



# Psychopathy, sadism, empathy, and the motivation to cause harm: New evidence confirms malevolent nature of the Internet Troll

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## ABSTRACT

Internet trolling is a disruptive, antisocial online behaviour that can cause significant distress. The current study attempted to, for the first time, include all previous significant predictors of Internet trolling in one model; specifically the utility of gender, primary psychopathy, sadism (direct and vicarious), affective empathy, cognitive empathy, negative social potency in predicting Internet trolling. Further, if the Vulnerable Dark Triad traits (i.e., secondary psychopathy, vulnerable narcissism, and borderline personality traits) could predict additional variance. The sample comprised of 733 participants (70.5% women and 29.5% men) who completed an online questionnaire. Results indicated that primary psychopathy, direct sadism, vicarious sadism, and negative social potency were all significant positive predictors of Internet trolling. Affective empathy was a significant, negative predictor of Internet trolling, and cognitive empathy was positively related to Internet trolling but only if levels of trait psychopathy were high. Of the Vulnerable Dark Triad traits, only vulnerable narcissism was a significant (negative) predictor of Internet trolling. Interestingly, gender did not significantly predict Internet trolling. Results of the current study are discussed in terms of the construction of the psychological profile of the Internet troll, with the hope that such a profile can inform intervention and prevention strategies.

Internet trolling, defined as a deliberate attempt by an individual to create conflict and distress by communicating inflammatory, provocative, and menacing comments to their victim (Buckels, Trapnell, & Paulhus, 2014), is recognised as an antisocial online behaviour (Sanfilippo, Yang, & Fichman, 2017). This behaviour is considered malicious in intent, and can cause significant harm and distress to victims (Craker & March, 2016; Hardaker, 2010). This is especially concerning when considering online polls have reported that more than one third of “Millennials” have engaged in online trolling behaviours (Gammon, 2014). Trolling is considered an important problem in the online world (Tayade, Shaikh, & Deshmukh, 2017), and can have serious consequences for both the perpetrators and victims (Binns, 2012) with victims reporting increases in suicidal ideation and self-harm (Coles & West, 2016). Prevention of trolling behaviours is particularly important as exposure to trolling online can increase the probability of an individual trolling (Cheng, Bernstein, Danescu-Niculescu-Mizil, & Lsdkovec, 2017), and understanding predictors of trolling is important for preventing this behaviour (Craker & March, 2016).

To date, no theory has been proposed to explain the online antisocial behaviour of Internet trolling. Given that trolling is said to be a product of the anonymity the internet provides, which in turn facilitates deindividuation (Hardaker, 2010), The Social Identity Model of Deindividuation Effects (SIDE Model; Reicher, Spears, & Postmes, 1995)

could hold promise as an adequate conceptual model to explain the behaviour of trolling. The SIDE model posits that circumstances that promote deindividuation (e.g., Computer Mediated Communication) simultaneously increase group norms and decrease individual norms; thus, the individual is more likely to adopt and display the group norms. If the individual is interacting in an environment where trolling behaviours are the group norm (e.g., online gaming), then the SIDE model would explain why more individuals engage in trolling behaviours. The SIDE model can also help explain why individuals engage in a variety of trolling behaviours, ranging from mildly annoying behaviours to severe, harmful behaviours. Specifically, the SIDE model continues to emphasise individual characteristics, and that these characteristics are still present even during deindividuation. As such, continuing to explore individual characteristics such as personality traits and trolling may facilitate an understanding of why some individuals engage in such antisocial trolling behaviours.

Buckels et al. (2014) found that although all Dark Tetrad traits (i.e., narcissism, Machiavellianism, psychopathy, and sadism) were positively correlated with enjoyment of Internet trolling, only trait psychopathy and trait sadism predicted perpetration of trolling behaviours. Further research has corroborated these results, demonstrating the reliability of trait psychopathy (Lopes & Yu, 2017) and trait sadism (Buckels, Trapnell, Andjelovic, & Paulhus, 2018) to significantly,

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positively predict perpetration of trolling. Craker and March (2016) also found that the motivation to cause social mayhem as a social reward (i.e., negative social potency; Foulkes, Viding, McCrory, & Neumann, 2014) was a significant predictor of trolling behaviours, above and beyond personality traits.

