

Relationships between the Dark Triad and aggression

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Abstract

The current study investigated the relationship between the Dark Triad personality and both direct and / or indirect aggression and whether this relationship differed between genders. The relationship between the three constructs (narcissism, psychopathy and Machiavellianism) that constitute the Dark Triad personality and direct and indirect aggression was also assessed. The sample consisted out of 307 adolescents (160 males; 147 females), aged 12-14 ($M_{age} = 12.79$, $SD = 0.78$). Participants completed the Dirty Dozen Questionnaire and the Direct and Indirect Aggression Scale. Linear and multiple regressions demonstrated that the Dark Triad personality as a whole was significantly related to both direct and indirect aggression. This pattern existed for both boys and girls. When assessed separately, the three Dark Triad constructs showed a somewhat different relationship to direct and indirect aggression. Psychopathy and narcissism were significantly related to direct aggression whereas narcissism and Machiavellianism were significantly related to indirect aggression. In addition, for males but not for females, narcissism was significantly related to direct aggression, whereas for females only, Machiavellianism showed a significant relationship with indirect aggression.

Key words: Dark Triad personality, direct aggression, indirect aggression, Dirty Dozen

Relationships between the Dark Triad personality and aggression

Lately, there seems to be a lot of interest by researchers in the so-called ‘Dark Triad Personality’ and other dark personalities. Paulhus & Williams (2002a) tried to capture the socially aversive personalities, which still are in the normal range of functioning, in one construct. They came up with the concept of the ‘Dark Triad Personality’, which consists out of three personality constructs, namely psychopathy, narcissism and Machiavellianism (Paulhus & Williams, 2002a). The unification led to lots of disagreement whether the personalities could indeed be treated like one. Since then, a lot of research has been conducted to support or reject this unitary construct.

The three personality constructs all seem to incorporate a malignant character with aggressive, self-promotional, emotional chill and dissembling behavior (Paulhus & Williams, 2002a). Because of this malignant factor, several studies have been conducted examining the relationship between different traits of the Dark Triad and aggression, but never between the Triad as a unitary construct. In this research I’m going to investigate what sort of relationship exists between the ‘Dark Triad Personality’ and aggression.

Psychopathy is characterized by high impulsivity, thrill-seeking behavior and both low anxiety and empathy (Paulhus & Williams, 2002a). Individuals that score high on psychopathy show antisocial behavior, which could lead to destructive behavior towards themselves and to others (Rauthman & Kolar, 2012). Narcissism is characterized by a sense of grandiosity, entitlement, dominance, and superiority. (Paulhus & Williams, 2002a). This goes often at the expense of others (Morf & Rhodewalt, 1993, 2001). Individuals that score high on Machiavellianism, use others to achieve their goals through manipulation, exploitation and deceit (Christie & Geis, 1970; Fehr, Samsom, & Paulhus, 1992; Jones & Paulhus, 2009; Rauthmann, 2011; Rauthmann & Will, 2011). Many of the characteristics may

be detrimental at first sight, but if you look more closely they all have both favorable and unfavorable aspects.

The Dark Triad: A unitary construct?

As mentioned earlier, there is disagreement in the literature as to whether the dark triad personality is a single construct or that the parts should be treated separately (Paulhus & Williams, 2002a). Clinical literature already suggested a link between the three constructs (e.g., Hart & Hare, 1998) and now there also seems proof due the recent development of subclinical measures of these personality constructs. The possibility exists that the Dark Triad of the personality constructs also exists in normal samples (Paulhus & Williams, 2002a). Furthermore, Jones & Paulhus (2010) claim that the sub-clinical forms of Machiavellianism, narcissism and psychopathy share a variety of features like coldness, manipulation and self-centeredness. They are e.g. linked to limited self-control (Jonason, & Tost, 2010) and aggression (Jones & Paulhus, 2010).

