

THE DARK TRIAD PERSONALITY AND SHORT-TERM STRATEGIES:
IMPULSIVITY, SENSATION-SEEKING, DELAY-DISCOUNTING AND GAMBLING

By

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To Mom and Dad

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Abstract of Thesis Presented to the Graduate School
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The Dark Triad traits of Machiavellianism, narcissism, and psychopathy form a latent construct which is essentially a short-term, exploitative strategy. The Dark Triad should therefore be positively related to short-term traits such as impulsivity and sensation-seeking as well as risky behaviors. This study found a positive relationship between the Dark Triad Dirty Dozen (Jonason & Webster, 2010) and the Impulsivity and Sensation-Seeking Scale (ImpSS; Zuckerman, Kuhlman, Joireman, Teta, & Kraft, 1993). Those higher in the Dark Triad bet more in games of blackjack and discounted money more steeply in a delay discounting task (Richards, Zhang, Mitchell, & de Wit, 1999), but no relationship was found between the Dark Triad and probabilistic discounting or the Balloon Analogue Risk Task (Lejuez, et al. 2002). Ego threat manipulation did not manipulate the Dark Triad qualities but did lead to steeper temporal discounting.

CHAPTER 1 INTRODUCTION

The Dark Triad

The Dark Triad is a set of three personality variables: Machiavellianism, narcissism, and psychopathy. People with high Dark Triad scores would think highly of themselves and manipulate others with little empathy or remorse. Basically, the Dark Triad characterizes the human version of the classic cartoon villain or a modern anti-hero (e.g., James Bond, The Joker from Batman). The Dark Triad was first described by Paulhus and Williams as overlapping but distinct constructs (2002). The study found the measures to be moderately correlated with each other, but did not share a pattern of correlations with other constructs. The one exception was that all three traits showed negative correlations with agreeableness, a finding with mixed support (Lee & Ashton, 2004; Vernon et al., 2008). Since then, the Dark Triad has been studied in relation to prejudice (Hodson, Hogg, & MacInnis, 2009), relationships (Jonason, Li, & Buss, 2010), and even humor styles (Veselka et al., 2010).

The Dark Triad traits form a latent construct which is essentially a short-term, exploitative strategy (Jonason & Webster, 2010). For some, at least, it may prove more useful to move quickly through relationships and take what resources are readily available. This strategy may have roots in both environmental and genetic factors (Campbell et al., 2009; Vernon et al., 2008). It is possible that this trait would extend to one's group as well as one's self. For example, Hodson, Hogg, and MacInnis (2009) found that the Dark Triad predicted social dominance orientation, which is the "tough minded" position that strong groups should dominate weaker groups. Social dominance orientation and the Dark Triad also share an association with low agreeableness.

However, there is at least something attractive about those high in the Dark Triad (e.g., James Bond), as they excel at “mate poaching” and are known for moving from partner to partner (Jonason, Li, & Buss, 2010). Recently, Jonason and Webster (2010) developed a brief measure of the Dark Triad from the one used by Paulhus and Williams (2002) and tested it for reliability and validity. The 12-item “Dirty Dozen” version of the Dark Triad may come to be a significant improvement over the 91-item scale for both practical and psychometric reasons. Each of the Dark Triad’s three components is described below.

Machiavellianism

Niccoló Machiavelli was a Florentine whose professional works were primarily concerned with foreign policy. In popular culture, Machiavellianism is associated with manipulateness and ruthlessness, probably because Machiavelli’s policies are justified by their efficacy – in sum, “the ends justify the means.” Cruelty was acceptable if it was “well used” (p. 27, *The Prince*), particularly because those who make “examples of a very few” are in fact being more merciful in reducing disorder for the average person (p. 45, *The Prince*). Today, Machiavellianism is evident in the debate over the treatment of those suspected of terrorism, but can be applied to personal life choices as well as political policy. A sample Machiavellian statement is “It is hard to get ahead without cutting corners here and there” (Christie & Geis, 1970; Jonason & Webster, 2010).

