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Examining the Caring-Uncaring Emotional (CUE) Inventory as a Measure of Affective, Callous-Unemotional Psychopathy Traits in a Community Sample of Adults

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Abstract

Affective-interpersonal features such as callousness, meanness, or interpersonal antagonism, are regarded as essential to psychopathy. It has been proposed that assessment of the affective dimension of psychopathy may be relevant for risk assessment purposes and for intervention and treatment purposes. It may be constructive to have available brief measures of the affective dimension of psychopathy in both youth and adult populations. The current study represents a second validation study of a new, brief, self-report measure of the affective dimension of psychopathy in adults and potentially in adolescents. A study of the Caring-Uncaring Emotional (CUE) Inventory was conducted with 121 men and women recruited from a community sample. The CUE was found to have high internal consistency reliability (α = .93), and was found to have high correlations with multiple subscale measures of callous affect from established psychopathy measures developed for adults and for youths. The CUE was found to have a high, inverse association with a measure of empathy. The CUE also was found to have a moderate, positive association with a measure of Antisocial Intent. An Exploratory Factor Analysis suggested a three-factor solution, with the first factor accounting for 36.3% of the variance in scores, with high to very high loadings on 15 items. The first factor appeared to represent a robust measure of callousness in adults in a community sample. The second and third factors may tap into lack of close attachment and indifference/emotional detachment as conceptualized in other psychopathy measures. Further study of the CUE is needed to better clarify the latent structure of this scale. The CUE should be further studied for its relationships with other psychopathy measures and personality and behavioral variables. The strong associations between the CUE and two youth psychopathy measures in the current study which included young adults warrants its study in youth samples, including juvenile offenders.

Keywords: psychopathy, affective, callous-unemotional traits, assessment, empathy, antisocial intent

1. Introduction

1.1 Affective Features Are Essential to Psychopathy

Psychopathy is generally understood as comprising interpersonal, affective, and behavioral dimensions (Cleckley, 1941/1976; Cooke & Michie, 2001; Hare, 1991, 2003; Hare & Neumann, 2008; Patrick, Fowles, & Krueger, 2009; Skeem, Polascheck, Patrick, & Lilienfeld, 2011). Psychopathy traits include callousness, lack of empathy, shallow emotions, absence of guilt or remorse, lying, deceitfulness, manipulation, exploitation of others, egocentricity, and irresponsible and anti-social behavior. Specific models and measures of psychopathy derive from somewhat different conceptualizations of psychopathy. As postulated by Sellbom, Cooke, and Hart (2015), affective-interpersonal features, operationalized as "meanness" in Patrick et al.'s (2009) triarchic model, or callous-unemotional traits, as conceptualized in measures of childhood psychopathy, "seem to be at the core of the disorder" (p. 178). Similarly, from the perspective of the Five Factor Model of personality (FFM; Costa & McCrae, 1992), Miller and Lynam (2015) contend that the domain of Agreeableness, i.e., extremely low agreeableness along with very high antagonism, is most essential to the construct of psychopathy. In a study by Lynam et al. (2011) of a measure which they developed based on the FFM, i.e., the Elemental Psychopathy Assessment (EPA), the Callousness scale of the EPA had a very high loading on the FFM Agreeableness personality dimension. The EPA Callousness scale also had a very high loading on the EPA Antagonism factor. In one of several studies that demonstrated strong convergent validity of the EPA with other psychopathy

measures, Miller, Hyatt, Rausher, Maples, and Zeichner (2014) found that the interpersonal and affective aspects of psychopathy were most uniquely related to the EPA Antagonism factor. Thus, across different models and measures of psychopathy, there appears to be support for conceptualizing affective-interpersonal features, e.g., callousness, meanness, or interpersonal antagonism, as essential to psychopathy. An affective dimension of psychopathy has been associated with externalizing behaviors in adults and in youths (Frick & White, 2008; Frick, Ray, Thornton, & Kahn, 2014; Neumann & Hare, 2008; Kahn, Byrd, & Pardini, 2013; Kimonis, Branch, Hagman, Graham, & Miller, 2013; Kimonis et al., 2014; Lynam et al., 2011; Salekin, Chen, Sellbom, Lester, & MacDougall, 2014). For example, Kahn et al. (2013) found that after controlling for several well-established risk factors for offending in a large sample of young men, Callous-Unemotional (CU) traits contributed to the prediction of future arrests. These researchers suggest that screening for affective traits may be useful for identifying individuals in need of intensive treatment efforts designed to prevent future offending. Colins, Andershed, and Pardini (2015) similarly note that the assessment of affective psychopathy may be relevant for risk assessment purposes and for intervention and treatment purposes. The current study represents a second validation study of a new, brief, self-report measure of the affective dimension of psychopathy in adults and potentially in adolescents.

