Adult Bullying and Primary and Secondary Psychopathic Traits:

Insights from a Community Sample

Guilherme Welter Wendt and Alice Jones Bartoli

Goldsmiths, University of London

*Author Note*

Guilherme Welter Wendt, Psychology Department, Goldsmiths, University of London; London, UK; Alice Jones Bartoli, Psychology Department, Goldsmiths, University of London; London, UK.

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 Correspondence concerning this article should be addressed to Guilherme Welter Wendt, Department of Psychology, Goldsmiths, University of London, Lewisham Way (The Bungalow, Room 4), SE14 6NW, London, UK. Phone: (44) 020 7919 7062. E-mail: guilhermewwendt@gmail.com

Guilherme Welter Wendt, MSc., is a Doctoral Student in Psychology at Goldsmiths, University of London. Alice Jones Bartoli, PhD, is the Director of Unit for School & Family Studies at Goldsmiths, University of London.

Abstract

This study aimed to comprehend the relationship between primary and secondary psychopathy variants and bullying behaviors in adults (a); to test for mediation effects of the experiences of victimization in strengthening the bonds between bullying and psychopathy (b); and to explore how far gender and psychopathic variants predict bullying (c). Results showed that psychopathy (both primary and secondary) and gender (male) significantly predicted bullying perpetrator behaviors. These same predictors were also significant in explaining total involvement with bullying; primary psychopathy displayed, however, better explanatory power. Being a victim of bullying also mediated the relationship between psychopathic variants and bullying perpetrating. The magnitude of the correlations between bullying and both psychopathic variants detected in this study were bigger than the average reported in studies with children and adolescents, which could inform about greater severity of these behaviors in adult life. Specifically, findings from regression analyses suggest that components of cold-blooded psychopathy could be driving the engagement of this sample with aggressive behaviors. Implications of these findings, along with limitations and directions for further research are discussed.

*Keywords***:** Psychopathy, Bullying, Victimization, Secondary Psychopathy, Aggression

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 Bullying is usually described as an intentional and aggressive act, carried out by a group or an individual in a situation of imbalance of power (Olweus, 1991). Much of the published literature regarding bullying describes samples composed of children and adolescents. In adults, although there is a significant number of papers on workplace bullying, the research is rather more limited (Bender & Losel, 2011; Chen & Huang, 2015; Ortiz-León, Jaimes-Medrano, Tafoya-Ramos, Mujica-Amaya, Olmedo-Canchola, & Carrasco-Rojas, 2014; Warren, 2009). One of the most important elements for the characterisation of bullying is the manifestation of imbalance of power, typifying this phenomenon as abusive, cruel, and unfair (Nansel, Overpeck, Pilla, Ruan, Simons-Morton, & Scheidt, 2001; Rigby & Smith, 2011). However, importantly for this study is certainly the idea that some bullies can be described as cold, Machiavellian, and calculating, and have been reported to not express emotional empathy towards their victim(s), which has clear overlap with what is known about psychopathic traits (Frick, Cornell, Barry, Bodin, & Dane, 2003; Juvonen & Graham, 2014; Kawabata, Crick, & Hamaguchi, 2013; Kimonis, Skeem, Cauffman, & Dmitrieva, 2011).

Previous studies have examined the role of psychopathic traits in bullying behaviors across various age-ranges (Fanti, Brookmeyer, Henrich, & Kuperminc, 2009; Fanti & Kimonis, 2012; Gacono & Hughes, 2004; Gumpel, 2014; Thornton, Frick, Crapanzano, & Terranova, 2013; van Geel, Toprak, Goemans, Zwaanswijk, & Vedder, 2016; Viding, Simmonds, Petrides, & Frederickson, 2009). Child and adolescent studies have indicated that the early onset of psychopathic personality traits, also known as callous-unemotional or CU traits, are consistently associated with incidences of direct bullying (Crapanzano, Frick, Childs, & Terranova, 2011; van Geel et al., 2016; Viding et al., 2009). Direct bullying refers to situations where bullies typically need to confront their victims face-to-face. One possible explanation is that deficits in affective empathy offer a mediating role between the presence of elevated CU traits and direct bullying behaviors, where elevated CU traits are associated with poorer affective empathy (but not cognitive) (Jones, Happé, Gilbert, Burnett, & Viding, 2010).

