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# **The Dark Tetrad of personality and the tendency to engage in revenge porn**

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## **Abstract**

Revenge porn is an increasing and pervasive phenomenon. Despite this, the knowledge and understanding of this behaviour is limited, especially the psychological characteristics of perpetrators of revenge porn. The Dark Tetrad of personality: Machiavellianism, psychopathy, narcissism, and sadism, has been associated with a range of antisocial behaviours. Recent research indicates a relationship between the Dark Tetrad and revenge porn proclivity. The present study extended these findings by investigating the relationship between revenge porn proclivity and the Dark Tetrad using more trait-specific measures. A community sample of 306 participants, aged 18-77, were recruited online. Participants completed a series of personality measures assessing the Dark Tetrad and the Revenge Porn Proclivity Scale. Results show a significant positive correlation between the Dark Tetrad and the propensity to engage in revenge porn, as hypothesised. Additionally, multiple regression analysis shows the overall model significantly predicts revenge porn proclivity, however, sadism was the only independent predictor of proclivity. These findings add to the understanding of the psychological characteristics of perpetrators. The practical implications are discussed in relation to addressing the approval of this behaviour and informing prevention, intervention, and education strategies. The limitations of this study and recommendations for future research are also discussed.

**Keywords:** Revenge Porn, Dark Tetrad, Machiavellianism, Psychopathy, Narcissism, Sadism, Proclivity

## **Introduction**

With the COVID-19 pandemic and lockdown measures within the U.K., cases of revenge porn have notably increased. The Revenge Porn Helpline (2021) reported supporting over 3000 people in 2020, with an increase of 87% compared to 2019. This could be due to more people becoming isolated in their homes, and building and maintaining relationships online, in turn making this issue more apparent (Criddle, 2020). With 90% of adults online (Pew Research Center, 2019) and the sharing of sexually explicit images more widespread than ever (Drouin, Coupe, & Temple, 2017; Hudson, Fetro, & Ogletree, 2014), these provide increased opportunities for harassment and exploitation online, increasing victimisation (O'Connor, Drouin, Davis, & Thompson, 2018). Prior to the pandemic, studies reported 61% of respondents had shared nude photos of themselves and one in eight social media users were victims of revenge pornography (Cyber Civil Rights Initiative [CCRI], 2014a; 2017). Thus, the pandemic only exacerbated this growing issue.

Revenge porn is the act of distributing sexually explicit images or videos of another individual without their consent, with the intent of causing humiliation or distress (GOV UK, 2015). Most often, victimisation occurs between previous romantic partners. (Bloom, 2014). However, this definition fails to capture the extent of the harm inflicted on victims and fails to account for other motives, such as profit, notoriety, or entertainment (Henry & Powell, 2016; Franks, 2015). As a result, the terms non-consensual pornography, intimate image abuse, or image-based sexual abuse have been proposed (Citron & Franks, 2014; Revenge Porn Helpline, 2020). Although, regardless of the motivations behind this behaviour, the term 'revenge porn' is used throughout to remain consistent with previous literature.

This explicit content can be shared on a variety of platforms: social media, text messages, emails and websites specifically developed for this purpose (Uhl, Rhyner, Terrance, & Lugo, 2018; Franks, 2015). Perpetrators may include the victim's name and contact details, leading to further harassment and stalking from those online, resulting in further and potentially longer-lasting harm (Kamal & Newman, 2016; Bates, 2017). Victims report vast social impacts, including loss of employment, difficulty finding new employment, forming new romantic relationships and social isolation (Kamal & Newman, 2016; Bates, 2017).

Whilst people of all ages and genders can be victims of revenge porn, women are more likely to be victimised (Eaton, Jacobs & Ruvalcaba, 2017), with studies showing most victims are female (Uhl, et al., 2018; CCRI, 2014b). In contrast, men report higher rates of perpetration. This has been referred to as a 'gendered form of abuse' (Ruvalcaba & Eaton, 2019).