The Big Five is a theory that classifies the personality into five dimensions, namely conscientiousness, extraversion, neuroticism, openness to experience, and agreeableness (Paulhus & Williams, 2002a). The Big Five has also been used to identify individuals with a Dark Triad personality. The study of Paulhus & Williams (2002a) concluded that there is one commonality in the Big Five occurring in all personality constructs of the Dark Triad, namely low agreeableness. Furthermore, narcissism and psychopathy are both found to be associated with extraversion and openness. Moreover, both Machiavellianism and psychopathy are negatively associated with conscientiousness. Lastly, psychopaths have been observed to score low on neuroticism. As specified before, the study by Paulhus & Williams (2002a) suggested that persons who score high on the Dark Triad personality share a similarity in disagreeableness. If this is combined with the lack in anxiety that is often observed in psychopaths, this might be a dangerous combination. Antisocial behavior is significantly

predicted by psychopathy only. Machiavellianism and narcissism don't contribute (Paulhus & Williams, 2002b; Williams & Paulhus, 2002).

Lee & Ashton (2005) concluded that all three angles of the Dark Triad overlap in extraverted behaviors which are used to cause a good first impression, i.e. socializing and talking about their friends. Furthermore they all have exploitation, manipulation and self-importance in common (Lee & Ashton, 2005). The study of Jakobwitz & Egan (2006) concludes that the Dark Triad seems to be a unitary construct and concludes that the results, can also be found in subclinical samples and not only in forensic or mentally disordered populations. The Dark Triad personality characterizes low scores on agreeableness and conscientiousness, and a high score on neuroticism. However, Paulhus & Williams (2002a) conclude that the Dark Triad of personalities is not equivalent in normal populations. They stated: "Even in non-forensic, non-pathological, high-achievement populations, they are distinctive enough to warrant separate measurement" (Paulhus & Williams, 2002a, p. 562).

In short, psychopathy, Machiavellianism and narcissism are put together in the Dark Triad but the correlation is just modest. Therefore each of the traits can be viewed as a different aspect of undesirable behavior (Baughman, Dearing, Giammarco & Vernon, 2012). As Jonason and Webster (2010) assume, "the Dark Triad as a whole can be thought of as a short-term, agentic, exploitive social strategy that may have evolved to enable exploitation when conspecifics are likely to avoid or punish defectors" (p. 420). The question arises whether the construct is too wide or too small because of the slight overlap of the constructs.

Direct and indirect aggression

Aggression can be separated in two subtypes: direct and indirect aggression. Direct aggression refers to open confrontational behaviors, which are used to directly harm the victim, such as violence (Griffin & Gross, 2004). Indirect aggression is characterized by non-confrontational behaviors to harm the victim or his or her relationships, such as attacking their

character. The offender is more difficult to be designated this way and the personal costs are lower (Capella & Weinstein, 2006; Archer & Coyne, 2005). Indirect aggression is related to increased levels of social skills (Kaukiainen et al., 1999), and these are argued to be a precondition of this type of aggression (Archer & Coyne, 2005). Furthermore, in the study of Prinstein & Cillessen (2003) it has been associated with increased levels of popularity and social dominance among adolescents.

Men tend to use more direct aggression, while women use more indirect aggression (Richardson & Green, 2006). Also the targets' gender to which the aggression is expressed, plays a big part in the amount or type of aggression that is expressed. The same goes for the relationship between the offender and target (Richardson & Green, 2006). Last, both types of aggression lead to indirect and direct bullying (Baughman et al., 2012).

In a number of studies there seems to be proof for various overlaps between the different traits of the Dark Triad and aggression. First, a high cognitive empathy is related to a high score on Machiavellianism (Sutton, Smith & Swettenham, 1999). It is attainable that when people predict and describe behaviors of others (cognitive empathy), they are also more able to manipulate others (Baughman et al., 2012). Children, who show indirect aggression, score higher on cognitive empathy (Renouf et al., 2010). Furthermore, Machiavellianism is positively related with adolescent bullying (Peeters, Cillessen, & Scholte, 2010). However, in Jonason & Paulhus (2009) it is seen that Machiavellianism is little related with outright aggression. Machiavellians are more likely to use behavior that avoids attention to the offender (Kerig & Sink, 2010). This fits within the description of indirect aggression. Machiavellian children use strategies like social exclusion and spreading rumors to bully other children. At the same time they stay socially successful with their peers (Sutton & Keogh, 2000). Last, Machiavellianism is also related to bullying under school-aged children and the individuals have a lack of sympathy towards their victims (Sutton & Keogh, 2000).

