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Investigating the Psychometric Properties of the Self-Compassion Scale: Using Confirmatory and Exploratory Factor Models

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Investigating the Psychometric Properties of the Self-Compassion Scale: Using Confirmatory
and Exploratory Factor Models

by

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A Thesis submitted to the Department of Psychology
in partial fulfillment of the requirements for the degree of
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UNIVERSITY OF NORTH FLORIDA

COLLEGE OF ARTS AND SCIENCES

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Dedication

I dedicate this thesis to my parents and my mentors. The completion of this work would not have been possible without their patience, support, and encouragement.
Acknowledgments

First, I want to express my deepest appreciation to my mentors, Drs. Ashley Batts Allen and Jody S. Nicholson. To Dr. Ashley Batts Allen, without you, I would not be where I am today. I owe many thanks to you for the time, wisdom, encouragement, and support you have bestowed upon me over the last four years. Your love of research has been contagious and will stay with me throughout my career. To Dr. Jody S. Nicholson, you have helped me hone my existing skills and abilities, while pushing me to go outside my comfort zone. I thank you for investing in me and helping me become a better researcher.

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Last, I express my deepest gratitude to my parents, Robert and Donna, for their never-ending love, support, and encouragement throughout my academic journey. Who knew that studying actually works!
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Abstract

Self-compassion has quickly gained recognition for its many cognitive, emotional, and psychological benefits (Neff, 2003b). The Self-Compassion Scale (SCS; Neff, 2003a) is currently the only instrument measuring self-compassion and is commonly used. The current model contains six factors: self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification. However, the SCS has recently come under fire due to limited evidence of its psychometric properties (Lopez et al., 2015). Researchers who have attempted to replicate the factor structure proposed by Neff have found mixed results using both exploratory and confirmatory methods. Our primary aim is to establish the factor structure of the SCS with a large, more representative sample. Thirteen samples (total \( n = 2,515 \)) using the SCS were combined to demonstrate a more comprehensive approach to investigating the scales’ psychometric properties. A confirmatory factor analysis (CFA) demonstrated good model fit for the six-factor solution. However, little is known about how the SCS items naturally load together. A subsequent exploratory factor analysis (EFA) demonstrated lack of good model fit for the six-factor model; instead, a simpler, two-factor solution emerged. However, the two-factor model is inconsistent with the theoretical conceptualization of self-compassion. Future research should use more advanced statistical models to explain the multidimensionality of the SCS.

*Keywords*: Self-compassion, psychometrics, factor analysis, measurement
Self-compassion is a relatively new construct in social and personality psychology; however, its addition to the field is promising due to its many cognitive, behavioral, and emotional benefits (Allen & Leary, 2010; Baker & McNulty, 2011; Crocker & Canevello, 2008; Leary, Tate, Adams, Allen, & Hancock, 2007; Neff, 2003b; Neff & Beretvas, 2012; Neff & Germer, 2013; Neff, Rude, & Kirkpatrick, 2007; Yarnell & Neff, 2012 ). For centuries, self-compassion has existed in Eastern philosophies, but only recently has it been incorporated into Western psychology. Self-compassion is the ability to turn compassion towards the self. Self-compassion is operationally defined as consisting of three main components: self-kindness versus self-judgment, common humanity versus isolation, and mindfulness versus overidentification (Neff, 2003b). While self-compassion is related to many positive attributes, recent criticisms of the measurement of the Self-Compassion Scale have come to fruition (Costa et al., 2015; Gilbert et al., 2011; Lopez et al., 2015; Williams, Dalgleish, Karl, & Kuyken, 2014). Determining and understanding the psychometric properties of the Self-Compassion Scale (Neff, 2003a) is essential for the progression of self-compassion research.

Although the construct of self-compassion was not coined until the 21st century, the concept has existed in writings of Buddhist teachings for centuries (see Neff, 2015). From these teachings, Neff (2003b) defined the construct of self-compassion as being moved by and accepting of one’s own suffering, without avoidance, in order to heal oneself with kindness. Aforementioned, self-compassion, as defined by Neff (2003b), is comprised of three components along a continuum, of which the positive aspects are: self-kindness, common humanity, and mindfulness. Self-kindness involves the ability to heal one’s suffering with kindness without
avoidance or disconnection, rather than harmfully criticizing oneself for inadequacies. Common humanity is the act of seeing one’s experience as part of the greater human experience instead of feeling isolated. Last, mindfulness is the ability to maintain emotions and perspectives in a state of balance, to not get carried away with the situation. The three components of self-compassion are conceptually distinct entities; however, they may interact and enhance one another in order to create a “self-compassionate” mindset.

**Self-Compassion**

**Self-kindness.** Neff (2003b) conceptualized self-kindness as the act of extending kindness to oneself in terms of being supportive and understanding after perceived failures, rather than berating oneself for shortcomings. The facet of self-kindness also involves active self-soothing, unconditional acceptance, and comforting oneself in difficult times. Conversely, self-judgment involves being critical of oneself by rejecting or dismissing emotional pain, thoughts, and actions. Neff compares self-compassion to the foundational work of humanists such as Maslow (1968), Rogers (1961), Snyder (1994), and Ellis (1973). Maslow (1968) emphasized the importance of helping people accept and acknowledge their pain and suffering as necessary for personal growth. Rogers described unconditional positive regard as a nonjudgmental, kind self-attitude, which in turn allows the individual to grow, be less defensive, and more self-aware and acceptant (Rogers & Stevens, 1967). Snyder (1994) suggested the term “internal empathizer”, meaning to adopt a compassionate attitude toward one’s experience, while Ellis (1973) coined the term “unconditional self-acceptance”, meaning the self is not judged or evaluated.

Self-kindness can be difficult to achieve in both Western and Eastern cultures.
Depending on the culture, heightened self-awareness and self-criticism could be used as a positive or negative tool (Yamaguchi, Kim, & Akutsu, 2014); therefore, self-compassion should be interpreted as culturally specific. Euro-American’s may strive to maintain a facade of positive image and self-esteem, while in fact hiding depressive symptoms and decreased well-being. Alternatively, in interdependent cultures, being self-aware leads to self-improvement which helps groups function harmoniously (Heine, 2003). Additionally, self-awareness promotes self-criticism, self-judgment and conformity to societal norms which may create greater feelings of human interconnectedness (Neff, Pisitsungkagarn, & Hsieh, 2008). In a cross-cultural examination, Neff, Pisitsungkagarn, & Hsieh (2008) found that Thais tend to be more self-kind than Americans and Taiwanese, with Taiwanese displaying the lowest amount of self-compassion. Further, Yamaguchi, Kim, & Akutsu (2014) found that Japanese college students who had higher levels of comparative self-criticism experienced less self-compassion and that self-compassion predicted fewer depressive symptoms.

Little research has focused solely on self-kindness; however the Loving-Kindness Meditation (LKM) is used to induce feelings of self-kindness by increasing feelings of warmth and care for the self and others (Salzberg, 1995). Similar to mindfulness meditation, LKM involves being still and present in the moment; but focuses more on directing warm, positive emotions towards the self (Fredrickson et al., 2008). Fredrickson et al. (2008) found that LKM led to increased daily experiences of positive emotions such as, love, joy, gratitude, contentment, hope, pride, interest, amusement, and awe. Additionally, the changes in positive emotions were also linked to mindful attention, self-acceptance, positive relations with others, good physical health, life satisfaction, and less depressive symptoms (Fredrickson et al., 2008).

**Common humanity.** Common humanity is conceptualized by Neff (2003b) as the ability
to see one’s experience as an inevitable part of the shared human experience, rather than feeling isolated from others. Because failures are part of the human experience, individuals feel less isolated when in pain. This facet helps distinguish self-compassion from self-pity due to the requirement of recognizing suffering of others (Neff & Germer, 2013). While the components of self-compassion are separate entities, they may interact and enhance one another; perhaps common humanity links the three components together. When the self is harshly judged (negative aspect of self-kindness), self-consciousness is strengthened which can lead to intense feelings of isolation – potentially increasing suffering (Neff, 2003a; Brown, 1999; Neff, 2001). Conversely, when being kind to the self, one experiences feelings of interconnectedness. Intense negative affect may lead individuals to overidentify with their experiences, instead of remaining in a state of balance. By realizing that pain and suffering is a shared experience, it depersonalizes the negativity one feels leading to increased feelings of kindness and connectedness (Neff, 2003a; Rubin, 1975).

Social psychological theories have long emphasized the importance of socially shared experiences (see Echterhoff, Higgins, & Levine, 2009). Festinger (1950) asserted that individuals view their experiences, beliefs, and opinions as valid when they are shared with similar others who have experienced similar situations. Common humanity is similar in this regard; individuals are able to find peace and understanding in their own experiences by recognizing similarities in others. Shared experiences can be defined in four different ways: communicating or disclosing, dividing tasks, sharing a consensus, or holding a common experience (Echterhoff, Higgins, & Levine, 2009). Common humanity best fits under the ‘holding a common experience’ interpretation because individuals are motivated to understand the world and establish what is real; in other words, recognizing that others share similar experiences helps validate one’s
experiences (Hardin & Higgins, 1996; Higgins, 2008). As situational ambiguity increases, the motivation to seek understanding increases in order to determine what is appropriate or true (Festinger, 1950). Similarly, when situations are stressful or difficult to interpret (such as trauma), individuals rely on other’s experiences to help make sense of their situation (Boasso, Overstreet, & Ruscher, 2015; Davidson, Bellamy, Guy, & Miller, 2012).