1.2 The Potential Usefulness of Brief Measures of CU Traits in Adults

Given the importance of assessment of CU traits for risk assessment and treatment intervention purposes, it may be helpful to have available brief measures of the affective dimension of psychopathy in both youth and adult populations. An additional benefit of having measures of CU traits that are valid with both youth and adult populations would be developmental, long-term study, including stability of CU traits and their responsiveness to interventions. Psychopathy measures of adults and youth typically are designed to broadly encompass the interpersonal, affective, and behavioral/antisocial dimensions of psychopathy. In contrast, the Inventory of Callous-Unemotional Traits (ICU; Frick, 2004) was designed as a comprehensive but specific measure of callous and unemotional traits rather than as a broad, multidimensional measure of psychopathy in youths. The ICU, along with the Antisocial Process Screening Device (APSD; Frick & Hare, 2001), from which the ICU was derived, was used in developing criteria for the conduct disorder specifier "with limited prosocial emotions" in the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; American Psychiatric Association, 2013). Youths with high levels of Callous-Unemotional (CU) traits represent a subgroup of antisocial youth who display more severe and persistent aggression and violence and a general lack of empathy and guilt (Frick & Dickens, 2006; Frick & White, 2008; Frick et al., 2014). Ray, Pechorro, and Goncalves (2016) noted that few studies have simultaneously compared multiple self-report measures of CU traits. Ray et al. (2016) examined and compared four self-report measures of CU traits in juvenile justice involved Portuguese youth. The ICU Callousness subscale was the best predictor of aggression, conduct disorder, and crime seriousness. The ICU may also hold promise as a measure of callousness in young adults as well as in youth (Drislane, Patrick, & Arsal, 2014; Khan et al., 2013; Kimonis et al., 2013). The Youth Psychopathic Traits Inventory (YPI; Andershed, Kerr, Stattin, & Levander, 2002) has also demonstrated validity as a measure of psychopathic traits in young adults (e.g., Colins, Fanti, Salekin, & Andershed, 2017). However, currently, there is an absence of brief self-report psychopathy measures that focus specifically on the affective dimension in adults. Kimonis et al. (2013) noted that various psychopathy measures are less than optimal in indexing callous and unemotional traits. Skeem, Polaschek, Patrick, and Lilienfeld (2011) recommended the development of measures to specifically and separately index the phenotypic constructs of psychopathy, i.e., boldness, meanness, and disinhibition. Kahn et al. (2013) noted that there has been limited empirical study of unique external correlates of CU traits in adults. Thus, there appears to remain a need for further assessment measures and understanding of CU traits in adults.

1.3 The Caring-Uncaring Emotional (CUE) Inventory

The Caring-Uncaring Emotional (CUE) Inventory (Semel, 2016) was developed to measure affective psychopathy traits in adults and potentially in youths. It was conceived that such a measure may be useful for basic research purposes when researchers are interested in focusing specifically on the affective dimension of psychopathy, e.g., callous-unemotional traits. Also, if demonstrated to be a valid measure in both adolescents and adults, such a measure might be useful in developmental, long-term study. A pool of items was initially generated for the CUE with consideration of incorporating some items that might appeal to youth through blunt and bold expression. In a pilot study of a community sample of adults (Semel, 2016), the CUE Inventory was found to have high internal consistency reliability and high correlations with the Callous and Egocentric scales of an expanded, 36-item version of the Levenson Self-Report Psychopathy Scale (LSRP; Levenson, Kiehl, & Fitzpatrick, 1995) that was developed by Christian and Sellbom (2016). An Exploratory Factor Analysis of the

CUE suggested a three-factor solution. The first factor appeared tentatively to represent a good measure of callousness in adults in a community sample. The second and third factors were tentatively labeled "Care/Approval Seeking" and "Indifference/Detachment", respectively. The CUE had only a moderate association with the Antisocial subscale of the expanded LSRP, and this association was low to moderate when controlling for shared variance with the other LSRP subscales. Thus, the CUE appeared to be a potentially useful measure of affective rather than behavioral traits.

1.4 Purpose of Current Study

Currently, a follow-up study was conducted to further assess concurrent validity of the CUE by examining its associations with the affective dimension of other psychopathy measures, including measures developed for youths and measures developed for adults. Additionally, convergent validity of the CUE was examined in the current study through its association with a measure of interpersonal antagonism and its association with a measure of empathy. Criterion validity was examined through association of the CUE with a measure of antisocial intent. It was predicted that the CUE would demonstrate significant associations with other measures of the affective dimension of psychopathy. It was also predicted that the CUE would demonstrate a significant association with the Antagonism factor of the EPA Short Form. It was predicted that the CUE would demonstrate a significant, negative association with a measure of empathy. It was predicted that the CUE would demonstrate a significant association with a measure of criminal attitudes, specifically, antisocial intent. Based on the previous low to moderate association between the CUE and the Antisocial subscale of the expanded LSRP when controlling for the Callous subscale, it was predicted that the CUE would demonstrate a small to moderate association with a measure of antisocial intent. Since development of the CUE remains in preliminary stages, steps were taken to explore whether the CUE, when combined with validated psychopathy measures, all of which have previously demonstrated significant associations with antisociality or antisocial behavior, would be a significant predictor of antisocial intent. Finally, since the CUE remains in early stages of development, an exploratory factor analysis was conducted to identify the latent structure of the CUE.

2. Method

2.1 Participants

Participants were recruited through Amazon Mechanical Turk (MTurk). MTurk is an online marketplace created by Amazon in which "workers" perform Human Intelligence Tasks, or HITS, for "requesters" for the completion of computerized tasks. The MTurk labor market has become a popular source of behavioral research data among social scientists (Paolacci & Chandler, 2014). Participants included 72 men (60%) and 49 women (40%) between the ages of 25 and 73 (*Mean* age = 38, *SD* = 11.4). With regard to highest level of education completed, 17.4% completed high school or GED, 15% attended some college, 14% completed a 2-year college, 40.5% completed a 4-year college, and 13.2 % completed graduate school.

2.2 Procedure

Participants recruited from MTurk were directed to a link at SurveyMonkey where they were presented with introductory information and they provided their consent for their participation. Participants were presented with several demographic items followed by the series of measures. All participants received the same order of items. Participants filled in their Worker ID numbers for processing of payments via MTurk for their participation.