In 2017, Sest and March tested the prediction that the significant association between trait psychopathy and Internet trolling could be attributed to the Internet 'troll's' lack of empathy. As predicted, Sest and March (2017) found affective empathy<sup>1</sup> to be a significant, negative predictor of Internet trolling. Interestingly, the relationship between cognitive empathy and Internet trolling was moderated by trait psychopathy. Specifically, cognitive was a significant positive predictor of Internet trolling, but only if the individual had average to high levels of trait psychopathy. Finally, according to the majority of research, men, compared to women, are more likely to engage in this behaviour (Craker & March, 2016; Sest & March, 2017).

## 1. The current study

The aim of the current study was to amalgamate, for the first time, these individual predictors of trolling that have been examined across different studies. However, given the heterogeneity research has proposed exists between narcissism and psychopathy (see Miller et al., 2010) in addition to the predictors discussed above, the current study will also explore the utility of the Vulnerable Dark Triad (VD3) in predicting perpetration of Internet trolling.

The VD3 consists of three personality traits (i.e., secondary psychopathy, vulnerable narcissism and borderline personality) which combine interpersonal antagonism (low agreeableness) with emotion dysregulation and negative emotionality (high neuroticism; Miller et al., 2010). Miller et al. (2010) posit that a second triad, in addition to the Dark Triad of narcissism, Machiavellianism, and psychopathy, is necessary given the dimensional conceptual nature of trait narcissism and psychopathy. Compared to primary psychopathy, secondary psychopathy is associated with higher levels of emotion dysregulation, greater impulsiveness and sensation seeking, and poorer interpersonal functioning (Newman, MacCoon, Vaughn, & Sadeh, 2005). Vulnerable narcissism is considered a more defensive form of narcissism which serves to mask individuals' feelings of inadequacy by using others for reassurance (Miller et al., 2011). Finally, alike secondary psychopathy and vulnerable narcissism, borderline personality traits comprise of high levels of neuroticism, impulsivity, and interpersonal antagonism (Samuel & Widiger, 2008). March, Grieve, Marrington, and Jonason (2017) recommend future research exploring trolling behaviours assess the utility of secondary psychopathy and facets of narcissism, as these subtypes have been shown to predict other antisocial online behaviour. As dysfunctional impulsivity has previously been found to predict trolling behaviours (see March et al., 2017) and trolling is an antagonistic online behaviour (McCosker, 2014), there is sufficient rationale that the VD3 traits will predict perpetration of Internet trolling. Importantly, given that research has established associations between secondary psychopathy, borderline traits, and antisocial behaviour (e.g., Neumann & Hare, 2008; Ross & Babcock, 2009), there is a significant paucity in research that has explored relations between the VD3 and online antisocial behaviour, particularly when compared to research exploring the Dark Triad and online antisocial behaviour.

In sum, the aim of the current study was to further construction of a complete psychological profile of the Internet troll. The nature of this study was exploratory, as many of these predictors have not previously been explored in conjunction. Specifically, the aim of the current study was to explore the utility of gender, primary psychopathy, sadism

(direct and vicarious), affective empathy, cognitive empathy, negative social potency in predicting Internet trolling. In addition, if Vulnerable Dark Triad traits (i.e., secondary psychopathy, vulnerable narcissism, and borderline personality traits) could predict further variance.