Individuals are also driven by relational motives, which is the desire to feel connected with others (Diener & Seligman, 2002; Baumeister & Leary, 1995; Bowlby, 1969). Feelings of connectedness may help buffer against negative affect, feelings of isolation, as well as stress (Cohen & McKay, 1984). Moreover, perspective taking involves perceiving the world, or an experience, from another’s viewpoint, including thoughts, perceptions, attitudes, or goals (Echterhoff, Higgins, & Levine, 2009). Perspective taking is dissimilar to shared experiences mentioned above due to the non-egocentrism point of view (see Piaget & Inhelder, 1956). A shared experience asserts that individuals share inner states, maintaining some egocentrism, while perspective taking is stepping into another’s viewpoint (Echterhoff, Higgins, & Levine, 2009). Although the two phenomena are nuanced, common humanity may engender aspects of both shared experiences and perspective taking.

**Mindfulness.** The third component, mindfulness, is defined as a balanced state of awareness and nonjudgmental acceptance of painful thoughts and emotions (Neff, 2003b; Kabat-Zinn, 1994). Rather than getting caught up in negative emotions, or ignoring feelings altogether, mindfulness is the ability to experience self-acceptance and maintain balanced awareness of one’s thoughts and emotions. When confronted with challenges, individuals may get caught up with the immediate problem instead of taking a step back to acknowledge the situation. Mindful individuals do not get carried away with their emotional reactions nor overidentify with negative
thoughts and feelings.

While some individuals exhibit trait-like qualities of mindfulness, this skill can also be learned. In fact, mindfulness interventions have received a great deal of attention recently, which aim to induce or train individuals to be mindful (Baer, 2015). Interventions such as Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 1982) and Mindfulness-Based Cognitive Therapy (MBCT; Segal, Williams, & Teasdale, 2002), are commonly used and provide strong evidence of reducing stress, for either subjective or physiological stress. Some studies have demonstrated reductions in physiological arousal and daily cortisol levels (Carlson et al., 2007; Lipschitz et al., 2013; Matchin et al., 2011), while others reported no differences in physiological responses (Klatt et al. 2009; Robert McComb et al., 2004; Robinson et al., 2003). Interestingly, self-compassion may play a key role in mindfulness interventions (Neff & Germer, 2013). Mindfulness interventions have been shown to reduce stress, anxiety, depression, and general symptomology (Miller, Fletcher, & Kabat-Zinn, 1995; Shapiro, Schwartz, & Bonner, 1998; Kabat-Zinn et al., 1992), while increasing reported levels of self-compassion (Shapiro et al., 2005, 2007). Shapiro et al. (2007) also found that students who participated in an MBSR course had significant reductions in stress, worry, and anxiety, and reported improvements in self-compassion, affect, and mindfulness. Moreover, following an MBCT course, higher levels of mindfulness and self-compassion mediated the relationship between MBCT and depressive symptoms (Kuyken et al., 2010). Overall, mindfulness has been shown to have many benefits that can help optimize physical and psychological health.

In sum, the three components of self-compassion are distinct entities related to a host of positive outcomes independently. For example, self-kindness is associated with decreased depression symptomatology and greater life satisfaction; common humanity increases feelings of
connectedness; while mindfulness is related to both psychological and physical health such as more positive affect and less reported stress and anxiety. While Neff (2003b) asserts the three components are separate, they may interact with one another to create the “self-compassionate” mindset. The Self-Compassion Scale (SCS) is a six-factor model, measuring positive (self-kindness, common humanity, and mindfulness) and negative factors (self-judgment, isolation, and overidentification) separately, but an overall self-compassion score can be calculated by combining the six factors.

Self-Compassion Scale (SCS)

**Scale development.** Currently, the SCS is the only instrument measuring self-compassion and is commonly used on an array of samples. In the original paper, Neff (2003a) ran a series of confirmatory factor analyses (CFA) using 391 undergraduate students in order to examine the factor structure of the proposed construct. The findings concluded that the SCS is a psychometrically sound and theoretically valid measure of self-compassion. The factor loadings from the preliminary exploratory factor analyses (EFA) were not included in the original Neff (2003a) paper. The mean age of the students was 21 years ($SD = 2.27$) and 58% of participants were women. The ethnic breakdown of the sample was 58% White/Caucasian, 21% Asian, 11% Hispanic, 4% Black, and 6% other.

The CFAs were conducted in a five-step process, running separate CFAs for each of the three components, a fourth model for the total scale, and a higher-order model: 1) Self-kindness versus self-judgment; 2) Common humanity versus isolation; 3) Mindfulness versus overidentification; 4) all 26 SCS items; 5) hierarchical CFA using all 26 SCS items. The CFAs were conducted on the same sample, multiple times, rather than using a hold-out sample. In the
first CFA, ten items measuring self-kindness versus self-judgment split into a two-factor model (NNFI = .88; CFI = .91). The self-kindness subscale had an internal consistency of .78 and .77 for the self-judgment subscale. Second, a similar pattern appeared when examining the common humanity versus isolation subscales. The eight items split into a two-factor model (NNFI = .99; CFI = .99). The common humanity subscale had an internal consistency of .80 and .79 for the isolation subscale. Third, a similar trend was found for the mindfulness versus overidentification subscale. The eight items split into a two-factor model (NNFI = .94, CFI = .96). The mindfulness subscale had an internal consistency of .75 and .81 for the overidentification subscale. The fourth CFA assessing six-factors fit the data adequately well (NNFI = .90, CFI = .91). Finally, a higher-order, or hierarchical, CFA was conducted in order to assess if a single higher-order factor explains the inter-correlations between the SCS items. This higher-order model fit the data marginally well (NNFI = .88, CFI = .90). The internal reliability of the total SCS was .92.

**Reported validations.** Since the development of the SCS, several studies have attempted to replicate the factor structure (see Table 1). Many of these studies were conducted on international samples for translation and validation purposes of the SCS. To date, eleven translation studies have validated the original six-factor model proposed by Neff (2003a). In the original procedure, Neff (2003a) ran three separate CFAs and later combined the separate findings into an overall model. However, the procedural steps provided in the original paper were vague and included limited model fit indices (only CFI and NNFI). Rather than analyzing four separate models on the same sample, a random split, or a hold-out sample, of the data is recommended for retesting models (Lattin, Carroll, & Green, 2003). Most of the studies displayed in Table 1 used undergraduate student samples (> 50%); however, the majority of sample sizes used were quite good (only two studies less than 300 participants). Consistent with
the original paper, the majority of replication studies did not clearly indicate their procedural steps and only reported the Non-normed Fit Index (NNFI) and Comparative Fit Index (CFI); while some studies failed to include the same fit indices as the original authors’ report. Overall, the original six-factor structure was reported as successfully replicated in each of the studies below (two publications were not available for review; see Table 1). However, fewer studies successfully replicated the higher-order six-factor model. This evidence may suggest that the six-factor can be replicated in some cases but the hierarchical six-factor model cannot be demonstrated as easily.

**Scale criticisms and proposed alternative models.** Aforementioned, the SCS is currently the only measure of self-compassion. With that being said, it is essential to determine the appropriate factor structure for future self-compassion research. While studies have reported successful replications, there are some studies suggesting a six-factor model does not fit the SCS best. Some criticisms regarding the validation and factor structure of the SCS include limited samples sizes (less than 500 participants) and conducting multiple analyses on the same participants. A sample size of 200 is considered fair, 300 as good, 500 as very good, and 1000 as excellent (Comrey & Lee, 1992). For factor analysis, the most replicable results are obtained using large samples (Costello & Osborne, 2005). Using this suggestion of sample size, the original sample of 391 may be considered underpowered for factor analysis. College student participants are used frequently due to convenience and cost-efficiency. Inferences derived from college samples should be used sparingly – however, most psychological research is conducted on college samples. The SCS is used on a wide array of samples, representing many populations the scale has yet to be validated on.