2.3 Measures

Caring-Uncaring Emotional (CUE) Inventory. The CUE (Semel, 2016) is a 25-item self-report measure designed to assess the construct of callous and insensitive affective traits in adults and potentially in youths. The CUE incorporates some item content that might not suggest an undesirable mode of feeling or rationalizing about situations for some persons who are higher on the dimension of callousness. The CUE was previously found to have a high correlation with the modified LSRP Total score, Callous, and Egocentric scales. The 23-item CUE had high internal consistency reliability (.91). The current study utilized a 25-item scale. The response format utilized a 4-point Likert-type response choice ranging from "Strongly Disagree" to "Strongly Agree" (responses were scored from 1 to 4). For the CUE and for the other measures responses were coded so that higher scores represent higher levels of affective psychopathy, antagonism, or antisocial attitude.

Triarchic Psychopathy Measure (TriPM). The TriPM (Patrick, 2010) is a 58-item self-report measure designed to index the three phenotypic constructs of psychopathy as conceptualized by Patrick et al. (2009), i.e., Boldness, Meanness, and Disinhibition. In the current study, only the 19-item Meanness scale was used, with a 4-point Likert-type response choice, i.e., "False", "Mostly False", "Mostly True", "True". The TriPM has demonstrated medium to large effect size associations with other self-report measures of psychopathy and medium effect size

estimates with personality measures (Drislane et al., 2014). Sellbom, Lilienfeld, Fowler, and McCrary (in press) provide a detailed review of associations between the TriPM and external criteria.

Self-Report Psychopathy Scale: Version III (SRP-III). The SRP-III (Williams, Paulhus, & Hare, 2007) is a 64-item, self-report measure of psychopathy that has demonstrated a four-factor structure, i.e., Interpersonal Exploitation, Callous Affect, Erratic Life Style, and Antisocial Behavior. The inventory provides a global psychopathy score and separate factor scores. Support for internal consistency reliability and for validity of the SRP-III total and factor scores, i.e., convergent and discriminant associations, has generally been demonstrated (see Sellbom et al., in press, for a review). In the current study, the 16-item Callous Affect subscale was utilized, with a 5-point response format in which responses ranged from "Disagree Strongly" to "Agree Strongly".

Inventory of Callous-Unemotional Traits (ICU). The ICU (Frick, 2004) is a 24-item self-report scale designed to measure the construct of "callous-unemotional" traits in youths. A variety of studies of the self-report form of the ICU support construct validity in community and incarcerated youth (e.g., Essau, Sasagawa, & Frick, 2006; Kimonis et al., 2008; Kimonis et al., 2014; Ray et al., 2016; Roose, Bijttebier, Decoene, Claes, & Frick, 2010). In a recent study of incarcerated male Portuguese youths (Ray et al., 2016), the ICU, among several measures of CU traits, was the best measure, overall, in multivariate associations with external criteria, including crime seriousness. In the current study, the total score was used as a continuous variable. Response choices ranged from "Not at all true" to "Definitely true" (responses scored from 0 to 3).

Youth Psychopathic Traits Inventory (YPI). The YPI (Andershed et al., 2002) is a 50-item, self-report questionnaire designed to measure core psychopathic personality traits in youths. The 10 subscales of the YPI have demonstrated a three-factor, higher-order structure composed of Grandiose/Manipulative, Callous/Unemotional, and Impulsive/Irresponsible factors (Andershed et al., 2002; Andershed, Hodgins, & Tengstrom, 2007; Declercq, Markey, Vandist, & Verhaeghe, 2009). The YPI has been significantly associated with other self-report psychopathy measures, as well as with the Psychopathy Checklist-Youth Version (PCL: YV, Forth, Kosson, & Hare, 2003), and with externalizing and antisocial behavior in non-referred, at-risk, and delinquent youth (Andershed et al., 2002; Andershed et al., 2007; Ansel, Barry, Gillen, & Herrington, 2015; Declercq et al., 2009; Ray et al., 2016; Skeem & Cauffman, 2003). The YPI has also shown evidence of construct validity in young adults (Campbell, Doucette, & French, 2009; Neumann & Pardini, 2014). The YPI utilizes a four-point, Likert-type response format, with responses scored from 1 to 4. Response choices ranged from "Does not apply at all" to "Applies very well". Only the three subscales (15 items) composing the Callous/Unemotional factor were included in the current study, i.e., Callousness, Unemotionality, and Remorselessness.

Elemental Psychopathy Assessment (EPA). The EPA (Lynam et al., 2011) is a 178-item self-report inventory developed to assess psychopathy based on the FFM of personality. Items for the EPA were generated to assess maladaptive variants of 18 FFM facets most strongly associated with psychopathy. Medium to large effect size associations between the EPA and other measures of psychopathy have been demonstrated (see Sellbom et al., in press, for a review). In the current study, the 20-item Antagonism factor from the EPA short-form was used. The Antagonism factor comprises the scales Coldness, Distrust, Manipulation, Self-Centeredness, and Callousness, each scale composed of four items. The EPA utilizes a 5-point Likert-type response format ranging from "Disagree strongly" to "Agree strongly".