## 2. Method

### 2.1. Participants and procedure

Participants were recruited via social media advertisements which directed them to an online questionnaire. The final<sup>2</sup> convenience sample consisted of 733 participants (70.5% women and 29.5% men). Participants were aged between 18 and 74 years, with a mean age of 23.53 years ( $SD = 7.98$ ). Participant residence was as follows: North-West Europe (30.1%), Oceania (29.6%), United States of America (12.1%), South-East Asia (10.4%), South-East Europe (10.1%), and other (7.7%). Of participants, 57.9% were currently studying.

### 2.2. Measures

A summary of all measures included in the questionnaire can be seen in Table 1.

### 2.3. Design

The design of the current study was correlational, with the predictors of gender, primary psychopathy, direct sadism, vicarious sadism, cognitive empathy, affective empathy, negative social potency, secondary psychopathy, vulnerable narcissism, and borderline personality, and the criterion of perpetrating trolling behaviours. Proposed analysis is a two-step hierarchical multiple regression. Variables that have previously been shown to correlate with Internet trolling (i.e., gender, primary psychopathy, direct sadism, vicarious sadism, cognitive empathy, affective empathy, and negative social potency) will be entered at step one, and exploratory variables (i.e., secondary psychopathy, vulnerable narcissism, and borderline personality) that have not previously been assessed in relation to Internet trolling will be entered at step two. The benefit of the combined analysis will be to determine the individual contribution of predictors after controlling for correlated constructs. Further, a combined regression analysis will enhance identification of possible moderating and mediating variables (e.g., Fairchild & MacKinnon, 2009).

## 3. Results

Bivariate correlations between predictor variables of gender, primary psychopathy, direct sadism, vicarious sadism, cognitive empathy, affective empathy, negative social potency, secondary psychopathy, vulnerable narcissism, and borderline personality traits and outcome variable of Internet trolling are presented in Table 2.

Table 2 shows significant negative correlations between gender, affective empathy, and trolling. Table 2 also indicates significant positive correlations between primary psychopathy, secondary psychopathy, vulnerable narcissism, bipolar personality, direct sadism, vicarious sadism, negative social potency, and trolling. In sum, Table 2 supports inclusion of all<sup>3</sup> predictor variables in a regression model predicting trolling.

A 2-Step Hierarchical Regression Analysis was run with gender,

<sup>1</sup> Affective empathy is the ability to experience, internalise, and respond to the emotions of others, whereas cognitive empathy is the ability to recognise and understand another's emotions (Lawrence et al., 2004).

<sup>2</sup> A total number of 934 participants initially accessed the online survey; however, only 733 provided complete responses.

<sup>3</sup> Although the bivariate correlation between cognitive empathy and trolling perpetration was not significant, Sest and March (2017) found that psychopathy significantly moderated the relationship between cognitive empathy and trolling. As such, cognitive empathy will be maintained in the model.

**Table 1**  
Summary of online questionnaire measures.

Measure	Author(s)	Items	Subscales	Example	Scale	$\alpha$
Global assessment of internet trolling- revised	Sest & March, 2017	8	N/A	I enjoy upsetting people I do not personally know on the Internet	5-point Likert (1 = Strongly disagree; 5 = Strongly agree)	0.81
Levenson self-report psychopathy scale	Levenson et al., 1995	26	Primary psychopathy (16-items) Secondary psychopathy (10-items)	For me, what's right is whatever I can get away with I don't plan anything very far in advance	5-point Likert (1 = Strongly disagree; 5 = Strongly agree)	0.87 0.69
Hypersensitive narcissism scale	Hendin & Cheek, 1997	10	N/A	I often interpret the remarks of others in a personal way	5-point Likert (1 = Strongly disagree; 5 = Strongly agree)	0.73
Varieties of statistical tendencies	Paulhus & Jones, 2015	6	Direct Sadism (7-items) Vicarious sadism (6-items)	I enjoy hurting people in professional car-racing, it's the accidents that I enjoy most	5-point Likert (1 = Strongly disagree; 5 = Strongly agree)	0.65 0.70
Empathy quotient	Lawrence, Shaw, Baker, Baron-Cohen, & David, 2004	22	Affective empathy (11-items) Cognitive empathy (11-items)	I get upset if I see people suffering on news programmes I am good at predicting how someone will feel	4-point Likert (1 = Strongly disagree; 4 = Strongly agree)	0.80 0.90
Borderline personality scale	Adapted from the DSM-V (2013) Diagnostic Criteria for Borderline Personality Disorder (301.83)	10	N/A	I am very fearful of abandonment	5-point Likert (1 = Strongly disagree; 5 = Strongly agree)	0.84
Social rewards questionnaire	Foulkes et al., 2014	7	Negative social potency (5-items)	I enjoy embarrassing others	7-point Likert (1 = Strongly disagree; 7 = Strongly agree)	0.81

