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# Empathy and Bullying: Exploring the Influence of Callous-Unemotional Traits

Luna C. Muñoz, Ph.D.[1]

Pamela Qualter, Ph.D.[1]

Gemma Padgett, M.S.[1]

[1] School of Psychology, University of Central Lancashire, Preston, UK

Corresponding Author: Dr. Luna C. Muñoz

School of Psychology, Darwin Bldg

University of Central Lancashire

Preston, PR1 2HE

Lancashire, UK

Phone: +44 1772 893443

Fax: +44 1772 892925

Email: LMunoz@uclan.ac.uk

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Abstract

Although knowing and feeling the emotions of other people might result in less bullying, we argue that not caring about these feelings will also be important. That is, what good is empathy, if one does not care about the feelings or values of others? We examined self-reports of callous-unemotional traits (CU: Inventory of Callous-Unemotional Traits), bullying, and empathy in 201 children (ages 11 to 12 years). Results show children high on CU to be lowest in affective empathy and highest in direct bullying. While all subscales of the ICU were related to affective empathy, only the uncaring subscale was uniquely related to cognitive empathy. Empathy did not explain differences in bullying when taking into account CU traits. Therefore, failing to care about others is more important than empathy for explaining the direct and indirect bullying these children take part in. Implications for targeting different forms of empathy in treatment are considered.

Key words: Callous-unemotional traits; Empathy; Bullying.

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Bullying is characterised as repeated negative actions towards another person [1]. It is often thought to be a form of social aggression [2], but can be differentiated from aggression because it involves repeated behaviours over a period of time [3]. Bullying behaviours can either be direct and include physical abuse, or can be indirect and include characteristics such as social exclusion [4,5]. In the United Kingdom, the most widespread types of bullying behaviours are verbal and physical [3]. The physical forms of bullying are more likely to be accompanied by severe conduct problems than are the social forms of bullying [6,7], and research has begun to look at the affiliative emotions that may be involved in the different forms of bullying [6,8].

Social-cognitive models explain how interactions between individual factors and interpretations of social events contribute to the bullying process. For example, social information processing models explain how the mental actions of a person affect his or her behaviour in social situations [9]. This suggests that a person carries out behavioural responses by (a) receiving social cues, (b) making meaning of these cues, (c) accessing possible behavioural responses through decision making, and (d) selecting the behavioural response [9]. Discrepancies between one or more of these factors involved in social information processing may be responsible for bullying behaviours. Thus, bullying and aggression may be an outcome of less confidence in strategies for dealing with aggravation [10] or incorrect understanding of social cues [11].

Interestingly, while it was previously argued that bullies have low levels of self esteem, other research shows aggressive people may possess good self-esteem [12]. In addition, whilst some bullies have social skills deficits, others have been found to be good at manipulating others [13]. Thus, it seems that rather than having social cognitive skills

deficits, some bullies have heightened skills, which they use to manipulate and control others [14]. So, bullies may be good at manipulating others because they are knowledgeable about other people's feelings, and can predict the consequences of their behaviour on others. Such cognitive skills make 'leaders' of children who bully because they are able to take control over other children [15].

A second critical individual characteristic that determines whether a child decides to use social and emotional knowledge to manipulate others for personal gain is whether the child is also empathic [16,17]. It has been suggested that empathic responsiveness inhibits aggressive behaviour because an empathic person is able to share in the emotions of distress of the victim [7]. Empathy deficits also characterize children who are violent and antisocial [8,18,19,20], but each of these studies highlights the need to measure specific types of empathy.

The distinction between cognitive and affective empathy is important [8,18,21,22]. Dadds et al. [18,23] refers to cognitive empathy as the difference between knowing the 'how' and 'why' of other people's feelings; affective empathy is 'feeling' the emotions of another person. Consistent with this separation of the affiliative and cognitive facets of empathy, bullies and other antisocial individuals are often found to be deficient in affective empathy [8,18,19,20]. Unsurprisingly, affective deficits are also found in people who fail to show remorse or concern for other people and their values, such as is shown with people with callous-unemotional traits [see 24].

The presence of callous-unemotional (CU) traits is predictive of a particularly severe, stable, and aggressive pattern of behaviour in antisocial youth [see 25 for a meta-analysis]. Some studies have shown that CU traits are related to a deficit in the affective experience of empathic concern to the distress in others [26,27,28,29], which Blair [30] and others have argued may relate to an inability to stop bullying when it is clear that the victim is in distress.

Children diagnosed with conduct disorder (typically including bullying behaviours), who also have callous-unemotional traits, show deficits in affective empathy [20]. However, they seem to understand the 'how' and the 'why' of emotions [20]. In contrast, children with conduct disorder and low levels of callous-unemotional traits were deficient in both cognitive and affective forms of empathy. Likewise, Dadds et al. [18] found deficits in affective empathy only for high CU boys but not girls, and a clear deficit in cognitive empathy for girls but not boys. In short, there are mixed findings regarding cognitive empathy, such that some studies show a deficit for people with CU traits, whilst other studies do not. The findings for affective empathy seem more robust, with children high on CU traits failing to share in the feelings of others; however, this may be true for boys more so than for girls.

