

Relative bargaining power as a common calibrator of the Dark Triad traits

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Abstract

There is a lack of validated theories to explain trait covariation. Lukaszewski proposed a model where trait covariation within an interpersonal syndrome could be explained by Relative Bargaining Power (RBP) – “a joint function of one’s ability to benefit others and harm others”. The present study aims to find out if the aforementioned model can also explain the covariation within the Dark Triad (Machiavellianism, narcissism and psychopathy) personality traits. Specifically, it was theorized that the individual trait covariation within the Dark Triad personality traits can be explained by individual differences in RBP. Several questionnaires were used: Social Comparison Scale, Narcissistic Admiration and Rivalry Questionnaire, Short Dark Triad measure and PMT-K-2. 152 adolescents from the school of higher general secondary education (in Dutch: havo) participated. This study did not find significant support for RBP as a common calibrator of the Dark Triad traits, however it does advance research on RBP as a possible explanation for trait covariation. This study reveals an association between the Dark Triad traits and RBP among adolescents. The association between the Dark Triad traits and RBP should be studied more extensively.

Relative bargaining power as a common calibrator of the Dark Triad traits

Why are physically strong individuals more aggressive (Archer & Thanzami, 2007; Sell, Tooby, & Cosmides, 2009)? Why are extraverted individuals highly sociable (Anderson, John, Keltner, & Kring, 2001; Campbell, Simpson, Stewart, & Manning, 2003)? Trait covariation within individuals is a big part of the foundation for most research about personality, but there is still a lack of validated theories which explain why there is trait covariation (John, Naumann, & Soto, 2008; Lukaszewski, 2013; Miller, 2011; Nettle, 2011). Trait covariation means that changes in some traits are accompanied by changes in other traits (Adams & Felice, 2014). Lukaszewski's (2013) has tried to fill the void of validated theories by introducing a theory to explain trait covariation. He tried to explain trait covariation within a particular 'interpersonal syndrome'. This 'interpersonal syndrome' was composed of various traits that have been found to correlate in previous studies (extraversion, approach motivation, emotionality, fear of rejection, avoidance motivation, interpersonal trust and attachment styles). He tried to explain this by theorizing that the traits within this 'interpersonal syndrome' are inter-correlated because each is facultatively calibrated (i.e. trait levels are conditionally adjusted in response to cues available over development) in response to the Relative Bargaining Power (RBP) Index.

RBP entails having the ability to confer benefits on others and the ability to inflict costs on others (Sell et al., 2009). According to Lukaszewski (2013) researchers have proposed that indicators for RBP are physical attractiveness and physical formidability. These are indicators of RBP because they predict the ability to benefit or harm others. People with a higher RBP are at a competitive advantage when it comes to attracting associates, maintaining existing relationships and achieving social status (Lukaszewski, 2013). According to Lukaszewski (2013) the traits from the 'interpersonal syndrome' are more adaptive for individuals with high RBP. For instance, highly extraverted behaviour can lead to large

potential benefits (e.g. social status and mating success), but also to large potential costs (e.g. exposure to social conflicts) (Anderson et al., 2001; Ashton & Lee, 2007; Campbell et al., 2003; Nettle, 2005). However, a high-RBP individual can expect that others will prefer to associate with him or her over others, and confer status upon him or her (Lukaszewski, 2013). Therefore, an individual with high RBP is more likely to acquire the benefits, and less likely to experience the costs of highly extraverted behaviour. This was the case for each of the traits from the ‘interpersonal syndrome’.

There was significant support found for Lukaszewski’s proposed model. Self-perceived RBP had radiating calibrational influences on the traits within the interpersonal syndrome, which mediated effects of RBP-enhancing features (e.g. physical attractiveness, physical formidability) on each of the interpersonal traits. Also, controlling for self-perceived RBP eliminated the great majority of covariation within the interpersonal syndrome, which means that the association between any given pair of traits was mediated through self-perceived RBP (Lukaszewski, 2013). These results support the core premise of the proposed model. Thus, trait covariation within that interpersonal syndrome can be explained by RBP.

Dark Triad: Costs and Benefits

The present study aims to find out if the aforementioned model can also explain the covariation within the Dark Triad personality traits. Narcissism, psychopathy and Machiavellianism are the three Dark Triad personality traits. Narcissists have a tendency to have grandiose self-views (Twenge & Campbell, 2003), psychopaths tend to be impulsive and have little empathy (Paulhus & Williams, 2002) and individuals with Machiavellianism have a tendency to exploit others for their own advantage (Wilson, Near & Miller, 1996). In the last decade, narcissism, psychopathy and Machiavellianism have been studied a lot in relation to adults. However in relation to adolescents not much is known about the effect of the Dark Triad personality traits (Klimstra, Sijtsema, Henrichs, & Cima, 2014).

The three traits are mostly seen as undesirable and have significant overlap, which is why they are termed the Dark Triad (Paulhus & Williams, 2002). The Dark Triad traits share a number of features. All three entail social malevolence, emotional coldness, aggressiveness, disagreeableness, disinhibition, self-centeredness and duplicity (Furnham et al., 2013; Jones & Paulhus, 2011; Lau & Marsee, 2013; Paulhus & Williams, 2002). A common underlying element could be a possible explanation for the significant overlap between the Dark Triad traits (Paulhus & William, 2002). For instance, in earlier research, callousness (Jones & Paulhus, 2011), agreeableness (Jakobwitz & Egan, 2006) and social exploitativeness (Jonason, Li, Webster, & Schmitt, 2009) were researched as the possible common element. This study tries to explain the common variance between the Dark Triad traits with RBP.

