



Don't threaten me and my dark side or even self-harm won't stop me from hurting you



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ARTICLE INFO

Article history:

Available online 8 February 2014

Keywords:

Dark Triad

Experimental approach to provoked direct deliberate self-harm

Self-esteem ego threat

ABSTRACT

The present study aims to investigate whether our dark side not only leads to aggressive behavior against others but also to direct deliberate self-harming behavior when the ego is threatened. One hundred and seventy two students of sports science were recruited as participants (60.7% female) with a mean age of 20.98 ($SD = 1.95$). Participants filled out the German versions of the NPI, Mach IV and the SRP-III. To assess direct deliberate self-harming behavior, a white-noise-aggression to others and to self paradigm was used. Findings revealed that mainly the common core of the dark side of personality and not its facets (only narcissism to a very small extent) predicted direct deliberate self-harming behavior. These results highlight the necessity for researching this “vulnerable dark side” to obtain a better understanding of the Dark Triad members acting in situations with ego-threats (especially self-esteem threats).

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1. Introduction

Past studies have shown that there is a positive correlation between the Dark Triad traits of narcissism, Machiavellianism, and psychopathy with symptoms of aggression (more recently Douglas, Bore, & Munro, 2012; Muris, Meester, & Timmermans, 2013). Moreover, in an experimental study different provocations were shown to trigger aggressive behavior towards others in narcissists and psychopaths. The authors point out that this might lead to the assumption that experimentally provoking aggression based on interindividual differences in the Dark Triad is context dependent (Jones & Paulhus, 2010). However, Buckels, Jones, and Paulhus (in press) found more recently that people scoring higher on psychopathy or narcissism inventories showed aggressive behavior even against innocent persons, but only when aggression was easy (no-work condition: punishing without any tasks; Buckels et al., in press). Aside from this perpetrator perspective, there is also evidence for a dark side to victims: Machiavellianism, narcissism, and psychoticism were shown to be related to subjective ratings of being a victim (Linton & Power, 2013). Thus, differences in Dark Triad traits have been shown to be related to hurting others or being hurt by others. However, until now research is lacking as to whether people having elevated scores on Dark Triad inventories would also focus their aggression on themselves under certain

circumstances and would thus also be victims of their own aggression. Consequently, within the present study an experimental design was developed and tested to explore the relationship between self-harming behavior and the Dark Triad.

1.1. Deliberate self-harm

Deliberate self-harm is understood as intentionally injuring oneself without suicidal intent and is either directly harmful (e.g., cutting, burning, scratching) or indirectly harmful (e.g., binge eating, substance abuse, excessive risk taking like reckless driving). It is associated with affect regulation (negative affect) and substance abuse (Moller, Tait, & Byrne, 2013). Until now research trying to induce deliberate self-harm is missing. Most existing studies are correlational and assess self-harm using single items (e.g., “Have you ever done anything on purpose to injure, hurt, or harm yourself or your body (but you weren't trying to kill yourself)?”) or the Deliberate Self-Harm Inventory (Moller et al., 2013). While this research certainly is interesting, experimental approaches are needed to explore the causal mechanisms between personality traits such as the Dark Triad and self-harming behavior.

The present study tested such an experimental approach. Self-harm was operationalized using white noise. White-noise-aggression paradigms to others were used in recent studies and also in relation to the Dark Triad (e.g., Buckels et al., in press). Buckels et al. used a white noise paradigm to show that sadism is related to unprovoked aggression and, in contrast to the Dark Triad Traits,

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to working in order to be able to hurt someone. The findings show that except for Machiavellianism all Dark Triad traits are moderately and positively related to unprovoked aggressive behavior, i.e. blasting an innocent person with white noise. Additionally, the authors also summarize prior research and state that aggressive behavior caused by psychopathy usually has an instrumental character with low investment, short term responses (Jones & Paulhus, 2010). Narcissistic tendencies in contrast cause aggression when an ego threat is involved. Finally, a relation between Machiavellianism and aggression should require sufficient benefits to outweigh retaliation or punishment. Thus, white noise paradigms have successfully been applied to demonstrate a relationship between the Dark Triad and aggression towards others.