Machiavellians often use a sophisticated form of interpersonal aggression, using e.g. manipulation and deception, which seem more discrete and therefore avoid detection (Kerig & Stellwagen 2010; Salekin 2006).

In the study of Barry, Frick & Killian (2003) it was found that maladaptive narcissism is related to children's aggression and callous-unemotional traits. Narcissism possesses the characteristics to increase the risk of aggressive behavior. Furthermore, Washburn, McMahon, King, Reinecke, & Silver (2004) propose that narcissism directly conduces to aggression. It may be a defensive measure to a fragile self-esteem. It only occurs when someone's self-esteem is in danger and it is expressed as direct aggression (Bushman & Baumeister, 1998; Kerig & Stellwagen, 2010). However, Baughman et al. (2012) found that individuals with a high score on narcissism were more related to indirect bullying than in physical direct bullying. This way, narcissists can maintain their social status. Furthermore, Pailing, Boon & Egan (in press) found that narcissism didn't influence the prediction of violence in combination with psychopathy and Machiavellianism.

Psychopathy is strongly associated with increased aggression (Hemphill, Hare & Wong, 1998). Cornell et al. (1996) found that psychopaths use more proactive and goal-directed aggression. Kerig & Stellwagen (2012) identified three clusters of traits in psychopathy: impulsivity, callous-unemotional (CU) traits, and narcissism. Both impulsivity and CU traits are linked to aggression. CU traits are positively correlated with proactive and reactive aggression (Fanti, Frick, & Georgiou, 2009). Aggression in combination with psychopathy is ordinarily impulsive and physical (Jones & Paulhus, 2010). This suggests a direct approach. Furthermore, the study of Pailing, Boon & Egan (in press) concludes that psychopathy is the only trait of the Dark Triad that predicts violence. However, indirect aggression is also related with a low empathy (Kaukiainen et al., 1999), which could be related to psychopathy (Warren & Clabour, 2009). It has been argued that socially skilled

psychopaths are more likely to use indirect aggression over direct aggression, in a goal-directed way with low empathy, so the personal costs are reduced (Porter & Woodworth, 2006). Warren & Clabour (2009) found that psychopathy is related with indirect aggression in a noncriminal population. Smith & Lilienfeld (2013) found that the use of hard tactics (e.g. threats of appeal or punishment, manipulating others or a situation) in the workplace have a positive relationship with psychopathy, which are indirect forms of aggression. Direct aggression in the workplace is relatively uncommon.

Both psychopathy and narcissism have a positive relationship with aggression although they are not related to bullying (Stickle, Kirkpatrick, & Brush, 2009). The study of Jones & Paulhus (2010) concludes that the type of provocation predicts whether an individual responds aggressive. Psychopaths are more likely responding to physical provocation, while narcissists would respond more to provocations, which threaten their ego. Also, psychopaths would respond with more violence, which suggests a more direct style of aggression. The study concludes that narcissistic aggression and psychopathic aggression are independent.

Salekin (2006) stated that narcissism associated with psychopathy provides the motivation to harm other children, while Machiavellianism makes this possible without detection. Machiavellianism suppresses the use of physical, thus direct aggression (Kerig & Stellwagen, 2010). Frick & Hare (2001) use narcissism to measure psychopathy, next to impulsivity and callous-unemotional traits. Machiavellians are more calculated in their response compared to psychopaths, although they are as vicious (Williams, Nathanson & Paulhus, 2010). However, when their ego is exhausted they will respond like psychopaths (Paulhus & Jones, 2012). McHoskey, Worzel & Szyarto (1998) suggest that Machiavellianism is the successful form of psychopathy. However, Machiavellianism is also seen as non-psychopathic because the behavior is not always seen as maladaptive or disordered (Repacholi, Slaughter, Prichard & Gibb, 2003).

To summarize, all three angles of the Dark Triad seem to have some sort of relation with aggression. Machiavellians seem to score mainly higher on indirect aggression. Narcissism shows a relationship with both direct and indirect aggression, but the relationship with indirect aggression seems more likely. Psychopathy is related to both direct and indirect aggression. However, direct aggression seems to be more evident. The study of Baughman et al. (2012) concludes that the order of the traits of the Dark Triad, which are mostly related to bullying, is psychopathy, then Machiavellianism, and finally narcissism.