Williams et al. (2014) attempted to replicate the six-factor structure in three samples:
convenience sample of community adults, online sample of experienced meditators, and a sample of participants in a mindfulness clinical trial. A one-factor, six-factor, and a higher-order six-factor CFA model were assessed on each of the samples mentioned above, separately. However, a hold-out sample was not used in this investigation. The author used several model fit indices including the chi-square value ($\chi^2$), degrees of freedom, chi-square change ($\Delta\chi^2$), standardized root mean square residual (SRMR), root mean square error of approximation (RMSEA), comparative fit index (CFI), non-normed fit index (NNFI), and Akaike information criterion (AIC). However, the original SCS included only two of the fit indices listed above: NNFI and CFI. Additionally, using liberal cutoffs (NNFI and CFI ≤ 0.90) may result in concluding model fit is acceptable when it is less than optimal; therefore, Williams et al. (2014) suggest applying a more stringent cutoff value. When applying a more conservative cutoff (NNFI and CFI ≥ 0.90), none of the models fit their data at an acceptable level. All three samples were close to having acceptable model fit for the six-factor model but the hierarchical six-factor model was not. Williams et al. (2014) suggests more research is required to develop a psychometrically robust measure of self-compassion.

Using the Dutch version of the SCS, Lopez et al. (2015) attempted to replicate the original six-factor model in a large community sample ($n = 1643$). Following Neff’s (2003a) original steps, a six-factor model and a hierarchical six-factor model were assessed; again, no hold-out sample was included in this investigation. The six-factor model did not fit the data well ($\chi^2$/df = 15.95, CFI = 0.896, TLI = 0.879, RMSEA = 0.095). The hierarchical six-factor model was not replicated due to poor inter-correlations. An exploratory factor analysis was subsequently conducted in order to determine an appropriate factor structure. A two-factor solution was suggested; the positive and negative items loaded onto two separate factors,
explaining a total of 45.4% of the variance. The internal consistencies for the positive and negative factors were 0.86 and 0.90, respectively. The internal consistency for the overall SCS was 0.86. Lopez et al. (2015) suggests the two factors represent self-compassion versus self-criticism.

Costa et al. (2015) attempted to replicate the factor structure identified by Neff (2003a), as well as explore an alternative two-factor model on clinical and non-clinical samples ($n = 361$). The authors conducted a random split of the sample to create two subsamples; the first sample ($n = 220$) was used for developing a good-fitting solution, while the second sample ($n = 132$) was used to validate the solution from the first sample. Although the authors did use a holdout sample, both of the sample sizes are considered fair at best (> 300 is good for factor analysis; Comrey & Lee, 1992). Neither the six-factor model nor the hierarchical six-factor model fit the data well (CFI > 0.90, TLI > 0.90). Compared to the six-factor model ($AIC = 738.60$), the two-factor solution ($AIC = 778.25$) fit the data better; however, it is important to point out the difference between the two models was small and the fit indices were less than optimal. The authors conclude that the six-factor model and hierarchical six-factor model tested demonstrated poor fit, and that the two-factor model fit surpassed the former two models.

**Current Study**

Given the recent evidence, there is a lack of consensus regarding the SCS’ psychometrics. Some researchers have been successful in translating and validating the SCS, while others have not. The first objective of this study is to determine whether the original six-factor model can be replicated. To accomplish this, a confirmatory factor analysis will assess the six-factor model identified by Neff. The second objective of this study is to determine the most
appropriate factor structure to represent the SCS, regardless of the findings from the first objective. To accomplish this, an exploratory factor analysis will be used to identify two-, three-, and six-factor models and their factor loadings. The validation of the SCS’ factor structure will either provide researchers with a psychometrically sound model or suggest alternative options.

**Method**

**Sample Descriptive Information**

To address the criticisms of small, homogenous samples, multiple datasets measuring trait self-compassion (SCS; Neff, 2003a) were combined in order to examine the factor structure. The data for the studies reported were collected on 13 samples from 2011 to 2014. All samples were obtained cross-sectionally. Eleven of the samples were recruited through Amazon’s Mechanical Turk (Mturk), and received $0.40 compensation for their participation. The remaining two samples were drawn from University departmental subject pools, and received extra course credit for their participation. The descriptives of all thirteen samples are included in Table 2 – including internal reliability, mean, and standard deviation of the SCS. Participants were 2,515 (868 men, 1627 women, and 19 unidentified) workers and students. Participants’ mean age was 31.24 years old ($SD = 12.62$), ranging from 18 to 74 years old. The ethnic breakdown of the sample was 78% White/Caucasian, 9% Black/African-American, 6% Asian-American, 6% Hispanic/Mexican, 1% Asian (including Indian subcontinent), and .5% Other (the total exceeds 100% as participants were allowed to select more than one ethnicity). Descriptive analyses were conducted using SPSS, Version 22 (IBM Corp, 2013).

**Sample Preparation Procedure**

In order to examine the factor structure of the SCS, thirteen archival data sets using the
Self-Compassion Scale (Neff, 2003a) were inspected and combined into an aggregated data set. The distribution of the items was examined to ensure normality assumptions were met. The Kolmogorov-Smirnov and Shapiro-Wilk tests of normality were both significant ($p < .05$). Due to the large sample size, small departures from normality compromise the K-S and S-W tests for normality. However, a subsequent visual inspection of histograms did not point to any clear signs of non-normality. None of the SCS items showed severe violations of assumptions. A random split of the aggregated data set was conducted using SPSS, Version 22 (IBM Corp, 2013) resulting in two data sets (Study 1 $n = 1,257$, Study 2 $n = 1,258$).

**Measures**

**Self-Compassion Scale (SCS).** The Self-Compassion Scale (Neff, 2003a) measured trait self-compassion in all samples reported (see Appendix). Participants completed the 26-item self-report using a 1 (almost never) to 5 (almost always) Likert rating scale. The overall SCS was found to be highly reliable in all samples, ranging from .90 to .96 (see Table X). The original scale includes six subscales: self-kindness, common humanity, mindfulness, self-judgment, isolation, and overidentification. The self-kindness subscale included statements such as “When I'm going through a very hard time, I give myself the caring and tenderness I need” and “I'm kind to myself when I'm experiencing suffering”. The common humanity subscale included statements such as “When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am” and “I try to see my failings as part of the human condition”. The mindfulness subscale included statements such as “When something painful happens I try to take a balanced view of the situation” and “When I'm feeling down I try to approach my feelings with curiosity and openness”. Subscales measuring the negative components of self-compassion were reverse coded. The self-judgment subscale included statements such as “When times are really
difficult, I tend to be tough on myself” and “I’m disapproving and judgmental about my own flaws and inadequacies”. The isolation subscale included statements such as “When I’m feeling down, I tend to feel like most other people are probably happier than I am” and “When I fail at something that's important to me, I tend to feel alone in my failure”. The overidentification subscale included statements such as “When something upsets me I get carried away with my feelings” and “When I’m feeling down I tend to obsess and fixate on everything that’s wrong”. A total self-compassion score is calculated by averaging all three positive components and all three reverse coded negative components. High scores are indicative of high trait self-compassion.

Procedure

After conducting a random split on the data, the first data file was placed into the N2Mplus, Version 1.1.42 syntax generator (Soper, 2011), which creates a pathway for Mplus to locate your data file. The generated syntax was entered into the Mplus editor to begin analyses. In order to examine Neff’s six-factor structure, a confirmatory factor analysis observing the original structure was conducted (study 1). This procedure was repeated in order to conduct an exploratory factor analysis (study 2) on the second data file.

Study 1 Results

The objective of study 1 was to confirm (or disconfirm) the original factor structure of the SCS. Maximum likelihood confirmatory factor analysis (CFA) was used to verify the factor structure of the 26-items (Lattin, Carroll, & Green, 2003). Analyses were performed in Mplus, Version 5.21 (Muthen & Muthen, 2007). In order to assess goodness of fit, Hoyle & Panter (1995) suggest including multiple indices of overall fit. The goodness of model fit was evaluated using the chi-square to degrees of freedom ratio ($\chi^2/df < 3$; Kline, 2015), the comparative fit
index (CFI; Bentler, 1989, 1990), the Tucker-Lewis index (TLI; Hu & Bentler, 1999), the root mean square error of approximation (RMSEA; Browne & Cudek, 1993), the standardized root mean residual (SRMR; Tabachnick & Fidell, 2007), and Akaike’s information criterion (AIC; Akaike, 1987).

**Confirmatory Factor Analysis**

The SCS six-factor model demonstrated good model fit, which is consistent with the original findings. The chi-square ratio was 4.22 and significant at the $p < .001$ value, indicating the model is not a perfect fit (see Table 3). However, the chi-square test is sensitive to large sample sizes; large samples inflate the correlations among the items and consequently result as poor model fit (Kenny, 2014). The RMSEA for the six-factor model was .05 (90% CI [.048, .053]), indicating a reasonable fit ($\geq .08$). The SRMR for the six-factor model was .036, indicating an acceptable fit. The CFI and TLI for the six-factor model indicated good fit, .942 and .934, respectively. The AIC for the six-factor model was 85659.66; this value will be used as a comparison value relative to additional models.

**Study 1 Discussion**

While the findings from the CFA suggest good model fit for the original six-factor model, little information is known regarding how the items naturally load together. The original paper conducted separate confirmatory factor analyses for each individual component (three total), where the items split off into two factors for each component. However, this may not be the most accurate method for confirming a full scale factor structure. When assessing models separately, tests of item cross-loadings and uniqueness are not included. Additionally, separate models may fit the data well, while an integrated or full model fit may be poor. Using an
integrated, or full model, there are many item loadings fixed to zero, while the loadings are ignored when using separate models. In study 2, alternative factor models will be explored to determine whether the six-factor model can be improved upon.