As mentioned above, the Dark Triad traits have traditionally been considered as undesirable traits (Jonason, Li, & Buss, 2010). Psychopaths show an increased risk for both instrumental (i.e. premeditated aggressive action in order to achieve a specific goal) and reactive aggression (Cornell et al., 1996). The potential costs of this aggressive behaviour can be a lack of harmonious interpersonal relationships, punishment, physical risks and a reduced life expectancy (Glenn, Kurzban, & Raine, 2011). The costs of narcissistic behaviour is more evident in the long-term (Campbell & Campbell, 2009). Narcissists are more likely, in the long-term, to make overconfident decisions, have difficulty learning from feedback (Campbell, Goodie, & Foster, 2004), have higher likelihood to serve time in prison (Bushman & Baumeister, 2002), have reduced likeability (Paulhus, 1998) and have romantic relationship troubles (Jonason et al., 2010; Jonason et al., 2009). Individuals with Machiavellianism have deficits in empathy and perspective taking (Lyons & Aitken, 2010), which negatively impact the ability to form close, conflict-free friendships (Lyons, Caldwell, & Shultz, 2010; Berry, Willingham, & Thayer, 2000). They are, of the three Dark Triad traits, the most cynical

toward other people (Rauthmann, 2012) and, along with psychopathy, have the ‘darkest’ personalities (Rauthmann & Kolar, 2012).

Even though the strategies associated with these traits are viewed as socially undesirable, recent research has suggested that not only may the traits be advantageous for attaining goals (Hogan & Hogan, 2001; Rauthmann & Kolar, 2012) but they may also serve important adaptive functions, especially for mating purposes (Jonason et al., 2010).

Psychopaths seem to have some desirable traits. They are, for example, seen as charming, likeable and intelligent (Ray & Ray, 1982). According to Glenn et al. (2011) the lack of guilt a psychopath feels can make it easier for him or her to obtain resources from others, because guilt has been shown to cause people to choose altruistic actions that lead to worse financial outcomes for themselves. Psychopaths may also be able to gain status, social alliances, and resources with little investment of their own resources by conning their way to the top of a company (Glenn et al., 2011).

Narcissists tend to be socially daring, have higher self-esteem (Emmons, 1984), are highly extraverted (Bradlee & Emmons, 1992), less depressed, and have less social anxiety (Watson & Biderman, 1993). Machiavellian adolescents were seen as socially skilled, liked by their peers, and were well adjusted (Hawley, 2003). Machiavellianism’s behavioural strategies are also related to career success (Book, Visser, & Volk, 2015). A person who scores high on Machiavellianism has a higher chance of being chosen and identified as a leader, is seen as more persuasive, appears to direct the tone and content of interactions and outcomes and is preferred as romantic partner (Wilson, Near, & Miller, 1998). Thus, high levels of Dark Triad traits often help individuals acquire a leadership position (Furnham, Richards, & Paulhus, 2013).

Narcissists, Machiavellian individuals and psychopaths all make a good impression at first, which may increase short-term mating successes, but they might not be well suited for

or interested in an long-term relationship (Brewer & Abell, 2015; Glenn et al., 2011; Holtzman & Strube, 2010; Jonason et al., 2010; Jonason et al., 2009; Lyons & Aitken, 2010). Jonason et al. (2009) found that those who score high on the Dark Triad traits form advantageous environments for short-term mating by having a generally lower set of standards in their mates. This is to guarantee abundant supply of potential short-term mates. The superficially charming nature of the Dark Triad individuals might be an evolutionary adaptive short-term mating strategy aimed to fertilise females early on before any relationship disintegrates (Lyons & Aitken, 2010).

For which individuals are high levels on Dark Triad traits most and least adaptive?

The Dark Triad can not only lead to large potential benefits (e.g. short-term mating success, social status and career success) but also to large potential costs (e.g. lack of harmonious interpersonal relationships, reduced likeability, physical risks and reduced life expectancy) (Book et al., 2015; Brewer & Abell, 2015; Glenn et al., 2011; Holtzman & Strube, 2010; Jonason et al., 2010; Jonason et al., 2009; Lyons & Aitken, 2010; Paulhus, 1998). However, personal characteristics are often facultatively calibrated in response to cues that can predict the cost-benefit ratios of different trait levels (Lukaszewski, 2013). So, for which individuals are high levels on Dark Triad traits most and least adaptive? In other words, for which individuals do the benefits of high Dark Triad trait levels outweigh the costs? The core argument advanced in the present study is that the adaptive value of the Dark Triad traits can be dependent on RBP. For example, according to Holtzman and Strube (2010) Dark Triad individuals tend to pursue short-term mating strategies and physical attractiveness play an important role in the success of these strategies. It has been shown that physical attractiveness is more desirable in short-term mating contexts than in long-term mating contexts (Holtzman & Strube, 2010). So if short-term mating contexts are favourable for Dark Triad traits, and if short-term mating contexts are favourable to attractive people, then this should lead to a

positive Dark triad trait-attractiveness correlation (Holtzman & Strube, 2010). And therefore it could also lead to a positive RBP-Dark triad trait correlation. The short-term mating strategy is more advantageous for men with Dark Triad traits than for women with Dark Triad traits (Jonason, Valentine, Li, & Harbeson, 2011). Therefore, physical attractiveness might be less important for female Dark Triad individuals.

