

Which personality traits are related to traditional bullying and cyberbullying? A study with the Big Five, Dark Triad and sadism

Abstract

Studies have shown that both Big Five and Dark Triad (Machiavellianism, narcissism, psychopathy) personality traits are related to traditional bullying and cyberbullying behaviors in adolescents as well as in adults. Increasingly, scholars call for sadism as an addition to the Dark Triad in the study of antisocial and delinquent behaviors. In the current study we analyze whether the Big Five, Dark Triad and sadism predict traditional bullying and cyberbullying. The sample consisted of 1,568 participants (61.9 % female), ranging in age from 16 to 21 years. Using hierarchical linear regression analyses, controlling for age and gender, it was found that agreeableness, Machiavellianism, psychopathy and sadism were significantly related to traditional bullying, and agreeableness and sadism were related to cyberbullying. Taken together, the results more firmly establish that sadism could be a predictor of antisocial behaviors, by establishing its relations with bullying and cyberbullying.

Keywords: traditional bullying, cyberbullying, Big Five, Dark Triad, sadism

Introduction

Bullying is a subtype of aggressive behavior wherein a relatively powerful perpetrator repeatedly harasses a weaker victim, in a physical, relational or verbal manner (Olweus, 1994). A recent study conducted in 79 countries found that about 30 percent of adolescents experienced victimization from bullying. Such victimization is related to psychosomatic symptoms (Gini & Pozzoli, 2013), internalizing and externalizing problems (Reijntjes et al., 2011; Reijntjes, Kamphuis, Prinzie, & Telch, 2010), sleeping problems (Van Geel, Goemans, & Vedder, 2016), and suicidality (Holt et al., 2015). Negative effects are not restricted to the victims of bullying; perpetrators have been found to smoke more and drink more alcohol (Nansel et al., 2001), and to be more likely to carry a weapon than uninvolved children (Van Geel, Vedder, & Tanilon, 2014a). Cyberbullying, a form of bullying wherein the perpetrator uses digital means such as internet or mobile telephones, has more recently attracted the attention of researchers. The effects of cyberbullying may be just as negative (Kowalski, Giumetti, Schroeder, & Lattanner, 2014), or potentially worse (Van Geel, Vedder, & Tanilon, 2014b) for victims than the results of traditional bullying. Perpetration of cyberbullying is related to higher rates of depression, anxiety, and alcohol use (Kowalski et al., 2014). Personality researchers have explained and studied potential individual difference variables as contributors to both traditional bullying and cyberbullying in past literature (Goodboy & Martin, 2015; Mitsopoulou & Giovazolias, 2015; Sutton & Keogh, 2000). In the current article we analyze how Big Five and Dark Triad personality traits, and sadism are related to the perpetration of traditional bullying and cyberbullying.

Several studies have examined the relation of Big Five personality traits to bullying. The Big Five includes the personality traits extraversion (talkative, assertive, gregarious), neuroticism (emotionally instable, anxious, worrisome, insecure), agreeableness (good-natured, forgiving, tolerant) conscientiousness (careful, thorough, organized, dependable) and

openness to experience (imaginative, curious, artistic) (Barrick & Mount, 1991). A meta-analysis on Big Five traits and traditional bullying points out that particularly lower scores on agreeableness are related to bullying perpetration. Bullying perpetration was also found to be related to lower scores on openness and conscientiousness, and higher scores on extraversion and neuroticism, though effect sizes for these personality traits were small (Mitsopoulou & Giovazolias, 2015). Research on cyberbullies and Big Five personality traits is scarcer, but it has been found that more cyberbullying corresponds to higher scores on extraversion, and lower scores on agreeableness and conscientiousness (Festl & Quandt, 2012). Given the scarcity of available research, the link between cyberbullying and Big Five personality constructs should be further examined.