Psychopathy

Machiavellianism has conceptual similarity to psychopathy in that both are associated with poorly formed emotional bonds and a lack of concern with morality. However, they are clearly distinct constructs (Paulhus and Williams, 2002; Vernon et al., 2008) in that psychopathy is primarily characterized by lack of affect, whereas

Machiavellianism is primarily characterized by manipulativness. Psychopathy is associated with guiltlessness, dishonesty, cynicism, and insensitivity. A stereotypical school bully often displays traits of psychopathy. Theoretically, psychopathy is divided into primary psychopathy, which is characterized by “cruelty and lack of affect” and secondary psychopathy, which is characterized by “impulsivity, neuroticism, and aggression” (Ali, Amorim, & Chamorro-Premuzic, 2009). Statements indicative of psychopathy are “I tend to lack remorse” and “I tend to be cynical.”

Narcissism

Narcissus was an arrogant man from Greek mythology who had no great love for others, even though he was much beloved himself. In a twist of justice, Narcissus falls in love with his own reflection in the water, thinking it to be the most beautiful man he has ever seen, and wastes away pining for his love. It should come as no surprise, then, that narcissism can be described as “excessive” self-love. In terms of the Dark Triad, narcissism is conceptualized as seeking attention, prestige, or status, and a belief in being superior to others. A narcissist would agree that “I tend to expect special favors from others” and “I tend to want others to admire me” (Jonason & Webster, 2010).

Correlates and Moderators of the Dark Triad

The Dark Triad is moderately and positively correlated with short-term mating strategies and sexual experience (Jonason, Li, & Buss, 2010; Jonason & Webster, 2010). There is also a positive relationship between the Dark Triad and aggression (Jonason, Li, & Buss, 2010; Jonason & Webster, 2010) and the related concept of the “tough-minded” social dominance orientation (Hodson, Hogg, and MacInnis, 2009). As previously stated, social dominance orientation and the Dark Triad also share an

association with low agreeableness (Jakobwitz & Egan, 2006; Jonason & Webster, 2010; Vernon et al., 2008). In fact, those higher in the dark triad will be lower in the tendency to avoid greedy actions or be fair, genuine, or modest (Lee & Ashton, 2004). Men tend to score higher on the dark triad than women (Jonason et al., 2009; Jonason & Webster, 2010); relating this to the association between the Dark Triad and aggression, perhaps testosterone plays a role in the Dark Triad as well.

Impulsivity and Sensation-Seeking

Impulsivity and Sensation-Seeking are related but distinct concepts. Sensation-seeking involves seeking new and stimulating experiences and the willingness to take risks for such experiences (Zuckerman, 1994, p. 27). Sensation-seeking could take the form of trying new foods, partying, drug-use, or skydiving. Impulsivity is taking an action without considering the consequences or looking ahead. Any of the previous actions could be impulsive, but only if the person performs the acts without thinking about the potential costs. Researchers have previously used gambling behavior as a measure of impulsivity because gambling is an unknown outcome chosen in favor of more secure financial endeavors (Holt, Green, & Myerson, 2003). Moreover, pathological gambling is considered a disorder of impulse control (Steel & Blaszczynski, 1996). Gambling could also be conceptualized as a sensation-seeking behavior because it is risky and there is an associated “thrill.”

As previously stated, psychopathy is conceptually linked to impulsivity (Jakobwitz & Egan, 2006). Raskin and Terry also found a conceptual link between impulsivity and narcissism, and a meta-analysis (Vazire & Funder, 2006) found the weighted mean correlation of the relationship to be .41. The link between impulsivity and sensation-seeking and the aforementioned link between two components of the Dark Triad and

impulsivity suggest that there would be a clear relationship among the Dark Triad, impulsivity, and sensation-seeking. So, how best to measure impulsivity and sensation-seeking? The Impulsive Sensation Seeking scale (ImpSS; Zuckerman et al., 1993) is a measure composed of subscales of impulsivity and sensation-seeking that assesses a “preference for change and uncertainty” and a “tendency to act without thinking or planning” (McDaniel & Mahan, 2008; Zuckerman, 1994). Despite containing only 19 items, there is evidence for the reliability of the measure and its subscales (Angleitner, Riemann, & Spinath, 2004; McDaniel & Mahan, 2008). A sample item reads “I prefer friends who are excitingly unpredictable.”