The Toronto Empathy Questionnaire (TEQ). The Toronto Empathy Questionnaire (Spreng, McKinnon, Mar, & Levine, 2009), is a 16-item self-report inventory designed as a parsimonious tool to assess empathy as a primarily emotional process (affective empathy). It is a unidimensional scale developed through factor analysis. Validation studies demonstrated that the TEQ possesses a robust single factor structure, high internal consistency, convergent validity with other self-report empathy measures and with behavioral measures of interpersonal sensitivity, discriminant validity with a measure of deficiency in social processing, and high test-retest reliability. The unidimensional factor structure of the TEQ was replicated in a large sample of Turkish university students (Totan, Dogan, & Sapmaz, 2012). The TEQ is scored on a 5-point Likert-type response scale with choices ranging from "Never" to "Always" (0 to 4). Higher scores represent higher levels of empathy.

The Measures of Criminal Attitudes and Associates (MCAA). The MCAA (Mills, Kroner, & Forth, 2002) is a two-part, self-report measure of antisocial attitudes and antisocial associates. Part A is a measure intended to quantify criminal associations. Part B is a 46-item measure of attitudes that is composed of four scales. In the current study, only the 12-item Antisocial Intent scale was used, with response choices ranging from "Strongly disagree" to "Strongly agree". A 7-point Likert-type scale was used, including a midpoint choice of "Neither agree nor disagree", in order to increase the variance at the extremities of the distribution. The MCAA has

demonstrated significant associations with other measures of antisocial attitudes and criminal history indices (Mills et al., 2002), and has demonstrated predictive validity for the outcomes of general and violent recidivism in a sample of adult male offenders (Mills, Kroner, & Hemmati, 2004). As reported by Mills et al. (2002), in a student sample the MCAA was significantly correlated with other measures of antisocial attitudes and with self-reported antisocial behavior.

3. Results

3.1 Descriptive Statistics

Means, standard deviations, and internal consistencies are shown in Table 1. All measures had high internal consistency coefficients. Mean inter-item correlations indicated that for all measures the items were reasonably homogenous. Except for the Toronto Empathy Questionnaire, on which women scored significantly higher than men, men scored significantly higher on all other measures.

Table 1. Means (*M*), Standard Deviations (*SD*) and internal consistency coefficients (α) of all measures

Scale	*M*	*SD*	α (MIC)
CUE	48.27	13.11	.93 (.33)
ICU	19.98	9.68	.88 (.23)
YPI	27.50	8.38	.91 (.40)
TriPM	30.83	9.27	.92 (.37)
SRP-III	35.42	11.20	.89 (.35)
EPA	40.84	16.23	.94 (.46)
TEQ	44.16	12.14	.95 (.55)
MCAA	31.65	14.95	.92 (.48)

Note. CUE = Caring-Uncaring Emotional Inventory (25 items). ICU = Inventory of Callous-Unemotional Traits (24 items). YPI = Youth Psychopathic Traits Inventory (Callous-Unemotional factor; 15 items). TriPM = Triarchic Psychopathy Measure (Meanness scale; 19 items). SRP-III = Self-Report Psychopathy Scale: Version III (Callous Affect subscale; 16 items). EPA = Elemental Psychopathy Assessment (short-form; 20 items). TEQ = Toronto Empathy Questionnaire (16 items). MCAA = Measures of Criminal Attitudes and Associates (Antisocial Intent scale; 12 items). MIC, Mean inter-item correlation.

Age was significantly and negatively associated with all the psychopathy measures and with the measure of Antisocial Intent, albeit effect sizes were of small magnitudes. Age was not significantly associated with the measure of empathy.

3.2 Concurrent and Convergent Validity

It was expected that the CUE Inventory would be positively correlated with other measures of affective psychopathy traits developed both for youth and for adults. As seen in Table 2, the CUE was highly correlated with each of the other measures of affective psychopathy traits. The CUE also was highly correlated with interpersonal antagonism as measured by the EPA Antagonism factor. As expected, the CUE was significantly and negatively associated with a measure of empathy. All the psychopathy measures were highly correlated with each other and all the psychopathy measures were highly and negatively correlated with the measure of empathy.

Table 2. Zero order correlations between all study measures

Scale	1	2	3	4	5	6	7	8
1 CUE	__	.75*	.86*	.84*	.84*	.81*	-.80*	.63*
2 ICU	.75*	__	.76*	.77*	.77*	.78*	-.78*	.55*
3 YPI	.86*	.76*	__	.82*	.84	.77*	-.77*	.61*
4 TriPM	.84*	.77*	.82*	__	.86*	.84*	-.81*	.72*
5 SRP-III	.84*	.77*	.84*	.86*	__	.84*	-.82*	.65*
6 EPA	.81*	.78*	.77*	.84*	.84*	__	-.81*	.64*
7 TEQ	-.80*	-.78*	-.77*	-.81*	-.82*	-.81*	__	-.55*
8 MCAA	.63*	.55*	.61*	.72*	.65*	.64*	-.55*	__

*$p < .001$.

3.3 Criterion Validity

It was anticipated that the CUE would have a small to medium positive association with a measure of antisocial intent. As seen in Table 2, the CUE had a moderate to high correlation with the Antisocial Intent scale from the Measures of Criminal Attitudes and Associates (MCAA). The magnitude of this association was quite comparable to the magnitude of association between the other psychopathy measures and Antisocial Intent. Only the TriPM had a noticeably higher association, albeit the difference in shared variance that the TriPM had with the MCAA as compared to the shared variance between the CUE and MCAA was negligible.