These deficits in empathy in children with CU traits may explain increases in the use of bullying behaviours [6,31]. In a sample of 11-13 year old children, Viding et al. [6] found that CU traits statistically predicted direct forms of bullying and explained 3% of the variance beyond the presence of conduct problems. However, CU traits did not significantly predict indirect bullying over and above conduct problems. Based on greater bullying behaviours for children with high CU traits, Viding argued that direct bullying may result from the empathy deficits that are related to the expression of CU traits. This idea is proposed because of consistent findings that CU traits are related to diminished ability to recognise distress cues in other people [26,29,32]. Thus, a deficit in affective empathy may underlie bullying behaviours and CU traits, but the importance of affective empathy might be weakened by the presence of CU traits.

The relation of empathy to bullying and aggression may be more complex, and CU traits may be more important than empathy in predicting bullying behaviour. For example, in a study of 203 children (11-12 years of age), which measured empathy and the ability to understand and manipulate one's social circle, the relation between empathy and aggression

was weak [17]. However, empathy acted as a suppressor variable. Social intelligence was found to be more strongly related to aggression when empathy was controlled [17]. Also, for people with the same social intelligence, high empathy scores were related (more strongly than in the zero-order correlations) to less aggression. In the same way that the value of social intelligence is lost on peaceful resolutions once empathy is controlled, what use is sharing and understanding others' emotions, when one does not care about others' emotions? In a study of adolescent students (ages 12 to 18), the subscales of the Inventory of Callous-Unemotional Traits [33] that deal with a lack of remorse and a lack of caring for the feelings or values of others (i.e., callous and uncaring) were more related to bullying than the subscale related to lack of emotional expressiveness [31]. Interestingly, the uncaring subscale has also been found to be related to general empathy deficits and low levels of arousal when receiving taunts from an 'opponent' [34]. Although people who bully and have CU traits might lack the ability to experience the emotions of others, the unique features of being callous and uncaring might be more important for bullying behaviours than empathy: this possibility remains untested.

A major gap exists in the literature on CU traits and the kind of affective deficits that may be responsible for aggressive or bullying behaviour. Fanti et al. [31] argued that the affective deficits that underlie uncaring and callous traits are responsible for bullying and aggression. However, without research into the type of empathy deficits that underlie a lack of caring for the values of other people, targeting empathy in interventions may be unwarranted. One needs to know if empathy is at the root of bullying for children that lack any concern for other people and their values.

The present study addresses the limitations in the literature. First, we have included both indirect and direct forms of bullying in the present study. While Fanti et al. [31] examined antisocial behaviour with respect to callous-unemotional traits, they only used a

general measure of bullying and could not test whether uncaring and callous traits were differentially related to direct and indirect bullying. Indeed, the two facets have been shown to relate to aggression differently in girls and boys [34]. Also, we measured participants' self-reported affective and cognitive empathy. The Inventory of Callous-Unemotional Traits was used, examining the total score and three subscale scores. While Dadds et al. [18] used parent-reports for their empathy and personality traits, we used self-reports for the present study. It could be that parents believe that such callously driven antisocial behaviour comes from knowing exactly what kind of effect it has on other people. This parental bias for the cause of negative behaviour to lie within the child [35] may be especially evident in adolescence when the behaviour might be seen to be more stable. With regard to assessment, Dadds et al. [18] used a measure of psychopathic-like traits, when they found gender differences in empathy. However, the antisocial behaviour that is inherent in measures of psychopathy may be less important for explaining the bullying behaviour committed by girls [6]. Hence, we used a measure of CU traits, which focuses on the affective features of psychopathy. Lastly, we have recruited an adequate sample to separate boys and girls in the analyses, and assess the levels of empathy deficits at low, moderate, and high levels of CU traits, as was done by Dadds et al. [18].

The aims of the present study are three-fold. First, using self-report measures rather than parent-report [18], we expect to find affective empathy deficits, but little evidence of cognitive empathy deficits in a high-CU group as compared to moderate and low-CU groups. Second, based on previous findings using a general measure of empathy [34], we expect that the uncaring and unemotional facets will be related to deficits specifically in sharing the feelings of others (affective empathy) but not the knowledge of others' emotions (cognitive empathy). Third, we will examine how the ICU subscales statistically predict direct and indirect bullying, while assessing the additional influence of empathy. If empathy deficits are

to add to the statistical prediction of bullying, this would suggest that the empathy deficits explain the CU traits and bullying link.

## Method

### *Participants*

The participants were children in the first year (ages 11 to 12 years) at two state secondary schools in West Yorkshire, UK. In the first school, 132 parents were contacted and 97% gave consent. In the second school, all 90 parents gave consent. On the day of data collection, one child from the first school and four from the second school were absent. Therefore, 213 children gave their assent to participate in the research. Twelve of these children had missing data and they were not included in the analyses. The final sample included 201 participants comprising of both boys (n=100) and girls (n=101).

We assessed the representativeness of our sample by comparing our sample with those used in other studies assessing bullying and callous-unemotional (CU) traits. A prevalence rate of bullying in the UK has been established at about 1-7% [36], whether taken by self-report [37], peer reports [38], or teacher reports [39]. The reporting of bullying at 'once a week' or more in the present study was 1%, which is similar to what has been found in prior studies of secondary school students [37].