A second set of personality constructs that has been connected to bullying and cyberbullying is the Dark Triad. The Dark Triad consists of three related but independent personality traits, namely Machiavellianism, narcissism and psychopathy (Paulhus & Williams, 2002). Machiavellianism refers to interpersonal strategies that advocate coldness, deceit, calculation and manipulation to achieve goals. Narcissism can be seen as a pathological form of self-love, characterized by feelings of grandiosity, entitlement, dominance and superiority. Psychopathy refers to low feelings of empathy, thrill seeking and fearlessness (Jakobwitz & Egan, 2006; Paulhus & Williams, 2002). Studies on adults have found Dark Triad traits related to workplace bullying (Baughman, Dearing, Giammarco, & Vernon, 2012). For youth Machiavellianism (Andreou, 2004; Sutton & Keogh, 2000), narcissism (Fanti & Kimonis, 2012; Reijntjes et al., 2016; Stellwagen & Kerig, 2013), and psychopathy (Fanti & Kimonis, 2012; Ragatz, Anderson, Fremouw, & Schwartz, 2011) have all been found related to traditional bullying behaviors. A study on cyberbullying and the Dark Triad found that only psychopathy was uniquely related to cyberbullying (Goodboy & Martin, 2015). A study on the broader construct of cyber-aggression and the Dark Triad

similarly found that only psychopathy was uniquely related to cyber-aggression (Pabian, De Backer, & Vandebosch, 2015).

Increasingly, research suggests that the Dark Triad should be expanded to a Dark Tetrad, by adding the trait sadism (Buckels, Trapnell, & Paulhus, 2014; Chabrol, Leeuwen, Rogers, & Sejourne, 2009). Sadism can be defined as the tendency to take pleasure in the suffering of others, and it has been found a construct distinct from the Dark Triad (Chabrol et al., 2009). Sadism may uniquely predict antisocial behavior because over and above callousness towards the suffering of others (i.e., psychopathy), calculated aggression (i.e., Machiavellianism), or lashing out because of a threatened ego (i.e., narcissism), sadists would simply enjoy the suffering of others (Buckels, Jones, & Paulhus, 2013; Paulhus, 2014). In line with this, sadism has been found uniquely related to internet trolling (Buckels et al., 2014), the willingness to hurt innocent people (Buckels et al., , 2013), and juvenile delinquency (Chabrol et al., 2009) when Dark Triad traits were controlled for in the analyses. Furthermore, sadism was related to violent video game preferences when Big Five personality traits were controlled for (Greitemeyer, 2015). No empirical studies exist on the relation between bullying and sadism, but in a qualitative study with eight and nine year old children, the children suggested that sadism was a driving factor behind bullying behaviors (Bosacki, Marini, & Dane, 2006), and given recent studies showing unique explained variance of sadism over the Dark Triad, a study on the relations between sadism, traditional bullying and cyberbullying is warranted.

The purpose of the current study is to analyze the relations between Big Five traits, the Dark Triad, and sadism and traditional bullying and cyberbullying in a large sample of late adolescents and emerging adults. Based on the meta-analysis by Mitsopoulou and Giovazolias (2015) we hypothesize that agreeableness negatively predicts traditional bullying. Based on the study by Festl and Quandt (2012) we hypothesize that extraversion positively predicts

cyberbullying, and that agreeableness and conscientiousness negatively predict cyberbullying. Based on earlier studies we hypothesize that Machiavellianism, narcissism, and psychopathy positively predict traditional bullying (Andreou, 2004; Reintjes et al., 2016; Stellwagen & Kerig, 2013), and that psychopathy positively predicts cyberbullying (Goodboy & Martin, 2015). There are no previous studies on sadism and traditional bullying or cyberbullying, but because sadism is related to the willingness to hurt innocent people (Buckels et al., 2013), we expect that sadism positively predicts traditional bullying and cyberbullying when Big Five and Dark Triad traits are controlled for.