**Study 2 Results**

The objective of study 2 was to examine the factor structure of the SCS. Maximum likelihood exploratory factor analysis (EFA) with an oblimin rotation was used to determine common factors and summarize the relationships among the 26-items (Lattin, Carroll, & Green, 2003). Twenty participants were excluded from the analyses due to missing data, leaving a sample size of 1,238 for the EFA. The number of accepted factors was determined based on the eigenvalues and scree-plot. Loadings above 0.40 were accepted as fair (Comrey & Lee, 1992); only small cross-loadings (< 0.25) were accepted in order to achieve simple structure (Thurstone, 1947); Cronbach’s alphas above 0.80 were considered good (Cronbach, 1951). Analyses were performed in Mplus, Version 5.21 (Muthen & Muthen, 2007). As in study 1, the goodness of model fit was evaluated using the chi-square to degrees of freedom ratio ($\chi^2/df < 3$; Kline, 2015), the comparative fit index (CFI; Bentler, 1989, 1990), the Tucker-Lewis index (TLI; Hu & Bentler, 1999), the root mean square error of approximation (RMSEA; Brown & Cudek, 1993), the standardized root mean residual (SRMR; Tabachnick & Fidell, 2007), and Akaike’s information criterion (AIC; Akaike, 1987).

**Exploratory Factor Analysis**

**Six-factor model.** First, the eigenvalues and scree-plot were examined to determine whether evidence for the proposed six-factor model existed. The eigenvalue for 6 factors was .793, which is lower than the suggested cut-off values (> 1; Kaiser, 1960). Depending on the
interpretability of the six-factor model, low eigenvalues may be overlooked. However, retaining an excess of factors may impact the factor’s reliability (Tabachnick & Fidell, 2007). With an eigenvalue of .793, factor 6 explained only 3% of the variance; factors 1 through 6 explained a cumulative total of 64% of the variance. Although the eigenvalue for a sixth factor is less than 1 (.793), the SCS item loadings were investigated to determine whether the items loaded consistently with the proposed six-factor model of self-compassion (see Table 4). The items loading onto factor 1 included the common humanity items; factor 2 included five self-kindness items and one mindfulness item; factor 3 included all of the self-judgment items, two isolation items, and two overidentification items; factor 4 included three mindfulness items; factor 5 included two isolation items; and factor 6 included two overidentification items. Two of the factors (5 and 6) included only two items per factor, which is less than the recommended minimum amount of 3 items (Costello & Osborne, 2005). Moreover, this six-factor model failed to achieve simple structure, with items cross-loading at .25 or greater.

The chi-square ratio was 2.62 and significant at the $p < .001$ value, indicating the six-factor model was not a perfect fit (see Table 3); as previously mentioned, the chi-square test is sensitive to large sample sizes. The RMSEA for the six-factor model was .036 (90% CI [.032, .040]), indicating a reasonable fit ($\geq .08$). The SRMR for the six-factor model was 0.016, indicating an acceptable fit. The CFI and TLI for the six-factor model indicated reasonable fit, .98 and .97, respectively. The AIC for the six-factor model was 83081.03. While the fit indices suggest good model fit, the SCS items do not load in a manner consistent with the proposed factor structure of the SCS. However, it is important to note that EFA does not take into account any multidimensionality of the scale and its items.

**Three-factor model.** Subsequently, an examination of a three-factor model, paralleling
the three components of self-compassion was conducted. The eigenvalues for 3 factors was 1.141, which is an acceptable value (> 1). With an eigenvalue of 1.141, factor 3 explained only 4% of the variance; with factors 1 through 3 explaining a cumulative total of 54% of the variance. The factor loadings of the three-factor model were inspected to determine if the items loaded consistently with the three-component model of self-compassion (see Table 5). The items loading onto factor 1 included four common humanity items, four mindfulness items, and one self-kindness item; factor 2 included all of the negatively worded items (overidentification, isolation, and self-judgment); and factor 3 included four self-kindness items. Moreover, consistent with the six-factor model previously mentioned, the three-factor model failed to achieve simple structure, with items cross-loading at .25 or greater.

The chi-square ratio was 5.46 and significant at the $p < .001$ value, indicating the three-factor model was not a perfect fit (see Table 3); again, the chi-square test is sensitive to large sample sizes. The RMSEA for the three-factor model was .060 (90% CI [.057, .063]), indicating a reasonable fit ($\geq .08$). The SRMR for the three-factor model was .037, indicating an acceptable fit. The CFI and TLI for the three-factor model indicated reasonable fit, .93 and .91, respectively. The AIC for the three-factor model was 83831.33, when compared with the six-factor model indicates less acceptable fit. While the fit indices suggest acceptable model fit, the SCS items do not load in a manner consistent with the theoretical conceptualization of self-compassion.

**Two-factor model.** Due to the complexity of the SCS, a simpler, two-factor model was investigated. The eigenvalues for 1 and 2 factors were 8.312 and 4.768 respectively. With an eigenvalue of 8.31, factor 1 explained 32% of the variance. Factor 2 had an eigenvalue of 4.77 and explained 18% of the variance. The total explained variance of this two-factor model was 50%. The items loading onto factor one included all 13 positively worded items (self-kindness,
common humanity, and mindfulness); while factor 2 included all 13 negatively worded items (self-judgment, isolation, and overidentification; see Table 6). Moreover, this two-factor solution demonstrated strong factor loadings (> .50) and is the only model to achieve simple structure in this sample, with no cross-loadings exceeding .25.

The chi-square ratio was 6.8 and significant at the $p < .001$ value, indicating the two-factor model was not a perfect fit (see Table 3); again, the chi-square test is sensitive to large sample sizes. The RMSEA for the two-factor model was .068 (90% CI [.066, .071]), indicating a reasonable fit ($\geq .08$). The SRMR for the two-factor model was .037, indicating an acceptable fit. The CFI and TLI for the two-factor model indicated reasonable fit, .90 and .88, respectively. The AIC for the two-factor model was 84282.97, when compared with the three- and six-factor model, indicates less than acceptable fit. Although the two-factor model does not match the theory of self-compassion, the model does achieve an acceptable fit to the data, simple structure, and the items within each factor fit well together.

The internal consistency of the SCS was 0.915 ($M = 3.052, SD = .633$). The first factor was named self-compassion because it was representative of the positively worded items ($\alpha = .909$). The second factor was named self-criticism because it was representative of the negatively worded items ($\alpha = .924$). There was a small, significant correlation between the two factors ($r = - .299$).

**General Discussion**

Interest in self-compassion has increased over the past decade with over 1,000 citations of the SCS validation paper alone (retrieved from Google Scholar, 2016). Self-compassion is unique in that it provides researchers and clinicians an alternative, healthier way of relating to the
self. As evidence for the benefits of self-compassion accumulates, it is paramount that concerns regarding the factor structure of the SCS are diminished and a theoretically consistent model emerges.

The confirmatory and exploratory factor analyses revealed conflicting results. First, a confirmatory factor analysis on the original six-factor model proposed by Neff demonstrated good model fit. However, a subsequent exploratory factor analysis demonstrated that the items of the six- and three-factor solutions do not load consistently with the original six subscales, or the three individual components, respectively. Although model fit indices increased with each additional factor, the factor loadings and structure decreased in cogency. Instead, a two-factor model emerged achieving both simple structure and acceptable model fit. This finding is consistent with the suggestions of Costa (2015), Lopez et al. (2015), Gilbert et al. (2011), and Williams et al. (2014); however, this model lacks consistency with the theoretical foundation of self-compassion.

Interestingly, a recent study measuring self-compassion in Chinese Buddhists concluded that the six-factor model was not replicable (Zeng, Wei, Oei, & Lui, 2016). The authors suggest that the Western conceptualization of self-compassion is theoretically distinct from the ideas of Buddhism. Prior to Zeng et al. (2016), the SCS had not been validated on a Buddhist sample; therefore, little information is known about the conceptual overlap between Eastern and Western theories of self-compassion. The original six-factor model of self-compassion failed to replicate in a Buddhist or Non-Buddhist sample. However, the authors do note that influence of Chinese culture may have impacted the translation, rather than Buddhism being the sole cause of this irrepliablility. Moreover, in the Buddhist sample, self-kindness versus self-judgment and common humanity versus isolation were not negatively correlated; this finding is inconsistent
with theoretical basis of self-compassion and previous findings using Non-Buddhist samples. The authors conclude that the Western conceptualization of self-compassion is inconsistent with Eastern Buddhist ideology.