It was mentioned above that the adaptive value of the Dark Triad traits can be dependent on RBP. Another example of this is that the Dark Triad behaviour will often expose one to conflicts with others (Cornell et al., 1996; Glenn, Kurzban et al., 2011 Paulhus & Williams, 2002; Wilson, Near et al., 1996), and these conflicts often involve physical force (Lukaszewski & Roney, 2011). Physical strength is a major component of a person's ability to inflict costs on others. Hence, an individual's formidability index should be higher when they have greater strength (Sell et al., 2009). For an individual high on formidability it would be beneficial to display Dark Triad behaviour, because they would obtain the benefits (e.g. obtaining resources/status) and are less likely to suffer the costs (e.g. social of physical conflict) (Lukaszewski, 2013). As such, this study expects to see an association between the Dark Triad traits and formidability and therefore also an association between the Dark Triad traits and RBP. High formidability is probably more advantageous for men with Dark Triad traits than for women. Men have evolved to have significantly more upper-body muscle mass and greater upper-body physical strength than women (Lukaszewski & Roney, 2011; Sell et al., 2009). Therefore, men are better equipped to defend themselves in conflict. Overall, the Dark Triad approach to life is more adaptive for men than for women. Men have lower costs and greater benefits for living such a life (Jonason, Valentine, Li, & Harbeson, 2011; Jonason, Webster, Schmitt, Li & Crysel, 2012). Because Dark Triad behaviour is more adaptive for men, this study expects that the association between RBP and the Dark Triad traits is stronger for men than for women.

Present Study

What this study hypothesises is that the individual trait covariation in the Dark Triad personality traits can be explained by individual differences in RBP. This study helps to understand the underlying causes of the Dark Triad trait behaviours and this is important because the three Dark Triad traits are correlated with significant social, emotional and legal harm (Furnham et al., 2013), some of which is mentioned above. This study makes the following specific predictions:

- *Prediction 1:* Machiavellianism, narcissism and psychopathy are positively inter-correlated.
- *Prediction 2:* Self-perceived RBP is positively associated with Machiavellianism, Narcissism and with psychopathy.
- *Prediction 3:* The association between RBP and the Dark Triad traits is stronger for boys than for girls.
- *Prediction 4:* To the extent that the covariation among the Dark Triad traits is in fact due to common calibrational influences of the RBP, controlling for self-perceived RBP will reduce the observed patterns of multi-trait covariation.

Method

Participants

For this study 152 adolescents from grade 4 and grade 5 of secondary school of the Sondervick College were included. 63.8% of the participants were male and they were born between 1997 and 2000 ($M = 1998.93$). These students are from the school of higher general secondary education (in Dutch: havo). Because the questionnaire is in Dutch, students with Dutch as a second language were excluded from the study.

Measures

For this study several questionnaires were used, these were inserted into Questionnaire. To collect information about self-perceived RBP, an adapted version of the Social Comparison Scale (Allan & Gilbert, 1995) was used. The Social Comparison Scale measures formidability and attractiveness and these two RBP indicators were combined into a self-perceived RBP index. The adapted Social Comparison Scale consists of six items ($\alpha = .28$) which need to be answered by putting a mark on a ten point scale. Each item begins with the sentence 'In relationship to others I generally feel...' and is combined with a bipolar construct, for example 'likeable – less likeable'. The adapted version includes one item from the Rank subscale (weaker-stronger) and one item from the Social Attractiveness subscale (unattractive-more attractive). To measure formidability and attractiveness more accurately the items 'less beautiful-more beautiful', 'less handsome-more handsome', 'harmless when I'm mad-dangerous when I'm mad' and 'bad fighter-good fighter' have been added. The Social Comparison scale is purely evaluative and does not make any reference to one's characteristic social response. And so the items do not measure personality, but instead indexes one's overall RBP (Lukaszewski, 2013).

At Tilburg University the Narcissistic Admiration and Rivalry Questionnaire (NARQ) (Back et al., 2013) is the standard questionnaire for measuring narcissism. The NARQ is intended to measure the two narcissistic dimensions: admiration and rivalry. In the current study the Dutch short version of the NARQ was used. The short version consists of the single items with the strongest factor loadings on each facet (Back et al., 2013). It consists of 6 items ($\alpha = .81$) which need to be answered on a 6-point likert-type scale. Example items include 'I deserve to be seen as a great personality'; 'I want my rivals to fail' and 'Most people are somehow losers'.