3.4 Multiple Regression Analyses

As an exploratory step, a series of multiple regression analyses (not shown here) was conducted to determine whether the CUE, when entered with a second predictor variable from among the other psychopathy measures, would be a significant predictor of Antisocial Intent. In each of the models, except when the CUE was entered with the TriPM, the CUE was significant in the regression equation. However, when predictor variables are highly correlated, or have high collinearity or multicollinearity, the beta weight of a given predictor that has a high zero-order correlation with the outcome variable might be small or close to zero because another predictor receives credit for the explained variance that it shares with one or more independent variables (Courville & Thompson, 2001; Pedhazur, 1997). In this case, when any other independent variable among the psychopathy measures was entered with the TriPM, which had the highest zero-order correlation with Antisocial Intent, only the TriPM was significant in the regression equation. In each case, the contributions of the other independent variables which shared variance with the TriPM in the regression effect were not adequately reflected by their beta weights. Nathans, Oswald, and Nimon (2012) state that "Beta weights are best used as an initial 'starting point' from which to begin exploring the issue of independent variables' contributions to a regression equation" (p. 3).

In addition to beta weights, there are other methods that can be used to understand the contributions that predictor variables make to a regression model. Structure coefficients aid in the interpretation of multiple regression analyses. Structure coefficients are bivariate correlation coefficients between an independent variable and the predicted estimate of the outcome variable (*y* score variance) based on the synthesis of all the predictors in the regression equation (Courville & Thompson, 2001; Kraha, Turner, Nimon, Zientek, & Henson, 2012; Nathans et al., 2012). As noted by Nathans et al. (2012), a structure coefficient "quantifies the magnitude of the bivariate relationship between each independent variable and *y* in isolation from other independent variable-*y* correlations" (p. 6). Structure coefficients, represented by *r*s, can be computed as *r*s = *r*x.y/*R*, where *rxy* is the bivariate correlation between the independent variable X and the dependent variable Y, and R is the multiple correlation for the regression containing all independent variables (Nathans et al., 2012). When squared, structure coefficients represent the proportion of variance that an independent variable shares with the variance from the predicted *y* scores irrespective of collinearity with other predictor variables (Kraha et al., 2012; Nathans et al., 2012).

When CUE and TriPM scores were entered as predictor variables with the MCAA Antisocial Intent scale as the outcome variable, the beta weight for the CUE was .061 while beta for the TriPM was .668. The tolerance for each independent variable was .295 and the VIF (Variance inflation factor) was 3.388. These values did not violate the multicollinearity assumption (tolerance value of less than .10, or a VIF value of above 10); however, it means that the predictor variables were moderately correlated and that the variance of the estimated regression coefficients was 3.388 times higher because of the correlation between these independent variables. Thus, when analyzing the effect of individual predictors, the estimates of the coefficients were imprecise. The CUE was receiving no credit for predicting variance in MCAA scores. However, the structure coefficient for the CUE, was computed as .626/.724 = .86, which, squared = .74. Thus, the structure coefficient for the CUE indicates that the CUE shared 74% with the variance from the predicted *y* scores (R^2 = .52). In other words, the CUE by itself accounted for a substantial portion of variance shared with the predicted *y* scores and the beta weight calculation process assigned that shared variance to the other predictor variable, i.e., the TriPM. It has been recommended that structure coefficients be examined in addition to beta weights when predictors are correlated (Courville & Thompson, 2001; Nathans et al., 2012).

A further illustration is given of how a variable's contribution to the regression equation may be minimized or distorted in the beta weight calculation process when predictors are highly correlated. A standard multiple regression analysis was performed to assess the ability of the CUE and the two youth psychopathy measures to predict scores on the Antisocial Intent scale. Collinearity statistics indicated that for the CUE Tolerance = .239, VIF = 4.181; for the ICU Tolerance = .390, VIF = 2.566; and for the YPI Tolerance = .236, VIF = 4.234. This indicates that, for the CUE, for example, a high percentage of the variance of this independent variable was shared with some other independent variables. The multiple regression model with three predictors produced R^2 = .415, F (3, 117) = 27.68, p < .001. Only the CUE was a significant predictor of Antisocial Intent scores (*beta* = .36, p < .02). However, the squared structure coefficient for the ICU was .729 which means that of the 42% (R^2) effect, the ICU can account for 73% of the explained variance by itself. The squared structure coefficient for the YPI was .896, and the squared structure coefficient for the CUE was .956. The sum of two or more squared structure coefficients will be greater than 1.00 when two or more predictors explain some of the same part of the criterion (Kraha et al., 2012). In this case, the sum of the squared correlations (0.729 + 0.896 + 0.956) was 2.581, suggesting a significant amount of multicollinearity.

3.5 Exploratory Factor Analysis

An exploratory factor analysis approach was used in an effort to identify the underlying structure of the 25-item CUE Inventory. The 25 items of the CUE were subjected to a Principal Axis Factor Analysis (PAF) using SPSS Version 22. PAF "explicitly focuses on the common variance among the items and, therefore, focuses on the latent factor" (Henson & Roberts, 2006, p. 398). Prior to performing PAF the sample was assessed for its suitability for factor analysis. Examination of the correlation matrix revealed that all 25 items correlated at least .3 with at least one other item, suggesting reasonable factorability. One item was removed due to low communality (< .30). Subsequent EFA analyses were conducted based on 24 items. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .86, which exceeded the recommended value of .6 (Kaiser, 1970, 1974). Guidelines for sampling adequacy provided by Hutcheson and Sofroniou (1999) would describe this KMO measure as falling within the meritorious range. Bartlett's Test of Sphericity (Barlett, 1954) reached statistical significance, supporting the factorability of the correlation matrix.