The construct of self-compassion encompasses confronting negative experiences with warmth and support instead of berating the self with criticism. The SCS contains thirteen positive items and thirteen negative items. The positive items represent the three self-compassion components: self-kindness, common humanity, and mindfulness. The negative items represent the three alternative components: self-judgment, isolation, and overidentification. Given the inconsistent findings, perhaps the SCS is best interpreted in terms of self-compassion versus self-criticism rather than the three components. In the original validation, the SCS was discovered by conducting separate CFAs yet interpreting the findings as a full model. The current study conducted one CFA on the proposed six-factor model, and fit indices suggest that the six-factor model fit the data well. However, only a small number of studies have conducted EFAs to examine the SCS item loadings and how well the six-factor structure holds up. Given the discord within the self-compassion research community, additional evidence for or against the current factor structure is essential.

In the current study, a subsequent EFA was conducted and six-, three-, and two-factor models were examined. While the fit indices indicated better fit for the six- and three-factor models, the SCS items did not load in a manner consistent with the theoretical basis of self-compassion. Therefore, a simple, two-factor solution emerged as a clean representation of the scale, achieving simple structure and acceptable model fit. The two factors determined by the EFA were labeled as self-compassion versus self-criticism due to the clear distinction between positive (self-kindness, common humanity, and mindfulness) and negative (self-judgment,
isolation, and overidentification) items. Similarly, when Lopez et al. (2015) ran an EFA with the full model, the items split into factors representing self-compassion and self-criticism. The two-factor structure creates a bipolar split of the SCS, suggesting an individual may be a combination of varying levels of self-compassion and self-criticism. Previous research suggests that self-critical individuals struggle to develop self-compassion (Gilbert & Procter, 2006; Mayhew & Gilbert, 2008; Rockliff et al., 2008). This evidence may support the view that the SCS is measuring self-compassion and self-criticism, rather than six individual subscales.

The question now is whether the self-compassion and self-criticism are separate entities or can they be represented by the construct of self-compassion. Gilbert et al. (2011) suggests that self-compassion is distinct from self-criticism and the two shouldn’t be measured as one construct. An fMRI task indicated that self-criticism and self-reassurance are associated with different brain regions (Longe et al., 2010). Taken altogether, there is some evidence supporting the argument that self-compassion and self-criticism are distinct processes. Moreover, another important question to posit is whether self-criticism is the appropriate word to describe, or represent the negative items of the SCS. The negative items include statements regarding feelings of isolation (such as, “When I fail at something that's important to me, I tend to feel alone in my failure”) and overidentification with negative emotions (such as, “When I’m feeling down I tend to obsess and fixate on everything that’s wrong”). These types of negative items may not align with an overall description, or label of “self-criticism”.

**Strengths of Current Study**

The current study addresses concerns of sample size, population, and statistical methods and analysis. Archival data measuring trait self-compassion was inspected and combined into a
large composite data set, totaling 2,515 participants. Eleven of the archival data sets were pooled from Mturk, while only two of the samples were University students. Instead of running multiple models on the same sample, the composite data set was randomly split, providing the researchers with a hold out sample to retest a model. Additionally, it is commonly accepted that latent variable modeling conducted in programs such as Mplus, LISREL, EQS, and AMOS are more appropriate approaches (compared to SPSS), given each programs’ power and flexibility.

**Limitations and Future Directions**

While the current study addresses several concerns regarding the SCS, some limitations need to be addressed. This study utilized archival data in order to create a large, more representative sample to test proposed factor models. Archival data may contain noise from attempted experimental manipulations as well as numerous other measurements; however, given that the Self-Compassion Scale is a trait measure, we anticipate it is less affected by these varying design issues. Due to the nature of this study, there were limited variables to include along with the SCS to examine convergent and discriminant validity. Although the total sample was unique from typical University pools, there were still a significant amount of Caucasian (78%) and Female (n = 1,627; 65%) participants. The findings from this study may not be generalizable to clinical samples; given that the current focus was to eschew traditional University samples, a combination of online community adults and some student samples were used.

While the findings from the CFA demonstrated good model fit, for the purposes of the current study, it was determined that an EFA would also be included. Using an EFA, a simpler, two-factor solution emerged; however, this model does not match the theoretical
conceptualization of self-compassion. Consequently, there is discordance with the CFA and EFA findings. In order to address this issue, future research should focus on using other forms of factor analysis to determine whether an overall self-compassion score should be used. Instead of using a hierarchical confirmatory factor analysis, as employed by Neff (2003a), an alternative approach is a bi-factor model (Reise et al. 2010, 2013). The bi-factor model is an item-response theory model designed for assessing the multidimensionality of psychological measures. Rather than a higher-order model, the bi-factor model allows for the SCS items to load onto general (or “target”) factors in addition to subscale (or “specific” group) factors. General or “target” factors can influence the way an individual responds to individual items; whereas, the subscale or “specific” factors may help explain variance unaccounted for by the general factor (Reise et al., 2010). However, the specific factors need to be orthogonal; meaning the subscales should be unrelated. Using a bi-factor model, a general factor of Self-Compassion would explain individual item responses, whereas the six subscales could potentially explain variance unaccounted for by the general Self-Compassion factor. Interestingly, Neff (2015) suggests that a bi-factor model is an appropriate, more advanced method for testing the SCS. Consistent with the author’s original conceptualization, Neff goes on to posit that the theoretical model of self-compassion does not postulate that the six subscales operate in a linear fashion, rather the positive and negative subscales interact, thus creating a “self-compassion state of mind”. The bi-factor model may help researchers interpret the SCS in a manner consistent with Neff’s original assertion without neglecting good model fit.

**Conclusion**

Interest in self-compassion has risen remarkably in the past decade; subsequently, self-compassion has emerged as a notable construct in psychology and its sub-disciplines. With this
increased attention, concerns regarding the self-compassion measurement tool, the Self-compassion Scale (SCS; Neff, 2003a), have become apparent. Using a large, more representative sample, the proposed SCS factor structure is not sufficient. Instead, a simpler, two-factor model of the SCS emerged achieving simple structure, but does not map on to the theoretical conceptualization. In order to best adhere to the theoretical basis, future research should aim to use more advanced statistical models to explain the multidimensionality of the Self-compassion Scale.
Appendix A

Self-Compassion Scale (Neff, 2003b)

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

<table>
<thead>
<tr>
<th>Scale</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almost Never</td>
<td>1</td>
</tr>
<tr>
<td>Rarely</td>
<td>2</td>
</tr>
<tr>
<td>Sometimes</td>
<td>3</td>
</tr>
<tr>
<td>Frequently</td>
<td>4</td>
</tr>
<tr>
<td>Almost Always</td>
<td>5</td>
</tr>
</tbody>
</table>

1. I’m disapproving and judgmental about my own flaws and inadequacies.
2. When I’m feeling down I tend to obsess and fixate on everything that’s wrong.
3. When things are going badly for me, I see the difficulties as part of life that everyone goes through.
4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.
5. I try to be loving towards myself when I’m feeling emotional pain.
6. When I fail at something important to me I become consumed by feelings of inadequacy.
7. When I'm down, I remind myself that there are lots of other people in the world feeling like I am.
8. When times are really difficult, I tend to be tough on myself.
9. When something upsets me I try to keep my emotions in balance.
10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.
11. I’m intolerant and impatient towards those aspects of my personality I don't like.
12. When I’m going through a very hard time, I give myself the caring and tenderness I need.
13. When I’m feeling down, I tend to feel like most other people are probably happier than I am.
14. When something painful happens I try to take a balanced view of the situation.
15. I try to see my failings as part of the human condition
16. When I see aspects of myself that I don’t like, I get down on myself.
17. When I fail at something important to me I try to keep things in perspective.
18. When I’m really struggling, I tend to feel like other people must be having an easier
time of it.

19. I’m kind to myself when I’m experiencing suffering.

20. When something upsets me I get carried away with my feelings.

21. I can be a bit cold-hearted towards myself when I’m experiencing suffering.

22. When I'm feeling down I try to approach my feelings with curiosity and openness.

23. I’m tolerant of my own flaws and inadequacies.

24. When something painful happens I tend to blow the incident out of proportion.

25. When I fail at something that's important to me, I tend to feel alone in my failure.

26. I try to be understanding and patient towards those aspects of my personality I don't like.
References


Comrey AL, Lee HB. *A first course in factor analysis*, 2.


DOI:10.1037/0022-3514.92.5.887.


