The utility of the Dark Triad model in the prediction of the self-reported and behavioral risk-taking behaviors among adolescents

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ABSTRACT

Associations among the Dark Triad (psychopathy, narcissism, and Machiavellianism) using a self-report risk measure (i.e., Adolescent Risk-taking Questionnaire) and two behavioral tasks (i.e., Balloon Analog Risk task and Probability Discounting task) were examined to assess risk taking in 248 adolescents. Two dark personality traits, narcissism and psychopathy, have been shown to be significantly predictive of adolescent risk behaviors. This was found to be the case for self-reported risk behaviors, as well as for different behaviorally based risk types. Contrary, Machiavellianism was unrelated to either type of risk-taking assessment. Reliably, these results suggest that darker personality variables may prove valuable in understanding risk-taking behaviors in adolescents.

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1. Introduction

Though risk taking has been defined in various ways, common themes across definitions seem to balance the potential gains and losses of risky behaviors (Moore & Gullone, 1996). However, different conceptualizations about what underlies risk taking have resulted in using different instruments for assessing risk-taking behaviors. Accordingly, two divergent approaches have been used in the assessment of risk-taking propensity. One approach centers on assessment of personality traits primarily through self-report instruments, while the second approach views risk taking as a cognitive process and includes the behavioral tasks that measure respondents' choices between concrete alternatives. Several theories suggest that both forms of risky behavior should be significantly associated among individuals (Skeel, Neudecker, Pilarski, & Pytlak, 2007).

There are numerous reasons why someone chooses to behave in a high-risk manner. Given the possibility that individuals might have a dispositional tendency to engage in risky behaviors bears considering the traits of the Dark Triad personality construct. Specific to the current investigation, preliminary research has shown associations among the Dark Triad traits and specific risky activities, such as financial investment strategies (Foster, Misra, & Reidy, 2009), aggressive driving (Britt & Garrity, 2006), and gambling (Lakey, Rose, Campbell, & Goodie, 2008).

1.1. Dark Triad

The Dark Triad — psychopathy, narcissism, and Machiavellianism — represents a set of three socially averse personality characteristics (Paulhus & Williams, 2002). Psychopathy is defined by high callousness, thrill seeking, interpersonal antagonism and manipulation (Hare & Neumann, 2008). Individuals high in narcissism tend to focus largely on themselves and are characterized by self-absorption, dominance, and feelings of entitlement (Emmons, 1987). Machiavellianism is characterized by self-interest and tendencies toward deceptiveness and the manipulation of others (Cooper & Peterson, 1980).

1.2. Dark Triad and risk taking

Specific to the current investigation, two negativistic traits with links to risk taking are psychopathy and narcissism (e.g., Crysel, Crosier, & Webster, 2013; Jonason, Koenig, & Tost, 2010; Jones, 2013). Risk-taking in psychopathy is the result of their erratic lifestyle (Hare & Neumann, 2008). People high in psychopathy cannot regulate impulses effectively and take needless risks for minimal gains (Jones, 2013). Narcissism, similar to psychopathy, has been linked with self-reported risky behavior (Campbell, Goodie, & Foster, 2004; Crysel et al., 2013). The associations between narcissism and risk taking have been proven not only within the self-reported measures of components of risk taking but also within the behavioral assessment methods of risk (Crysel et al., 2013; Lakey et al., 2008). People high in narcissism may have an illusion of control (Jones, 2013). Those individuals tend to be biased in their decision-making, and downplay potential chances of loss, all of

which are factors that lead them to risky behaviors (e.g., Lakey et al., 2008). In contrast to psychopathy and narcissism, individuals high in Machiavellianism exhibit an inconsistent connection with single factors that are complementary with risky decisions (e.g., sensation seeking) or no significant association with behavioral measures of risk (Crysel et al., 2013; Jones, 2013). In fact, Machiavellianism is linked to risky behavior only when there is little or no risk of being caught (Jones, 2013). We are not aware of any studies that have examined this relationship in an adolescent population.

1.3. Limitations of previous research

Because of our interest in individual differences, we attempt to provide data by employing a general risk factor (Moore & Gullone, 1996). Previous research has been related to the narrow focus of risk-taking behavior — that is, most studies focused solely on impulsivity, sensation seeking, discounting, and gambling behaviors, which are thought to represent lower level personality components that complement risky decision making (Campbell et al., 2004; Crysel et al., 2013; Jones, 2013; Lakey et al., 2008). Furthermore, the conceptualization of risky behavior has typically encompassed only maladaptive risks, although there is some evidence that traits underlying risk taking in its negative sense may also underlie socially approved risky behaviors (e.g., thrill seeking; Moore & Gullone, 1996). Finally, the vast majority of research in risky decision making has been conducted with adults rather than adolescents. This is the first study that investigates this relationship in adolescents.