1.2. An experimental design to test the relationship between the Dark Triad and self harm

To find out if interindividual Dark Triad differences also result in deliberate self-harming behavior, provocations that trigger deliberate self-harming behavior are needed. Moreover, these provocations must be related to interindividual differences in the Dark Triad. In other words, a situation is needed where differences in the Dark Triad cause behavior that is potentially self-harming. Past research has shown that the Dark Triad – mainly psychopathy – is related to cheating in academic settings (Nathanson, Paulhus, & Williams, 2006). Obviously, being caught can potentially be quite harmful. Moreover, people scoring higher on narcissism inventories experience extreme affective responses to social comparisons: increased positive affect from downward comparison and increased hostility from upward comparison (Bogart, Benotsch, & Pavlovic, 2004). Thus, an upward comparison in an academic setting might be a provocation that triggers deliberate self-harming behavior based on interindividual differences in the Dark Triad. With regard to psychopathy it is further assumed that, due to their reckless aggressive behavior, they also care little about their own physical safety (Wilson & Daly, 1985). Thus, people scoring higher on psychopathy scales might deliberately harm themselves in order to avoid failing in an academic setting. Narcissism and self-esteem are positively related, which also influences social comparison behavior (Krizan & Bushman, 2011). The relationship has been exploited to create scenarios in which people experience ego threats. Very often, self-esteem threats like upward comparisons were used as ego threats in past research (Leary, Terry, Allen, & Tate, 2009). Especially, the relationship between narcissism and risk behavior was shown to be moderated by ego threats (Crysel, Crosier, & Webster, 2013; Jones & Paulhus, 2010). Thus, ego threats might potentially also induce narcissism related self-harm.

Summing up, an academic setting which involves another person enabling a potentially ego threatening social comparison might have all the ingredients to cause self-harming behavior related to psychopathy and narcissism. The operationalization of this idea is described below.

1.3. Aims and scope

In sum, the present study had three aims. The first aim was to test an experimental paradigm triggering direct self-harm. Secondly, the relationship between the shown self-harming behavior and the Dark Triad should be explored. It was hypothesized that especially psychopathy and narcissism should be positively related to self-harming behavior. Due to the high self-control of Machiavellianists, their engagement in overt antisocial (e.g., aggressive) behavior is rare (Jones & Paulhus, 2009). Finally, because of the given overlap between the Dark Triad traits (Paulhus & Williams, 2002), it will also be analyzed if the common core or the specific

variance within the Dark Triad is instead responsible for deliberate self-harming behavior.

2. Method

2.1. Sample

One hundred and seventy two students of sports science were recruited as participants (60.7% female). Their mean age was 20.98 ($SD = 1.95$).