Method

Participants

Senior vocational high schools were invited to participate in a study about personality and bullying using a purposive sampling approach. A total of 17 senior vocational high schools agreed to participate. In consenting schools, students were asked to complete a questionnaire. The sample consisted of 1,568 participants (61.9 % female), ranging in age from 16 to 21 years ($M = 17.58$, $SD = 1.39$). The majority (90.7 %) of the participating students were born in the Netherlands. Only 1.1 percent of all data was missing; we used listwise deletion to deal with missing data (Allinson, 2002).

Measures

For the current study the originally English Dark Triad, sadism, traditional bullying and cyberbullying scales were translated to Dutch by using a translation back translation protocol. Three researchers with good Dutch and English language proficiency translated the scale from English to Dutch independent of one another and then selected the best translations together. Three other researchers with good language proficiency in Dutch and English back-translated the selected Dutch items to English independent of one another, and then selected

the best English translations of the Dutch items. The back-translation was done by researchers who had not seen the original questionnaire. A separate researcher, who did not participate in the translation efforts, compared the back-translation and the original scale and judged them sufficiently similar.

Traditional bullying. The Bullying Participant Role Questionnaire (Summers, Demaray, & Becker, 2010) was used to measure traditional bullying. The bullying scale contains 12 items. Respondents were asked to answer these items for the past 30 days, and items were answered on a five-point scale ranging from "*never*" to "*seven times or more.*"

Cyberbullying. Cyberbullying was measured with the European Cyberbullying Intervention Project Questionnaire (Del Rey et al., 2015). The cyberbullying perpetration scale consists of 11 items answered on a five-point scale ranging from "*never*" to "*7 times or more*" during the last 30 days.

Big Five. The Big Five Inventory (BFI) measures extraversion, neuroticism, agreeableness, conscientiousness, and openness (Denissen, Geenen, Van Aken, Gosling, & Potter, 2008; John & Srivastava, 1999). It has 44 items answered on a five-point scale ranging from "*completely disagree*" to "*completely agree*".

Dark Triad. The Short Dark Triad Questionnaire (Jones & Paulhus, 2014) measures the so called Dark Triad of personality consisting of Machiavellianism, narcissism, and psychopathy. Each of the three subscales consists of nine items answered on a five-point scale ranging from "*completely disagree*" to "*completely agree.*"

Sadism. To measure sadism the Varieties of Sadistic Tendencies Scale (VAST) was used (Paulhus & Jones, 2014). The VAST consists of 13 items that measure direct (enjoyment derived from hurting or humiliating others) and indirect (enjoyment derived from witnessing

other peoples' suffering) sadism. Items are answered on a five-point scale ranging from "completely disagree" to "completely agree."

Procedure

Senior vocational high schools in the western part of the Netherlands were invited to participate in a survey about bullying and personality. Prior to the data collection research assistants were trained in the administration of the questionnaires. The questionnaires were administered during school hours under the supervision of two research assistants and a teacher. Prior to participation, all participating students signed a letter consent wherein students were informed that participation was voluntary and anonymous. On the first page of the questionnaire, we provided students with the HBSC definition of bullying which read "*We say a student is BEING BULLIED when another student, or a group of students, say or do nasty and unpleasant things to him or her. It is also bullying when a student is teased repeatedly in a way he or she doesn't like. But it is NOT BULLYING when two students of about the same strength quarrel or fight*" (Nansel et al., 2001). Students were debriefed after completion of the study and we informed them of several websites about bullying, and provided the email of a researcher and a trained therapist, should the students have further questions after participation. The Institutional Review Board of Ethics approved of the study.

Results

Mean scores, standard deviations, Cronbach's alphas, and Pearson correlation coefficients between the variables are reported in Table 1. There was a significant positive relation between traditional bullying and cyberbullying. Correlations between Dark Triad traits and sadism were significant, but did not suggest that the scales measured the same constructs. The Big Five trait agreeableness was negatively correlated with all Dark Triad traits and sadism.