Principal Axis Factor Analysis (PAF) revealed five factors with eigenvalues exceeding 1 (eigenvalues were 9.25, 2.94, 1.63, 1.15, and 1.07), explaining, 38.5%, 12.3%, 6.8%, 4.8% and 4.4% of the variance, respectively. An inspection of the scree plot indicated a break after the third factor. Results of Parallel Analysis showed only three factors with eigenvalues exceeding the corresponding criterion values for a randomly generated data matrix of the same size (24 variables x 121 respondents), supporting a three-factor solution. Given that the CUE was designed to measure a specific trait, or related traits, it was an assumed probability that factors would be correlated. Oblique (Oblimin) rotation was performed to aid in the interpretation of these three factors. The three-factor solution explained 51.4% of the variance, with Factor 1 contributing 36.6%, Factor 2 contributing 10.2%, and Factor 3 contributing 4.6%.

The first factor had high to very high loadings on 15 items (see Table 3 for items and factor loadings and Table 4 for pattern matrix). Items with factor loadings less than .4 were omitted for interpretation based on Stevens' (2002) recommendation. The content of these items appears to capture or reflect cold, callous, egocentric, exploitive, manipulative, and vindictive qualities, suggesting that this first factor be labeled "Callous". The items on the second factor appear to be associated with a concern, or absence of concern, about being liked, loved, and feeling close with someone. This factor may be tentatively labeled Disaffiliation. Items on the third factor appear

to be associated with the relative presence or absence of worries and painful emotions. The third factor may be tentatively labeled Indifference/Detachment.

As seen in Table 3, the three factors were not highly correlated with one another, but were not independent. Internal consistency for each of the three factors represented as subscales was examined using Cronbach's alpha. The alpha coefficient was high for the Callous subscale (.93) (15 items), and alphas were adequate for the Disaffiliation subscale (.80) (4 items), and for the Indifference/Detachment subscale (.79) (5 items). Mean Interitem Correlations (*MIC*), which is considered a straightforward measure of internal consistency also were examined. *MIC* values should be within the range of .15-.50 (Clark & Watson, 1995). The *MIC* for the Callous subscale was .47; *MIC* for the Disaffiliation subscale was .50; *MIC* for the Indifference/Detachment subscale was .43.

A further examination of the zero-order correlations (not shown here but available upon request from the author) between the CUE factors and the other measures indicated that the CUE Callous factor had high correlations with each of the other measures, including the Antisocial Intent scale ($r = .66$, $p < .001$). Both the Disaffiliation Factor and the Indifference/Detachment factor were moderately correlated with each of the other psychopathy measures and with the measure of empathy. The Disaffiliation factor had a significant but low correlation with the Antisocial Intent scale ($r = .23$, $p = .011$), and the Indifference/Detachment subscale had a low to moderate association with the Antisocial Intent subscale ($r = .30$, $p = .001$).

As seen in Table 5, an examination of the structure matrix revealed that a considerable number of items were complex variables, with two items ("I don't spend my time worrying about people's feelings getting hurt"; "Maybe it sounds cold, but I have the power to just not care about what anyone thinks of me") having high loadings (coefficients) on all three factors.

Table 3. Items and factor loadings for the Caring/Uncaring Emotional Inventory

Factor	Callous	Disaffiliation	Indifference/Detachment
	1	2	3
I can be good at pretending to care about people, but most of the time I really don't care.	.82		
I can act nice to someone just to get what I want, and then I don't think about that person unless I need something from them again.	.76		
I know it may sound cold, but I've got to think about myself first, that's just the way life is.	.75		
I could look people straight in the eye, and at means nothing to me to lie or to cheat them.	.75		
I might say I'm sorry, but I really don't give a damn.	.70		
If there is someone I don't like, it would feel good to see them get hurt.	.69		
Let's be honest, if I don't know you, why should I care about you?	.67		
It really doesn't bother me if someone gets shot or dies, unless it's my family or friend.	.65		
I can act real cool and nice if it works to get what I want.	.65		
I might not say this to others, but people basically are like objects for me to use to get what I need.	.65		
I have the power to hear about terrible things happen to people and not let it bother me.	.59		
If someone gets me really mad, I have great ways to get even.	.57		
I don't spend my time worrying about people's feelings	.53		

getting hurt.				
Maybe it sounds cold, but I have the power to just not care about what anyone thinks of me	.51			
I am able to know that I did something wrong, but not really care about it.	.47			
I want others to like me.		.63		
I care about what other people think of me.		.60		
Having someone that I feel close with is important to me		.56		
It is important to me to feel loved by someone.		.56		
I am the type of person who worries sometimes.			.72	
Nothing much bothers me.			.64	
I am very good at not letting myself feel hurt emotionally.			.57	
I basically never feel sad.			.56	
The only thing I might ever cry about is if someone in my family died.			.46	
Correlations among factors				
Factor 2	.19	—	.29	
Factor 3	.33	.29	—	

Note. Factor loadings < .4 are suppressed.