<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Sample 1</th>
<th>Sample 2</th>
<th>Nationality</th>
<th>Sample Power</th>
<th>College Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deniz, Kesici, &amp; Sumer</td>
<td>2008</td>
<td>341</td>
<td>--</td>
<td>Turkish</td>
<td>Good</td>
<td>Yes</td>
</tr>
<tr>
<td>*Lee &amp; Lee</td>
<td>2010</td>
<td>--</td>
<td>--</td>
<td>Korean</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td><em>Chen, Yan, &amp; Zhou</em>*</td>
<td>2011</td>
<td>660</td>
<td>--</td>
<td>Chinese</td>
<td>Very Good</td>
<td>--</td>
</tr>
<tr>
<td>*Castilho &amp; Gouveia</td>
<td>2011</td>
<td>631</td>
<td>--</td>
<td>Portuguese</td>
<td>Very Good</td>
<td>Yes</td>
</tr>
<tr>
<td>Hupfield &amp; Ruffiex</td>
<td>2011</td>
<td>396</td>
<td>165</td>
<td>German</td>
<td>Good</td>
<td>Yes (S1)/No (S2)</td>
</tr>
<tr>
<td>Petrocchi, Ottaviani, &amp; Couyomdjian</td>
<td>2013</td>
<td>424</td>
<td>--</td>
<td>Italian</td>
<td>Good</td>
<td>No</td>
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<tr>
<td>Azizi et al.</td>
<td>2013</td>
<td>265</td>
<td>--</td>
<td>Iranian</td>
<td>Fair</td>
<td>Yes</td>
</tr>
<tr>
<td>Aritmitsu</td>
<td>2014</td>
<td>366</td>
<td>--</td>
<td>Japanese</td>
<td>Good</td>
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<tr>
<td>Garcia-Campayo et al.</td>
<td>2014</td>
<td>268</td>
<td>271</td>
<td>Spanish</td>
<td>Fair</td>
<td>Yes</td>
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<tr>
<td>Castilho, Gouveia, &amp; Duarte**</td>
<td>2015</td>
<td>1128</td>
<td>316</td>
<td>Portuguese</td>
<td>Good/Excellent</td>
<td>Yes (S1)/No (S2)</td>
</tr>
<tr>
<td>Souza &amp; Hutz**</td>
<td>2016</td>
<td>432</td>
<td>--</td>
<td>Brazilian</td>
<td>Good</td>
<td>No</td>
</tr>
</tbody>
</table>

Note. All studies above have demonstrated evidence for the six-factor model. *Article not available for review. **Authors reported evidence for higher-order model. In last column, S1 meaning Sample 1 and S2 meaning Sample 2.
Table 2
Sample Descriptives

<table>
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<tr>
<th>Sample #</th>
<th>Source</th>
<th>Total n</th>
<th>Men</th>
<th>Women</th>
<th>SCS M</th>
<th>SCS SD</th>
<th>SCS α</th>
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<td>1</td>
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<td>132</td>
<td>25</td>
<td>107</td>
<td>3.083</td>
<td>0.327</td>
<td>0.901</td>
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<tr>
<td>2</td>
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<td>316</td>
<td>65</td>
<td>251</td>
<td>3.09</td>
<td>0.623</td>
<td>0.923</td>
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<tr>
<td>4</td>
<td>Mturk</td>
<td>140</td>
<td>58</td>
<td>82</td>
<td>2.948</td>
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<td>0.958</td>
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<tr>
<td>6</td>
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<td>176</td>
<td>87</td>
<td>89</td>
<td>2.962</td>
<td>0.647</td>
<td>0.928</td>
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<tr>
<td>7</td>
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<td>215</td>
<td>106</td>
<td>109</td>
<td>2.991</td>
<td>0.154</td>
<td>0.948</td>
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<tr>
<td>8</td>
<td>Mturk</td>
<td>123</td>
<td>14</td>
<td>109</td>
<td>3.159</td>
<td>0.312</td>
<td>0.930</td>
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<tr>
<td>9</td>
<td>Mturk</td>
<td>220</td>
<td>104</td>
<td>116</td>
<td>3.161</td>
<td>0.396</td>
<td>0.937</td>
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<tr>
<td>15</td>
<td>Mturk</td>
<td>192</td>
<td>81</td>
<td>111</td>
<td>3.043</td>
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<td>0.935</td>
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<tr>
<td>16</td>
<td>Mturk</td>
<td>201</td>
<td>67</td>
<td>111</td>
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<td>0.705</td>
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<tr>
<td>17</td>
<td>Mturk</td>
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<td>89</td>
<td>133</td>
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<tr>
<td>18</td>
<td>Mturk</td>
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<td>19</td>
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<td>0.691</td>
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<td>20</td>
<td>Mturk</td>
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<td>63</td>
<td>91</td>
<td>3.001</td>
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<td>0.943</td>
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Missing Info | 55
Total         | 2,515

Table 3
Factor Analysis Model Fit Indices

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<th>Confirmatory Factor Analysis</th>
<th>Exploratory Factor Analysis</th>
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<td></td>
<td>$\chi^2$ DF</td>
<td>$\chi^2$ / DF</td>
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<td></td>
<td>1199.14***</td>
<td>284</td>
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</table>

Note. *Eigenvalue > 1, **p < .001.
<table>
<thead>
<tr>
<th>SCS Item</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
<th>F5</th>
<th>F6</th>
<th>Neff Subscale</th>
<th>Positive /Negative</th>
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</thead>
<tbody>
<tr>
<td>When things are going badly for me, I see the difficulties as part of life that everyone goes through.</td>
<td>0.473</td>
<td>-0.029</td>
<td>0.086</td>
<td>0.275</td>
<td>0.062</td>
<td>-0.02</td>
<td>CH POS</td>
<td></td>
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<tr>
<td>When I'm down, I remind myself that there are lots of other people in the world feeling like I am.</td>
<td>0.765</td>
<td>0.059</td>
<td>0.014</td>
<td>-0.096</td>
<td>-0.007</td>
<td>0.000</td>
<td>CH POS</td>
<td></td>
</tr>
<tr>
<td>When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.</td>
<td>0.736</td>
<td>0.033</td>
<td>-0.012</td>
<td>0.020</td>
<td>0.005</td>
<td>0.004</td>
<td>CH POS</td>
<td></td>
</tr>
<tr>
<td>I try to see my failings as part of the human condition.</td>
<td>0.487</td>
<td>-0.034</td>
<td>-0.008</td>
<td>0.276</td>
<td>0.003</td>
<td>0.006</td>
<td>CH POS</td>
<td></td>
</tr>
<tr>
<td>I try to be loving towards myself when I'm feeling emotional pain.</td>
<td>0.058</td>
<td>0.706</td>
<td>0.027</td>
<td>0.040</td>
<td>-0.050</td>
<td>0.015</td>
<td>SK POS</td>
<td></td>
</tr>
<tr>
<td>When I'm going through a very hard time, I give myself the caring and tenderness I need.</td>
<td>0.039</td>
<td>0.781</td>
<td>0.000</td>
<td>-0.009</td>
<td>0.054</td>
<td>-0.016</td>
<td>SK POS</td>
<td></td>
</tr>
<tr>
<td>I'm kind to myself when I'm experiencing suffering.</td>
<td>-0.051</td>
<td>0.811</td>
<td>0.026</td>
<td>0.025</td>
<td>0.004</td>
<td>0.000</td>
<td>SK POS</td>
<td></td>
</tr>
<tr>
<td>When I'm feeling down, I try to approach my feelings with curiosity and openness.</td>
<td>0.172</td>
<td>0.346</td>
<td>-0.017</td>
<td>0.222</td>
<td>0.011</td>
<td>0.016</td>
<td>MF POS</td>
<td></td>
</tr>
<tr>
<td>I'm tolerant of my own flaws and inadequacies.</td>
<td>0.088</td>
<td>0.507</td>
<td>-0.018</td>
<td>0.092</td>
<td>0.014</td>
<td>0.081</td>
<td>SK POS</td>
<td></td>
</tr>
<tr>
<td>I try to be understanding and patient towards those aspects of my personality I don't like.</td>
<td>0.143</td>
<td>0.328</td>
<td>-0.045</td>
<td>0.288</td>
<td>-0.017</td>
<td>0.036</td>
<td>SK POS</td>
<td></td>
</tr>
<tr>
<td>I'm disapproving and judgmental about my own flaws and inadequacies.</td>
<td>0.022</td>
<td>0.052</td>
<td>0.887</td>
<td>-0.029</td>
<td>-0.123</td>
<td>-0.030</td>
<td>SJ NEG</td>
<td></td>
</tr>
<tr>
<td>When times are really difficult, I tend to be tough on myself.</td>
<td>-0.018</td>
<td>0.071</td>
<td>0.707</td>
<td>-0.030</td>
<td>0.098</td>
<td>-0.119</td>
<td>SJ NEG</td>
<td></td>
</tr>
<tr>
<td>I'm intolerant and impatient towards those aspects of my personality I don't like.</td>
<td>0.048</td>
<td>-0.053</td>
<td>0.487</td>
<td>0.053</td>
<td>0.002</td>
<td>0.218</td>
<td>SJ NEG</td>
<td></td>
</tr>
<tr>
<td>When I see aspects of myself that I don't like, I get down on myself.</td>
<td>0.014</td>
<td>0.001</td>
<td>0.681</td>
<td>0.028</td>
<td>0.070</td>
<td>0.043</td>
<td>SJ NEG</td>
<td></td>
</tr>
<tr>
<td>I can be a bit cold-hearted towards myself when I'm experiencing suffering.</td>
<td>-0.015</td>
<td>0.117</td>
<td>0.515</td>
<td>-0.053</td>
<td>0.044</td>
<td>0.174</td>
<td>SJ NEG</td>
<td></td>
</tr>
<tr>
<td>When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.</td>
<td>0.008</td>
<td>-0.008</td>
<td>0.529</td>
<td>0.028</td>
<td>0.190</td>
<td>0.124</td>
<td>IS NEG</td>
<td></td>
</tr>
<tr>
<td>When I fail at something that's important to me, I tend to feel alone in my failure.</td>
<td>-0.016</td>
<td>0.042</td>
<td>0.554</td>
<td>-0.042</td>
<td>0.204</td>
<td>-0.002</td>
<td>IS NEG</td>
<td></td>
</tr>
<tr>
<td>When I'm feeling down, I tend to obsess and fixate on everything that's wrong.</td>
<td>0.030</td>
<td>-0.028</td>
<td>0.599</td>
<td>0.048</td>
<td>0.109</td>
<td>0.131</td>
<td>OI NEG</td>
<td></td>
</tr>
<tr>
<td>When I fail at something important to me, I become consumed by feelings of inadequacy.</td>
<td>0.000</td>
<td>-0.090</td>
<td>0.701</td>
<td>0.101</td>
<td>0.058</td>
<td>0.056</td>
<td>OI NEG</td>
<td></td>
</tr>
<tr>
<td>When something upsets me, I try to keep my emotions in balance.</td>
<td>0.026</td>
<td>0.086</td>
<td>0.002</td>
<td>0.559</td>
<td>-0.012</td>
<td>0.018</td>
<td>MF POS</td>
<td></td>
</tr>
<tr>
<td>When something painful happens, I try to take a balanced view of the situation.</td>
<td>0.012</td>
<td>0.030</td>
<td>0.006</td>
<td>0.716</td>
<td>0.009</td>
<td>0.003</td>
<td>MF POS</td>
<td></td>
</tr>
<tr>
<td>When I fail at something important to me, I try to keep things in perspective.</td>
<td>0.036</td>
<td>0.137</td>
<td>0.012</td>
<td>0.63</td>
<td>-0.003</td>
<td>0.004</td>
<td>MF POS</td>
<td></td>
</tr>
<tr>
<td>When I'm feeling down, I tend to feel like most other people are probably happier than I am.</td>
<td>-0.003</td>
<td>-0.024</td>
<td>0.191</td>
<td>0.054</td>
<td>0.622</td>
<td>0.024</td>
<td>IS NEG</td>
<td></td>
</tr>
<tr>
<td>When I'm really struggling, I tend to feel like other people must be having an easier time of it.</td>
<td>0.011</td>
<td>0.028</td>
<td>-0.026</td>
<td>-0.020</td>
<td>0.879</td>
<td>0.013</td>
<td>IS NEG</td>
<td></td>
</tr>
<tr>
<td>When something upsets me, I get carried away with my feelings.</td>
<td>-0.039</td>
<td>0.000</td>
<td>0.246</td>
<td>0.066</td>
<td>0.072</td>
<td>0.531</td>
<td>OI NEG</td>
<td></td>
</tr>
<tr>
<td>When something painful happens, I tend to blow the incident out of proportion.</td>
<td>0.008</td>
<td>0.014</td>
<td>-0.024</td>
<td>-0.014</td>
<td>0.001</td>
<td>0.899</td>
<td>OI NEG</td>
<td></td>
</tr>
</tbody>
</table>