The Short Dark Triad measure (Jones & Paulhus, 2014) was used to collect information about Machiavellianism and psychopathy. The questions that measure narcissism were excluded. The Short Dark Triad has been compared to the only other short measure of all three dark triad traits, the Dirty Dozen (Jonason & Webster, 2010). And in this study they concluded that the Short Dark Triad adequately captures the nuances of each construct and the Dirty Dozen only captures limited elements (Lee et al., 2013). The Short Dark Triad measures the classic conceptions of the Dark Triad traits and meets acceptable psychometric standards (Jones & Paulhus, 2014). It consists of 18 items, 9 for each trait, and the response format is 1 (strongly disagree) to 5 (strongly agree). The internal consistency for the Machiavellianism items ($\alpha = .78$) and the psychopathy items ($\alpha = .58$) were measured. Example items for Machiavellianism include ‘I like to use clever manipulation to get my way’ and ‘It is wise to keep track of information that you can use against people later’. Example items for psychopathy include: ‘I like to get revenge on authorities’ and ‘I enjoy having sex with people I hardly know’. The items were translated from English to Dutch, and back translated to English by a second translator. The Dutch version was used in this study.

To have an indication to which extent the participants responses were influenced by self-representation biases, the ‘Prestatie Motivatie Test voor Kinderen’ (PMT-K-2) (Hermans, 2011) was used to measure social desirability. The PMT-K-2 is a Dutch questionnaire intended to measure achievement motivation, performance anxiety and social desirability. For the current study only the social desirability subscale was used. It consists of 23 multiple-choice items ($\alpha = .72$). Example items include: ‘when I am mad I (a) show it (b) don’t show it’ and ‘when I make a mistake I (a) always admit it (b) never admit it’.

Procedure

The study was conducted at Sondervick College, a secondary school in Veldhoven, the Netherlands. The principal was contacted for permission to conduct the research. The general

idea of the study was explained. With permission of the school, the parents (passive consent), and the participants (active consent before participation), the children filled out online questionnaires, these were sent to their email address and could be filled out at home, during mentor hour or during study hour. As an incentive, seven gift cards and five movie tickets were randomly allotted to participants who filled out the complete questionnaire. This study is part of a larger research project, studying various aspects of the effect of RBP on certain personality traits. The students had to fill out multiple questionnaires which will be used for the overall research project. Research data from all the students can be used in the statistical analysis of each study. For this study they had to fill out the Social Comparison scale, the Short Dark Triad questionnaire and the Social Desirability scale. To ensure the privacy and anonymity of the participants, the data of the children will not contain any name, but will be coded with a number combination.

Statistical analysis

Statistical analyses were performed using SPSS 20.0. To test the first and second hypothesis we analysed the inter-correlation between RBP, Machiavellianism, Narcissism and psychopathy, a zero-order correlation is used amongst all measured variables. To test the first hypothesis, if the Dark Triad traits are inter-correlated, the correlations between the three traits were analysed. To answer the second prediction, if RBP is positively correlated with the Dark Triad traits, the correlations between RBP and the three traits were analysed.

Next, three multiple regression with interaction effect were performed to analyse if the effect from RBP on the dark triad traits changes when it interacts with gender. The Dark triad traits are the dependent variable. In the first block, RBP and gender are the independent variables. In the second block the interaction effect of RBP and gender was tested. RBP and gender were computed into a new variable. This was added as an independent variable in

block 2. Lastly, to find out if the observed patterns of multi-trait covariation are reduced when controlling for self-perceived RBP, a partial correlation was performed.

Results

In Table 1 descriptive statistics can be found. As can be seen in Table 2, in support of prediction 1, the correlations between Machiavellianism, narcissism and psychopathy were all in the predicted direction (positive), when controlled for social desirability. The correlations in Table 2 also supported prediction 2, which stated that self-perceived RBP is positively associated with the Dark Triad traits. The partial correlations for men and women separately were exploratively examined, as can be seen in Table 3. These correlations show that, for men, only narcissism had a significant correlation with attractiveness and none of the Dark Triad traits correlated significantly with formidability. For women, all three of the Dark Triad traits had a positive significant correlation with formidability, but only narcissism has a positive significant correlation with attractiveness. It was also found that there was a significant positive correlation between attractiveness and formidability for women, however this correlation was not found for men.

Table 1

Descriptive statistics

| | M | SD | N | Range |
|---------------------|-------|------|-----|--------------|
| RBP | 3.99 | .86 | 149 | 1.67 - 7.00 |
| Psychopathy | 2.27 | .65 | 146 | 1.00 - 5.00 |
| Machiavellianism | 2.92 | .66 | 144 | 1.00 - 4.44 |
| Narcissism | 2.20 | .92 | 142 | 1.00 - 5.33 |
| Social desirability | 12.32 | 3.97 | 138 | 5.00 - 21.00 |

Table 2*Partial correlations with social desirability as control variable*

| Control variable | Variables | 1 | 2 | 3 | 4 |
|---------------------|---------------------|-------|-------|-------|---|
| Social desirability | 1. Psychopathy | - | | | |
| | 2. Machiavellianism | .53** | - | | |
| | 3. Narcissism | .48** | .58** | - | |
| | 4. RBP | .28* | .27* | .40** | - |

*p < .01 **p < .001 (2-tailed)

Table 3*Partial correlations for each sex*

| | | Female | | | | | |
|---------------------|---------------------|--------|-------|-------|-------|-------|-------|
| Control variable | Variables | 1 | 2 | 3 | 4 | 5 | 6 |
| Social desirability | 1. Psychopathy | - | .41** | .39** | .16 | -.007 | .23* |
| | 2. Machiavellianism | .43** | - | .53** | .24* | .11 | .26* |
| | 3. Narcissism | .36** | .45** | - | .32** | .26* | .26* |
| | 4. RBP | .19 | .10 | .42** | - | .74** | .86** |
| | 5. Attractiveness | .06 | .07 | .60** | .77** | - | .28** |
| | 6. Formidability | .23 | .09 | .08 | .81** | .25 | - |