Evidence suggests revenge porn victims have significantly worse physical and mental health compared to non-victims (CCRI, 2017). Bates (2017) found female victims experienced several mental health difficulties including, anxiety, depression, posttraumatic stress disorder and suicidal thoughts. The adoption of negative coping mechanisms, such as self-medication was also noted. Furthermore, these consequences bear similarity to those experienced by victims of rape and sexual assault. Due to the profound impact revenge porn has on victims, it should be reviewed and classified as a sexual offence (Bates, 2017). This demonstrates the

importance of research on victimisation, and equally in identifying the psychological characteristics of potential perpetrators.

In 2017, McGlynn, Rackley and Houghton argued the term 'image-based sexual abuse' (IBSA) better reflects the significant distress revenge porn victims experience. They emphasised the shared characteristics between IBSA and other forms of sexual abuse, suggesting this be located on a continuum of sexual violence (McGlynn & Rackley, 2017). Placing IBSA on this continuum could advance the understanding of the behaviour, particularly within legislation (McGlynn et al., 2017). Further, organisations supporting domestic abuse survivors, report revenge porn as one of the most common forms of digital abuse (Women's Aid, 2021), with 82% of revenge porn prosecutions identified as domestic abuse-related (Office for National Statistics, 2020). This further links revenge porn with other forms of abuse, demonstrating the need for it to be placed alongside other abusive behaviours, informing legislation, and highlighting the significance of this behaviour.

The increase in revenge porn prevalence led to its criminalisation in England and Wales in 2015, with penalties of a maximum of two years imprisonment (GOV UK, 2015). Within one year, 1,861 cases were reported to the police (BBC, 2018), however, only 206 cases were prosecuted (Crown Prosecution Service, 2019). This may highlight limitations to current law and its application. To date, victims must provide evidence of the perpetrator's intent to cause distress; leading to difficulties with prosecution, as this fails to account for other motivations (McGlynn et al., 2019). There is a lack of anonymity for victims (Rackley & McGlynn, 2018), which opens them to further embarrassment and victimisation (Bothamley & Tully, 2018). Thus, official figures may only reflect a fraction of actual cases (Davidson et al., 2019).

Past literature demonstrates the increasing prevalence of revenge porn, links with other forms of abusive behaviour and victim impact. Yet, knowledge of revenge porn is still limited, highlighting the value of investigating this behaviour further, specifically, the psychological characteristics of perpetrators. Increased understanding would ultimately inform prevention, intervention, and education strategies, reducing the risk of offending and/or re-offending (Pina, Holland, & James, 2017; Bothamley & Tully, 2018).

The current knowledge and understanding of the psychological characteristics of those who engage and approve of revenge porn behaviour is very limited, with few studies focussing on revenge porn specifically. Recently, the relationship between dark personality traits and antisocial behaviours has gained academic and wider interest. More specifically, questions concerning whether these characteristics can predict behaviours (Moor & Anderson, 2019). Paulhus and Williams (2002) coined the term: 'Dark Triad', encompassing three personality constructs: Machiavellianism, subclinical psychopathy and subclinical narcissism. And more recently, research supports the addition of everyday sadism, forming the 'Dark Tetrad' of personality, as an association between these traits has been demonstrated (Buckels, Jones, & Paulhus, 2013; Chabrol, Van Leeuwen, Rodgers, & Séjourné, 2009; Međedović & Petrović, 2015; Book et al., 2016). The Dark Triad has been associated with a range of antisocial behaviours, such as bullying and online trolling (Baughman et al., 2012;

Moor & Anderson, 2019); with research also indicating sadism predicts sexual violence and assault (Russell & King, 2016).

Evaluated as the “brighter” trait in the triad (Rauthmann & Kolar, 2012), narcissism is characterised by a self-perceived sense of entitlement and grandiosity, where individuals have a preoccupation with success and demand for admiration (Paulhus & Williams, 2002; Ames, Rose, & Anderson, 2006). Machiavellianism describes those who behave in a cold, manipulative manner and deceive others for personal gain (Baughman, Dearing, Giammarco, & Vernon, 2012; Paulhus & Williams, 2002). This and psychopathy were described as the “darker” personalities within the triad (Rauthmann & Kolar, 2012). Psychopathy is characterised by a lack of impulse control, fear and guilt, with individuals perceived as interpersonally cold and non-empathetic (Kastner, Sellbom, & Lilienfeld, 2012; Moor & Anderson, 2019). Lastly, everyday sadism is described as the enjoyment in causing other’s physical and psychological distress, whilst also humiliating others and acting in a cruel manner (O’Meara, Davies, & Hammond, 2011; Meere & Egan, 2017). Paulhus (2014) argued the overlap of these traits justifies investigating them together.