Note. N/A = Scale does not comprise subscales;  $\alpha$  = Cronbach's alpha coefficient in current study.

psychopathy, direct sadism, vicarious sadism, cognitive empathy, affective empathy, and negative social potency at Step 1, and the Vulnerable Dark Triad (secondary psychopathy, vulnerable narcissism, and borderline personality disorder) at Step 2. Results of the regression analysis can be seen in Table 3.

Considering results of Sest and March (2017) where primary psychopathy was found to be a significant moderator of cognitive empathy and trolling, a PROCESS moderation analysis (Hayes, 2012) was run with cognitive empathy as the predictor, trolling as the criterion, and primary psychopathy as the moderator (Table 4). The PROCESS moderation analysis tests the conditional effects of X (cognitive empathy) as various levels of M (psychopathy). The various levels of M represent low scores (one standard deviation below the mean), moderate scores (the mean), and high scores (one standard deviation above the mean).

Reflecting results of Sest and March (2017), as trait psychopathy scores increase there is a positive, significant relationship between cognitive empathy and trolling.

#### 4. Discussion

The aim of the current study was to further exploration of the psychology of the Internet troll by exploring the predictive utility of gender, primary psychopathy, sadism (direct and vicarious), affective empathy, cognitive empathy, negative social potency, secondary psychopathy, vulnerable narcissism, and borderline personality traits in predicting Internet trolling. Results of the current study corroborate previous research on Internet trolling; specifically, Internet trolling is predicted by positive trait psychopathy and sadism scores (Buckels et al., 2014; Craker & March, 2016; Sest & March, 2017), negative social potency scores (Craker & March, 2016), and negative affective empathy scores (Sest & March, 2017). Further, corroborating moderation results of Sest and March (2017), there was a significant, positive relationship between cognitive empathy and Internet trolling when trait psychopathy scores increased.

Interestingly, gender was not a significant predictor of Internet trolling, deviating from previous research that has suggested men are more likely than women to troll (see Buckels et al., Craker & March, 2016; Sest & March, 2017). However, previous research that has also reported no sex differences in trolling scores suggests that these sex differences could be context dependent, and the participating cohort could influence results (March et al., 2017). Finally, regarding the utility of the VD3 to predict Internet trolling, only vulnerable narcissism was a significant, negative predictor.

An important element of the current study is the distinction between primary and secondary psychopathy. Previous research has demonstrated trait psychopathy as a whole predicts trolling behaviours (e.g., Buckels et al., 2014; Craker & March, 2016), but have not explored the two facets of psychopathy and trolling. Given results of the current study show primary, not secondary, psychopathy significantly predicts Internet trolling, we can surmise that the Internet troll is less impulsive, neurotic, and emotionally reactive (traits associated with secondary psychopathy), and more callous, manipulative, and lacking in remorse (traits associated with primary psychopathy; Levenson, Kiehl, & Fitzpatrick, 1995).