In addition, data from children with psychopathic tendencies indicate that this group is more likely to experience peer rejection, but what is interestingly is that peer rejection has relatively little impact on their social self-concept (Warren, Jones, & Frederickson, 2015). Precisely, a positive correlation was found between social exclusion with CU traits (*r* = .31) among children with social, emotional and behavioral difficulties receiving special education services. However, this group of pupils did not display significant associations between CU traits to social acceptance and overall self-concept (Warren et al., 2015). This is by some means expected, as psychopaths have been identified as unconscientiousness and more prone to exhibit self-enhancement features (Gustafson & Ritzer, 1995), often displaying with a shortage of insight (Lilienfeld & Fowler, 2006). The combination of these dysfunctional personality traits exemplifies the lack of concern and the inevitable use of manipulation and power over victims displayed by bullies, who also present themselves with elements of grandiosity (Juvonen & Graham, 2014). Interestingly, Orue, Calvete and Gamez-Guadix (2016) identified that grandiosity and impulsivity are important predictors of disruptive, overt-reactive behaviors in a longitudinal study with adolescents. Fanti and Kimonis (2013), however, added that specific dimensions of psychopathic traits in children and adolescents increment the explained variance in the occurrence of bullying beyond conduct problems. These findings combined seem to suggest that psychopathic personality traits may play an important role in the initiation and perpetuation of peer aggression and bullying, highlighting the role of fearlessness and indifference towards other’s emotions as critical for understanding the shared features of bullying and psychopathy.

Research has also shown differences in the role of early psychopathic traits in bullying behavior across gender, whereas boys tend to display greater severity of physical aggression (Fanti & Kimonis, 2012; Thornton et al., 2013). These findings are in line with previous work on bullying and seem to not vary among cultures (for a meta-analytic review, see Archer, 2004). In the psychopathy literature, it is often the case that male boys do engage in more violent acts when compared to female counterparts. However, the studies previously cited have been carried out with child and adolescent samples and there is very little work extending these concepts into adulthood (Warren, 2009).

## Bullying and Psychopathy in Young Adults

Bullying has been previously linked to self-report measure of psychopathy among typical developing adults (Williams, Nathanson, & Paulhus, 2003), and research has shown that both bullies and psychopaths share a common positive view about using hostility, manipulation and aggression as problem-solving techniques (Warren, 2009). Experiences of bullying have predictive power to understand aggression (Juvonen & Graham, 2014), antisocial behavior (Bender & Losel, 2011) and delinquency in adults (Barker, Arseneault, Brendgen, Fontaine, & Maughan, 2008).

Bullying is never a pleasant experience. As such, research has suggested that experiencing bullying in adulthood could increase the risk for alcohol-related problems (Rospenda, Richman, Wolff, & Burke, 2013); suicide (Sinyor, Schaffer, & Cheung, 2014), stress (Qamar, Khan, & Kiani, 2015); and might likewise lead to deficits in individuals’ perception of quality of life (Chen & Huang, 2015). It has been identified that 2 to 14.3% of adults are exposed to workplace bullying in Norway (Nielsen et al., 2009), while up to 50% of North American workers are estimated to experience at least one episode of bullying per week (Lutgen-Sandvik, Tracy, & Alberts, 2007). However, reports of prevalence of bullying in adults are sensitive to external factors (e.g., cultural and methodological), coupled with the fact that bullying could be manifested in more sophisticated ways in different stages of human development. A recent review of studies on interventions to reduce workplace bullying indicated that in some circumstances the outcome is either ineffective or has resulted in an increase of this type of behavior, quite likely due to employees’ increased awareness (Escartin, 2016). Additionally, psychopaths found in schools and universities could bully others to achieve their goals of power gain and domination. Therefore, it seems sensible to look at this phenomenon and its consequences along lifespan, bearing in mind not merely which aspects are associated with negative outcomes but likewise what can be done to prevent its occurrence (Ortiz-León et al., 2014).

# The Current Study

The research presented so far indicates that psychopathy and bullying are two types of problematic behaviors associated with undesirable consequences at individual as well as at social levels (Barker et al., 2008; Bender & Losel, 2011). However, the relationship between bullying and antisocial behavior – including psychopathy – is not often researched in adulthood. Hence, this study aims to investigate the relationship between psychopathy and bullying behaviors in a sample composed by adults. A secondary aim of this study is to take the first look at experiences of victimization as it moderates the links between primary and secondary psychopathic personality traits in adults and bullying perpetrating behavior.