There is limited evidence concerning the relationship between the Dark Tetrad and the tendency to engage in revenge porn. However, prior research has explored the Dark Tetrad in relation to other forms of antisocial behaviour. For instance, research showed a positive correlation between a higher endorsement of the Dark Tetrad and online trolling (Buckels, Trapnell, Andjelovic, & Paulhus, 2018), and between the Dark Triad and cyberbullying, with psychopathy and sadism predicting this behaviour (Goodboy & Martin, 2015; van Geel, Goemans, Toprak, & Vedder, 2017). Evidence also shows the Dark Tetrad significantly predicts intimate partner cyberstalking (Smoker & March, 2017) and indicates a relationship between the Dark Triad and intimate partner violence (IPV; Carton & Egan, 2017). This is particularly relevant as revenge porn has been used within the context of IPV (Drouin, Ross, & Tobin, 2015). Additionally, endorsement of the Dark Triad has been associated with the tendency to engage in sexual harassment and shown to predict an inclination to engage in ‘romantic revenge’ (Zeigler-Hill, Besser, Morag, & Campbell, 2016; Brewer, Hunt, James, & Abell, 2015). This is important due to the link with revenge porn, as this is commonly motivated by revenge. Considering past literature and established relationships between the Dark Tetrad and a range of behaviours similar in nature to revenge porn (Eaton & McGlynn, 2020); this suggests these personality characteristics may be associated with the tendency to engage in revenge porn.

Pina et al. (2017) first examined this relationship between the Dark Tetrad and revenge porn proclivity. Proclivity measures assess the propensity to engage in a range of behaviours in the general population; capturing one’s interest, tendency, or inclination to perpetrate a behaviour (Page & Pina, 2018). Proclivity measures have been used among non-offenders to investigate child molestation (Gannon & O’Connor, 2011), sexual harassment (Zeigler-Hill et al., 2016), elder abuse (Yan & Tang, 2003), rape (Alleyne, Gannon, Ciardha, & Wood, 2014; Bohner, Pina, Tendayi Viki, & Siebler, 2010) and animal abuse (Alleyne, Tilston, Parfitt, & Butcher, 2015). Such measures provide insight into harmful behaviours and help ascertain factors contributing to the tendency to engage in them (Pina et al., 2017). Such insights can inform intervention programmes, leading to prevention (Bohner et al., 2010). Still, it

must be stressed that an increased proclivity to such behaviours does not indicate the individual will engage in this behaviour in the future (Page & Pina, 2018).

Pina et al. (2017) first explored the relationship between revenge porn proclivity, the Dark Tetrad and ambivalent sexism; devising the Revenge Porn Proclivity Scale (RPPS) to assess participant's behavioural propensity to engage in revenge porn. This also included exploratory subscales, capturing revenge porn approval and enjoyment. Using online self-report questionnaires, their results showed an association between an increased tendency to engage in revenge porn and higher levels of the Dark Triad and ambivalent sexism, as hypothesised. Also, psychopathy was the only predictor of revenge porn proclivity, although all personality characteristics were hypothesised to predict proclivity. Moreover, Pina et al. were unable to demonstrate a significant relationship between sadism and revenge porn proclivity, however they were able to demonstrate a positive correlation between sadism and the Dark Triad traits, supporting previous research (Book et al., 2016).

Pina et al. (2017) used the Short Dark Triad scale (SD3; Jones & Paulhus, 2014) to assess the Dark Triad; this contains 9 items assessing each trait, which due to its short form has been criticised for not capturing the complex nature of each trait of the Dark Triad (Moor & Anderson, 2019; Persson, Kajonius, & Garcia, 2019). Researchers proposed the use of more specific measures may produce different results in terms of predicting behaviour (Moor and Anderson, 2019). Additionally, Paulhus and Williams (2002) argued that despite research indicating a relationship between these traits, they are conceptually distinct, requiring individual exploration (O'Boyle, Forsyth, Banks, & McDaniel, 2012). The current study intends to address this issue by using more sensitive and specific measures of the Dark Triad to determine if the endorsement of these characteristics will predict revenge porn proclivity. Also, sadism and revenge porn proclivity will be explored further, to determine if a relationship can be established; further adding to the understanding of the personality profiles of perpetrators of revenge porn.