Because callous-unemotional traits are not diagnosable symptoms, there exist no epidemiological studies to state how many are affected by CU traits. However, when using the full scale score with 24 items, the means and standard deviations found for males (25.25 [7.90]) and females (21.76 [9.4]) are comparable to those found in other community samples in Germany [40] (males: 27.12 [7.70]; females 21.64 [6.00]) and the UK [6] (males: 26.26 [8.82]; females: 23.23 [8.96]).

### *Measures*

*The Revised Olweus Bully/Victim Questionnaire* [41]. The Revised Olweus Bully/Victim Questionnaire (OBVQ) was used to measure levels of bullying behaviour. The OBVQ is divided into two sections: Part I refers to bullying as an act performed against the person answering the questionnaire, and Part II refers to bullying as an act performed against others by the person answering the questionnaire. For the purpose of this research, only part II of the questionnaire. The answers were recorded on a five-point, Likert scale (A = 'It hasn't happened this term/ I haven't bullied another student this term', B = 'It has only happened once or twice', C = 'Two or three times a month', D = 'About once a week', E = 'Several times a week'). In an investigation using a large sample of children aged between 11 and 12 years, the OBVQ showed satisfactory reliability (>.85) as well as satisfactory construct validity [42]. The full scale showed acceptable internal consistency (Cronbach's alpha = .76). In the present study, we separated the direct from the indirect bullying items.

*The Inventory of Callous-unemotional Traits* [33]. The self-report Inventory of Callous-Unemotional Traits (ICU) was used to assess callous, uncaring and unemotional behaviours. The ICU was developed in order to overcome the limitations evident in the previous measure of callous unemotional traits: the callous-unemotional (CU) scale of the Antisocial Process Screening Device [APSD; 43]. The CU section of the APSD consisted of 6 items and was found to have only moderate reliability. The ICU expands the items to 24 items, measured on a four-point Likert scale (0 = 'Not at all true', 1 = 'Somewhat true', 2 = 'Very true', 3 = 'Definitely true'). The ICU measures three aspects of callous-unemotional traits; uncaring, callousness, and unemotional. It has been found to have good construct validity in a variety of samples of adolescents in different countries [34,40] along with good reliability [34]. Consistent with prior research [34], total ICU was calculated using all the items except for items 2 and 10, because these items had a negative corrected item-total correlation with the full scale score. Prior research shows that the facets or subscales of the

ICU show discriminant validity with delinquency, aggression, general levels of empathy, and emotional reactivity [34]. The total ICU showed good internal consistency (see Table 1) and was comparable to that found in other studies [6,40]. The internal consistency was also tested for the three subscales of the test and yielded acceptable results, although the unemotional scale showed lower internal consistency than the other scales.

*Basic Empathy Scale* [8]. The Basic Empathy Scale (BES) was used to assess the participants' levels of empathy. The BES is a 20 item self-report questionnaire which was developed to provide assessment of both cognitive and affective empathy. The answers were recorded on a five-point Likert scale (1 = 'Strongly Disagree, 2 = 'Disagree', 3 = 'Neither Agree nor Disagree', 4 = 'Agree', 5 = 'Strongly Agree') depending on the extent to which the item described them. The BES has good levels of construct validity and reliability in both males and females [8]. In the current study, the internal consistency for cognitive empathy was acceptable (0.77) and good for affective empathy (0.82). These were comparable to that found in an earlier study [8].

*Procedure*

The children in the study were given a letter of consent to take home from school for their parents. If the parents provided consent, each child was individually spoken to about the study and was asked to give their verbal assent. The participants completed the questionnaires in supervised groups of around 30 pupils in one of the classrooms in their school. They were fully debriefed after the completion of the questionnaires. All procedures carried out in the study were approved by the University of Central Lancashire Ethics Committee prior to the research being conducted.

*Data Analysis*

Groups who were low, moderately low, moderately high, and high on callous-unemotional were formed by splitting the sample at the median and at one standard deviation

above and below the mean. This was done separately for boys and girls to ensure that the high groups were high with respect to members of their group. Comparisons of the high group to the other groups were done to assess the empathy deficits attributed to CU. Also, bullying was examined. In all analyses, we paid particular attention to the gender by group interaction, to determine whether CU traits operate differently for boys and girls.

Hierarchical regressions were conducted to determine which CU subscales contribute uniquely to affective and cognitive empathy, since the subscales compete for explaining variance. Hierarchical regressions were also used to examine the contribution of the CU subscales and to determine if the empathy scales add to the prediction of bullying.

## Results

### *Do high CU traits relate to empathy and bullying?*

The descriptive statistics are shown in Table 1. Splitting the sample into groups based on CU scores resulted in 24 in the low group, 70 in the moderately low group, 71 in the moderately high group, and 36 in the high group with similar numbers of boys (n=9, 39, 34, and 18, respectively) and girls (n=15, 31, 37, and 18, respectively). SPSS 17.0 was used for conducting statistical tests, and eta squared (an index of effect size) was calculated by hand. Analysis of Variances (ANOVAs) were performed with the affective empathy and cognitive empathy subscales serving as dependent variables. Gender and groups were between-subjects factors. A significant effect of gender, $F(1,193)=48.90$, $p<.001$, $\eta^2=.16$, and groups, $F(3,193)=17.86$, $p<.001$, $\eta^2=.18$, was found for affective empathy. Boys (M=33.00, SD=7.66) were lower than girls (M=40.51, SD=6.18). Figure 1 shows the gender and group means on affective empathy, and the results of a post-hoc Tukey B test, where groups who were not significantly different from each other are shown with the same letter. The high CU group was significantly lower than all other groups in affective empathy.