## Hypotheses

In line with previous research (e.g., Fanti & Kimonis, 2012; 2013), this study hypothesises that psychopathic personality traits would be positively associated with aggressive behavior towards others (e.g., fighting and bullying others). It also hypothesises that psychopathic personality traits would positively predict bullying perpetration. Because previous work advocated that CU traits are linked to more severe types of aggressive behavior, particularly in its instrumental forms, and the combination of psychopathic traits and experiences of victimization leads to a greater involvement with proactive aggression (Barker et al., 2008; Fanti, Frick, & Georgiou, 2009) we hypothesize that the relationship between psychopathic traits and perpetration (bully behaviors) would be more robust when taken into account the mediator effect of victimization.

## Method

### **Participants and Design**

The sample in this cross-sectional study comprised 233 young adults (*Mage =* 25.6 years, *SD =* 5.6 years). Majority of participants (83%) were female and regularly enrolled as students at university level. This study used regression design to examine the predictive value of psychopathic personality traits in predicting bullying in adults. Mediation model was used to explore the specific role that experiences of victimization could have in the relationship between psychopathic variants (i.e., primary and secondary) with proactive aggression (i.e., bullying others). Further details on these procedures are described in the section 2.4 (Data analysis).

### **Procedures**

The study received ethical approval from the Goldsmiths Psychology Research Ethics Committee. Participants were recruited online and by using the Research Participation Scheme at two universities in the United Kingdom. Prior of completing the questionnaires, participants were presented with an outline of the study, and were asked to provide consent for participation. Measures were presented in the following order: Illinois Bullying Scale (Espelage & Holt, 2001) and Levenson Primary and Secondary Psychopathy Scales (Levenson, Kiehl, & Fitzpatrick, 1995). Most of participants completed the survey online or by using an Apple iPad during an in lab visit, taking approximately 25 minutes. When requested, participants completed the survey using pen and paper.

### **Materials**

A demographic questionnaire including questions about gender, age, field of study and university where students were enrolled was used. A space for extra comments was also added in this brief questionnaire. To facilitate participant’s maximum comfort in their reports on bullying and psychopathy experiences, demographics questions were reduced to as minimum as possible. Hence, to assess psychopathy, the Levenson Primary and Secondary Psychopathy Scales were administered (LPSP; Levenson et al., 1995) and to measure bullying behaviors in adults, the Illinois Bullying Scale was used (IBS; Espelage & Holt, 2001).

**Levenson Primary and Secondary Psychopathy Scales.** The LPSP (Levenson et al., 1995) is a 26-item questionnaire designed in a 4-point scale in which score 1 means disagree strongly and score 4 means agree strongly. It assesses different domains related to psychopathy in adulthood (i.e., primary and secondary psychopathy), being widely used among non-clinical samples. Several studies have demonstrated the adequacy of the LPSP in terms of psychometric properties in community samples (Gummelt, Anestis, & Carbonell, 2012; Hauck-Filho & Teixeira, 2014). The scales were constructed to correspond at Hare’s PCL-R factors I and II (Lilienfeld & Fowler, 2006). “I let others worry about higher values; my main concern is with the bottom line” and “I don’t plan anything very far in advance” are items that assess primary and secondary psychopathy, respectively. Cronbach’s alpha were α = .80 for primary psychopathy scale, α = .66 for secondary psychopathy and α =.83 for the total scale.

#### **Illinois Bullying Scale.** The IBS (Espelage & Holt, 2001), an 18-item measure, is designed to assess the frequency of bullying behavior in its direct and indirect forms, having also a subscale for explicit aggression (e.g., fighting). It is completed using a 5-point scale ranging from never (0) to seven or more times (4). Three subscales comprise the IBS, namely the bully subscale (perpetrator), the fighting subscale and, lastly, the victimization subscale. Participants are instructed to complete the IBS bearing in mind their experiences over the past month. “Other students made fun of me”, “I started arguments or conflicts”, and “I got into physical fights” are example questions of the victimization, bullying, and fighting subscales. Past research with university students (Kapoor, Alynkia, & Jadahv, 2016) and adults (Hoetger, Hazen, & Brank, 2015) have shown adequate psychometric properties for the IBS (αrange = .86 – .90). In the current investigation, Cronbach’s alpha were α =.73 for the perpetrator scale, α =.74 for the victimization subscale, α =.80 for fighting subscale, and α =.89 for the total scale. Exploratory factor analyses were performed to confirm the psychometric properties of the Illinois Bullying Scale in the current study as the measure has not been previously used in the context of psychopathy research. Results of the principal components analysis with oblique rotation assured a three-factor structure (i.e., bullying, fighting, and victimization), explaining 50.1% of the variance. All items loaded >.30. Kaiser-Meyer-Olkin Measure of Sampling Adequacy test yielded acceptable result (.746), as well as the Bartlett's sphericity test (X2(153) = 1.67; p < .001).