Given the lack of evidence and understanding of the characteristics of perpetrators of revenge porn; the current study aims to expand on Pina et al.'s (2017) research, by exploring the relationship that revenge porn proclivity has with the Dark Tetrad adding to the limited evidence base. However, more sensitive measures will be used to assess each construct of the Dark Triad due to criticism of the SD3 (Moor & Anderson, 2019). This study aims to evaluate the relationship between the tendency to engage in revenge porn and the Dark Tetrad; investigate whether the use of longer, more trait-specific measures of the Dark Triad will predict revenge porn proclivity; and increase understanding of this behaviour, informing intervention and prevention. In line with previous research, it is hypothesised 1) there will be a significant positive correlation between revenge porn proclivity and the Dark Tetrad, and 2) that the use of more sensitive measures will show each facet of the Dark Tetrad to significantly predict revenge porn proclivity.

## **Method**

### **Participants and Design**

This study used a between-subjects design, with revenge porn proclivity as the dependent variable and the Dark Tetrad personality traits as the independent

variables. Participants were recruited using opportunistic sampling via social media platforms, such as Facebook and Instagram, and the University of Plymouth Participation System: in which they received a credit for participation.

308 participants took part in this experiment initially. However, the data of two participants were excluded as one participant completed the study twice, and one was the researcher checking the online questionnaire software. All participants were required to be at least 18 years old. The final sample consisted of 306 participants, comprised of 232 females (75.8%), 73 males (23.9%) and 1 participant who chose 'other' (0.3%). The age of the participants ranged from 18-77 years, ( $M = 28.26$ ,  $SD = 12.14$ ).

## **Materials**

To conduct the experiment the research platform JISC ([www.jisc.ac.uk](http://www.jisc.ac.uk)) was used to display the questionnaires online. The experiment could have been conducted on any electrical device which had access to the internet.

*The Psychopathic Personality Inventory-Revised: Short Form* (PPI-R: SF; Lilienfeld & Widows, 2005) was used to measure subclinical psychopathy. This involves a 56 item self-report measure of psychopathic personality features, consisting of a range of subscales which form three dimensions: Fearless Dominance, Self-Centred Impulsivity and Coldheartedness (Lilienfeld, Litzman, Watts, Smith, & Dutton, 2014). Participants read each statement and decided how false or true it is as a description of them. They responded using a 4-point Likert scale, with responses ranging from 1 (False) to 4 (True). Examples of the statements were "I like to stand out in a crowd" and "I quickly get annoyed with people who do not give me what I want". All items were scored, and reverse scored where appropriate, a total of all scores then provided the overall psychopathy score. Existing literature has reported the internal consistency of this measure as  $\alpha = .94$  (Lilienfeld et al., 2014).

*The Mach-IV* (Christie & Geis, 1970) is used to assess Machiavellianism. This contains 20 items, with participants rating their agreement with items such as "It is wise to flatter important people" and "Generally speaking, people won't work hard unless they're forced to do so" on a 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The appropriate items were then reverse scored, and the level of Machiavellianism was calculated as a sum of all scores. Rauthmann (2013) reported the total Mach-IV score has a good internal consistency of  $\alpha = .82$ .

*The Comprehensive Assessment of Sadistic Tendencies* (CAST; Buckels & Paulhus, 2014) was used to assess everyday sadism. This consists of 18 items that assess verbal, physical and vicarious aspects of sadism. As suggested by Buckels and Paulhus (2014), item fillers were also added to compensate for the negativity of the measure, resulting in 26 items in total. Participants had to respond on a 7-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree" to each statement such as "I enjoy physically hurting people", "I enjoy making jokes at the expense of others" and "In video games, I like the realistic blood spurts". To score this, items ranged from 1 (strongly disagree) to 7 (strongly agree), with the two relevant items reverse scored. The overall score of sadistic tendencies was then calculated by totalling the 18 items. Prior research supports the reliability of this measure, with Cronbach's

alpha ranging from .77 to .90 (Buckels & Paulhus, 2014; Pina et al., 2017; Plouffe, Saklofske, & Smith, 2017).