Male

*p < .05 **p < .01 (2-tailed)

Multiple regression analyses were used to test whether the effect of RBP on the Dark Triad traits was different for men and women (male = 0, female = 1). For psychopathy the results of the regression indicated the three predictors explained 40% of the variance (R^2

$=.404$, $F(3,134) = 30.265$, $p < .001$). The analysis shows that RBP ($\beta = .16$, $t(137) = 2.17$, $p = .03$), gender ($\beta = -.33$, $t(137) = -4.88$, $p < .001$) and social desirability ($\beta = -.41$, $t(137) = -5.91$, $p < .001$) did significantly predict participants' ratings on psychopathy. The interaction effect between RBP and gender was not significant ($\beta = -.32$, $t(137) = -.97$, $p = .33$), this indicates that the association between RBP and psychopathy is not dependent on gender.

For Machiavellianism the results of the regression indicated the three predictors explained 21 % of the variance ($R^2 = .21$, $F(3,134) = 11.851$, $p < 0.001$). The analysis shows that RBP ($\beta = .19$, $t(137) = 2.31$, $p = .023$), gender ($\beta = -.27$, $t(137) = -3.39$, $p = .001$) and social desirability ($\beta = -.20$, $t(137) = -2.43$, $p = .02$) did significantly predict participants' ratings on Machiavellianism. The interaction effect between RBP and gender was not significant ($\beta = -.01$, $t(137) = -.03$, $p = .97$), this indicates that the association between RBP and Machiavellianism is not dependent on gender.

For narcissism the results of the regression indicated the three predictors explained 24% of the variance ($R^2 = .244$, $F(3,134) = 14.450$, $p < 0.001$). The analysis shows that RBP ($\beta = .35$, $t(137) = 4.31$, $p < .001$), and gender ($\beta = -.22$, $t(137) = 2.81$, $p = .006$) did significantly predict participants' ratings on narcissism. Social desirability ($\beta = -.09$, $t(137) = -1.15$, $p = .25$) did not significantly predict participants' ratings on narcissism. The interaction effect between RBP and gender was not significant ($\beta = -.59$, $t(137) = -1.58$, $p = .12$), this indicates that the association between RBP and narcissism is not dependent on gender. The results of the multiple regression contradict prediction 3, which stated that the association between RBP and the Dark Triad traits is dependent on gender.

Finally, to test if the covariation among the Dark Triad traits is in fact due to common calibrational influences of the RBP, the partial correlations controlling for social desirability were compared with partial correlations controlling for social desirability and RBP. As can be

seen in Table 4 the correlations between the Dark Triad traits were still all significant and positively correlated when controlled for both social desirability as well as RBP.

The correlation between psychopathy and Machiavellianism ($\Delta r = -.03$, $z = 0.41$, $p = .68$) did decrease when controlled for RBP, but this was not significantly different from the partial correlation in Table 1. This was also the case for the correlation between psychopathy and narcissism ($\Delta r = -.06$, $z = 0.61$, $p = .54$), and the correlation between narcissism and Machiavellianism ($\Delta r = -.05$, $z = 0.52$, $p = .60$). These results contradict prediction 4, which stated that the covariation among the Dark Triad traits is due to common calibrational influences of the RBP.

Table 4

Partial correlations with social desirability and RBP as control variables

| Control variables | Variables | 1 | 2 | 3 |
|---------------------|---------------------|------|------|---|
| Social desirability | 1. Psychopathy | - | | |
| RBP | 2. Machiavellianism | .50* | - | |
| | 3. Narcissism | .42* | .53* | - |

* $p < .001$ (2-tailed)

Discussion

In this research, the aim was to test Lukaszewski's (2013) adaptionist 'common calibration' theory to explain trait covariation. Specifically, it was theorized that the individual trait covariation within the Dark Triad personality traits can be explained by individual differences in RBP. From the results of this study, it can be concluded that there is an association between RBP and the Dark Triad traits, however RBP does not explain trait covariation among the Dark Triad traits.

Firstly, this study stated that there was an association between Machiavellianism, narcissism and psychopathy. It was expected that Machiavellianism, narcissism and

psychopathy would be positively intercorrelated. The results were in accordance with this first prediction. The Dark Triad traits were moderately positively associated. The traits are three independent constructs with significant overlap. The results are supported by earlier research (Jonason & Webster, 2010; Jones & Figueredo, 2013; Klimstra et al., 2014; Paulhus & Williams, 2002).

The results show that there was a significant positive correlation between attractiveness and formidability for women, however this correlation was not found for men. This is a surprising result, considering that in earlier research it was found that for men formidability was a positive predictor of physical attractiveness, but for women it was a null or negative predictor of attractiveness (Lukaszewski & Roney, 2011). Furthermore, in previous studies the calibrational effects formidability had on personality variation had been restricted to men (Lukaszewski & Roney, 2011; Sell et al., 2009).