The first purpose of the present study is to investigate whether adolescents, who score high on the Dark Triad Personality construction, also score higher on both direct aggression and/or indirect aggression. It is hypothesized that individuals that score high on the Dark Triad, also score high on both direct and indirect aggression. Although, it is expected that individuals who score high on the Dark Triad, will score higher on indirect aggression than direct aggression.

Men tend to use more direct aggression, while girls tend to use more indirect aggression. So it is expected that gender strengthens the effect of the Dark Triad on direct (boys) and indirect aggression (girls). Furthermore, it is expected that girls and indirect aggression, score significant on the personality constructs that correspond with indirect aggression, which are narcissism and Machiavellianism. For boys and direct aggression, it is expected that psychopathy is significant. Since men are often seen as more aggressive in a violent way.

Lastly, a closer look is taken at the individual constructs that make up the Dark Triad and are measured with the Dirty Dozen Questionnaire. The Dirty Dozen Questionnaire measures three separate constructs of the Dark Triad and gives a score by summing the separate scores and divide these by three (Jonason & Webster, 2010). The assumption is made that the Dark Triad is a unitary construct. However, i.e. it is possible that someone with a high

score on narcissism and psychopathy and a low score on Machiavellianism can still have an above average score on the Dark Triad. It is expected that the relationship between the constructs of the Dark Triad in the Dirty Dozen is modest. Therefore, the separate constructs of the Dark Triad are measured as well. It is expected that differences will occur between the constructs: Machiavellianism is assumed to have a relationship with indirect, but not with direct aggression. Furthermore, for psychopathy a relationship is expected with both direct and indirect aggression. Lastly, for narcissism it is expected to observe a relationship with both direct and indirect aggression. Although, the relationship with indirect aggression may be most likely

Scholte, Engels, Hasselager & Kemp (2004) found that only half the children which were bullies in elementary school, were still bullying in secondary school. Furthermore, Scholte et al., (2004) conclude that these childhood offenders develop into fairly normal functioning adolescents. Bullying behavior, which is found in childhood, doesn't always seem to be consistent when the children grow older. Therefore, I assume that adolescents are a more reliable group to study these behaviors than elementary school children.

Method

Participants

Data were collected from a sample of 307 early adolescents aged 12-14 years old (47.9% girls; $M_{age} = 12.79$, $SD = 0.78$). The procedures and measures used in the present study were part of a larger study on Personality, Adjustment, Cognition, and Emotions (SPACE) and was conducted in December 2012 on two high schools in the Netherlands. It consisted out of Big Five and Dark Triad data information on self-reported self-esteem, and social and performance anxiety and self-, teacher- and peer-reported information on aggression were also available.

Procedure

Permission was first granted from the school principals to administer questionnaires during class time. Furthermore, the parents were fully informed with a detailed letter describing the content and goals of the study. They were given the opportunity to object to the participation of their children. After receiving parental permission, the students were informed about the study and asked if they wished to participate. All students, which were invited, participated. Psychology master students visited the schools and asked adolescents to fill out the questionnaire packet.

Measures

Dark Triad of Personality. The traits of the Dark Triad personality were measured using a Dutch version of the Dirty Dozen (Jonason & Webster, 2010). The traits are self-reported by adolescents, measuring narcissism (e.g., ‘I tend to seek prestige or status’), Machiavellianism (e.g., ‘I tend to manipulate others to get my way’) and Psychopathy (e.g., ‘I tend to lack remorse’) with 4 items each, rated on a 9-point scale ranging from 1 (‘strongly disagree’) to 9 (‘strongly agree’). To compute the Dark Triad scores, the sum of the answers was divided by the amount of questions (12 in total), so the average was taken. The separate construct scores were computed the same, dividing the sum of the scores of one construct by four. Missing values were excluded from the study when two or more questions of a construct were missing.

The internal consistency for the Dirty Dozen questionnaire was measured using a Reliability Analysis in order to determine the Cronbach’s alphas (α). The α was measured for all questions together, all constructs separated, and between the means of the constructs. It was found that all the α s were above .70 (see Table 1). Generally, scores above .70 can be seen as reliable. No items in the questionnaire needed to be deleted to increase α .