A further novelty of the current study was the distinction between direct sadism (enjoyment from directly hurting or humiliating others) and vicarious sadism (enjoyment derived from witnessing others being hurt or humiliated; for a full discussion, see Paulhus & Jones, 2015). Although research has established trait sadism as a positive predictor of trolling behaviour (e.g., Buckels et al., 2014; Craker & March, 2016), the relationships between direct sadism, vicarious sadism, and trolling has not yet been explored. Results of the current study indicated both direct and vicarious sadism were significant, positive predictors of trolling behaviours, suggesting the Internet troll enjoys both directly hurting/humiliating others, and watching others be humiliated/hurt.

Corroborating previous research, affective empathy was a

**Table 2**

Bivariate correlations between predictor variables of gender, primary psychopathy, direct sadism, vicarious sadism, cognitive empathy, affective empathy, negative social potency, secondary psychopathy, vulnerable narcissism, and borderline personality traits and outcome variable of internet trolling.

	1	2	3	4	5	6	7	8	9	10
1. Gender	1									
2. Primary psychopathy	−0.16***	1								
3. Direct sadism	−0.24***	0.54***	1							
4. Vicarious sadism	−0.47***	0.33***	0.43***	1						
5. Cognitive empathy	0.07	−0.12**	−0.05	−0.09*	1					
6. Affective empathy	0.33***	−0.57***	−0.45***	−0.35***	0.36***	1				
7. Negative social potency	−0.23***	0.60***	0.70***	0.39***	−0.03*	−0.50***	1			
8. Secondary psychopathy	−0.07	0.37***	0.31***	0.25***	−0.17***	−0.30***	0.37***	1		
9. Vulnerable narcissism	0.05	0.35***	0.20***	0.10*	−0.18***	−0.22***	0.23***	0.44***	1	
10. Borderline	0.13**	0.12**	0.15***	0.15***	−0.09*	−0.03	0.15***	0.51***	0.47***	1
11. Internet Trolling	−0.24***	0.47***	0.50***	0.39***	−0.04	−0.42***	0.57***	0.29***	0.12**	0.11**

Note: Gender coded as men = 1, women = 2; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ ; Multiple correlations corrected.

**Table 3**

Hierarchical multiple regression analysis with gender, psychopathy, direct sadism, vicarious sadism, affective empathy, cognitive empathy, negative social potency, and internet trolling as the criterion.

	B	SE	$\beta$	$t$	$F$	$df$	adj. $R^2$
Step 1					49.78***	7, 540	0.38
Constant	2.21	2.40					
Gender	−0.19	0.47	−0.02	−0.41			
Primary psychopathy	0.08	0.03	0.14	2.96**			
Direct sadism	0.16	0.06	0.11	2.45**			
Vicarious sadism	0.19	0.05	0.15	3.75***			
Cognitive empathy	0.15	0.04	0.15	4.00***			
Affective empathy	−0.14	0.05	−0.13	−2.71**			
Negative social potency	0.52	0.09	0.28	5.98***			
Step 2					35.69***	10, 537	0.39
Constant	2.81	2.59					
Gender	−0.16	0.48	−0.01	−0.33			
Primary psychopathy	0.09	0.03	0.15	3.07**			
Direct sadism	0.15	0.06	0.11	2.44**			
Vicarious sadism	0.17	0.05	0.14	3.43***			
Cognitive empathy	0.15	0.04	0.14	3.81***			
Affective empathy	−0.14	0.05	−0.13	−2.66**			
Negative social potency	0.50	0.09	0.27	5.73***			
Secondary psychopathy	0.07	0.04	0.08	1.76			
Vulnerable narcissism	−0.08	0.04	−0.08	−2.04*			
Borderline personality	−0.01	0.03	0.01	0.02			

Note: Gender coded as men = 1, women = 2; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ ; Multiple correlations corrected.

**Table 4**

PROCESS moderation analysis for psychopathy moderating relationship between cognitive empathy and trolling.