Balloon Analogue Risk Task

Another measure of sensation-seeking and risk-taking, as well as other related traits, is the Balloon Analogue Risk Task (BART; Lejuez et al., 2002). BART is a behavioral measure of risk-taking in which players earn incremental monetary rewards for clicking a balloon until either the balloon pops or the participant chooses to “bank” the money. BART not only correlates with impulsivity and risky behaviors (such as gambling), but research has also demonstrated convergent validity by linking BART with psychopathy (Hunt et al., 2005).

Delay Discounting

Delay discounting measures relate to the risk aspect of impulsivity (Holt, Green, & Myerson, 2003; Richards, et al., 1999). The measures look at the extent to which a person values money or some other reward less because of a delay. The typical delay discounting paradigm involves giving participants a series of choices between two amounts of money which would be received at different times. For example, would the participant prefer \$3.50 now or \$10 in 180 days? If the participant is willing to wait for

the \$10, would he or she prefer a 100% of getting \$4.50 or a 50% chance of \$10? At each step, the amounts of money and time are varied, so that participants develop an individual function representing their choices. The “discounting” begins when the participant values the delayed money less because he or she will have to wait. If the delays are increasing, once a participant decides the immediate reward is better, the participant should generally stick to that choice for greater delays. In the function $V = A / (1 + kD)^s$ the discounting parameter is represented by the value k . The other values are as follows: V is the lesser, mentally discounted value of the delayed money due to the delay; A is the actual amount of the delayed money, D is the amount of delay, and s is a scaling factor (Green, Fry, & Myerson, 1994; Green, Myerson, & O’Donoghue, 1999; Holt, Green, & Myerson, 2003). The discounting value has been related to both impulsivity and gambling, but with some mixed results (Holt, Green, & Myerson, 2003; O’Donoghue, 1996; Rachlin 1990, 1992). Despite the obvious connection between an agentic short-term strategy like the Dark Triad and the extent to which a person prefers an immediate, smaller reward, there has yet to be research relating delay discounting to the Dark Triad.

Ego Threat

Researchers refer to a threat to the self as an ego threat, which is when one’s favorable self-views are “put in jeopardy” (Baumeister, Smart, & Boden, 1996). Ego threat has been operationalized as negative feedback on an essay (Bushman & Baumeister, 1998; Konrath, Bushman, & Campbell, 2006) but could conceivably be anything that makes a person question a self-relevant quality. In this study, ego threat was manipulated to examine its main affect on behavioral risk measures—and more importantly, its interaction with the Dark Triad traits—in predicting risky behavior. Ego

threat has been used before to experimentally examine its interaction with narcissism (Bushman & Baumeister, 1998; Jones & Paulhus, 2010) and psychopathy (Jones & Paulhus, 2010) in predicting aggression. Without such a manipulation, one could establish that being high in the Dark Triad is associated with risk, but would be remiss to ignore the possibility that taking risks could lead to developing certain characteristics of the Dark Triad.

Overview of the Present Research

The primary purpose of this study is to measure the relationship of the Dark Triad with risk-related traits and behaviors. A secondary purpose of this study is to manipulate the Dark Triad and attempt to determine the causal relationship of being high in the Dark Triad on behaviors such as gambling. The study has the potential to refine the concept of the Dark Triad and its relationship with other personality traits. Knowledge about personality correlates of risk behaviors may lead to better understanding of those behaviors, and therefore better treatment for severe impulsive behaviors such as gambling addiction. First the study measured the Dark Triad using the Dirty Dozen scale (Jonason & Webster, 2010) and impulsivity and sensation-seeking using the Impulsivity and Sensation-Seeking (ImpSS) Scale (Zuckerman et al., 1993). To obtain a behavioral measure of impulsivity, participants also completed a delay discounting task, gambled in games of blackjack, and completed the Balloon Analogue Risk Task. To examine the causal relationship, an ego threat manipulation was used to influence the Dark Triad, and the Dark Triad was measured a second time at the conclusion of the experiment.

It was predicted that those high in the dark triad would be higher in impulsivity and sensation-seeking, would take more risks in the gambling and the BART, and engage in

steeper discounting (i.e., prefer less money now to more money later). Given previous research on ego threat and narcissism, the ego threat manipulation should interact with the Dark Triad—particularly the narcissism component—to predict riskier behavioral responses compared to participants who received no ego threat.