Prediction 2 stated that there was an association between self-perceived RBP and Machiavellianism, narcissism and psychopathy. The expectation was, that RBP would be positively associated with each of the Dark Triad traits. The results supported the expectation. Machiavellianism and psychopathy both had a positive very weak correlation with RBP. For narcissism a positive weak correlation with RBP was found. The association between self-perceived RBP and all of the Dark Triad traits together has not been found in earlier research. However earlier studies did find an association between RBP and one of the Dark Triad traits (Cornell et al., 1996; Glenn, Kurzban et al., 2011; Holtzman & Strube, 2010; Paulhus & Williams, 2002; Wilson, Near et al., 1996). The results suggest that formidability and attractiveness combined predict individual differences in all Dark Triad traits. This helps to identify RBP as a possible underlying risk factor for Dark Triad behaviour.

Next, this study aimed to find out if the association between RBP and the Dark Triad traits was dependent on gender. The results showed that there was an association between the Dark

Triad traits and RBP, but this association was not dependent on gender. This result is contradictory with earlier research. For example, the earlier mentioned short-term mating strategy is more advantageous for men with Dark Triad traits than for women with Dark Triad traits (Jonason, Valentine et al., 2011). Overall, the Dark Triad behaviour is more adaptive for men than for women. Men have lower costs and greater benefits for living such a life (Jonason, Valentine, Li, & Harbeson, 2011; Jonason, Webster, Schmitt, Li & Crysel, 2012). The results of the current study also found that men scored higher on the Dark Triad traits than women.

Lastly, this study tested if the covariation among the Dark Triad traits was in fact due to common calibrational influences of the RBP. It was expected that when controlling for self-perceived RBP the observed patterns of multi-trait covariation among the Dark Triad traits would reduce. The results did not support this prediction. The association between the Dark Triad traits did decrease when RBP was taken into account, but this decrease was not significant. This means that there is an association between the Dark Triad traits and RBP, however RBP does not explain the trait covariation within the Dark Triad traits. This finding is contradicted by earlier research. Lukaszewski (2013) found that controlling for RBP within an interpersonal syndrome eliminated the majority of trait covariation. In his research there were also findings which suggested that a wide array of interpersonal trait dimensions are facultatively calibrated to variation in RBP-enhancing features. The results of this study suggests that RBP calibrates the unique aspects of each Dark Triad trait, however it does not calibrate the common factor that causes them to correlate. Unique aspects of narcissists are that they self-enhance and aggress after ego treat (Jones & Paulhus, 2014; Paulhus & Williams, 2002). Machiavellians are more likely to plagiarize and avoid risky bets (Paulhus & Williams, 2002), compared to the other two. Psychopaths carry out their revenge fantasies and bully others (Furnham et al., 2013).

Limitations and Future Research

The current study contained some limitations that are important to take into account when interpreting the reported findings. First, according to Lukaszewski (2013) the Social Comparison Scale's bipolar self-report items do not map perfectly onto the theoretical description of RBP. A larger proportion of the Dark Triad trait covariation might have been explained by a more comprehensive RBP measure. Thus, future research should focus on developing and validating a more refined psychometric instrument to measure RBP.

Second, only self-report questionnaires were used to measure self-perceived RBP and the Dark Triad traits. Self-report questionnaires may appear questionable given their susceptibility to socially desirable responding, acquiescent responding, negative affectivity bias and extreme or central responding, which might produce somewhat inflated associations between independent and outcome variables (Klimstra et al., 2014; Pabian, De Backer, & Vandebosch, 2015; Paulhus & Vazire, 2007; Podsakoff, Mackenzie, & Podsakoff, 2012). However, in this study a social desirability scale was used to determine to which extent the responses were influenced by self-representation biases. Future research should attempt to replicate this study with personality measurements made through both self- and peer-report items.

Third, the participant samples were comprised of students from only one level of education and predominantly from one cultural background (Western Europe), which is not representative of the general population. Therefore, the generalizability of this participant sample is questionable. It is important to replicate this study in a more heterogeneous sample. Other cultures, different level of education and another age group might result into different patterns of outcomes. Lastly, because the data was correlational, no causal inferences can be made about the results reported in this article. Future research should examine the causal relationship between RBP and the Dark Triad traits.

Conclusions

Trait covariation within individuals is a big part of the foundation for most research about personality, but there is still a lack of validated theories which explain why there is trait covariation (John, Naumann, & Soto, 2008; Lukaszewski, 2013; Miller, 2011; Nettle, 2011). This study did not find significant support for RBP as a common calibrator of the Dark Triad traits, however it does advance research on RBP as a possible explanation for trait covariation. An association between the Dark Triad traits and RBP among adolescents was revealed. RBP may be an indicator for Dark Triad personality traits in adolescent individuals. It is crucial for future studies to consider this possibility, because the three Dark Triad traits are correlated with significant social, emotional and legal harm (Furnham et al., 2013). Prevention programs should be aware that the Dark Triad traits are associated with RBP. The association between the Dark Triad traits and RBP should be studied more extensively. In short: Does relative bargaining power explain trait covariation among the Dark Triad traits? So far, not convincingly.