*The NPI-16* (Ames et al., 2006) was used to measure subclinical narcissism, consisting of 16 items. Participants were presented with 16 pairs of statements, in which they had to choose the statement in each pair that was closest to their feelings and beliefs about themselves. For example, a pair of statements were “I really like to be the centre of attention” and “It makes me uncomfortable to be the centre of attention”. One statement in each pair was consistent with narcissism and coded as 1 and the other narcissism-inconsistent response was coded as 0. The narcissism-consistent responses were then totalled to give the score of narcissism. Across five studies, the Cronbach’s alpha of reliability for this measure ranged from .65 to .85 (Ames et al., 2006).

*The Revenge Porn Proclivity Scale* (RPPS; Pina et al., 2017) measures an individual’s tendency to engage in revenge porn behaviour. This consists of five vignettes and seven items concerning each vignette. For each vignette, participants responded to the question: “In this situation, would you have done the same?” on a five-point scale from 1, “Definitely would not have done the same” to 5, “Definitely would have done the same”. Participants then had to respond to six questions which assessed emotions of excitement, anger, control, blame, regret, and amusement in response to the behaviour in the scenarios. For example, “In this situation, how amused would you be?” and “In this situation, how in control would you feel?” on a five-point Likert scale ranging from 1, “not at all” to 5, “very”.

To compute the participant’s proclivity score, the total score across all five vignettes in response to the question ‘In this situation, would you have done the same?’ was calculated. Then, to calculate the participant’s approval score, responses to the questions on regret, blame and anger were totalled, forming the subscale of revenge porn approval. Finally, to calculate the participant’s enjoyment score, responses to questions on excitement, amusement and control were totalled, forming the subscale of revenge porn enjoyment (Pina et al., 2017). Pina et al. (2017) reported the reliability of this proclivity scale was  $\alpha = .76$ , and reliability of the subscales of revenge porn approval was  $\alpha = .80$  and enjoyment was  $\alpha = .87$ .

## **Procedure**

All participants obtained and accessed the link to the online questionnaire on JISC through social media or via the University of Plymouth Participation System, which could be accessed on any internet browser. Participants who chose to take part were presented with the brief and then asked to give informed consent. Participants were asked to provide some non-identifiable demographic information, such as their gender and date of birth. Participants then completed each questionnaire: the PPI-R: SF; the Mach-IV, the CAST, the NPI-16 and the RPPS. After completing the series of questionnaires, participants were thanked and debriefed. The experiment took approximately 30 minutes to complete.



## Results

### Preliminary Analysis

To begin with, positive skewness was addressed by computing square root transformations for the CAST and revenge porn enjoyment; a log10 transformation was calculated for revenge porn proclivity and the NPI-16 scores were transformed by applying a constant of 100 to shift the entire distribution away from the zero point. All other assumptions of normality were met for the variables Mach-IV, PPI-R: SF and revenge porn approval.

### Descriptive Statistics

Descriptive statistics for the Dark Tetrad, revenge porn proclivity, and RPPS subscales are shown in Table 1. The mean scores correspond with the different scoring of each Likert scale used for the chosen measures and reflect the transformations for certain measures.

**Table 1.** Mean and Standard Deviation Scores for All Measures for All Participants.

Measure	Mean	Standard Deviation
Revenge Porn Proclivity	.73	.08
Revenge Porn Enjoyment	5.20	1.00
Revenge Porn Approval	34.57	8.42
Sadism	6.48	1.21
Narcissism	102.48	2.66
Machiavellianism	54.10	8.55
Psychopathy	114.82	18.57

In accordance with prior literature (Pina et al., 2017), participants who consistently disagreed with the questions on the RPPS, were considered to have no endorsement of revenge porn behaviour. This study found that 17.3% of participants showed some proclivity to engage in revenge porn, where participants scored a total greater than 5 on the proclivity scale. Also, 85.9% of participants endorsed revenge porn enjoyment, scoring a total greater than 15 on the enjoyment subscale.

Additionally, 96.4% demonstrated some approval of individuals perpetrating revenge porn in the vignettes, scoring a total greater than 15 on the approval subscale.