The ANOVA for cognitive empathy revealed a significant effect of gender, $F(1,193)=20.90$, $p<.001$, $\eta^2=.08$, and group, $F(3,193)=14.78$, $p<.001$, $\eta^2=.17$. Boys (M=32.88, SD=5.40) were again lower than girls (M=36.16, SD=5.06). Figure 1 also shows the gender and group means on cognitive empathy and the results of the post-hoc tests. The high CU group scored lower on cognitive empathy than the two low CU groups, but their scores were not significantly lower than the moderately high CU group. Supporting prior research [18], it seems that high CU is associated with affective but only minor, and non-significant cognitive empathy deficits.

ANOVAs were performed on direct and indirect bullying separately. The ANOVA for direct bullying revealed a significant effect of group only, $F(3,193)=7.48$, $p<.001$, $\eta^2=.10$, explaining 10% of the variance. Figure 2 shows the gender and group means and the results of the post-hoc tests. The high CU group was highest on direct forms of bullying, and significantly higher than the two low groups. However, this high CU group was not significantly higher than the moderately high group on direct bullying.

The ANOVA for indirect bullying revealed a significant effect of group only, $F(3,193)=2.66$, $p<.05$, $\eta^2=.04$, explaining less than half the variance (4%) as for direct bullying. Figure 2 shows the gender and group means and the results of the post-hoc tests. Post-hocs revealed no significant difference between the groups. As was found in prior research [6], CU is not as important for explaining indirect bullying as it is for direct bullying. The group who was high on CU reported the lowest affective empathy, the lowest cognitive empathy, and the highest bullying. However, they were significantly lowest in affective empathy only, supporting affective deficits in youths with CU traits.

*How do the subscales of the ICU relate to empathy deficits*?

The zero-order correlation coefficients are shown in Table 2. Affective empathy was negatively related to all ICU subscales (*r*s ranging from -.34 to -.45). Cognitive empathy was

moderately and negatively related to uncaring and callous traits, $r = -.39$, $p < .01$; $r = -.31$, $p < .01$, respectively, but was weakly related to unemotional traits, $r = -.20$, $p < .01$.

Two hierarchical multiple regressions were performed to examine the unique relation of the ICU subscales to affective and cognitive empathy. Since boys and girls scored differently on empathy, gender was entered on the first step of the regression. The first regression regressed affective empathy onto gender and the three subscales. The second regression regressed cognitive empathy onto gender and the three subscales. The results of the two regressions are noted in Table 3. All subscales of the ICU were negatively and uniquely predictive of affective empathy ($\beta$s ranging from -.19 to -.35), with the unemotional scale showing the strongest unique association with affective empathy, $\beta = -.35$, $t = -6.64$, $p < .001$. Only the uncaring subscale was uniquely related to cognitive empathy, showing a negative association, $\beta = -.35$, $t = -4.62$, $p < .001$. Thus, it appears that the uncaring traits that make up callous-unemotional traits are associated with deficits in sharing the feelings of others and even in being aware of the feelings of other people. These deficits may explain the way that people with uncaring traits can take advantage and aggress toward others [31].

*Do CU traits and empathy deficits uniquely predict bullying behaviours*?

Examining the zero-order correlations in Table 2, direct and indirect bullying were positively related to callous-unemotional traits, $r = .33$ and $.22$, $p$s $< .01$, respectively. The ICU subscales were related differently to bullying. Both uncaring and callousness were positively related to direct bullying behaviours, $r = .31$ and $.29$, $p$s $< .01$, respectively, and to indirect bullying, $r = .24$, $p < .01$; $r = .16$, $p < .05$, respectively. Unemotional traits were not related to bullying ($r$s = .03 to .07). Thus, the affective deficits that are a part of CU traits are not related to bullying, and this is consistent with prior research [31]. Affective and cognitive empathy were only weakly and negatively related to direct forms of bullying, $r = -.18$, $p < .01$; $r = -.25$, $p < .01$, respectively.

Two hierarchical regressions were performed to examine the unique relation of the two ICU subscales (i.e., uncaring and callous) that were related to direct and indirect bullying, with the aim of determining if these associations become more or less strong with the addition of empathy. Direct (and indirect) bullying behaviours were regressed onto gender and the three ICU subscales on step 1. On the second step, the affective and cognitive empathy were entered. Table 4 notes the results of the two hierarchical regressions, predicting direct and indirect bullying. Callous and uncaring traits were both uniquely and positively predictive of direct bullying, $\beta = .17$, $t = 2.15$, $p < .05$; $\beta = .21$, $t = 2.68$, $p < .01$, respectively. With the addition of cognitive and affective empathy, the standardized betas for callous and uncaring both reduced, and only uncaring traits was still significant, $\beta = .16$, $t = 1.88$, $p = .06$; $\beta = .17$, $t = 2.09$, $p < .05$, respectively. Cognitive empathy approached significance on the second step, as a negative predictor, $\beta = -.14$, $t = -1.76$, $p = .08$. However, the step including cognitive and affective empathy was not significant. For the model predicting indirect bullying, uncaring was the only significant predictor of greater bullying, $\beta = .22$, $t = 2.70$, $p < .01$. No change was observed when including empathy in the second step. Thus, children who are high on uncaring traits report high levels of direct and indirect bullying, and this effect seems to be largely independent of empathy deficits.