References

- Adams, D. C., & Felice, R. N. (2014). Assessing trait covariation and morphological integration on phylogenies using evolutionary covariance matrices. *PloS One*, 9(4), doi:10.1371/journal.pone.0094335
- Allan, S., & Gilbert, P. (1995). A social comparison scale: Psychometric properties and relationship to psychopathology. *Personality and Individual Differences*, 19(3), 293-299.
- Anderson, C., John, O. P., Keltner, D., & Kring, A. M. (2001). Who attains social status? Effects of personality and physical attractiveness in social groups. *Journal of Personality and Social Psychology*, 81(1), 116-132.
- Archer, J., & Thanzami, V. (2007). The relation between physical aggression, size, and strength, among a sample of young Indian men. *Personality and Individual Differences*, 43, 627-633.
- Ashton, M. C., & Lee, K. (2007). Empirical, theoretical, and practical advantages of the HEXACO model of personality structure. *Personality and Social Psychology Review*, 11(2), 150-166.
- Back, M. D., Küfner, A. C., Dufner, M., Gerlach, T. M., Rauthmann, J. F., & Denissen, J. J. (2013). Narcissistic admiration and rivalry: Disentangling the bright and dark sides of narcissism. *Journal of Personality and Social Psychology*, 105(6), 1013-1037.
- Berry, D. S., Willingham, J. K., & Thayer, C. A. (2000). Affect and personality as predictors of conflict and closeness in young adults' friendships. *Journal of Research in Personality*, 34(1), 84-107.
- Book, A., Visser, B. A., & Volk, A. A. (2015). Unpacking "evil": Claiming the core of the Dark Triad. *Personality and Individual Differences*, 73, 29-38.

- Bradlee, P. M., & Emmons, R. A. (1992). Locating narcissism within the interpersonal circumplex and the five-factor model. *Personality and Individual Differences, 13*(7), 821-830.
- Brewer, G., & Abell, L. (2015). Machiavellianism in long-term relationships: Competition, mate retention and sexual coercion. *Scandinavian Journal of Psychology, 56*(3), 357-362.
- Bushman, B. J., & Baumeister, R. F. (2002). Does self-love or self-hate lead to violence?. *Journal of Research in Personality, 36*(6), 543-545.
- Campbell, W. K., & Campbell, S. M. (2009). On the self-regulatory dynamics created by the peculiar benefits and costs of narcissism: A contextual reinforcement model and examination of leadership. *Self and Identity, 8*(2-3), 214-232.
- Campbell, W., Goodie, A. S., & Foster, J. D. (2004). Narcissism, confidence, and risk attitude. *Journal of Behavioral Decision Making, 17*(4), 297-311.
- Campbell, L., Simpson, J. A., Stewart, M., & Manning, J. (2003). Putting personality in social context: Extraversion, emergent leadership, and the availability of rewards. *Personality and Social Psychology Bulletin, 29*(12), 1547-1559.
- Cornell, D. G., Warren, J., Hawk, G., Stafford, E., Oram, G., & Pine, D. (1996). Psychopathy in instrumental and reactive violent offenders. *Journal of Consulting and Clinical Psychology, 64*(4), 783-790.
- Emmons, R. A. (1984). Factor analysis and construct validity of the narcissistic personality inventory. *Journal of Personality Assessment, 48*(3), 291-300.
- Furnham, A., Richards, S. C., & Paulhus, D. L. (2013). The Dark Triad of personality: A 10 year review. *Social and Personality Psychology Compass, 7*(3), 199-216.
- Glenn, A. L., Kurzban, R., & Raine, A. (2011). Evolutionary theory and psychopathy. *Aggression and Violent Behavior, 16*(5), 371-380.

- Hawley, P. H. (2003). Prosocial and coercive configurations of resource control in early adolescence: A case for the well-adapted Machiavellian. *Merrill-Palmer Quarterly*, 49(3), 279-309.
- Hermans, H. J. M. (2011). Prestatie Motivatie Test voor Kinderen 2.
- Hogan, R., & Hogan, J. (2001). Assessing leadership: A view from the dark side. *International Journal of Selection and Assessment*, 9(1-2), 40-51.
- Holtzman, N. S., & Strube, M. J. (2010). Narcissism and attractiveness. *Journal of Research in Personality*, 44(1), 133-136.
- Jakobwitz, S., & Egan, V. (2006). The dark triad and normal personality traits. *Personality and Individual Differences*, 40(2), 331-339.
- John, O. P., Naumann, L. P., & Soto, C. J. (2008). Paradigm shift to the integrative big five trait taxonomy. *Handbook of Personality: Theory and Research*, 3, 114-158.
- Jonason, P. K., Li, N. P., & Buss, D. M. (2010). The costs and benefits of the Dark Triad: Implications for mate poaching and mate retention tactics. *Personality and Individual Differences*, 48(4), 373-378.
- Jonason, P. K., Li, N. P., Webster, G. D., & Schmitt, D. P. (2009). The dark triad: Facilitating a short-term mating strategy in men. *European Journal of Personality*, 23(1), 5-18.
- Jonason, P. K., Valentine, K. A., Li, N. P., & Harbeson, C. L. (2011). Mate-selection and the Dark Triad: Facilitating a short-term mating strategy and creating a volatile environment. *Personality and Individual Differences*, 51(6), 759-763.
- Jonason, P. K., & Webster, G. D. (2010). The dirty dozen: a concise measure of the dark triad. *Psychological Assessment*, 22(2), 420-432.
- Jonason, P. K., Webster, G. D., Schmitt, D. P., Li, N. P., & Crysel, L. (2012). The antihero in popular culture: Life history theory and the dark triad personality traits. *Review of General Psychology*, 16(2), 192-199.