### **Data Analysis**

Data were analysed using SPSS 22.0 and JASP 0.80 software. Data were first checked for normal distribution, followed by inspection of outliers. Means and standard deviations were obtained for all the instruments. Two-tailed correlations and multiple linear regressions were used to analyse associations and predictors. For linear regression, data were transformed using *Log10* method. Mediation analyses were performed using regression procedures and the significance of the indirect effect was tested using bootstrapping (Baron & Kenny, 1986; Hayes, 2013; Jose, 2013). *G*\*Power version 3.1.9.2 was used to confirm that for all analyses the number of participants was sufficiently enough for securing 95% of power and *α* = .05 or less.

# Results

 Table 1 illustrates means and standard deviations for bullying and psychopathy in regards to participants’ gender. Means for primary and secondary psychopathy were interestingly high for a community sample. Gillespie (2014), in a study with violent offenders in the U.K., found similar means for primary and secondary psychopathy of 29.9 (*SD* = 8.6) and 23.1 (*SD* = 4.9) respectively. For bullying, there was a significant difference between males and females in the perpetrator behavior, which is in accordance with previous findings (e.g., Baughman et al., 2012).

Table 1.

*Means and Standard Deviations for Bullying and Psychopathy (Raw Scores)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Variable** |  | ***M*** |  | ***SD*** | ***T*** | **Cohen's d****(effect size)** |
|  | **Male** | **Female** |  | **Male** | **Female** |
| Primary psychopathy |  | 29.56 | 28.57 |  | 7.29 | 6.56 | .82 | – |
| Secondary psychopathy |  | 19.87 | 19.72 |  | 4.37 | 4.14 | .20 | – |
| Total psychopathy |  | 49.42 | 48.29 |  | 9.67 | 9.37 | .72 | – |
| Bullying perpetrator |  | 2.58 | 1.53 |  | 2.93 | 2.07 | 2.80\* | .41 (.20) |
| Bullying victimization |  | 1.18 | .87 |  | 1.77 | 1.85 | 1.02 | – |
| Bullying fighting |  | .47 | .30 |  | 1.21 | .98 | .61 | – |
| Total bullying |  | 4.22 | 2.70 |  | 4.88 | 3.89 | 2.24 | – |

 Note. \* *p < .05.*

## Correlational Analysis

As shown in Table 2, numerous correlations (Pearson) were evident between psychopathy and bullying behaviors raw scores. Interestingly, IBS total score correlated positively with LPSP total score (*r* = .45, *p* < .001), and with primary and secondary psychopathy (*r* = .41, *p* < .01, and *r* = .35, *p* < .001, respectively). All IBS’ subscales correlated also with LPSP primary and secondary psychopathy. Analyses were also performed with the variable gender controlled, but no major effects were identified.

Table 2.