Furthermore, all the constructs were tested for multicollinearity using the collinearity diagnostics, so that the correlation between the constructs of the Dark Triad in the Dirty Dozen Questionnaire could be analyzed. Thus, it is checked whether the questions of the different construct are distinguishing enough. Table 2 shows all the VIF (variance inflation factor) scores between the different personality constructs. All the VIF scores are well below 5, which assumes there is no multicollinearity (Menard, 1995). The individual constructs are not highly correlated so they cannot linear predict each other.

Self-Reported Aggression. Self-reported aggression was measured with the Direct and Indirect Aggression Scale (Björkqvist, Lagerspetz, & Kaukiainen, 1992). In the study, participants were asked on a 4-point Likert scale (1= never; 4= very often) to indicate how likely it was to engage in the described situations. Two subscales of this questionnaire were used: Direct aggression (5 items; e.g. ‘When I’m mad at a classmate I will kick or strike him/her’) and indirect aggression (12 items; ‘When I’m mad at a classmate, I will spread vicious rumors as revenge’). To compute the scores for both direct and indirect aggression, the sum of the answers was divided by the total amount of questions for each of the constructs. Missing values were excluded from the study when two or more questions of a construct were missing. Cronbach’s alphas for the direct and indirect aggression subscales were .87 and .83, respectively. Both reliability and construct validity have been shown to be strong in adolescent samples (e.g., Hale, Vandervalk, Akse, & Meeus, 2008).

Two participants were excluded from the study. Scores from these participants on the Dirty Dozen were not reliable because they weren’t integers from 1 to 9. Probably these were entered incorrectly into the data set and therefore they were not included in the study

Results

Gender differences. First of all, the mean score of the Dirty Dozen were calculated for the participants ($N = 305$, $M = 3.08$, $SD = 1.28$). The difference between genders was

measured using an independent-samples t-test. Scores were higher for boys ($N = 147$, $M = 3.29$, $SD = 1.32$) than for girls ($N = 158$, $M = 2.86$, $SD = 1.20$), $t(303) = 2.97$, $p = .003$, $d = .34$). Levene's test indicated equal variances ($F = 2.59$, $p = .108$).

The same goes for the test scores on the direct and indirect aggression scale, where independent-samples t-tests were used. Direct aggression scores were higher for boys ($M = 1.86$, $SD = 0.67$) than for girls ($M = 1.54$, $SD = 0.62$), $t(303) = 4.36$, $p < .001$, $d = .50$). Levene's test indicated unequal variances ($F = 4.60$, $p = .033$), although the degrees of freedom stayed the same. Furthermore, indirect aggression scores for boys ($M = 1.57$, $SD = 0.45$) were higher than for girls ($M = 1.40$, $SD = 0.34$), $t(303) = 3.78$, $p < .001$, $d = .44$). Levene's test indicated unequal variances ($F = 7.70$, $p = .006$), so degrees of freedom were adjusted from 303 to 289. Moreover, a multiple regression was used to assess whether Dark Triad personality predicts aggression. Gender was added as a possible moderator in the relationship between the Dark Triad and aggression. It was found that there is no interaction effect for gender on the relation between the Dark Triad and both direct ($b = -.128$, $p = .409$) and indirect aggression ($b = .078$, $p = .594$). Thus, gender does not strengthen the effect from the Dark Triad on both types of aggression.

Correlations between the constructs were measured and were low to moderate. Machiavellianism correlated .573 and .631 with psychopathy and narcissism, respectively. Narcissism and psychopathy showed a correlation of .407.

The Dark Triad. Both the Dark Triad as a unitary construct, and the separate constructs of the Dark Triad, were used to determine their relationship with both direct and indirect aggression using linear and multiple regressions. Furthermore, the group was also divided based on gender to assess them separately. The results are shown in table 3.