## Discussion

This is the first known study to examine the role of empathy in explaining bullying when taking into account a callous-unemotional interpersonal style. The present study found clear evidence that not caring about the values that other people cherish can indicate a need to dominate others by ruining relationships, using threats, and physical force. A lack of caring and sharing in the values and feelings of others was most related to direct and indirect bullying in the present study, when compared to the other facets of CU traits. When their scores on empathy were made equal, children were found to show greater bullying when they

were more uncaring. That is, controlling for empathy, uncaring traits were uniquely related to bullying.

Based on the extreme groupings, our findings are consistent with Dadds et al. [18]. Thus, whether using parent-reports (as in Dadds et al. [18]) or self-reports (the present study), the group highest on CU traits was lowest in affective empathy. All facets of CU traits were associated with deficits in affective empathy; together, they accounted for 25% of the variance. Also, consistent with affective deficits that are purported to underlie unemotional traits, the unemotional subscale showed the strongest unique relation to affective empathy. These findings support previous research on the importance of callous-unemotional traits for predicting deficits in affective empathy [18,20]. The findings are also consistent with findings showing a relation between the unemotional facet and empathy deficits [34].

We find only partial support for the proposed mechanism suggested by prior research. Based on Viding et al.'s [6] suggestions, we expected the presence of CU traits to hinder the processing of victim distress [30], and that this lack of knowing when others are distressed would be more important for direct rather than indirect forms of bullying, where the victim's distress could be hidden. We found, first, that children with the highest levels of CU traits engaged more often in direct bullying than indirect bullying; however, these youths showed no deficits in cognitive empathy. Thus, they perceived themselves as being able to 'talk the talk' of emotions, yet engaged in physical forms of bullying. Interestingly, these CU youths who engage in physical forms of bullying were low on affective empathy suggesting that although they can 'talk the talk' of emotions, they do not care about the feelings of others.

We have extended prior research [31] by showing that uncaring traits uniquely predict indirect and direct bullying behaviours. Indeed, uncaring traits were related to greater versatility in and positive attitude toward delinquent behaviours [34]. We found callous traits to uniquely predict direct bullying, when compared with uncaring traits, but not indirect

bullying. Thus, the imbalance of physical power which is apparent in bullying may stem from callous traits that serve to place others in a subordinate position; the victim is hit, kicked, and threatened to serve the callous bully's needs.

We also tested whether the affective component of empathy could underlie the bullying behaviours of those with specific CU traits. We found that the association between uncaring traits and bullying remained when taking empathy deficits into account, and the inclusion of empathy scores did not greatly reduce the contribution of CU traits to direct bullying. Thus, knowing about others' emotions might inhibit direct forms of bullying, such as hitting or threatening people; yet, bullying occurs if one does not *care* about the emotions displayed by other people. It seems that being an uncaring child is more important for engaging in bullying behaviours than recognising or even feeling other people's emotions. This suggests that interventions that focus on victim suffering will not be worthwhile for people who do not care about others.

Surprisingly, the uncaring subscale also predicted deficits in cognitive empathy. All subscales entered accounted for 16% of the variance, which is less than for affective empathy, further supporting an affective deficit that is stronger than a cognitive one [18]. It could be that children who are uncaring perceive themselves as experiencing deficits in both experiencing and knowing others' feelings, but parents do not perceive this [18]. Further, evidence suggests that emotion recognition deficits in laboratory studies with youths with CU traits [28,29,32] may be due to the uncaring components of CU traits [44]. Thus, it may be that uncaring traits are associated with not 'feeling' but also not knowing or understanding the 'why' or 'how' of others' emotions [18]. These doubly-affecting deficits may spill over to being unkind and manipulative in personal relationships and to physical forms of aggression. Such cognitive empathy deficits may explain the way that people who are uncaring take advantage and aggress toward others [31]; they have a false understanding of

the social responses that are appropriate for dealing with the emotional states of others, such as knowing when to cease bullying [30].

As with any study, the present study has some limitations. Specifically, this research relied on self-report measures and there may be differences based on shared-method variance. Also, future studies may want to over-come some of the problems inherent in self-report measures of bullying by using peer-nominations of bullying or even of empathy as was done by Björkqvist et al. [17].

Despite these limitations, the present study has important implications with regards to traditional bullying interventions. As callous-unemotional traits were found to be the most important predictor of bullying behaviours, over and above empathy, we agree with Viding et al. [6] that 'educative' interventions are likely to be ineffective when the bully is high on CU traits. Such interventions seek to make pupils who bully aware of the distress their bullying has on their victim. Our findings, along with other research, suggest that such interventions are unlikely to impact on the child who is high on callous-unemotional traits, particularly those with an uncaring attitude towards others; interventions that focus on the self-interest for this group may be more effective. Research shows that interventions that target self-interest may be of use when combined with interventions that play to the reward-oriented nature of youths with CU traits [45]. Therefore, rewards should be offered for a competing behaviour other than the aggressive one. Giving rewards for pro-social behaviour should be done under strict supervision to uncouple the usual emotional social reward that these dominant children usually get, because dominant and aggressive youth are often popular among their peers [46]. Thus, the cognitive scripts that bullies use to maintain their behaviour may be accepted by their peer group, and we argue for interventions that aim to change these.