*Correlations Between Bullying and Psychopathy*

|  |
| --- |
|  |  | **1** | **2** | **3** | **4** | **5** | **6** | **7** |
| 1 Primary Psychopathy |  | r  |  | —  |  | .46  |  | .92  |  | .41  |  | .25  |  | .29  |  | .41  |  |
| p  |  | —  |  | < .001  |  | < .001  |  | < .001  |  | < .001  |  | < .001  |  | < .001  |  |
| Upper 95% CI  |  | —  |  | .56  |  | .93  |  | .51  |  | .36  |  | .40  |  | .51  |  |
| Lower 95% CI  |  | —  |  | .35  |  | .89  |  | .30  |  | .12  |  | .17  |  | .30  |  |
| 2 Secondary Psychopathy |  | r  |  |    |  | —  |  | .77  |  | .38  |  | .18  |  | .22  |  | .35  |  |
| p  |  |    |  | —  |  | < .001  |  | < .001  |  | .005  |  | < .001  |  | < .001  |  |
| Upper 95% CI  |  |    |  | —  |  | .82  |  | .49 |  | .30  |  | .34  |  | .46  |  |
| Lower 95% CI  |  |    |  | —  |  | .71  |  | .27  |  | .05  |  | .10  |  | .23  |  |
| 3 Total Psychopathy |  | r  |  |    |  |    |  | —  |  | .46  |  | .26  |  | .30  |  | .45  |  |
| p  |  |    |  |    |  | —  |  | < .001  |  | < .001  |  | < .001  |  | < .001  |  |
| Upper 95% CI  |  |    |  |    |  | —  |  | .56 |  | .37  |  | .42  |  | .54  |  |
| Lower 95% CI  |  |    |  |    |  | —  |  | .36 |  | .13  |  | .18  |  | .34  |  |
| 4 Bullying behavior |  | r  |  |    |  |    |  |    |  | —  |  | .39  |  | .38  |  | .82  |  |
| p  |  |    |  |    |  |    |  | —  |  | < .001  |  | < .001  |  | < .001  |  |
| Upper 95% CI  |  |    |  |    |  |    |  | —  |  | .49  |  | .49  |  | .86  |  |
| Lower 95% CI  |  |    |  |    |  |    |  | —  |  | .28  |  | .27  |  | .78  |  |
| 5 Victimization |  | r  |  |    |  |    |  |    |  |    |  | —  |  | .58  |  | .81  |  |
| p  |  |    |  |    |  |    |  |    |  | —  |  | < .001  |  | < .001  |  |
| Upper 95% CI  |  |    |  |    |  |    |  |    |  | —  |  | .66  |  | .85  |  |
| Lower 95% CI  |  |    |  |    |  |    |  |    |  | —  |  | .49  |  | .76  |  |
| 6 Fighting |  | r  |  |    |  |    |  |    |  |    |  |    |  | —  |  | .72  |  |
| p  |  |    |  |    |  |    |  |    |  |    |  | —  |  | < .001  |  |
| Upper 95% CI  |  |    |  |    |  |    |  |    |  |    |  | —  |  | .78  |  |
| Lower 95% CI  |  |    |  |    |  |    |  |    |  |    |  | —  |  | .65  |  |
| 7 Total bullying  |  | r |  |  |  |  |  |  |  |  |  |  |  |  |  | — |  |

## Regression Analyses

Regression models were performed to predict bullying involvement (i.e., IBS total score, and subscales of bully, fighting, and victimization). The predictors used were gender, primary and secondary psychopathy (Table 3). As it can be seen in Table 3, primary psychopathy predicted involvement in all forms of bullying behaviors among adults. Additionally, primary psychopathy solely predicted fighting and victimization, accounting for nearly 10% of the explained variance. Gender and secondary psychopathic traits had incremented effects to the influence of primary traits in predicting perpetrator forms, and contributed in explaining the total involvement with bullying (e.g., the combination of perpetrator/bully, victimization, and fighting).

Table 3.

*Multiple Linear Regressions Examining Bullying Predictors*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Perpetrator** |  | **Victim** |  | **Fighting** |  | **Bullying total** |
| ***B*** | ***SE*** | ***Β*** |  | ***B*** | ***SE*** | ***Β*** |  | ***B*** | ***SE*** | ***β*** |  | ***B*** | ***SE*** | ***Β*** |
| Primary psychopathy  | .85 | .21 | .26\* |  | .70 | .19 | .25\* |  | .56 | .13 | .30\* |  | 1.24 | .26 | .31\* |
| Secondary psychopathy | .77 | .23 | .21\* |  | .14 | .21 | .04 |  | .08 | .14 | .04 |  | .66 | .29 | .15\* |
| Gender | –11 | .04  | –.14\* |  | –.05 | .04 | –.08 |  | –.02 | .02 | –.04 |  | –.12 | .06 | –.13\* |
| Adjusted *R2*Model fit | 19.3*F*(3,232) = 19.54*p* < .001 |  | .08*F*(3, 232) = 7.71*p* < .001 |  | .09*F*(3, 232) = 9.38*p* < .001 |  | 18.4*F*(3, 232) = 18.40*p* < .001 |
|  |  |  |

*Note.* \* *p* < .05. Durbin–Watson`s values have been used to analyze residuals. In this study, the values were appropriated (2.104, 1.975, 1.880, and 2.037 for the perpetrator, victim, fighting and bullying total models, respectively); Root mean square error (RMSE) has been used as an additional metric for model performance and the values were also acceptable (.279, .255, .173, and .346 for the perpetrator, victim, fighting and bullying total models, respectively). Data have been Log10 transformed.