The hypothesis that a high score on the Dark Triad leads to more direct and to more indirect aggression is confirmed ($b = .435$, $p < .001$ and $b = .532$, $p < .001$, respectively). This

is the case for boys for both direct ($b = .377, p < .001$) and indirect aggression ($b = .500, p < .001$), and for girls for both direct ($b = .458, p < .001$) and indirect aggression ($b = .547, p < .001$). However, there seems to be a difference in which constructs of the Dark Triad are responsible for this significant effect. When divided into three separate constructs, only psychopathy ($b = .334, p < .001$) and narcissism ($b = .179, p = .016$) seem to be related to direct aggression, whereas narcissism ($b = .179, p < .001$) and Machiavellianism ($b = .200, p = .002$) are related to indirect aggression. There also seem to be gender differences. For girls, narcissism ($b = .045, p = .623$) doesn't show a significant relationship with direct aggression, while for boys such a significant relationship ($b = .245, p = .022$) does exist. For boys, only narcissism ($b = .432, p < .001$) seems to play a role in indirect aggression and not Machiavellianism like in the all gender group ($b = .200, p = .002$) and for girls ($b = .232, p = .024$).

Discussion

First, the present study supports the hypothesis that both direct and indirect aggression are positively correlated with the Dark Triad. The higher the score on the Dark Triad, the higher this person scores on both direct and indirect aggression. Thereby, the first hypothesis is confirmed. In the analysis with the separate personality constructs it was expected that Machiavellianism would be mostly strongly related with indirect aggression. A significant result was indeed found for indirect aggression, but not for direct aggression. This is in line with the literature, which shows no proof for a relationship between direct aggression and the Dark Triad but does show proof for a relationship between indirect aggression and the Dark Triad. However, there seems to be a gender difference: For girls Machiavellianism is significant related to indirect aggression. For boys, Machiavellianism is not significant related to indirect aggression. Furthermore, it was expected that narcissism would have a significant relationship with both direct and indirect aggression, although the relationship was expected

to be more evident between narcissism and indirect aggression. It was found that narcissism is significantly related to both direct and indirect aggression. However, for girls, narcissism only seems to affect indirect aggression. For boys, narcissism does seem to have a relationship with both direct and indirect aggression. Finally, according to the current literature, psychopathy is expected to be related with both direct and indirect aggression, although it is expected to be more evident in direct aggression. Psychopathy was significantly related with direct aggression and not with indirect aggression. In both boys and girls there wasn't a significant relationship between psychopathy and indirect aggression. At last, besides the differences for gender, which were found for the different constructs, there didn't seem to be an effect for gender on the relationship between the Dark Triad and both direct and indirect aggression.

Previous research did observe a significant relationship between psychopathy and indirect aggression. I.e. Warren & Clabour (2009) found that psychopathy is related with indirect aggression in a noncriminal population. Furthermore, Porter & Warren (2006) argued that socially skilled psychopaths use indirect aggression over direct aggression. Could the socially skilled psychopaths be seen as the Machiavellians which McHoskey et al. (1998) were describing, dividing psychopaths into a group of successful psychopaths (which were Machiavellians), and a group that is not? However, only psychopathy predicted antisocial behavior, not Machiavellianism or narcissism (Paulhus & Williams, 2002b; Williams & Paulhus, 2002). Perhaps Machiavellians differ on multiple areas? As previously seen, only psychopaths score low on neuroticism (Paulhus & Williams, 2002a). Furthermore, i.e. Machiavellians differ in relationship styles compared to psychopaths (Jonason, Luévano, & Adams, 2012). Moreover, Machiavellianism is also seen as non-psychopathic because the behavior is not always seen as maladaptive or disordered (Repacholi et al., 2003). In short, it is too easy to say that Machiavellians are successful psychopaths. Furthermore, Smith &

Lilienfeld (2013) argued that direct aggression in the workplace is relatively uncommon and therefore the relationship with indirect aggression should be examined, suggesting psychopathy is related to both types of aggression. In our study, only adolescents were examined and also the environment differs from the study of Smith & Lilienfeld (2013). It is possible that this is the reason why indirect aggression simply did not occur. Future research could focus on different groups in different environments.