Additionally, Table 2 shows the means and standard deviations of the scores for each measure of the Dark Tetrad, revenge porn proclivity and RPPS subscales for both males and females. An independent samples t-test was run to determine if there

were differences in revenge porn proclivity between males and females. Males reported significantly higher mean proclivity scores than females,  $t(98.34) = 2.29$ ,  $p = .024$  (two-tailed, equal variances not assumed).

Also, an independent samples t-test was conducted to establish if there were differences in the Dark Tetrad traits between males and females. Male participants had significantly higher mean scores across all four of the Dark Tetrad traits compared to females. For sadism, males reported a significantly higher mean score than females,  $t(303) = 9.28$ ,  $p < .001$  (two-tailed, equal variances assumed). For narcissism, males reported a significantly higher mean score than females,  $t(101.59) = 4.95$ ,  $p > .001$  (two-tailed, equal variances not assumed). For Machiavellianism, males had a significantly higher mean score than females,  $t(303) = 3.19$ ,  $p = .002$  (two-tailed, equal variances assumed). For psychopathy, males had a significantly higher mean score than females,  $t(303) = 7.73$ ,  $p > .001$  (two-tailed, equal variances assumed).

Moreover, an independent samples t-test showed males and females did not have significantly different scores for the revenge porn enjoyment subscale,  $t(303) = 1.84$ ,  $p = .066$ . And also males and females did not have significantly different scores on the revenge porn approval subscale,  $t(303) = .86$ ,  $p = .388$ .

**Table 2.** The Means and Standard Deviations (shown in brackets) of Scores for Each Measure for Males and Females.

Measure	Gender	
	Males	Females
Revenge Porn Proclivity	.75 (.10)	.72 (.07)
Revenge Porn Enjoyment	5.38 (1.09)	5.14 (.97)
Revenge Porn Approval	35.32 (10.02)	34.34 (7.89)
Sadism	7.49 (1.03)	6.16 (1.08)
Narcissism	103.90 (2.99)	102.01 (2.35)
Machiavellianism	56.84 (8.74)	53.23 (8.34)
Psychopathy	128.16 (17.84)	110.53 (16.72)

### Correlations

A Pearson's correlation analysis was run to assess the relationships between all variables (see Table 3). The findings from this analysis informed the variables' added into the regression analysis, further exploring the prediction of revenge porn proclivity.

**Table 3.** Pearson's Correlation Analysis of All Variables

Variables	Corelations						
	1	2	3	4	5	6	7
1) Revenge Porn Proclivity	-						
2) Revenge Porn Enjoyment	.31**	-					
3) Revenge Porn Approval	.26**	.50**	-				
4) Sadism	.20**	.21**	.17**	-			
5) Narcissism	.11*	.07	.14**	.42**	-		
6) Machiavellianism	.12*	.15**	.31**	.47**	.25**	-	
7) Psychopathy	.17**	.18**	.23**	.55**	.56**	.41**	-

Note. \*  $p < .05$ . \*\*  $p < .01$ . (One-tailed)

As shown in Table 3, all traits within the Dark Tetrad had a significant positive correlation with revenge porn proclivity, supporting the hypothesis 1. Also, all traits had a significant positive correlation with revenge porn approval, and a significant positive correlation with revenge porn enjoyment, except for narcissism. Additionally, Table 3 shows significant positive correlations between each of the traits within the Dark Tetrad, as expected.

### Predicting Proclivity

A multiple regression analysis was used to test if the personality traits: sadism, narcissism, Machiavellianism, and psychopathy predicted participants' revenge porn proclivity. There was independence of residuals, as assessed by a Durbin-Watson statistic of 2.138. The results of the regression indicated that the model explained 4.7% of the variance and that the model was a significant predictor of revenge porn proclivity,  $F(4, 301) = 3.68$ ,  $p = .006$ . While sadism contributed significantly to the model ( $\beta = .15$ ,  $p = .045$ ), the other variables did not. Therefore, this does not support hypothesis 2, which states each trait will significantly predict revenge porn proclivity.