To test our hypotheses we used hierarchical linear regression analyses. We used the program SPSS to run the analyses. In the first step (Model 1) gender and age were entered as independent variables. In the second step (Model 2) Big Five traits were added as independent variables. In the third step (Model 3) Dark Triad traits were added as independent variables, and in the fourth step (Model 4) sadism was added as independent variable. By entering the variables in blocks we were able to analyze whether a new set of variables improved explained variance when previously added variables were controlled for. We ran separate analyses for traditional bullying and cyberbullying.

With traditional bullying as dependent variable, we found that each new step in the hierarchical regression led to a significant improvement in model fit; the R^2 change scores are reported in Table 2. This suggests that each set of personality variables, Big Five, Dark Triad, and sadism improve the prediction of traditional bullying. For all analyses the tolerance scores were higher than .4 and the VIF scores were lower than 2.5, which suggests that there were no problems with multicollinearity. In Model 4 agreeableness was a negative predictor of traditional bullying. Extraversion, Machiavellianism, and psychopathy were positive predictors of traditional bullying. Beta weights are reported in Table 2. Sadism was found to be a unique positive predictor of traditional bullying when Big Five and Dark Triad traits were controlled for in the analyses.

With cyberbullying as dependent variable, we found that each new step in the hierarchical regression led to a significant improvement in model fit; the R^2 change scores are reported in Table 2. This suggests that each set of personality variables, Big Five, Dark Triad, and sadism improve the prediction of cyberbullying. For all analyses the tolerance scores were higher than .4 and the VIF scores were lower than 2.5, which suggests that there were no problems with multicollinearity. In Model 4 agreeableness was a negative predictor of cyberbullying. In Model 3 both narcissism and psychopathy were significant predictors of

cyberbullying, but when sadism was added in Model 4, narcissism and psychopathy were no longer significant predictors. Beta weights are reported in Table 2. Sadism was found to be a unique positive predictor of cyberbullying when Big Five and Dark Triad traits were controlled for in the analyses.

Discussion

The current study was meant to analyze whether Big Five traits, Dark Triad traits and sadism predict traditional bullying and cyberbullying in a sample of late adolescents and emerging adults. This was the first study wherein sadism was analyzed as a predictor of traditional bullying or cyberbullying.

In line with our hypotheses, we found that agreeableness was negatively related to traditional bullying. This is in line with a meta-analysis by Mitsopoulou and Giovazolias (2015) where agreeableness was also a negative predictor of traditional bullying. Mitsopoulou and Giovazolias (2015) also report significant relations for the other Big Five personality traits and traditional bullying, of which only the results with extraversion were replicated in our study. It is worth noting however, that besides agreeableness, the effect sizes for Big Five traits and traditional bullying in the meta-analysis by Mitsopoulou and Giovazolias (2015) were rather small, and varied between included studies, so that it is not surprising that our current study does not provide an exact replication of these meta-analytic results. Based on the study by Festl and Quandt (2012) we hypothesized a positive relation between cyberbullying and extraversion, and negative relations between cyberbullying and agreeableness and conscientiousness. We only found support for our hypothesis regarding agreeableness and cyberbullying; no significant relations were found for conscientiousness or extraversion. To the best of our knowledge, our study is only the second study on the Big Five and cyberbullying; future research and eventually a meta-analysis are needed to further clarify

relations between the Big Five and cyberbullying, and moderators that may explain differences between studies. Taken together, agreeableness appears a consistent negative predictor of bullying and cyberbullying; those who score high on agreeableness tend to be altruistic and tenderminded (Mitsopoulou & Giovazolias, 2015), which likely inhibits these individuals from engaging in behaviors that are harmful to others, such as traditional bullying and cyberbullying.