## Summary

Our findings highlight the importance of the uncaring dimension of CU traits in predicting both direct and indirect bullying, but we find that empathy deficits only slightly reduce the strength of the relationships. Empathy deficits do not seem to act as mediators in the relationship between CU traits and bullying. In sum, children who have an uncaring attitude toward other people's feelings and the values that other people hold dear do not understand or share in others' feelings, and are more likely to engage in direct forms of bullying. Empathy has no effect on bullying behaviour when one simply does not care.

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Table 1. *Descriptive statistics of study variables.*

| Measures | M (SD) | M (SD) - Males | M (SD) - Females | Cronbach's Alpha |
|---|---|---|---|---|
| Direct Bullying | 1.11 (.28) | 1.14 (.29) | 1.08 (.25) | - |
| Indirect Bullying | 1.17 (.36) | 1.18 (.39) | 1.16 (.33) | - |
| Total ICU | 20.82 (8.99) | 22.22 (7.96) | 19.19 (9.48) | .83 |
| ICU-Uncaring | 7.94 (4.93) | 7.91 (4.51) | 7.96 (5.34) | .84 |
| ICU-Unemotional | 7.43 (2.58) | 7.79 (2.43) | 7.07 (2.68) | .51 |
| ICU-Callous | 5.33 (4.34) | 6.52 (4.41) | 4.16 (3.97) | .76 |
| Affective Empathy | 36.77 (7.89) | 33.00 (7.66) | 40.51 (6.18) | .82 |
| Cognitive Empathy | 34.53 (5.47) | 32.88 (5.40) | 36.16 (5.06) | .77 |

Note: Bullying= Olweus Bully Questionnaire; ICU= Inventory of Callous-Unemotional Traits; Empathy= Basic Empathy Scale.

Table 2. *Correlations among main study variables.*

| Measures | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| **1. Direct Bullying** | - | | | | | | |
| **2. Indirect Bullying** | .26** | - | | | | | |
| **3. Total ICU** | .33** | .22** | - | | | | |
| **4. ICU-Uncaring** | .31** | .24** | .87** | - | | | |
| **5.ICU-Unemotional** | .07 | .03 | .41** | .16* | - | | |
| **6. ICU-Callous** | .29** | .16* | .81** | .54** | .07 | - | |
| **7. Affective Empathy** | -.18** | -.10 | -.53** | -.34** | -.45** | -.42** | - |
| **8. Cognitive Empathy** | -.25** | -.08 | -.43** | -.39** | -.20** | -.31** | .50** |

Note: Bullying= Olweus Bully Questionnaire; ICU= Inventory of Callous-Unemotional Traits; Empathy= Basic Empathy Scale; * $p < .05$. ** $p < .01$.

Table 3. Hierarchical regressions of affective and cognitive empathy regressed onto gender (males = 1, females = 0) and the ICU subscales.

| | **Affective Empathy** | | | **Cognitive Empathy** | | |
|---|---|---|---|---|---|---|
| | **B** | **SE** | **Std. β** | **B** | **SE** | **Std. β** |
| Step 1 | | | | | | |
| Gender | -7.51 | .98 | -.48** | -3.29 | .74 | -.30** |
| Step 2 | | | | | | |
| ICU - Callous | -.34 | .12 | -.19** | -.05 | .10 | -.04 |
| ICU -Unemotional | -1.08 | .16 | -.35** | -.22 | .14 | -.10 |
| ICU - Uncaring | -.30 | .10 | -.19** | -.39 | .08 | -.35** |

Note: Affective Empathy Model: $R^2$ = .48, $F$ (4, 196) = 45.17, $p$ < .001; Step 2: Δ $R^2$ = .25, $F$ (3, 196) = 31.69, $p$ < .001; Cognitive Empathy Model: $R^2$ = .25, $F$ (4, 196) = 16.51, $p$ < .001; Step 2: Δ $R^2$ = .16, $F$ (3, 196) = 14.08, $p$ < .001; ICU= Inventory of Callous-Unemotional Traits; Empathy= Basic Empathy Scale; * $p$ <.05, ** $p$ <.01.

Table 4. *Hierarchical regression predicting bullying behaviours from uncaring and callous traits, and cognitive and affective empathy.*

| | Direct Bullying | | | | Indirect Bullying | | | |
|---|---|---|---|---|---|---|---|---|
| | **B** | **SE** | **β** | **ΔR²** | **B** | **SE** | **β** | **ΔR²** |
| **Step 1** | | | | | | | | |
| ICU – Callous | .01 | .01 | .17* | | .00 | .01 | .04 | |
| ICU – Uncaring | .01 | .00 | .21** | .11** | .02 | .01 | .22** | .06** |
| **Step 2** | | | | | | | | |
| ICU – Callous | .01 | .01 | .16 | | .00 | .01 | .04 | |
| ICU – Uncaring | .01 | .01 | .17* | | .02 | .01 | .23** | |
| Cognitive Empathy | -.01 | .00 | -.14 | | .00 | .00 | .03 | |
| Affective Empathy | .00 | .00 | .02 | .02 | .02 | -.00 | -.03 | .00 |