Simple Structure: No
Table 5
Rotated Factor Loadings for Three Factors Compared to Neff’s Model

<table>
<thead>
<tr>
<th>SCS Item</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>Neff Subscale</th>
<th>Positive/Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>I try to see my failings as part of the human condition.</td>
<td>0.678</td>
<td>-0.038</td>
<td>-0.006</td>
<td>CH</td>
<td>POS</td>
</tr>
<tr>
<td>When something painful happens, I try to take a balanced view of the situation.</td>
<td>0.643</td>
<td>0.040</td>
<td>0.036</td>
<td>MF</td>
<td>POS</td>
</tr>
<tr>
<td>When I fail at something important to me, I try to keep things in perspective.</td>
<td>0.631</td>
<td>0.035</td>
<td>0.109</td>
<td>MF</td>
<td>POS</td>
</tr>
<tr>
<td>When things are going badly for me, I see the difficulties as part of life that everyone goes through.</td>
<td>0.627</td>
<td>0.085</td>
<td>0.032</td>
<td>CH</td>
<td>POS</td>
</tr>
<tr>
<td>When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.</td>
<td>0.624</td>
<td>-0.059</td>
<td>0.107</td>
<td>CH</td>
<td>POS</td>
</tr>
<tr>
<td>When something upsets me, I try to keep my emotions in balance.</td>
<td>0.547</td>
<td>0.024</td>
<td>0.066</td>
<td>MF</td>
<td>POS</td>
</tr>
<tr>
<td>When I'm down, I remind myself that there are lots of other people in the world feeling like I am.</td>
<td>0.542</td>
<td>-0.051</td>
<td>0.140</td>
<td>CH</td>
<td>POS</td>
</tr>
<tr>
<td>I try to be understanding and patient towards those aspects of my personality I don't like.</td>
<td>0.500</td>
<td>-0.024</td>
<td>0.245</td>
<td>SK</td>
<td>POS</td>
</tr>
<tr>
<td>When I'm feeling down, I try to approach my feelings with curiosity and openness.</td>
<td>0.451</td>
<td>0.010</td>
<td>0.280</td>
<td>MF</td>
<td>POS</td>
</tr>
<tr>
<td>When I fail at something important to me, I become consumed by feelings of inadequacy.</td>
<td>0.013</td>
<td>0.773</td>
<td>-0.026</td>
<td>OI</td>
<td>NEG</td>
</tr>
<tr>
<td>When I'm feeling down, I tend to obsess and fixate on everything that's wrong.</td>
<td>0.044</td>
<td>0.759</td>
<td>-0.018</td>
<td>OI</td>
<td>NEG</td>
</tr>
<tr>
<td>When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.</td>
<td>0.024</td>
<td>0.757</td>
<td>-0.022</td>
<td>IS</td>
<td>NEG</td>
</tr>
<tr>
<td>When I see aspects of myself that I don't like, I get down on myself.</td>
<td>-0.012</td>
<td>0.754</td>
<td>0.044</td>
<td>SJ</td>
<td>NEG</td>
</tr>
<tr>
<td>I'm disapproving and judgmental about my own flaws and inadequacies.</td>
<td>-0.084</td>
<td>0.743</td>
<td>0.145</td>
<td>SJ</td>
<td>NEG</td>
</tr>
<tr>
<td>When I fail at something that's important to me, I tend to feel alone in my failure.</td>
<td>-0.119</td>
<td>0.715</td>
<td>0.092</td>
<td>IS</td>
<td>NEG</td>
</tr>
<tr>
<td>When times are really difficult, I tend to be tough on myself.</td>
<td>-0.158</td>
<td>0.699</td>
<td>0.186</td>
<td>SJ</td>
<td>NEG</td>
</tr>
<tr>
<td>When I'm feeling down, I tend to feel like most other people are probably happier than I am.</td>
<td>0.013</td>
<td>0.693</td>
<td>-0.039</td>
<td>IS</td>
<td>NEG</td>
</tr>
<tr>
<td>When I'm really struggling, I tend to feel like other people must be having an easier time of it.</td>
<td>-0.015</td>
<td>0.664</td>
<td>-0.024</td>
<td>IS</td>
<td>NEG</td>
</tr>
<tr>
<td>I can be a bit cold-hearted towards myself when I'm experiencing suffering.</td>
<td>-0.016</td>
<td>0.658</td>
<td>0.068</td>
<td>SJ</td>
<td>NEG</td>
</tr>
<tr>
<td>When something upsets me, I get carried away with my feelings.</td>
<td>0.203</td>
<td>0.636</td>
<td>-0.202</td>
<td>OI</td>
<td>NEG</td>
</tr>
<tr>
<td>I'm intolerant and impatient towards those aspects of my personality I don't like.</td>
<td>0.120</td>
<td>0.611</td>
<td>-0.090</td>
<td>SJ</td>
<td>NEG</td>
</tr>
<tr>
<td>When something painful happens, I tend to blow the incident out of proportion.</td>
<td>0.269</td>
<td>0.528</td>
<td>-0.275</td>
<td>OI</td>
<td>NEG</td>
</tr>
<tr>
<td>I'm kind to myself when I'm experiencing suffering.</td>
<td>0.169</td>
<td>0.076</td>
<td>0.666</td>
<td>SK</td>
<td>POS</td>
</tr>
<tr>
<td>When I'm going through a very hard time, I give myself the caring and tenderness I need.</td>
<td>0.206</td>
<td>0.070</td>
<td>0.649</td>
<td>SK</td>
<td>POS</td>
</tr>
<tr>
<td>I try to be loving towards myself when I'm feeling emotional pain.</td>
<td>0.257</td>
<td>0.028</td>
<td>0.589</td>
<td>SK</td>
<td>POS</td>
</tr>
<tr>
<td>I'm tolerant of my own flaws and inadequacies.</td>
<td>0.329</td>
<td>0.063</td>
<td>0.373</td>
<td>SK</td>
<td>POS</td>
</tr>
</tbody>
</table>