With regard to the Dark Triad and sadism and traditional bullying we found partial support for our hypotheses. Machiavellianism, psychopathy and sadism were all predictors of traditional bullying, but narcissism was not. The absence of a significant relation between narcissism and traditional bullying is remarkable, because recent studies have pointed out the particular importance of narcissism in the development of bullying behaviors (Fanti & Kimonis, 2012; Reijntjes et al., 2016). We think the difference in results can be explained by the different instruments used to measure narcissism. Ang, Tan, and Mansor (2010) specifically focused on narcissistic exploitativeness as a predictor of cyberbullying and reported significant relations. The Short Dark Triad questionnaire, which we used in our study, is more focused on the elements of extreme self-love, grandiosity, and superiority; the element of exploitativeness is more reflected in the variables psychopathy and Machiavellianism. Sadism was found to be a unique predictor of traditional bullying when the Dark Triad and Big Five were controlled for. This suggests that beyond a strategic instrument to achieve dominance (Machiavellianism), and callousness towards victims and thrill-seeking (psychopathy), seeing victims suffer may be an important reason behind traditional bullying behaviors.

With regard to cyberbullying, sadism was found a significant predictor, whereas narcissism and psychopathy were marginally significant, and Machiavellianism was not significant. This conflicts with earlier articles on the Dark Triad and cyberbullying and cyber-

aggression, where psychopathy was found to be a significant predictor (Goodboy & Martin, 2015; Pabian, De Backer, & Vandebosch, 2015); however, neither of these articles included sadism as a predictor. It is worth noting that in the model without sadism, psychopathy was a significant predictor of cyberbullying, concurring with an article about “internet trolling” (Buckels et al., 2014) where psychopathy was found to be a predictor of trolling, but with a smaller effect size than sadism. Both our study and the study of Buckels et al. (2014) point to the possibility that sadism is more predictive of antisocial online behavior than Dark Triad traits; online antisocial behavior then seems more driven by sadistic pleasure, than by callousness, strategic considerations, or a threatened ego.

Taken together, the results more firmly ascertain that sadism could be a predictor of antisocial behaviors, by establishing its relations with traditional bullying and cyberbullying. The results also point to a potential reason behind traditional bullying and cyberbullying: bullies may simply like to see their victims suffer. Recent studies point out that bullying may be a strategic behavior, aimed at gaining dominance, popularity, and mating opportunities (Salmivalli, 2010; Volk et al., 2012). In the current study, we found that Machiavellianism was a predictor of traditional bullying, which adds credibility to the explanation that bullying is indeed a calculated strategy to achieve dominance (see also Salmivalli, 2010; Sutton & Keogh, 2000; Volk et al., 2012). However, this does not exclude the possibility that at least some bullies may also find it entertaining to see their victims suffer, even if that is not the main function of their behavior. At least on some occasions bullying may not even be a strategic behavior but simply a pernicious pleasure. With regard to cyberbullying, Machiavellianism was not a significant predictor. It may be that cyberbullying is not a strategic means to an end but, in line with what Buckels et al. (2014) already suggested about internet trolling, a source of sadistic pleasure.

The current study is not without limitations. We were only able to acquire self-reports of bullying and cyberbullying; a future study should also attempt to include peer reports. Because our study was cross-sectional, we cannot draw firm conclusions about cause and effect. A final limitation is that our measure of bullying did not allow us to study the relations between personality and specific forms of traditional bullying. Nonetheless, the current study adds to a growing body of literature that demonstrates that sadism is a unique predictor of antisocial behavior, and more firmly establishes sadism as an important personality trait in the study of antisocial behaviors.