CHAPTER 2 STUDY 1

Method

Participants

Participants were 1,140 undergraduate students in psychology at the University of Florida online prescreening. Due to some participants not answering the Dark Triad or IMPSS questions, 1,097 participants were included in the data. Participants were 737 (65%) women and 403 (35%) men ranged from ages 17–24 ($M = 18.53$, $SD = 0.98$). All participants received research credit for their participation.

Measures and Procedure

Participants completed the 12-item measure of the Dark Triad (Jonason & Webster, 2010) and the 19-item Impulsivity and Sensation-Seeking (ImpSS) Scale (Zuckerman et al., 1993) to assess impulsivity and sensation-seeking. The Dark Triad Dirty Dozen was measured using a 5-point likert scale ranging from “strongly disagree” (1) to “strongly agree” (5). Sample items include “I tend to manipulate others to get my way” and “I tend to lack remorse” (Appendix A). The ImpSS is a dichotomous, forced-choice response scale between “True” (1) and “False” (2). Sample items include “I sometimes do ‘crazy’ things just for fun,” and “I like wild and uninhibited parties” (Appendix B).

Results

Items from the Dark Triad Dirty Dozen (Jonason & Webster, 2010) were averaged together to form a single construct and the three subscales. The ImpSS was recoded so that higher scores would mean greater impulsivity and reverse coded items were treated appropriately. Finally, the items were averaged together to avoid bias due to the

number of items. The Dark Triad had high reliability ($\alpha = .87$), as did the three subscales of Machiavellianism ($\alpha = .81$), psychopathy ($\alpha = .79$), and narcissism ($\alpha = .84$). Item-total correlations were high, ($r_s > .45$) for the total measure and each subscale. The Impulsivity and Sensation-Seeking (ImpSS; Zuckerman et al., 1993) also had high reliability ($\alpha = .83$), and item-total correlations were also good ($r_s > .30$).

The Dark Triad Dirty Dozen correlated strongly and positively with its three subscales of Machiavellianism ($r = .86, p < .001$), psychopathy ($r = .74, p < .001$), and narcissism ($r = .79, p < .001$). Machiavellianism correlated strongly with psychopathy ($r = .52, p < .001$) and narcissism ($r = .54, p < .001$), and psychopathy correlated moderately with narcissism ($r = .31, p < .001$).

As predicted, the ImpSS was moderately positively correlated with the Dark Triad Dirty Dozen ($r = .24, p < .001$), and its three subscales of Machiavellianism ($r = .22, p < .001$), psychopathy ($r = .19, p < .001$), and narcissism ($r = .16, p < .001$). The higher a person was in the Dark Triad traits, the higher they scored on sensation-seeking and impulsivity. The three subscales predicted impulsivity and sensation seeking in a multiple regression, accounting for a small proportion of the variance ($R^2 = .056, F(3, 1089) = 21.6, p < .001$). However, though Machiavellianism ($\beta = .13, t(1089) = 3.32, p = .001$) and psychopathy ($\beta = .10, t(1089) = 2.85, p = .004$) significantly predicted impulsivity, narcissism was only marginally significant ($\beta = .06, t(1089) = 1.77, p = .077$).

In summary, the first study found the Dark Triad and the ImpSS to have high reliability. The Dark Triad and its subcomponents correlated positively with the ImpSS, showing the expected positive relationship between the Dark Triad traits and impulsivity and sensation-seeking.

CHAPTER 3 STUDY 2

Method

Participants

Participants were 307 members of Amazon's Mechanical Turk (Mturk; <http://mturk.com>), 170 males (55%), 120 females (39%), and 17 that did not respond (6%). Participants ranged from 18–77 years of age, ($M = 32.6$, $SD = 11.1$). Mturk is an online marketplace that allows researchers to find participants of all ages from around the world, increasing generalizability and taking a step away from the undergraduate participant pool. Given that most of the research in social and behavioral sciences is done in Western, educated, industrialized, rich and democratic societies ("WEIRD," Azar, 2010), and this makes up only 12% of the world's population, tools like Mturk may be essential to improving our methodology. Moreover, research has supported the use of Mturk as a viable data collection source, with participants being no more subject to bias or inattention than usual samples (Buhrmester, Kwang, & Gosling, 2011; Paolacci, Chandler, & Ipeirotis, 2010). Data can be collected incredibly quickly and efficiently, and researchers can select participants with high performance ratings (i.e., not rushing through the tasks). Roughly half of the participants were from the United States and most of the remaining participants were from India, but the sample included participants from several other countries. Participants were compensated for their time with \$1, an unusually high amount for Mturk. Participants were treated according to the standards set by the American Psychological Association.