Table 4. Pattern matrix for PAF with oblimin rotation of three factor solution of CUE items

Items	Pattern Coefficients			Communalities
	Factor			
	1	2	3	
I can be good at pretending…	**.818**	.164	-.113	.691
I can act nice…	**.764**	-.082	.038	.584
I know it may sound cold…	**.754**	.007	-.058	.545
I could look people straight in the eye…	**.747**	-.179	.112	.595
I might say I'm sorry, but…	**.698**	.262	-.236	.540
If there is someone I don't like…	**.686**	-.058	-.166	.418
Let's be honest…	**.674**	.162	-.020	.514
It really doesn't bother me…	**.654**	.243	.128	.638
I can act real cool and nice…	**.651**	-.344	.095	.486
I might not say this to others…	**.647**	.080	.095	.499
I have the power to hear…	**.594**	.167	.277	.630
If someone gets me really mad…	**.568**	-.340	.189	.432
I don't spend my time worrying…	**.528**	.275	.182	.535
Maybe it sounds cold…	**.510**	.307	.207	.563
I am able to know that I did…	**.469**	.072	.195	.343
I want others to like me	-.061	**.634**	.169	.474
I care what other people think…	-.064	**.596**	.329	.551

Having someone I feel close…	.284	**.558**	-.018	.445
It is important to me to feel…	.257	**.556**	.176	.546
I am the type of person who…	-.147	.005	**.717**	.469
Nothing much bothers me.	.038	.233	**.635**	.562
I am very good at not letting myself feel hurt…	.092	.160	**.571**	.452
I basically never feel sad	.083	-.017	**.558**	.347
The only thing I might ever cry about…	.400	-.011	**.462**	.490

Note. Factor loadings greater than .40 are shown in boldface.

Table 5. Structure matrix for PAF with oblimin rotation of three factor solution of CUE items

Items	Structure coefficients		
	Factor		
	1	2	3
I can be good at pretending…	**.813**	.291	.200
I can act nice…	**.760**	.077	.263
I know it may sound cold…	**.736**	.137	.189
I could look people straight in the eye…	**.749**	-.002	.304
I might say I'm sorry, but…	**.672**	.330	.065
If there is someone I don't like…	**.621**	.027	.040
Let's be honest, if I don't know…	**.700**	.288	.246
It really doesn't bother me if someone gets shot…	**.743**	**.407**	**.410**
I can act real cool and nice…	**.615**	-.191	.208
I might not say this to others…	**.694**	.233	.329
I have the power to hear about terrible things happen…	**.717**	.362	**.518**
If someone gets me really mad…	**.563**	-.176	.276
I don't spend my time worrying…	**.640**	**.429**	**.432**
Maybe it sounds cold…	**.637**	**.465**	**.460**
I am able to know that I did something wrong…	**.546**	.218	.368
I want others to like me	.117	**.671**	.330
I care about what other people think…	.159	**.678**	**.479**
Having someone that I feel close with…	.386	**.608**	.233
It is important to me to feel loved…	**.422**	**.656**	**.418**
I am the type of person who worries…	.087	.181	**.671**
Nothing much bothers me	.290	**.421**	**.714**
I am very good at not letting myself…	.309	.341	**.646**
I basically never feel sad	.271	.160	**.583**
The only thing I might ever cry…	**.548**	.198	**.589**

Note. Factor loadings greater than .40 are shown in boldface.

4. Discussion

An affective dimension is considered essential to the construct and operationalization of psychopathy as seen in different models and measures of psychopathy. An affective dimension of psychopathy has been associated with externalizing behaviors in adults and in youths (Frick & White, 2008; Frick et al., 2014; Neumann & Hare, 2008; Kahn et al., 2013; Kimonis et al., 2013; Kimonis et al., 2014; Lynam et al., 2011; Salekin et al., 2014). As noted by Colins et al. (2015), the assessment of affective psychopathy may be relevant for risk assessment purposes and for intervention and treatment purposes. Existing psychopathy measures of adults and youth typically are designed to broadly encompass the interpersonal, affective, and behavioral/antisocial dimensions of psychopathy. By contrast, the ICU was designed as a comprehensive but specific measure of callous and unemotional traits in youths. Currently, there is an absence of brief self-report psychopathy measures that focus exclusively on the affective dimension in adults. Such a measure may be useful for basic research and for risk assessment and treatment intervention purposes. Additionally, if measures of CU traits are found to be valid in both youth and adult populations it would facilitate developmental, long-term study, including stability of CU traits and their responsiveness to interventions.

The current study was the second study of a new measure, the Caring-Uncaring Emotional (CUE) Inventory, which is intended to index affective traits associated with the construct of psychopathy. The CUE was previously found (Semel, 2016) to be highly correlated with an expanded version of the Levenson Self-Report Psychopathy Scale (LSRP; Levenson et al., 1995) that was developed by Christian and Sellbom (2016). The CUE was most highly correlated with the Callous subscale of the expanded LSRP, and was highly correlated with the Egocentric subscale and moderately correlated with the Antisocial subscale. An initial exploratory factor analysis of the CUE suggested that its first factor may be a robust measure of callousness.

The current study significantly expanded on the previous study of the CUE. This was the only known study that utilized an adult community population of a broad age range and which also incorporated multiple measures of affective psychopathy from both youth and adult inventories. Results of the current study strongly support concurrent validity of the CUE Inventory. The CUE was found to be highly correlated with the callous affect subscales of several youth and adult measures, as well as with the ICU. The CUE was also found to be highly correlated with a measure of Antagonism from the EPA Short Form and with a measure of empathy, thus supporting convergent validity. The CUE was further found to be moderately correlated with a measure of Antisocial Intent, thus supporting criterion validity. In a series of multiple regression analyses, the CUE was a significant predictor of Antisocial Intent when entered with a second predictor from among the other psychopathy measures, except for the TriPM. However, an examination of the structure coefficient of the CUE indicated that the CUE by itself accounted for a substantial portion of variance shared with the predicted *y* scores and the beta weight calculation process assigned that shared variance to the other predictor variable, i.e., the TriPM.