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Table 1

Means, standard deviations, Cronbach's alphas and Pearson correlation coefficients for the variables included in this study

	<i>M (SD)</i>	α	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Traditional bullying	1.413 (.500)	.82										
2. Cyberbullying	1.099 (.285)	.85	.490***									
3. Extraversion	3.487 (.643)	.74	.074**	-.001								
4. Neuroticism	2.934 (.620)	.75	-.004	.025	-.336***							
5. Openness	3.207 (.541)	.71	-.016	-.012	.192***	-.014						
6. Conscientiousness	3.271 (.541)	.66	-.171***	-.128***	.189***	-.202***	.184***					
7. Agreeableness	3.455 (.517)	.65	-.301***	-.229***	.080**	-.109***	.136***	.338***				
8. Machiavellianism	2.840 (.724)	.79	.268***	.172***	.058*	-.004	.116***	-.113***	-.281***			
9. Narcissism	2.727 (.572)	.68	.234***	.177***	.372***	-.247***	.166***	.023	-.185***	.413***		
10. Psychopathy	2.338 (.650)	.73	.410***	.278***	.126***	-.032	-.013	-.270***	-.506***	.505***	.514***	
11. Sadism	2.077 (.587)	.83	.363***	.313***	-.017	-.083***	.056*	-.256***	-.434***	.361***	.369***	.608***

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2

Results of the hierarchical regression analyses wherein personality traits are used to predict traditional bullying and cyberbullying

	Traditional bullying			Cyberbullying		
	<i>b</i> *	<i>SE</i>	ΔR^2	<i>b</i> *	<i>SE</i>	ΔR^2
Model 1			$\Delta R^2 = .031, F(2,1542) = 24.641,$ $p < .001$			$\Delta R^2 = .016, F(2,1545) =$ $12.605, p < .001$
Gender	-.176***	.026		-.126***	.015	
Age	-.044†	.009		.004	.005	
Model 2			$\Delta R^2 = .096, F(5,1537) = 33.795,$ $p < .001$			$\Delta R^2 = .050, F(5,1540) =$ $16.316, p < .001$
Gender	-.137***	.027		-.100***	.016	
Age	-.038	.009		.007	.005	
Extraversion	.119***	.020		.037	.012	
Neuroticism	.024	.022		.029	.013	
Openness	.005	.023		.012	.013	
Conscientiousness	-.086***	.025		-.055*	.014	
Agreeableness	-.262***	.025		-.197***	.014	
Model 3			$\Delta R^2 = .069, F(3,1534) = 43.693,$ $p < .001$			$\Delta R^2 = .032, F(3,1537) =$ $18.450, p < .001$
Gender	-.056*	.027		-.042	.016	
Age	-.041†	.008		.005	.005	
Extraversion	.051†	.021		-.022	.013	
Neuroticism	.015	.021		.030	.013	
Openness	-.007	.023		-.002	.013	
Conscientiousness	-.048†	.024		-.033	.014	
Agreeableness	-.118***	.027		-.104***	.016	
Machiavellianism	.070*	.019		.040	.011	
Narcissism	.018	.027		.071*	.016	
Psychopathy	.276***	.026		.155***	.015	
Model 4^{a,b}			$\Delta R^2 = .012, F(1,1533) = 23.616,$ $p < .001$			$\Delta R^2 = .024, F(1,1536) =$ $42.427, p < .001$

Running head: PERSONALITY AND BULLYING

Gender	.004	.030	.044	.018
Age	-.034	.008	.015	.005
Extraversion	.064*	.021	-.004	.012
Neuroticism	.017	.021	.034	.013
Openness	-.019	.022	-.018	.013
Conscientiousness	-.037	.024	-.017	.014
Agreeableness	-.093***	.027	-.067*	.016
Machiavellianism	.066*	.019	.035	.011
Narcissism	.007	.026	.055†	.016
Psychopathy	.216***	.027	.070†	.016
Sadism	.164***	.029	.232***	.017

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

^a total explained variance in Model 4 for traditional bullying: $R^2_{\text{adjusted}} = .202$, $F(11,1533) = 36.541$, $p < .001$

^b total explained variance in Model 4 for cyberbullying: $R^2_{\text{adjusted}} = .116$, $F(11,1536) = 36.541$, $p < .001$