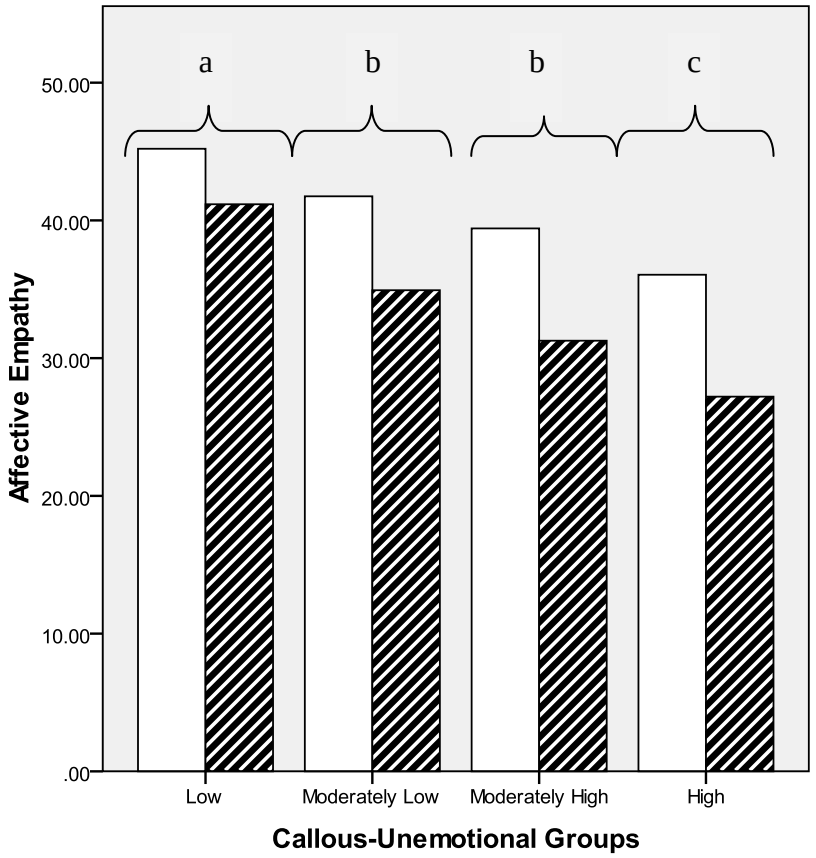
Note: Direct Bullying Model: $R^2$ = .13, $F$ (4, 196) = 7.25, $p$ < .001; Step 1: ΔR² = .11, $F$ (2, 198) = 12.71, $p$ < .001; Step 2: ΔR² = .02, $F$ (2, 198) = .70, $p$ = ns; Indirect Bullying Model: $R^2$ = .06, $F$ (4, 196) = 3.14, $p$ < .05; Step 1: ΔR² = .06, $F$ (2, 198) = 6.24, $p$ < .01; Step 2: ΔR² = .00, $F$ (2, 198) = .10, $p$ = ns; Bullying= Olweus Bully Questionnaire; ICU= Inventory of Callous-Unemotional Traits; Empathy= Basic Empathy Scale; * $p$ <.05, ** $p$ <.01.

# Figure Captions

*Figure 1.* Affective and cognitive empathy levels split by low, moderately low, moderately high, and high callous-unemotional groups and gender.

*Figure 2.* Direct and indirect bullying levels split by low, moderately low, moderately high, and high callous-unemotional groups and gender.

Figure 1


a
b
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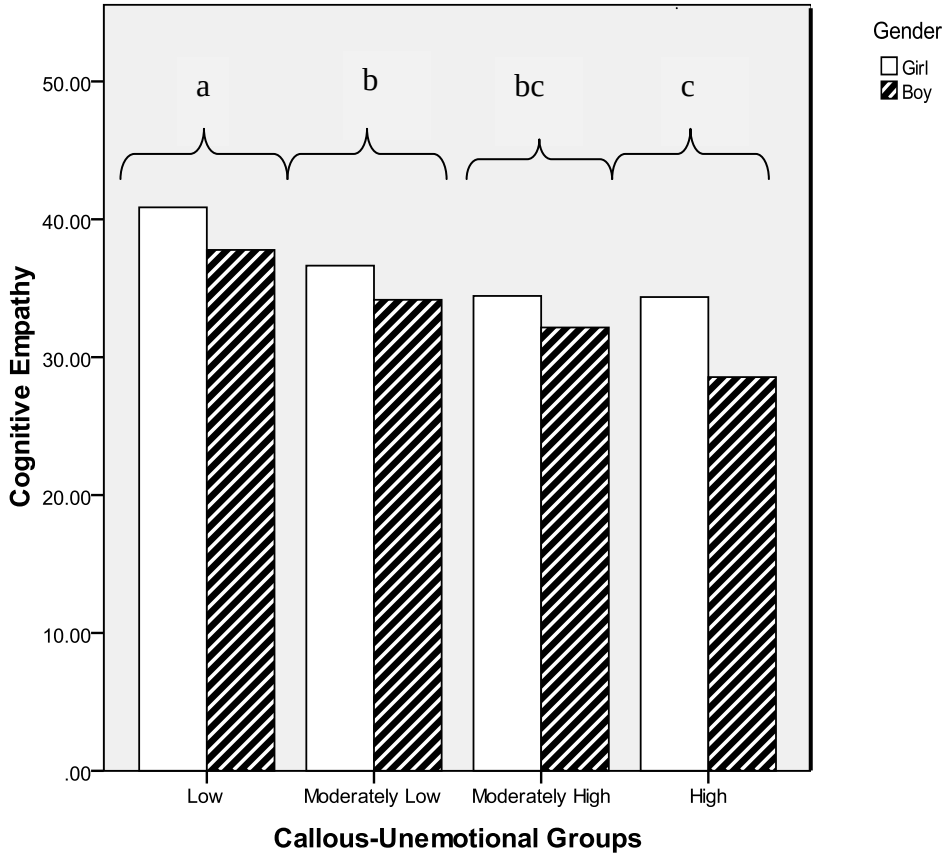
Affective Empathy
Low
Moderately Low
Moderately High
High
Callous-Unemotional Groups