## **Discussion**

Previous research indicates a relationship between the Dark Tetrad of personality and a range of antisocial behaviours, such as revenge porn (Pina et al., 2017). Pina et al. (2017) were the first to examine this relationship, devising the RPPS to measure the behavioural propensity to engage in revenge porn. Expanding on this research, this study aimed to further explore the relationship between the Dark Tetrad and revenge porn proclivity by using more trait-specific measures.

Findings showed the Dark Tetrad had a significant positive correlation with revenge porn proclivity, as hypothesised. This corresponds with Pina et al.'s (2017) findings to some extent, although they were unable to establish a relationship between sadism and revenge porn proclivity. This is interesting as both studies used the CAST to assess sadism, but only current findings indicate a relationship. This may be due to the larger sample size obtained in the current study, as this can influence the accuracy of correlations (Knudson & Lindsey, 2014). Despite this inconsistency with Pina et al. (2017), this finding adds to our understanding of sadism and its association with the tendency to perpetrate revenge porn. This evidence is consistent with prior literature on other antisocial behaviours and the Dark Tetrad, such as online trolling (Buckels et al., 2018) and research demonstrating a relationship between the Dark Triad and IPV (Carton & Egan, 2017) and sexual harassment (Zeigler-Hill et al., 2016). This indicates that these traits involving socially hostile characteristics (Paulhus & Williams, 2002), are implicated in engaging in revenge porn. Additionally, findings demonstrate relationships between each of the Dark Tetrad traits, consistent with previous literature suggesting these traits are associated and require investigation together (Buckels et al., 2013; Paulhus, 2014).

This study aimed to investigate the use of more trait-specific measures for narcissism, Machiavellianism, and psychopathy, due to criticism of the SD3 (Moor & Anderson, 2019). Results showed that despite the overall model significantly predicting proclivity, sadism was the only significant predictor. Thus, not supporting the hypothesis, which stated using these measures would improve the predictability of revenge porn proclivity. This conflicts with Pina et al.'s (2017) results, who identified psychopathy as the only independent predictor. These results, along with Pina et al. (2017) suggest at least two traits within the Dark Tetrad have the potential to independently predict revenge porn proclivity. As sadism was identified as a significant predictor, this is consistent with literature implicating sadism in sexual violence (Russell & King, 2016). This is particularly interesting, as research suggests revenge porn should be situated on a continuum of sexual violence, alongside other forms of abuse (McGlynn et al., 2017). This is also supported by research on trolling (Buckels, Trapnell, & Paulhus, 2014) and cyberbullying, which suggests sadism better predicts antisocial online behaviours compared to the Dark Triad, as sadistic pleasure appears to motivate this behaviour (van Geel et al., 2016).

In our analysis, overall scores of narcissism, Machiavellianism and psychopathy were used, however some measures include subscales. For example, the PPI-R: SF consists of three subscales: Fearless Dominance, Self-Centred Impulsivity and Coldheartedness (Lilienfeld et al., 2014), which capture features of psychopathy. As psychopathy was not shown to predict proclivity, analysing these subscales may have revealed certain features of psychopathy predict revenge porn proclivity;

yielding similar findings to Pina et al. (2017). Also, as there is limited evidence investigating these psychological characteristics and their influence on the perpetration of revenge porn, this relationship between the Dark Tetrad and revenge porn proclivity requires additional investigation to clarify this association.

Also, the Dark Tetrad was positively correlated with approval of revenge porn, suggesting that as well proclivity, increased levels of these traits are associated with the approval of this behaviour. These traits were also positively correlated with revenge porn enjoyment, except for narcissism, in which no significant correlation was demonstrated. This is surprising as narcissism was correlated with revenge porn proclivity and approval, which both correlate with enjoyment. Investigating these subscales further would increase understanding of the personality characteristics of those who approve of and enjoy this behaviour.

Our results showed some participants had an increased tendency to engage in revenge porn (17.3%), with a large proportion endorsing revenge porn enjoyment (85.9%) and demonstrating approval (96.4) of this behaviour. These findings reflect similar results obtained by Pina et al. (2017). This discrepancy between participants reporting their likely engagement in revenge porn, and their enjoyment and approval of this behaviour indicates that although individuals may not perpetrate revenge porn, they display acceptance of this behaviour. This acceptance may be a result of increased reporting in the media, normalising this behaviour (Ehman & Gross, 2019).