	Effect	SE	$t$
Low psychopathy	0.09	0.05	1.72
Medium psychopathy	0.11	0.04	2.74**
High psychopathy	0.13	0.06	2.23*

Note. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

significant negative predictor of Internet trolling, and cognitive empathy was a significant positive predictor of Internet trolling but *only* when trait psychopathy was high (see [Sest & March, 2017](#)). As previous research has shown trait psychopathy is associated with an affective (not cognitive) empathy deficit (see [Dadds et al., 2009](#)), this indicates that Internet trolls are able to predict what will distress others without sharing the emotional experience.

Finally, contrary to predictions, results of the current study showed the VD3 traits (i.e., secondary psychopathy, vulnerable narcissism and borderline personality) were not significant, positive predictors of Internet trolling. Surprisingly, vulnerable narcissism was a significant, negative predictor of Internet trolling. Unlike grandiose narcissism, vulnerable narcissism is considered more defensive, masks feelings of

inadequacy (Miller et al., 2011), and is associated with higher interpersonal distress ([Dickinson & Pincus, 2003](#)). The negative relationship between vulnerable narcissism and Internet trolling suggests the Internet troll is not necessary insecure and responding to ego threats. Rather, the self-worth of the Internet troll is intact and is not contingent on the recognition of others (see [Stoeber, Sherry, & Nealis, 2015](#)).

#### 4.1. Limitations and future directions

One limitation of the current study is the absence of exploring the different trolling platforms, particularly when considering the non-significant result of gender. Previous research has suggested differences in men and women's trolling could be context-dependent, and differ across Internet platforms (e.g., social media, gaming; [March et al., 2017](#)). As such, future research should endeavour to measure trolling behaviours in a wider variety of online settings.

It is also possible that the lack of predictive utility for gender is attributed to the gender ratio disparity in the current study. Of the sample, 70.5% were female. It should be noted, however, that this gender disparity is comparable to previous research that has found utility for gender. Although research on trolling has been largely qualitative, adopting semi-structured interview designs ([Cook, Schaafsma, & Antheunis, 2018](#)) and text analysis ([Coles & West, 2016](#); [March & Marrington, 2018](#)), quantitative studies have largely shown a



significant gender disparity: 75.9% female (Craker & March, 2016), 71% female (March et al., 2017), 84% female (Lopes & Yu, 2017), and 63% female (Sest & March, 2017). Given the gender ratio disparity appears consistent across these studies, but the predictive utility of gender is inconsistent, the best explanation for this inconsistency is most likely that trolling is context dependent.

Another potential limitation of the current study regards the self-report questionnaires, as self-report measures are often subject to social desirability bias (e.g., Latkin, Edwards, Davey-Rothwell, & Tobin, 2017). Given the socially average behaviours and traits assessed in the current study, it is possible some participants provided biased self-reports. Future research exploring trolling behaviours via self-report should seek to employ a measure of social desirability in an attempt to control for possible self-report bias.

Finally, a potential limitation is the lower reliability coefficients of two measures: Secondary psychopathy and the direct sadism subscale of the VAST. The VAST has previously been criticised for its potential limiting description of sadism (see Plouffe, Saklofske, & Smith, 2017). In an effort to overcome lower indices of internal consistency, future research could measure sadism using alternative measures, such as the Assessment of Sadistic Personality (Plouffe et al., 2017).

## 4.2. Conclusion

Results of the current study add to the dialogue of constructing the psychology profile of the Internet troll. The Internet troll continues to score high on primary psychopathy, high on sadism (both direct and vicarious), high on negative social potency, low on affective empathy, high on cognitive empathy (if already high on psychopathy), and low on vulnerable narcissism. In addition, the gender of the Internet troll appears to depend on the trolling context; specifically, where the trolling occurs.

In sum, these results portray an individual who is callous, enjoys both watching and causing harm to others, is able to effectively predict what will emotionally hurt others without sharing the emotional experience, and is motivated by causing this social mayhem. Disturbingly, as evidenced by negative relationship between vulnerable narcissism and trolling, this individual is not reacting aggressively to ego threats. The self-worth of a troll is not compromised – they are simply behaving this way because they enjoy it.

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