Based on previous studies it was expected that the different personality constructs would show differences between genders. Furthermore it was also assumed that men would use more direct aggression, and women more indirect aggression (Richardson & Green, 2006). Moreover, the study of Jonason et al. (2013) showed that the separate constructs of the Dark Triad could be independently influenced by gender. In this study it was proven that the Dark Triad has a relationship with low empathy. However, for women this was related to narcissism and for men this was related to psychopathy. This shows there is just no simple relationship between gender and the Dark Triad but the relationships shows up in different forms. Therefore it was assumed that in this study, these differences would show up in the results. Machiavellianism shows a relationship with indirect aggression for girls only and not for boys. It could be assumed that there is a gender difference for Machiavellianism. Boys, who score high on Machiavellianism, show no relationship with both direct and indirect aggression. The literature however, assumes a clear relationship between indirect aggression and Machiavellianism.

Kerig & Stellwagen (2010) found that boys scored highest on psychopathy and on aggression, with exception on indirect aggression. Furthermore, they found that Machiavellianism acts as a mediator between narcissism and indirect aggression. So narcissism could explain why the group of boys shows indirect aggression, and not Machiavellianism. In this case, Machiavellianism would only strengthen this relationship. As

previously mentioned, Richardson & Green (2006) found that men tend to use more direct aggression. It could be hypothesized, that indirect aggression shown by men is caused by other factors than Machiavellianism alone. Moreover, the relationship could be more complicated. For example, Richardson & Green (2006) appointed that the targets' gender and the relationship between the target and the offender could influence the type of aggression being used. Future research could delve into these and other factors that could also influence the demonstrated gender differences.

To explain the gender difference between narcissism and direct aggression a closer look has been taken to narcissism. Narcissism can be split into grandiose narcissism and vulnerable narcissism (Gabbard, 1989). Grandiose narcissism, otherwise known as overt narcissism and oblivious narcissism, can be identified by arrogance, self-absorption, a sense of entitlement, and reactivity to criticism (Dickenson & Pincus, 2003). Vulnerable narcissism, otherwise known as covert narcissism or hypersensitive narcissism, can be identified by a lack of self-confidence, being hypersensitive by others' opinions, and vague feelings of depression (Dickenson & Pincus, 2003). The study of Okada (2010) concluded that grandiose narcissism predicts higher levels of physical aggression, verbal aggression and anger. Lannin, Guyll, Krizan, Madon & Cornish (2014) found that women score less on grandiose aggression. This could explain why it is less common for narcissistic women to use direct forms of aggression. Therefore, it is possible that the results of this study show no significant relationship between narcissism and direct aggression for women. Moreover, the relationship could be more complicated. For example, Richardson & Green (2006) appointed that the targets' gender and the relationship between the target and the offender could influence the type of aggression being used. More research in the future could focus on the subdivisions of narcissism to sort out whether these kinds of assumptions can be made.

Second, the Dirty Dozen Questionnaire was looked into to determine whether the Dark Triad could be seen as a unitary construct. The internal consistency of the questionnaire seems reliable. Also between the different constructs of the Dark Triad the internal consistency is high, assuming that the questions all measure the same construct. The multicollinearity analysis, which was executed between the constructs, shows that there is a low correlation between the constructs. Therefore, the constructs cannot linear predict each other. So i.e. a high score on psychopathy does not predict the score of Machiavellianism. Moreover, the correlations between the Dark Triad constructs, which were low to moderate, suggest that the relationships between the constructs are to the utmost modest.

The study of Jonason & Webster (2010) also showed a Cronbach's alpha of .83. This is proof for the assumption that the Dark Triad is a unitary construct. However, Nunally (1978) and Schmitt (1996) predict that the internal consistency of the separate constructs should be lower because the measure only consists out of four items. The α of the whole questionnaire ($\alpha=.869$) is indeed higher than the separate parts. This can be explained because coefficient α is a function, in part, of the number of items in a scale. Furthermore, the study of Jonason & Webster (2010) shows that the Dirty Dozen Questionnaire is a reliable procedure to measure the three constructs of the Dark Triad. This assumes that the use of separate measures for the personality constructs or the use of other Dark Triad questionnaires wouldn't make a difference in reliability. The study showed that the use of only four questions per construct was sufficient to guarantee the reliability. Besides, the use of more separate measures would complicate the process to measure the Dark Triad, because each of the scores of the measures should be standardized (Jonason, Li, Webster, & Schmitt, 2009). Moreover, the larger amount of questions would make this method inefficient and time-consuming, leading to fatigue, frustration etc. (Saucier, 1994), which can influence the outcomes negatively (Jonason & Webster, 2010). For the existing aggression measures however, this