This high level of approval and enjoyment, which showed no gender differences is interesting, as most of this sample were female and research shows they are disproportionately affected by revenge porn (Ruvalcaba & Eaton, 2019). This has serious ramifications due to the influence of bystanders in the continuation of this behaviour (Harder, 2020). Thus, interventions may need to address the perception of revenge porn and increase awareness of the serious impact (Henry, Flynn, & Powell, 2019). Future study could focus on the role of bystanders and understanding why the population continues to have such high rates of approval, particularly in females; this understanding could inform education programmes, such as bystander interventions, encouraging individuals to intervene (Harder, 2020). Research shows bystander programmes are effective in preventing sexual assault (Kettrey & Marx, 2019), thus, this may be beneficial in preventing revenge porn (Henry et al., 2019).

Furthermore, evidence shows males report a greater likelihood to engage in revenge porn, corresponding with the suggestion that revenge porn is a 'gendered form of abuse', with males more likely to perpetrate revenge porn and females more likely to be victims (Ruvalcaba & Eaton, 2019; Uhl et al., 2018). Additionally, males scored higher on all traits within the Dark Tetrad than females. This is a consistent finding within the literature (Baughman et al., 2012; Furnham & Trickey, 2011; Plouffe et al., 2017). Due to this relationship between the Dark Tetrad and revenge porn proclivity, and with males scoring higher on the Dark Tetrad and proclivity, this implies that these traits are associated with the perpetration of revenge porn.

A potential limitation could be the skewed gender ratio, as 75.8% of this sample were females, this skewness was also found by Pina et al. (2017). As revenge porn appears to have a gendered nature, further investigation using equal samples of

male and female participants may result in alternative findings, adding to the understanding of the gendered nature of this behaviour. Moreover, as self-report measures for the Dark Tetrad and RPPS were used. The direct questions and nature of the topics, involving socially negative behaviours (Moor & Anderson, 2019) may be vulnerable to social desirability bias; where participants respond in a more socially acceptable way, deviating from their actual beliefs (Larson, 2019). To reduce this bias, this study was conducted anonymously, online (Larson, 2019). However, future study could incorporate a social desirability scale to measure this bias, such as the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960).

In addition, the data for the scale of revenge porn proclivity was heavily skewed, this may be a result of the sensitive and direct nature of the questions, where social desirability influenced responses. As a community sample was used, the behavioural propensity to engage in revenge porn is fairly small, whereas using the RPPS in forensic and clinical populations may yield alternative results. Future studies exploring these populations may therefore advance understanding of this behaviour. Also, the scenarios in the RPPS assess one form of motivation – revenge, whereas evidence shows alternative motivations behind perpetrating this behaviour (Henry & Powell, 2016). Focussing on one motivation ignores this behaviour on a wider spectrum of abuse (McGlynn & Rackley, 2017b). Taking these limitations into account, the RPPS may therefore need revision for use within future research.

Also, it would be useful to examine the alternative motivations behind revenge porn, to explore this as a form of IBSA. Further study of the psychological characteristics of perpetrators would inform intervention and prevention programmes. Ultimately, reducing this behaviour is especially important, as this may occur alongside other forms of abuse (McGlynn et al., 2017). Moreover, research shows gay and bisexual men are at greater risk of victimisation and perpetration compared to heterosexual men (Ruvalcaba & Eaton, 2019). As sexual orientation was not considered in this study, this shows areas in need of exploration, to determine if high levels of the Dark Tetrad and sexual orientation influence revenge porn perpetration.

## **Conclusion**

The present study enhances our understanding of the relationship between dark personality traits and the tendency to engage in revenge porn. Results show a positive correlation between the Dark Tetrad and revenge porn proclivity and the multiple regression analysis shows the overall model significantly predicts revenge porn proclivity, however, sadism was found to be the only independent predictor of proclivity. Additionally, these findings show males scored higher on the Dark Tetrad traits and reported a greater likelihood to engage in revenge porn compared to females. These findings provide further insight into the psychological profiles of perpetrators and suggest these traits may be of value when developing intervention, prevention, and education strategies. Further research would help clarify this relationship and increase understanding of the psychological characteristics of perpetrators.

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