- Jones, D. N., & Figueredo, A. J. (2013). The core of darkness: Uncovering the heart of the Dark Triad. *European Journal of Personality*, 27(6), 521-531.
- Jones, D. N., & Paulhus, D. L. (2011). Differentiating the Dark Triad within the interpersonal circumplex. *Handbook of Interpersonal Psychology: Theory, Research, Assessment, and Therapeutic Interventions*, 249-269.
- Jones, D. N., & Paulhus, D. L. (2014). Introducing the Short Dark Triad (SD3): A brief measure of dark personality traits. *Assessment*, 21(1), 28-41.
- Klimstra, T. A., Sijtsema, J. J., Henrichs, J., & Cima, M. (2014). The Dark Triad of personality in adolescence: Psychometric properties of a concise measure and associations with adolescent adjustment from a multi-informant perspective. *Journal of Research in Personality*, 53, 84-92.
- Lau, K. S., & Marsee, M. A. (2013). Exploring narcissism, psychopathy, and Machiavellianism in youth: Examination of associations with antisocial behavior and aggression. *Journal of Child and Family Studies*, 22(3), 355-367.
- Lee, K., Ashton, M. C., Wiltshire, J., Bourdage, J. S., Visser, B. A., & Gallucci, A. (2013). Sex, power, and money: Prediction from the Dark Triad and Honesty–Humility. *European Journal of Personality*, 27(2), 169-184.
- Lyons, M., Caldwell, T., & Shultz, S. (2010). Mind-reading and manipulation—Is Machiavellianism related to theory of mind?. *Journal of Evolutionary Psychology*, 8(3), 261-274.
- Lukaszewski, A. W. (2013). Testing an adaptationist theory of trait covariation: Relative bargaining power as a common calibrator of an interpersonal syndrome. *European Journal of Personality*, 27(4), 328-345.

- Lukaszewski, A. W., & Roney, J. R. (2011). The origins of extraversion: Joint effects of facultative calibration and genetic polymorphism. *Personality and Social Psychology Bulletin*, 37(3), 409-421.
- Miller, G. F. (2010). Are pleiotropic mutations and holocene selective sweeps the only evolutionary-genetic processes left for explaining heritable variation in human psychological traits?. *The Evolution of Personality and Individual Differences*, 376.
- Nettle, D. (2005). An evolutionary approach to the extraversion continuum. *Evolution and Human Behavior*, 26(4), 363-373.
- Nettle, D. (2011). Evolutionary perspectives on the five-factor model of personality. *The Evolution of Personality and Individual Differences*, (pp. 5-28). New York, NY: Oxford University Press.
- Pabian, S., De Backer, C. J., & Vandebosch, H. (2015). Dark Triad personality traits and adolescent cyber-aggression. *Personality and Individual Differences*, 75, 41-46.
- Paulhus, D. L. (1998). Interpersonal and intrapsychic adaptiveness of trait self-enhancement: A mixed blessing?. *Journal of Personality and Social Psychology*, 74(5), 1197-1208.
- Paulhus, D. L., & Vazire, S. (2007). The self-report method. *Handbook of Research Methods in Personality Psychology*, 224-239.
- Paulhus, D. L., & Williams, K. M. (2002). The dark triad of personality: Narcissism, Machiavellianism, and psychopathy. *Journal of Research in Personality*, 36(6), 556-563.
- Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, 63, 539-569.

- Rauthmann, J. F. (2012). The Dark Triad and interpersonal perception: Similarities and differences in the social consequences of narcissism, Machiavellianism, and psychopathy. *Social Psychological and Personality Science*, 3(4), 487-496.
- Rauthmann, J. F., & Kolar, G. P. (2012). How “dark” are the Dark Triad traits? Examining the perceived darkness of narcissism, Machiavellianism, and psychopathy. *Personality and Individual Differences*, 53(7), 884-889.
- Ray, J. J., & Ray, J. A. B. (1982). Some apparent advantages of subclinical psychopathy. *The Journal of Social Psychology*, 117(1), 135-142.
- Sell, A., Tooby, J., & Cosmides, L. (2009). Formidability and the logic of human anger. *Proceedings of the National Academy of Sciences*, 106(35), 15073-15078.
- Twenge, J. M., & Campbell, W. K. (2003). “Isn’t it fun to get the respect that we’re going to deserve?” Narcissism, social rejection, and aggression. *Personality and Social Psychology Bulletin*, 29(2), 261-272.
- Watson, P. J., & Biderman, M. D. (1993). Narcissistic personality inventory factors, splitting, and self-consciousness. *Journal of Personality Assessment*, 61(1), 41-57.
- Wilson, D. S., Near, D. C., & Miller, R. R. (1996). Machiavellianism: a synthesis of the evolutionary and psychological literatures. *Psychological Bulletin*, 119(2), 285-299.
- Wilson, D. S., Near, D. C., & Miller, R. R. (1998). Individual differences in Machiavellianism as a mix of cooperative and exploitative strategies. *Evolution and Human Behavior*, 19(3), 203-212.