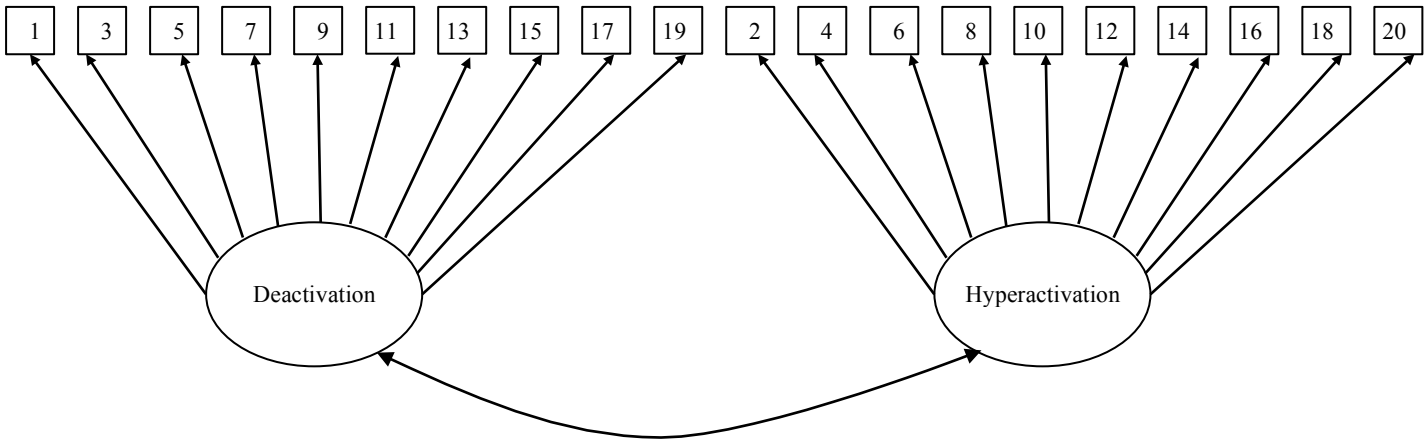


Figure 1

Bifactor model and two-factor correlated model of the CSS