## Mediation Analyses

To test for mediation effects, several assumptions were tested (cf. Baron & Kenny, 1986) in two models predicting bullying/perpetrator: the first having primary psychopathy as predictor, and the second one having secondary psychopathy as predictor.

### **Model 1 – Primary psychopathy as independent variable.** The first assumption of mediation is that the mediator should predict the dependent variable (bullying/perpetrator form). Our results are in line with this requirement (R2 = .15, β = .39, p < .001). In addition, the independent variable (IV) should also predict the mediator. This assumption was confirmed (R2 = .16, β = .41, p < .001). The final condition assumes that when IV and the mediator are included together in the model, the relationship between IV and the dependent variable (DV) declines and the variance explained increases (Jose, 2013). This condition was also supported. Beta’s value decreased to .33 and R2 increased to .25 (Sobel's z= 3.201, p = .001), with .18 indirect to total ratio effect size. Hence, partial mediation occurred and 18% of the total effect of primary psychopathy on bullying (perpetration) goes through experiences of victimization.

Figure 1. Mediation Role of Victimization between Primary Psychopathy and the Perpetrator of Bullying.



Note. The values in parentheses are beta weights and the other values correspond to correlations (Pearson).

 **Model 2 – Secondary psychopathy as independent variable.** The first assumption of the mediator predicting the DV was achieved (R2 = .15, β = .39, p < .001). In addition, the IV should also predict the mediator, which was confirmed (R2 = .14, β = .38, p < .001). The final condition of the mediation effect requires a reduction in the relationship between IV and DV when the mediator variable is included. Here, beta’s value decreased to .32 and R2 increased to .25 (Sobel's z= 2.59, p =.009, with .15 indirect to ratio effect size). As with the previous model, partial mediation was detected. Here, 15% of the total effect of secondary psychopathy on bullying (perpetration) goes through the experiences of victimization.

Figure 2. Mediation Role of Victimization between Secondary Psychopathy and the Perpetrator of Bullying.

 

Note. The values in parentheses are beta weights and the other values correspond to correlations (Pearson).

# Discussion

This study aimed to comprehend the relationship between primary and secondary psychopathy variants and bullying behaviors in adults, and how far gender and psychopathic variants predict bullying. Additionally, it sought to test for further mediation effects of the experiences of victimization in strengthening the bonds between bullying and psychopathy. We hypothesised that psychopathic personality traits would be positively associated and would positively predict bullying behaviors. Based on data from child and adolescent studies, we also hypothesised that the relationship between psychopathic traits and perpetration of bullying would be more robust when taken into account the mediator effect of victimization (Barker et al., 2008; Fanti et al., 2009).

This study showed that bullying behaviors are associated with psychopathic traits in adults, being strongest the relationships between primary psychopathy with bullying behaviors. The magnitude of the correlations detected in this study was bigger than the average previously reported in studies with children and adolescents (*r* = .27; Van Geel et al., 2016). This could simply reflect a greater autonomy experienced by young adults in regards to expression of aggressive behavior, combined with less structured (and consequently less contingent) routines. Also, this could reflect the lack of awareness by schools, universities and institutions in terms of bullying dynamics relevant to adult life.

No previous studies were identified in the literature investigating bullying behaviors explicitly and psychopathic personality traits using the LSRP (Levenson et al., 1995), which impedes direct comparisons. However, in accordance with our results and in line with our predictions, Coyne and Thomas (2008) found positive relationships between self-report primary and secondary psychopathy, as measured by the LSRP, with direct and indirect aggression in a study with British college students. Additionally, total psychopathy as measured by the Short D-3 (Paulhus & Williams, 2002) has shown a positive correlation with total bullying in adults (*r* = .55; Baughman et al., 2012). Warren (2009) also detected positive correlations between direct and indirect bullying with psychopathic personality traits as measured by the PPI-R (Lilienfeld & Widows, 2005).

In addition, our hypothesis that psychopathy (both primary and secondary) would be a significant predictor of bullying perpetrator behavior was supported. These same predictors were also significant in explaining total involvement with bullying; primary psychopathy displayed, however, better explanatory power (e.g., *β = .*31 (primary psychopathy) vs. *β = .*15 (secondary psychopathy). Consequently, our findings suggest that components of cold-blooded psychopathy could be driving the engagement of this sample with aggressive behaviors (Levenson et al., 1995). In our study, primary variant alone explained 10% of the experiences of victimization and fighting, which is different from the pattern detected in a non-forensic sample of adults in the United Kingdom. In this study, secondary traits, not primary, predicted direct and indirect aggression (Warren, 2009).