Simple Structure: No
Table 6

Rotated Factor Loadings for Two Factors Compared to Neff’s Model

<table>
<thead>
<tr>
<th>SCS Item</th>
<th>Two-Factor Model</th>
<th>Neff Subscale</th>
<th>Positive/Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>When things are going badly for me, I see the difficulties as part of life that everyone goes through.</td>
<td>0.612 0.081</td>
<td>CH POS</td>
<td></td>
</tr>
<tr>
<td>I try to be loving towards myself when I'm feeling emotional pain.</td>
<td>0.728 -0.009</td>
<td>SK POS</td>
<td></td>
</tr>
<tr>
<td>When I'm down, I remind myself that there are lots of other people in the world feeling like I am.</td>
<td>0.630 -0.063</td>
<td>CH POS</td>
<td></td>
</tr>
<tr>
<td>When something upsets me, I try to keep my emotions in balance.</td>
<td>0.568 0.017</td>
<td>MF POS</td>
<td></td>
</tr>
<tr>
<td>When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.</td>
<td>0.677 -0.068</td>
<td>CH POS</td>
<td></td>
</tr>
<tr>
<td>When I'm going through a very hard time, I give myself the caring and tenderness I need.</td>
<td>0.726 0.030</td>
<td>SK POS</td>
<td></td>
</tr>
<tr>
<td>When something painful happens, I try to take a balanced view of the situation.</td>
<td>0.630 0.036</td>
<td>MF POS</td>
<td></td>
</tr>
<tr>
<td>I try to see my failings as part of the human condition.</td>
<td>0.627 -0.039</td>
<td>CH POS</td>
<td></td>
</tr>
<tr>
<td>When I fail at something important to me, I try to keep things in perspective.</td>
<td>0.682 0.026</td>
<td>MF POS</td>
<td></td>
</tr>
<tr>
<td>I'm kind to myself when I'm experiencing suffering.</td>
<td>0.705 0.035</td>
<td>SK POS</td>
<td></td>
</tr>
<tr>
<td>When I'm feeling down, I try to approach my feelings with curiosity and openness.</td>
<td>0.662 0.011</td>
<td>MF POS</td>
<td></td>
</tr>
<tr>
<td>I'm tolerant of my own flaws and inadequacies.</td>
<td>0.626 0.036</td>
<td>SK POS</td>
<td></td>
</tr>
<tr>
<td>I try to be understanding and patient towards those aspects of my personality I don't like.</td>
<td>0.681 -0.044</td>
<td>SK POS</td>
<td></td>
</tr>
<tr>
<td>I'm disapproving and judgmental about my own flaws and inadequacies.</td>
<td>0.038 0.734</td>
<td>SJ NEG</td>
<td></td>
</tr>
<tr>
<td>When times are really difficult, I tend to be tough on myself.</td>
<td>0.003 0.688</td>
<td>SJ NEG</td>
<td></td>
</tr>
<tr>
<td>I'm intolerant and impatient towards those aspects of my personality I don't like.</td>
<td>0.031 0.617</td>
<td>SJ NEG</td>
<td></td>
</tr>
<tr>
<td>When I see aspects of myself that I don't like, I get down on myself.</td>
<td>0.018 0.753</td>
<td>SJ NEG</td>
<td></td>
</tr>
<tr>
<td>I can be a bit cold-hearted towards myself when I'm experiencing suffering.</td>
<td>0.034 0.655</td>
<td>SJ NEG</td>
<td></td>
</tr>
<tr>
<td>When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.</td>
<td>-0.006 0.762</td>
<td>IS NEG</td>
<td></td>
</tr>
<tr>
<td>When I'm feeling down, I tend to feel like most other people are probably happier than I am.</td>
<td>-0.030 0.699</td>
<td>IS NEG</td>
<td></td>
</tr>
<tr>
<td>When I'm really struggling, I tend to feel like other people must be having an easier time of it.</td>
<td>-0.043 0.669</td>
<td>IS NEG</td>
<td></td>
</tr>
<tr>
<td>When I fail at something that's important to me, I tend to feel alone in my failure.</td>
<td>-0.040 0.711</td>
<td>IS NEG</td>
<td></td>
</tr>
<tr>
<td>When I'm feeling down, I tend to obsess and fixate on everything that's wrong.</td>
<td>0.018 0.762</td>
<td>OI NEG</td>
<td></td>
</tr>
<tr>
<td>When I fail at something important to me, I become consumed by feelings of inadequacy.</td>
<td>-0.019 0.778</td>
<td>OI NEG</td>
<td></td>
</tr>
<tr>
<td>When something upsets me, I get carried away with my feelings.</td>
<td>0.011 0.647</td>
<td>OI NEG</td>
<td></td>
</tr>
<tr>
<td>When something painful happens, I tend to blow the incident out of proportion.</td>
<td>0.013 0.543</td>
<td>OI NEG</td>
<td></td>
</tr>
</tbody>
</table>

Simple Structure: Yes
Vita

Jennifer Marie Barton

EDUCATION
Exp. 2016 M.S., University of North Florida, Psychology
2012 B.S., University of North Florida, Psychology

PUBLICATIONS


RESEARCH EXPERIENCE
The TIE Laboratory, Graduate Research Assistant 2014-Present
Dr. Jody S. Nicholson

• Comprehensive Approach to Improving Children’s Physical Environment: Improving Nutrition and Reducing Risk for Chronic Diseases in an Under-served Population: Organized yearlong nutrition curriculum for participating Head Starts; coordinated with Nutrition/Dietetics faculty and community partners; and train and supervise undergraduates in data collection and cleaning.

• Assessing Working Memory in Low-Income Preschool Aged Children: Designed working memory battery for children aged 3 to 5 years; administer measurement; and instruct undergraduates on how to administer. Manuscript submitted (see above).

• A New Protocol for Reducing Blood Lead Levels (BLL) in Ohio Children: Involved in development of a new protocol to reduce BLL’s; monitor monthly data entry; and adapt existing lead risk coding protocol. Funding: U.S. Dept. of Housing and Urban Development (HUD GRANT # OHLHB0561-13). Manuscript to be produced.
Self, Well-Being, and Social Behavior Laboratory, Research Assistant 2012-2016
Dr. Ashley Batts Allen (University of North Carolina at Pembroke)

- **Investigating the Explanatory Power of Self-Compassion**: Inspect, combine, and analyze twenty archival data sets assessing self-compassion, self-esteem, and emotions; present and interpret findings. *Manuscript to be produced.*

- **Presenting a Self-compassionate Image after an Interpersonal Transgression**: Co-constructed study design; inspect, code, and analyze data; present and interpret findings; and collaborated on a manuscript.

- **Self-Compassion Intervention for Domestic Violence Survivors**: Address ethical concerns in study protocol; adapt measurements to sample; co-facilitate data collection; and present and interpret findings.

**CONFERENCE PRESENTATIONS**


**TEACHING EXPERIENCE**

Graduate Teaching Assistant
CLP 4313 Health Psychology  
Summer 2016  
Assess student performance (e.g., test essays and weekly assignments); assist students with class exercises; and hold office hours.

DEP 3054 Lifespan Developmental Psychology  
Spring 2016  
Present guest lectures; coordinate out of class learning activities; assess student performance (e.g., test essays and assignments); assist students with in class exercises; and hold office hours.

SOP 3214C Experimental Social Psychology  
Fall 2014  
Present guest lectures; develop poster presentation tools; and assess student performance
(e.g., presentations and research papers).

**CLINICAL AND APPLIED EXPERIENCE**

**Lead Facilitator - Self-Compassion Training Program** 2013 – 2014
Hubbard House Inc. — Domestic Violence Shelter, Jacksonville, FL
Independently facilitate the weekly Self-Compassion Training Program in a support group setting to adult female domestic violence survivors at a local shelter; learned how to work intimately with the shelter and vulnerable populations.

**Assistant to Child Advocate** 2012
Hubbard House Inc. — Domestic Violence Shelter, Jacksonville, FL

**HONORS AND AWARDS**

- Graduate Research Travel Grant ($500) 2016
- MAGP Colloquium Poster Award 2015
- SSSP Graduate Student Poster Presentation Award 2015
- Florida Blue Ethics Center Travel Grant ($700) 2015
- Graduate Research Travel Grant ($500) 2015
- Graduate Research Assistantship ($1500) 2015

**PROFESSIONAL EXPERIENCE**

**Interdisciplinary Research Assistant** April 2015-Present
Center for Community-Based Learning
University of North Florida

**PROFESSIONAL REFERENCES**

- Dr. Ashley Batts Allen, ashley.allen@uncp.edu
- Dr. Jody S. Nicholson, jody.nicholson@unf.edu
- Dr. Dan Richard, drichard@unf.edu
- Heather Burk, hburk@unf.edu