Measures and Procedure

Participants were informed that the researchers were interested in the relationship between test scores and personality characteristics. Participants were asked to give consent, provided demographic characteristics, and were told to look for a five-digit code at the end of the study to submit via Mturk to provide proof of participation. They completed the 12-item measure of the Dark Triad (Figure 3-1, Jonasan & Webster, 2010) and the Impulsivity and Sensation-Seeking (ImpSS) Scale (Zuckerman et al., 1993) to assess impulsivity and sensation-seeking. Participants then answered 10 math and 10 verbal practice SAT questions. A sample verbal question is: "Although some think the terms 'bug' and 'insect' are -----, the former term actually refers to ----- group of insects. (A) parallel . . an identical, (B) precise . . an exact, (C) interchangeable . . a particular, (D) exclusive . . a separate, (E) useful . . a useless." A sample math question is: "A total of 120,000 votes were cast for 2 opposing candidates, Garcia and Davies. If Garcia won by a ratio of 5 to 3, what was the number of votes cast for Davies? (A) 15,000, (B) 30,000, (C) 45,000, (D) 75,000, (E) 80,000."

After a brief pause (ostensibly while the program was scoring participants' responses), participants were randomly assigned to receive either neutral or negative feedback (i.e., the ego threat) on their performance on the SAT questions (Figure 3-2). Participants in the neutral feedback condition received the comment, "Good job! Your score is above the _91_ percentile. Your scores are _higher_ than what would be expected for an average participant." In contrast, participants in the negative feedback condition received the comment, "Your score is below the _19_ percentile. Your scores are _lower_ than what would be expected for an average participant."

Next, participants completed three activities which were counterbalanced: a delay discounting task, 30 games of blackjack, and the Balloon Analogue Risk Task (BART; Lejuez et al., 2002). Finally, participants completed the 12-item measure of the Dark Triad (Jonasan & Webster, 2010) again. The three activities are described in detail below.

Blackjack task

Participants played 30 games of blackjack (Figure 3-3) using the computer program Inquisit 3 Web (2010), which has been used previously (Petrocelli & Crysel, 2009; Petrocelli & Sherman, 2009). Participants were given instructions on the game (Appendix C). Before each hand, participants were asked to place bets between \$5 and \$10 in increments of \$1. The player (participant) was initially dealt two cards and can see only one of the dealer's (computer's) cards. The object of the game is for the value of one's cards to come as close to 21 without going over or "bust." Face cards are worth ten points, number cards are worth the corresponding value on the card, and the ace can be either one point or eleven points. The player has the option of taking another card or "hitting" to increase the sum of the points. After the player has finished taking new cards the dealer (computer) will take cards according to the pre-programmed rules.

Balloon analogue task

The BART (Appendix D) was also administered using the computer program Inquisit (2010). Participants inflated a red balloon 30 times, ostensibly earning \$0.05 per click (Figure 3-4). The balloon is located on the left side of the screen and inflates 8 pixels per click. The probability of the balloon popping on any given trial was 0.033

(1/30) and the participants were able to see the number of clicks and the amount of money earned per trial on the right side of the screen.

Delay discounting task

The delay discounting procedure (Appendix E) is modeled after the methods of Richards et al., (1999). Participants completed the task using the computer program Inquisit 3 Web (2010). Participants were given the opportunity to choose between different amounts of money available after different delays or with different chances (probabilities). There were five temporal delays presented in random order: 0, 2, 30, 180, and 365 days. A sample choice that participants might get is between \$3.50 now or \$10 in 180 days. There were five probabilities of receiving the larger reward presented in random order: 100%, 90%, 75%, 50% and 25%. A sample choice that participants might get is between a 100% chance of \$4.50 or a 50% chance of \$10. The following procedures are discussed in terms of delayed reward but were the same for probability choices. At each time of delay, participants made choices between an immediate smaller reward and a delayed larger reward (Figure 3-5). The program attempts to establish five indifference points at which the immediate reward is taken to equal the subjective value of the delayed reward (Myerson, Green, & Warusawitharana, 2001). Therefore the number of trials varies by participant, because once the indifference point is established no more trials are needed. Finally, a prewritten macro for Microsoft Excel was used to find k , the discounting parameter used for the analyses (Vanessa B. Wilson, Oregon Health & Science University).