2. Overview of the present study

The aim of the present study was to evaluate the predictive capacity of the Dark Triad personality traits in explaining self-reported and behavior-based risk-taking behaviors. By using a multidimensional risk-taking measure, Adolescent Risk-taking Questionnaire (Gullone, Moore, Moss, & Boyd, 2000), it was possible to assess the roles of different predictors for various domains of positive risk-taking behaviors (thrill seeking and recklessness) and negative risk-taking behaviors (rebelliousness and anti-socialness). It was hypothesized that outgoing personality dimensions (i.e., psychopathy and narcissism) would be related to all four self-reported categories of risk-taking domains (i.e., thrill seeking, recklessness, rebelliousness, and anti-socialness; *Hypothesis* 1). It was further hypothesized that two behavioral measures of risk taking (i.e., Balloon Analog Risk and Probabilistic Discounting tasks) would be associated with narcissism (*Hypothesis* 2). However, based on previous research, which found a lack of correlations between risk taking and Machiavellianism, it was hypothesized that we will not find a significant association between the two (*Hypothesis* 3). Finally, we predicted that the association between risk-taking measured by self-report and behavioral tasks will be correlated (*Hypothesis* 4). Previous research has demonstrated that various forms of risky behavior are highly associated among individuals (Mishra & Lalumiĉre, 2011; Skeel et al., 2007).

3. Methodology

3.1. Procedure

The study involved the completion of the computerized versions of the Balloon Analog Risk task and the Probabilistic Discounting task and pen-and-paper versions of the Adolescent Risk-taking Questionnaire and Dirty Dozen measure. Two behavioral tasks were programmed in the z-Tree software (Zurich Toolbox for Readymade Economic Experiments; Fischbacher, 2007). All questionnaires and tasks were presented in random order.

3.2. Participants

The sample for this study was comprised of 248 German adolescents (109 boys and 139 girls) who ranged in age from 14 to 18 years (M = 15.9, SD = 1.45). Individuals were recruited from a parent volunteer database. The Nakao and Treas (1994) index of occupational prestige was used to indicate the socioeconomic status of the adolescents' families. All the social classes were represented in the sample. Status scores can range from 0 to 100. The mean socioeconomic index score was 53.69 (SD = 21.17; range from 20.86 to 97.30). All adolescents and their parents gave written informed consent after the nature of the study was explained to them.

3.3. Materials

3.3.1. Dark Triad measure

The Dirty Dozen measure of the Dark Triad (German version by Küfner, Dufner, & Back, 2014), which is comprised of 12 items, was used in this study. Responses were scored on a 9-point Likert scale ranging from 1 (strongly disagree) to 9 (strongly agree) (psychopathy $\alpha = .77$; narcissism $\alpha = .89$; Machiavellianism $\alpha = .87$).

3.3.2. Adolescent Risk-taking Questionnaire (ARQ)

The Adolescent Risk-taking Questionnaire (Gullone et al., 2000) consists of two parts. The first section of the questionnaire measures adolescents' perception of risk for 22 behaviors on a five-point Likert scale that ranges from 0 (not at all risky) to 4 (extremely risky). The second part indicates adolescents' frequency to engage in these behaviors on a five-point Likert scale that ranges from 0 (never done) to 4 (done very often). The ARQ assesses the risks associated with four behaviors — thrill seeking (example items: snow skiing, rollerblading; $\alpha_{behavior} = .87$, $\alpha_{judgment} = .86$), rebelliousness (example items: smoking staying out late; $\alpha_{behavior} = .80$, $\alpha_{judgment} = .82$), recklessness (example items: driving without a license, having unprotected sex; $\alpha_{behavior} = .79$, $\alpha_{judgment} = .80$), and anti-socialness (example items: talking to strangers, cheating; $\alpha_{behavior} = .91$, $\alpha_{judgment} = .88$).

The English version of the ARQ was adapted and translated into the German language. To ensure that the items resemble the meaning of the original English items as closely as possible, we followed a common procedure of back-translation in which a text is translated from a source into a target language, and a second interpreter independently translates the text back into the source language. The English version of the measure was first translated into German and then back-translated into English by two translators, according to the guidelines developed by the International Test Commission (Hambleton, 2001). Afterwards, both translators compared the original version and the back-translated version for equivalence of meaning. The accuracy of the translation was evaluated by comparing the original and back-translated versions.

3.3.3. Probabilistic discounting task

Probabilistic discounting — in this case, the probability of receiving a reward — was assessed at five probability interval values — 5%, 25%, 50%, 75%, and 95%. On each probabilistic task trial, participants chose between a certain amount of money and the possibility of receiving €200 with a specified probability (i.e., 'Would you rather receive a definite €20 or receive a possible €200 with a 25% chance of getting it?'). This computerized task used an adjusting amount procedure — adjusting the certain amount in increments or decrements of ±€10 — to derive indifference points between the probabilistic standard and the certain adjusting options for each of the five probabilities assessed (for details, see Richards, Zhang, Mitchell, & de Wit, 1999). Although the probabilistic task and the outcomes were hypothetical, participants were instructed to act as if the situation was real. Participants were told: *You will not receive any of the rewards that you choose, but we want you to make your decisions as though you were really going to get the rewards you choose.*