shouldn't be a problem, since these do not consist out of different constructs. Nonetheless, different measuring methods could be used, with i.e. peer reports like the 'Children's Social Behavior Checklist-Teacher Form (CSBC-T)' in which teachers assess the students (Crick, 1996). At last, Baughman et al. (2012) already concluded that the correlation between the Dark Triad constructs is just modest, although there are also a lot of similarities (e.g. Lee & Ashton, 2005; Paulhus & Williams, 2002b; Williams & Paulhus, 2002). The current study shows that we cannot always draw conclusions when taking the Dark Triad as a single construct. However, we can use the Dark Triad as a classification tool for the different personality constructs which share the communality of showing undesirable behavior (Baughman, Dearing, Giammarco & Vernon, 2012). In the future, other personality constructs like sadism could be added to the Dark Triad, making it a *Dark Tetrad* (Chabrol, Leeuwen, Rodgers, & Sejourne, 2009; Paulhus & Buckels, 2011). The Dark Triad or Tetrad, then, could be seen as taxonomy of dark characters (Furnham, Richards, & Paulhus, 2013).

For this study a group of adolescents was tested. Scholte et al. (2004) showed that adolescents are a reliable group to study, more reliable than a group of children in elementary school. Only half the children, who were bullies in elementary school, were still bullying in secondary school. It doesn't always seem to be consistent when the children grow older. Furthermore, the sample that is used was a normative sample, there were not much adolescents with a high score on the Dark Triad or one or more of its personality constructs. Frick and Hare (2001) suggested that some of effect of psychopathy would only occur at individuals with the highest scores of psychopathy. Future research could focus on i.e. an adult subjects group, a more mixed age group or another adolescent group to investigate whether the results will maintain. Moreover, it is important that a larger and more diverse sample containing more individuals with high scores is examined. Only then it can be truly

determined whether the both forms of aggression and the Dark Triad with its personality constructs are significantly related.

With the findings of the current study, additional research could lead to better insights, predicting the aggressive behavior of individuals with a high score on the Dark Triad or its individual constructs. These individuals could participate, for example, in aggression control training or anger management training to reduce the risk of aggressive behavior. This study is a step into the right direction to realize this. Although it doesn't seem to be a good idea to put the different personality constructs of the Dark Triad in one overlapping construct, it cannot be denied that all these separate constructs are in a way related to aggression.

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Table 1

Cronbach's Alphas (α) of the Dirty Dozen

	All questions	Machiavellianism (M)	Psychopathy (P)	Narcissism (N)	Between M- N-P
α	.869	.74	.735	.840	.764

Table 2

Multicollinearity between the Dark Triad Constructs in the Dirty Dozen (VIF scores)

<i>Independent variable</i>	<i>Dependent variable</i>		
	Narcissism	Psychopathy	Machiavellianism
Narcissism	-	1.649	1.179
Psychopathy	1.488	-	1.179
Machiavellianism	1.488	1.649	-

Table 3

Linear Regression for Dark Triad Personality Traits and Direct and Indirect Aggression

		Direct Aggression			Indirect Aggression		
		<i>B</i>	<i>SE B</i>	<i>b</i>	<i>B</i>	<i>SE B</i>	<i>b</i>
Dark Triad	All	.226	.027	.435***	.170	.016	.532***
	Boys	.191	.038	.377***	.171	.024	.500***
	Girls	.236	.038	.458***	.153	.020	.547***
Machiavellianism	All	.009	.024	.025	.045	.014	.200**
	Boys	-.004	.035	-.010	.028	.022	.111
	Girls	.038	.050	.071	.061	.027	.232*
Psychopathy	All	.149	.028	.334***	.019	.016	.070
	Boys	.094	.038	.220*	.012	.024	.040
	Girls	.215	.038	.475***	.025	.021	.100
Narcissism	All	.089	.037	.179*	.108	.022	.355***
	Boys	.119	.051	.245*	.142	.032	.432***
	Girls	.016	.032	.045	.062	.017	.322***

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