Results of an exploratory factor analysis of the CUE were quite similar to the results of an EFA conducted in the initial pilot study (Semel, 2016), while several items were added to the CUE in the current study. As in the earlier study, results of the EFA supported a three-factor solution. The three-factor solution explained 51.2% of the variance, with Factor 1 contributing 36.3%, Factor 2 contributing 10.3%, and Factor 3 contributing 4.7%. The items that loaded onto the factors in the current study were nearly identical to those that loaded onto the factors in the initial study.

The first factor had high to very high loadings on 15 items that appear to reflect cold, callous, egocentric, exploitive, manipulative, and vindictive qualities, suggesting that this first factor can be considered a robust measure of callousness, which is a core feature of psychopathy. This factor had high internal consistency and was highly correlated with each of the other measures and was moderately to highly correlated with Antisocial Intent.

The four items on the second factor appear to be associated with a concern, or absence of concern, about being liked, loved, and feeling close with someone. This factor may tap an affectionless trait and may reflect an expression of the phenotypic attribute of disdain for and lack of close attachments as conceptualized in the TriPM Meanness scale. This factor may be tentatively labeled Disaffiliation. This factor was moderately correlated with the CUE Callous factor and with the callous affect subscales of the other psychopathy measures and had a moderate, inverse relationship with a measure of empathy. This suggests that the second factor may be tapping into the broader domain of affective psychopathy traits that overlaps with but is somewhat different from callousness.

The five items on the third factor appear to be associated with the relative presence or absence of worries and painful emotions. This factor, which may be tentatively labeled Indifference/Detachment, may tap into an unemotional lack of concern, lack of negative emotionality, emotional detachment. The third factor was moderately correlated with the other measures of affective psychopathy and negatively correlated with the measure of empathy, suggesting that this factor may also be tapping into the broader domain of affective psychopathy traits.

The second and third factors had adequate internal consistency and the three CUE factors were only moderately correlated with each other, suggesting that each factor may add to understanding the dimension of affective psychopathy traits. However, the structure matrix revealed that several items on the first factor cross-loaded with other factors and two items on each the second and third factors cross-loaded with other factors. Thus, the latent structure of the CUE remains to be clarified and the inventory may need to be modified.

An interesting finding was that age was significantly and negatively associated with all the psychopathy measures and with the measure of Antisocial Intent, albeit effect sizes were of small magnitudes. Age was not significantly associated with the measure of empathy. There is some evidence for age-related reduction of social deviance, antisocial behavior and criminal offenses in psychopathic criminal offenders (Harpur & Hare, 1994; Porter, Birt, & Boer, 2001), albeit personality features such as callous, manipulative, egocentric traits might not similarly decline with age. The current finding may be viewed as consistent with the above in that age did not have a strong, inverse relationship with callous-unemotional traits.

This study found that, except for the Toronto Empathy Questionnaire, on which women scored significantly higher than men, men scored significantly higher on all other measures. Skeem et al. (2011) reported that researchers generally agree that men display higher levels of psychopathy compared to women and this finding has been observed on various psychopathy measures. Thus, the present findings are consistent with the literature on psychopathy.

4.1 Limitations

Among limitations of this study is that all measures utilized a self-report format. Shared method variance may have artificially inflated the correlations between measures. Additionally, most measures in this study were scales or subscales of callous-unemotional affect. Thus, participants were presented with a sequence of similar measures which may have further amplified the effect of shared method variance. Additionally, characteristics of the study sample may have also had influence on augmenting the internal reliabilities of measures and correlations between measures in that participants may be experienced, efficient inventory respondents. Replication of these results will need to be demonstrated with other samples. The latent structure of the CUE remains to be further studied and may require modification of the inventory.

4.2 Future Directions

Future study of the CUE may focus on its associations with additional psychopathy measures including the Psychopathy Checklist-Revised (PCL-R; Hare, 2003), which is an intensive, clinician-rated measure of psychopathy. The CUE may also be studied for its association with the self-report form of the Comprehensive Assessment of Psychopathic Personality (CAPP; Cooke, Hart, Logan, & Michie, 2004, 2012). The CUE may potentially tap primarily into the Attachment Domain of the CAPP (e.g., Unempathic, Uncaring, Detached), but also into the Dominance Domain (e.g., Deceitful, Manipulative, Antagonistic) and the Emotional Domain (e.g., Lacks Anxiety, Lacks emotional depth). The CUE should be further studied for its relationships with various personality measures and behavioral variables, e.g., negative emotionality, conscientiousness, narcissism and grandiosity, self-reported antisociality, criminality/delinquency.

While demonstrating strong concurrent validity with multiple measures of callous affect in adults, another phase of development for the CUE would be its study in youth samples. The CUE was originally developed with the intention of measuring callous-unemotional traits in juvenile offenders, but for pragmatic purposes it has been initially studied with adults. The strong associations between the CUE and the ICU and YPI in the current study which included young adults warrants its study in youth samples, including juvenile offenders. The CUE may be studied for its relationship with the Psychopathy Checklist: Youth Version (PCL: YV; Forth, Kosson, & Hare, 2003).

In sum, results of the current study of the CUE as a measure of affective psychopathy traits strongly support further study of this measure. The CUE demonstrated high internal consistency, strong concurrent validity with established measures of callous affect, a strong association with a measure of empathy, and a moderate association with a measure of antisocial intent. Exploratory factor analysis resulted in a first factor that is a

robust measure of callousness. The latent structure of the CUE remains to be further studied and may require modification of the inventory.

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