Results

Self-Report Measures

The Dark Triad Dirty Dozen (Jonason & Webster, 2010) had high reliability at both time one and time two ($\alpha = .87$, $\alpha = .90$ respectively), as did the three subscales of Machiavellianism ($\alpha = .78$, $\alpha = .83$), psychopathy ($\alpha = .81$, $\alpha = .85$), and narcissism ($\alpha = .83$, $\alpha = .85$). Item-total correlations were good, ($r_s > .30$) for the total measure and each subscale. The Impulsivity and Sensation-Seeking (ImpSS, Zuckerman et al., 1993) also had high reliability ($\alpha = .84$), and item-total correlations were also good ($r_s > .30$) for all but one item with an item-total correlation of .28.

Eight participants for whom k could not be computed were removed from analysis, so the number of participants dropped from 307 to 299. The Dark Triad Dirty Dozen correlated strongly and positively at Times 1 and 2 with its three subscales of Machiavellianism ($r_s = .86$, $.90$; $p_s < .001$), psychopathy ($r_s = .80$, $.83$; $p_s < .001$), and narcissism ($r_s = .77$, $.78$; $p_s < .001$). Machiavellianism correlated strongly at Times 1 and 2 with psychopathy ($r_s = .61$, $.68$; $p_s < .001$) and narcissism ($r_s = .51$, $.56$; $p_s < .001$), and psychopathy correlated moderately with narcissism ($r_s = .35$, $.40$; $p_s < .001$). The higher a person scored on any one Dark Triad trait, the higher they scored on other Dark Triad traits.

As predicted, the ImpSS was moderately positively correlated with the Dark Triad at both times ($r_s = .36$, $.33$; $p_s < .001$), and its three subscales of Machiavellianism ($r_s = .31$, $.31$; $p_s < .001$), psychopathy ($r_s = .26$, $.26$; $p_s < .001$), and narcissism ($r_s = .31$, $.27$; $p_s < .001$). The higher a person scored on the Dark Triad traits, the higher they scored on sensation-seeking and impulsivity. The three subscales (using Time 1 scores, as they were measured before the ImpSS was measured) predicted impulsivity and

sensation seeking in a multiple regression, accounting for a small proportion of the variance ($R^2 = .14$, $F(3, 298) = 15.3$, $p < .001$). However, though Machiavellianism ($\beta = .15$, $t(298) = 2.01$, $p = .045$) and narcissism ($\beta = .199$, $t(298) = 3.17$, $p = .002$) significantly predicted impulsivity and sensation-seeking, psychopathy was not significant ($\beta = .10$, $t(298) = 1.47$, *ns*).

Behavioral Measures

The following results are discussed in terms of the initial Dark Triad Dirty Dozen (Jonason & Webster, 2010) scores, because these were completed before the manipulation. The mean amount bet from each participant was computed. As predicted, those scoring high on the Dark Triad were riskier in gambling by betting more money in games of blackjack, though the correlation was small ($r = .12$, $p = .033$). However, of the individual Dark Triad traits, only narcissism correlated significantly with blackjack bets ($r = .13$, $p = .027$).

The Dark Triad did not correlate with the number of “balloon pumps” on the BART ($r = -.09$, *ns*). Interestingly, the ImpSS (Zuckerman et al., 1993) was related to performance on the blackjack task ($r = .18$, $p = .002$), but not the BART, and neither discounting nor gambling was associated with the BART. It may be that participants did not find the BART as interesting as the blackjack task, or the amount of money ostensibly earned per click (\$0.05) may not have been high enough to result in strong individual differences for this sample.