a
b
bc
c
50.00
40.00
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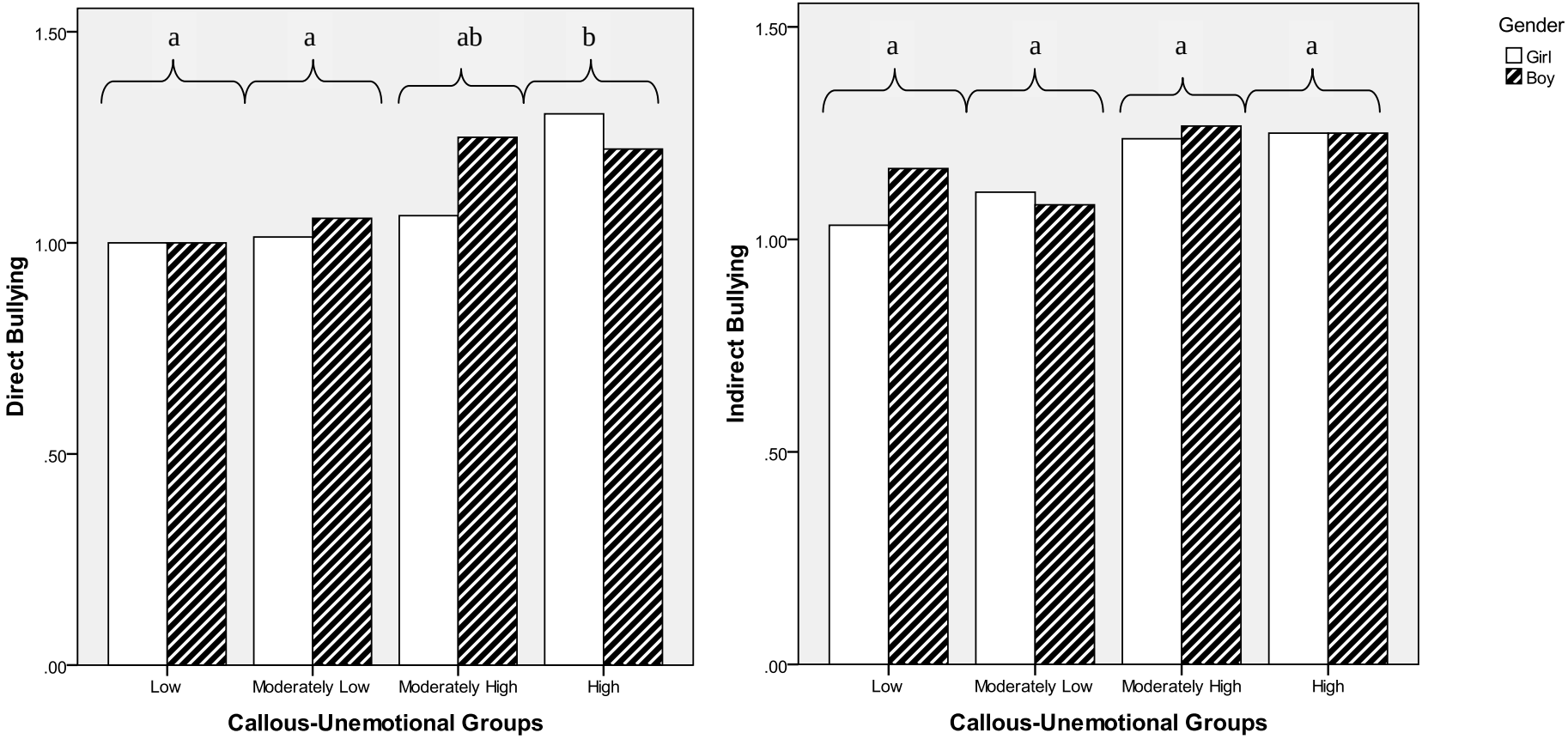
Cognitive Empathy
Low
Moderately Low
Moderately High
High
Callous-Unemotional Groups
Gender
Girl
Boy

Figure 2


Direct Bullying
1.50
1.00
.50
.00
a
a
ab
b
Low
Moderately Low
Moderately High
High
Callous-Unemotional Groups
Indirect Bullying
1.50
1.00
.50
.00
a
a
a
a
Low
Moderately Low
Moderately High
High
Callous-Unemotional Groups
Gender
Girl
Boy