Positive, but small correlations between fighting and all aspects of psychopathy, alongside with positive, moderate correlations between bully (perpetrator) and psychopathic traits were detected. Hence, these participants could present with absence of fear, one of the “core” components of antisocial behavior (Jones, Laurens, Herba, Barker & Viding, 2009; Warren, 2009; Witt, Donnellan, Blonigen, Krueger & Conger, 2009). These results support the understanding of the failure of individuals with elevated psychopathic traits to respect others’ rights, often resulting in aggression and maladjustment (Lykken, 2006). A similar pattern of violation of social norms through use of physical violence is often detected among children involved with systematic episodes of peer aggression (Juvonen & Graham, 2014). Our data gives continuity to, and are in line with conclusions drawn from youth population. Early behavioral problems, such as bullying, along with juvenile delinquency are diagnostic categories for the ‘gold standard’ measure of psychopathy (PCL-R; Hare, 2003).

It was also identified that males showed higher means on IBS total score and in the subscales of fighting, victimization, and bully. These findings are in line with bullying literature involving children and adolescents (Nansel et al., 2001) as well with adult samples (Archer, 2004). In the study about bullying and dark-triad personality traits carried out by Baughman et al. (2012), males also scored higher than females on bullying involvement. This is consistent with current knowledge regarding more (explicit) aggressive behavior amongst adult males (Juvonen & Graham, 2014).

Although we cannot determine if participants of this study have been involved with bullying since their school years, the results suggest that bullying does occur in adults, and similarly to children may be associated to CU traits, to narcissism and impulsivity (Crapanzanoet al., 2011; van Geel et al., 2016; Viding et al., 2009). In addition, one may agree that children with combination of psychopathic traits and externalising problems such as bullying tend to show a worse prognostic if compared with typical developing peers. This combination is especially important once psychopathy gets worse over time for both males and females which culminate with less responsiveness to interventions (Ribeiro da Silva, Rijo, & Salekin, 2015).

As shown in past research, victims and perpetrators of bullying can be penalized on their abilities to regulate emotions and affective states due to aggression and victimization experiences (Erwin, Newman, McMackin, Morrissey, & Kaloupek*,* 2015). As a child progresses into further developmental stages, the phenomena of ‘aging out’ may explain the short lives of some forms of aggressive behaviors and their replacement by more sophisticated, planned, and cunning types of conduct (Juvonen & Graham, 2014).

Van Geel et al. (2016)’s meta-analytical results showed an effect of age in the strength of the relationship between narcissistic and impulsive aspects of psychopathy with bullying, suggestive of greater severity as the individual gets older. Even though we did not measure these psychopathic domains, our findings seem to be congruent to those reported by the authors. Hence, it is plausible to consider that children frequently involved with bullying are at risk to perpetuate this pattern of disruptive behaviors into further developmental stages.

At present, there is little published on psychopathy and experience of victimization. One previous manuscript by Fanti and Kimonis (2012) reports such an association in young adolescents, and suggests that impulsivity and narcissism are likely to contribute towards individuals’ actual and perceived victimization. Our study was not able to examine this hypothesis in any more detail rather than the possible mediation effect, and it was not the initial scope of the paper to examine rates of victimization in adults, but this is clearly an interesting avenue for future investigation.

Further work could benefit from trying to corroborate our findings by addressing these phenomena beyond the cross-sectional approach. A large amount of research with child and adolescent samples might inspire longitudinal examinations of bullying dynamics and its links with psychopathy. Another limitation of our study that could be taken into account in future research regards the use of self-report measures, especially for psychopathy. Extending the age range covered, inclusion of covariates, as well as comprising equal proportion of males and females would certainly contribute to obtain a clearer view into the nature of the relationship between bullying and psychopathic personality traits. Again, the adoption of robust designs in combination with strong methodological assessment might inform about casual paths and, therefore, could be of use in explicitly detecting risk and protective factors.

**Disclosure of Interest** Authors declare that they have no conflicts to report.

**Ethical Standards and Informed Consent** All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation at Goldsmiths, University of London, and with the Helsinki Declaration of 1975, as revised in 2000. Informed consent was obtained from all participants for being included in the study.

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