The five indifference points were added to a prewritten excel macro to find k , the discounting parameter (i.e., a coefficient representing the discounting delay curve of the subjective value of money over time) used for the analyses (Vanessa B. Wilson, Oregon

Health & Science University). Following standard practice, the resulting k values, which were positively skewed, were normalized using a log transformation. Participants with higher Dark Triad scores engaged in steeper temporal discounting (i.e., preferred less money now to more money later, $r = .14, p = .02$). However, of the individual traits, only narcissism correlated significantly with blackjack bets ($r = .17, p = .003$). This could suggest that the relationship between gambling and temporal discounting and narcissism is driving the relationship with the Dark Triad as a whole, or that the Dark Triad as a construct is measuring something that the individual traits cannot predict alone. No effects were found for probabilistic discounting, and probabilistic discounting was only moderately positively related to temporal discounting ($r = .46, p < .001$). It is possible that participants found probabilities more difficult to consider in terms of relative value. It is also possible that probabilistic discounting is conceptually different from temporal discounting.

The ego threat manipulation was meant to interact with the Dark Triad Dirty Dozen (Jonason & Webster, 2010)—particularly the narcissism component—to predict riskier behavioral responses compared to participants who received no ego threat. It seemed to have a main effect on temporal discounting ($t(299) = -2.50, p = .01$), such that those in the negative feedback condition ($M = 0.58, SD = 1.1$) engaged in steeper temporal discounting than those in the neutral feedback condition ($M = 0.32, SD = 0.65$). However, if there was an interaction, it is unclear how it manifested. The interaction between narcissism and ego threat manipulation did not predict discounting ($\beta = .09, t(298) = 1.62, p = .106$). However, unlike other variables, the individual Dark Triad Dirty Dozen traits (as well as the total construct) at Time 2 significantly predicted discounting

(Machiavellianism, $r = .12$, $p = .041$; psychopathy, $r = .18$, $p = .003$; and narcissism, $r = .12$, $p = .048$). Therefore it is not immediately clear if the ego threat manipulation had an effect beyond generally producing steeper temporal discounting. The feedback condition did not appear to have an effect on any other variables, and therefore may not have had the intended effect of manipulating the Dark Triad as a whole.