2.2. Experimental design

Aim of the experimental design was to cause self-harming behavior. To this end, students were told in a lecture for statistics that the following study will be conducted: "Current research has shown physical exhaustion reduces the ability to conceive and remember a crime scene (Hope, Lewinski, Dixon, Blocksidge, & Gabbert, 2012). With this new study it shall be analyzed how well police officers must be trained in order to reduce this effect of reduced ability to a minimum." To motivate the students to participate they were told that they will have a 50:50 chance to win €10. Prior to coming to the lab, participants first filled out questionnaires via an online link (see test materials). The general instruction given to the participants in the lab was that they would take part in a simulated crime scene investigation. To create realistic conditions, prior to seeing the crime scene, their heart rate would be increased. To this end they would have to jump back and forth within the framework of a rectangle stuck to the ground (see test materials) while wearing a pulse measuring device connected to a computer. Jumps were to be performed over the center line on each occasion. A rhythm was also provided for the participants and they were told to always jump at this rhythm or faster, but never slower. Moreover, a competitor would undergo the same experimental task at the same time. Jumping would stop once one of the participants would reach a pulse of 160. To maintain a fair competition, participants were told that their competitor would be matched based on their fitness level. When jumping participants could view a colored circle on a computer screen. Red would indicate that their own pulse is higher than their competitors and green a difference in their own favor. A white circle would signal no difference. Jumping would have to stop when signaled by the instructor who supposedly was in telephone contact with an instructor in the adjoining room. The participants were told that the stop signal would be given once one of the participant's pulse reached 160. To this end, the instructor held a device which would start a 15 s countdown as soon as the stop signal was given. Within the 15 s participants had to take up a position in front of a computer screen which would display a crime scene and put on headphones. The instruction here was to take note of as many details as possible. The crime scene was visible for another 15 s. In the end, the person who would remember the most details of the crime scene, as seen in a questionnaire (see Material) administered afterwards, would receive the €10. A task (APM, see below) had to be completed before the crime scene questionnaire could be filled out.

To ensure that each participant would experience a potentially ego threatening situation, there was no competitor and the whole interaction with the competitor was preprogrammed. The cover story was that adjoining rooms without sight contact would be used to ensure anonymity. The colored circle was programmed to show red from the beginning. Thus, the ego threat was created.

Within the instruction, participants were also given the information that a current study had shown that memory-performance is poorer the more exhausted one is, i.e. the higher the pulse had been. They were then told that should they be the participant

(which was always the case) who first attained a heart frequency of 160, they might possibly have a disadvantage compared with the other participant to remember and recall the crime scene. In order to maintain a 50:50 chance to win the €10, the following possibility could be taken advantage of to balance out the conditions again: The “Enter” key could be pressed during the last three seconds of the 15-s interval given to position oneself in front of the screen. If the “Enter” key was pressed, the following would happen: white noise would then be played over the earphones of the other participant from the first second on and for the full 15 s of time to view the crime scene. Participants were told that this is an unpleasant sound and were also given an example via their own head phones before starting with the experiment. They were also told that studies show that white noise also impairs the memory. To operationalize self-harming behavior, participants were told that if they chose to buzz their competitor with white noise, they would automatically have to suffer the white noise themselves, but only for ten seconds. Aggression towards others would therefore be costly in terms of one’s own memory capability as well as in terms of the actual physical displeasure. Thus, the act of buzzing the competitor automatically caused self-harm and could therefore be seen as self-harming behavior. Because all participants were under the impression that they had lost the jumping contest, they were all given the choice to apply white noise. Once the tests had been completed by all students, they were debriefed, thanked for their participation, and all participants received €10.

2.3. Test materials

Narcissism is assessed with the Narcissistic Personality Inventory (NPI), which is a 40-item forced-choice measure for subclinical narcissism ($\alpha = .83$; Paulhus & Williams, 2002). One of the two statements reflects either a narcissistic attitude (“I can read people like a book”) or not (“People are sometimes hard to understand”). Machiavellianism is assessed with the Machiavellianism questionnaire Mach IV, consisting of 20 5-point Likert items ranging from 1 = “strongly disagree” to 5 = “strongly agree” ($\alpha = .81$; Christie & Geis, 1970). Participants rated statements such as “There is no excuse for lying to someone else” or “It is wise to flatter important people”. Previous studies showed good psychometric properties (e.g., Hansen & Hansen, 1991). Psychopathy is assessed using the Self-Report Psychopathy Scale-III (SRP-III), consisting of 64 5-point Likert reliable items ranging from 1 = “strongly disagree” to 5 = “strongly agree” ($\alpha = .89$; Paulhus, Hemphill, & Hare, 2009). Example items are “Most people are wimps” or “I’m not tricky or sly”.

In order to measure fitness, the participants were asked for minutes of weekly athletic activity with some perspiration and with a great deal of perspiration. A pulse frequency device (Polar RS800CX) was used in order to measure the heart frequency. A metronome (Wittner Taktell Piccolino) with a speed of 168 beats per minute was used in order to standardize the jumping speed. For jumping back and forth laterally, a square area was marked on the ground (rectangle, divided with a central line) using adhesive tape (Lämmle, Tittelbach, Oberger, Worth, & Bös, 2010). The white noise was played at a volume of 75 decibel, the highest legally allowed volume to be used over a longer time period in Germany is 99decibel (Deutsches Institut für Normierung e.V., 2010). The Raven Advanced Progressive Matrices Test Set 1 (APM-Set 1; Raven, 1962) was used to measure fluid intelligence which here only served to create a pause between viewing the crime scene and answering the crime scene questionnaire. A questionnaire with seven questions was developed in order to question the participants regarding the crime scene. Each question contained five objects, two of which actually had been in the crime scene. Participants were told to mark all the objects they could remember. Ten

seconds were allowed for each question. However, performance in this test did not play a role in the following analyses.

2.4. Statistical analyses

Internal consistencies were calculated using IBM SPSS Statistics 21. Logistic regression analyses with latent variables and bootstrapping method were conducted in MPlus 5.2 (Muthén & Muthén, 1998–2007). For all logistic regression models a robust maximum likelihood estimator was used. To assess model fit the cutoff suggestion for WRMR smaller than .9 by Muthén & Muthén (1998–2007) was applied.

2.4.1. Models tested

In order to explore if it is rather the common core of the Dark Triad or its facets explaining deliberate self-harming behaviour, four different models are tested. In each model white noise (chosen or not chosen) was defined as a criterion variable and regressed on a latent variable with the three Dark Triad traits as indicators. Thus, this latent variable represented the common core of the Dark Triad. In each of the following models, the criterion was additionally regressed on one of the indicators, i.e. psychopathy, Machiavellianism, or narcissism, in order to find out if the facets have incremental effects above and beyond the common core of the Dark Triad.

3. Results

All in all 68 (39.5%) participants applied white noise and therefore showed self-harming behavior. Descriptive statistics for the Dark Triad traits for the whole sample as well as separated for those applying white noise and those not applying white noise can be found in Table 1.

3.1. Dark Triad and deliberate self-harming behavior

The common core of the Dark Triad alone explained 4.4% of the differences in choosing white noise. The regression path was positive indicating that higher values in the Dark Triad would go along with a higher tendency of deliberate self-harming behavior ($a = .21$; $p = .072$; WRMR = .386).

3.2. Dark Triad, psychopathy and deliberate self-harming behavior

The Dark Triad and psychopathy together explained the same amount of variance as the common core of the Dark Triad alone: 4.4%, showing that psychopathy did not incrementally predict self-harming behavior ($a < .001$; $p = .819$; WRMR = .386).

Table 1

Descriptive Statistics for the Dark Triad traits for the whole sample as well as separated for those applying white noise and those not applying white noise.

Sample	n (Percent)	Dark Triad					
		Psychopathy		Machiavellianism		Narcissism	
		M	SD	M	SD	M	SD
Total	172 (100)	8.79	1.46	3.18	0.52	9.62	1.15
NWN	104 (60.5)	8.59	1.35	3.16	0.51	9.47	1.06
WN	68 (39.5)	9.10	1.57	3.20	0.53	9.85	1.22

Note. NWN = not applying white noise, WN = applying white noise.

3.3. Dark Triad, Machiavellianism and deliberate self-harming behavior

The Dark Triad and Machiavellianism together explained 8.6% of behavior in choosing white noise or not. The association between the Dark Triad with a higher tendency of deliberate self-harming behavior increased after adding Machiavellianism ($a = .37$; $p < .05$) indicating a suppression effect for Machiavellianism ($a = -.20$; $p = .16$; WRMR = .247).

3.4. Dark Triad, narcissism and deliberate self-harming behavior

The Dark Triad and narcissism together explained a somewhat higher amount of choosing white noise behavior as the common core of the Dark Triad alone: 4.7%. The association between the common core with a higher tendency of deliberate self-harming behavior decreased however ($a = .09$; $p = .488$). The association between narcissism and deliberate self-harming behavior was somewhat larger ($a = .16$; $p = .149$; WRMR = .206). Of all the facets, only narcissism alone had a stronger association with a higher tendency of deliberate self-harming behavior ($a = .24$; $p < .05$; WRMR = .321). However, when controlling for the common core, this predictive power decreased.

4. Discussion

The present study introduces an experimental design suited to trigger self-harming behavior. Additionally, it could be shown that such a behavior is related to interindividual differences in the Dark Triad traits. However, multivariate analyses show that mainly the common core of the Dark Triad is predictive. The facets themselves did not add incrementally above and beyond this except for a suppression effect for Machiavellianism.

Above, it was already stated that aggressive behavior due to psychopathy oftentimes is instrumental. The experimental design presented here potentially offers an instrumental aggressive act. However, the necessary strategic elements in association with the self-harm are probably too complex to be considered a low-investment (Woodworth & Porter, 2002). Thus, the lacking incremental power might not be due to the specific design of the study. Nevertheless, this design was successfully applied to cause self-harming behavior.

Narcissism was the only specific Dark Triad trait related to self-harming behavior. Considering that an ego-threat was used in the experiment as a trigger, this should not be surprising (Campbell, Bonacci, Shelton, Exline, & Bushman, 2004). However, the present findings show that the perceived ego threat cannot only trigger aggression towards others but can also be large enough to even accept self-harm as a consequence. It has to be mentioned, though, that this specific mechanism was strongly reduced when controlling for the common core of the Dark Triad. Thus, the character traits that are prototypical for the overlap between narcissism and the other Dark Triad traits can be seen as causes for the self-harming behavior. According to Paulhus and Williams (2002), impulsivity and callous effect could be at the heart of this core.

The suppressor effect for Machiavellianism might be due to the effect that, after controlling for the common core of the Dark Triad, the remaining variance most likely represent differences in scheming and risk calculation, both of which might cause participants to resist the white noise aggression out of fear for the large associated costs. If instead of 10 s a considerable smaller amount of time had been chosen for hearing white noise, Machiavellianism might actually positively influence the decision towards choosing white noise. After all, a considerably smaller cost would stand against the same potential gain as was the case here.

4.1. Limitations

Limiting factors are the time intervals chosen (i.e. a ratio of 15–10 s) which fix the costs and gains of applying white noise. Moreover, the dichotomous decision potentially reduces variance by setting too high a risk. Future studies should therefore apply varying time intervals and ratios. Moreover, the necessity to operationalize self-harm as a consequence of aggression towards others potentially represents a problem. Disentangling specific effects is harder. Nevertheless, the apparent self-harming behavior could be measured with the paradigm. Furthermore, as mentioned above in past research, deliberate self-harm inventories were closely oriented to self-harming behaviors of clinical populations (Moller et al., 2013). Experiencing white noise could be perceived as much less unpleasant compared to scratching or burning. On the other hand, this paradigm was designed for subclinical populations. Therefore, the self-harming behavior should also be subclinical. Still, the usefulness of this paradigm within clinical populations should be tested.

5. Conclusions

The present study introduced an experimental design which allows triggering self-harming behavior. Moreover, it could be shown for the first time that the Dark Triad of personality is not only associated with aggression towards others, but also with direct deliberate self-harming behavior and thus victimization by oneself. This “vulnerable dark side” is needed to be explored to further our understanding of the Dark Triad traits as causal variables in situations containing ego threats (especially self-esteem threats) and aggressive behavior in general.

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