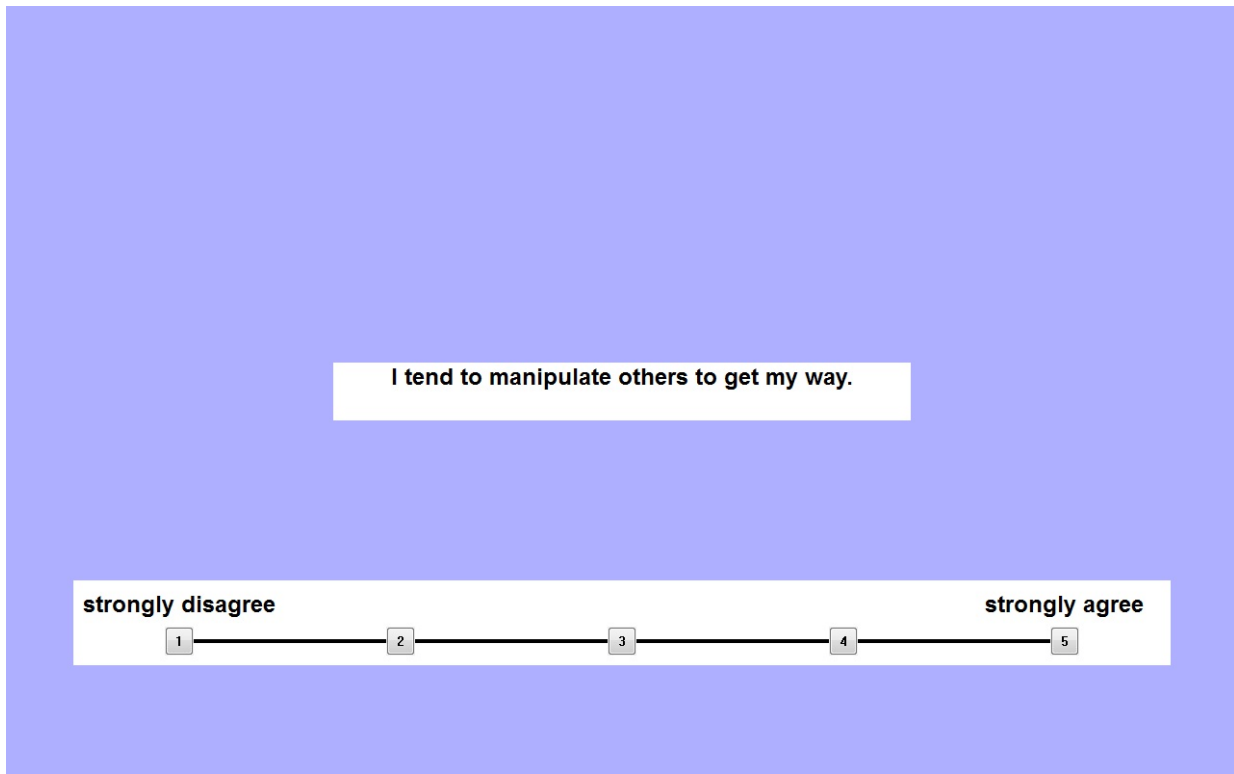


Figure 3-1. Screenshot of sample Dark Triad item. Items for the ImpSS are similarly formatted, but with a choice between 1 (True) and 2 (False). These questions were recoded for simplicity so that higher scores would equal greater impulsivity.

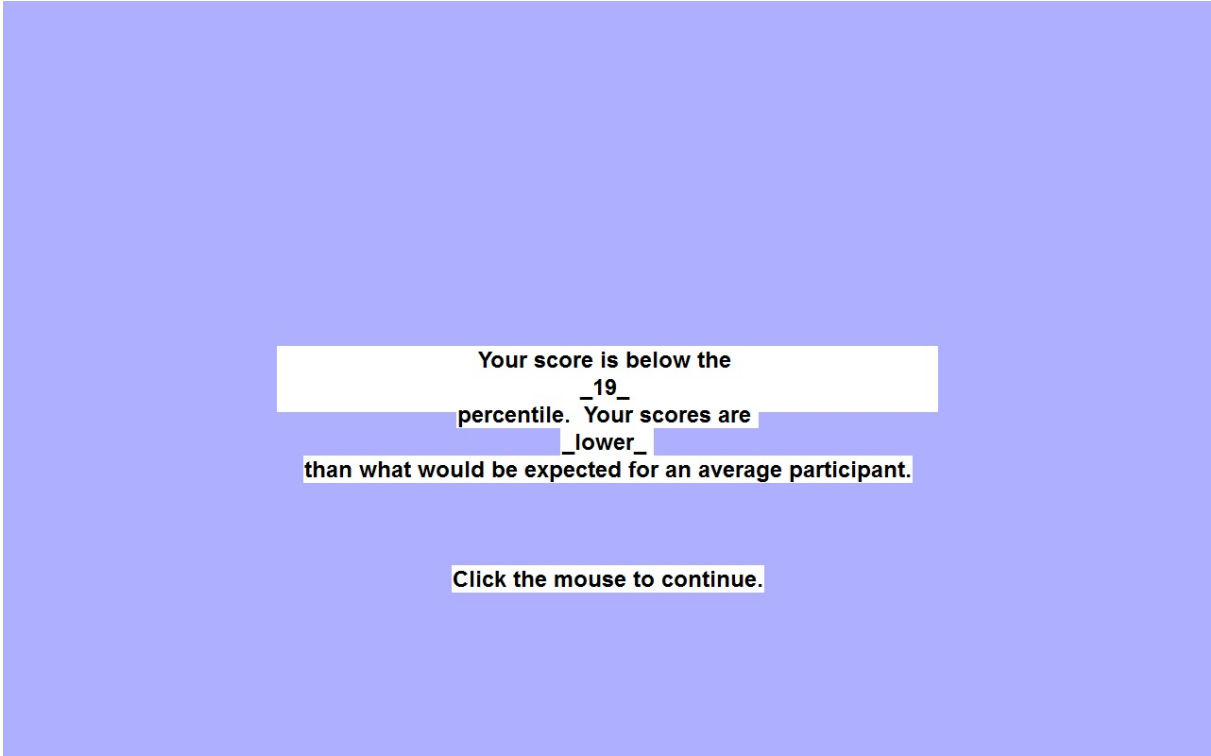


Figure 3-2. Screenshot of negative feedback manipulation. The differences between the negative feedback and neutral feedback conditions are that “19” becomes “91” and “lower” becomes “higher.”

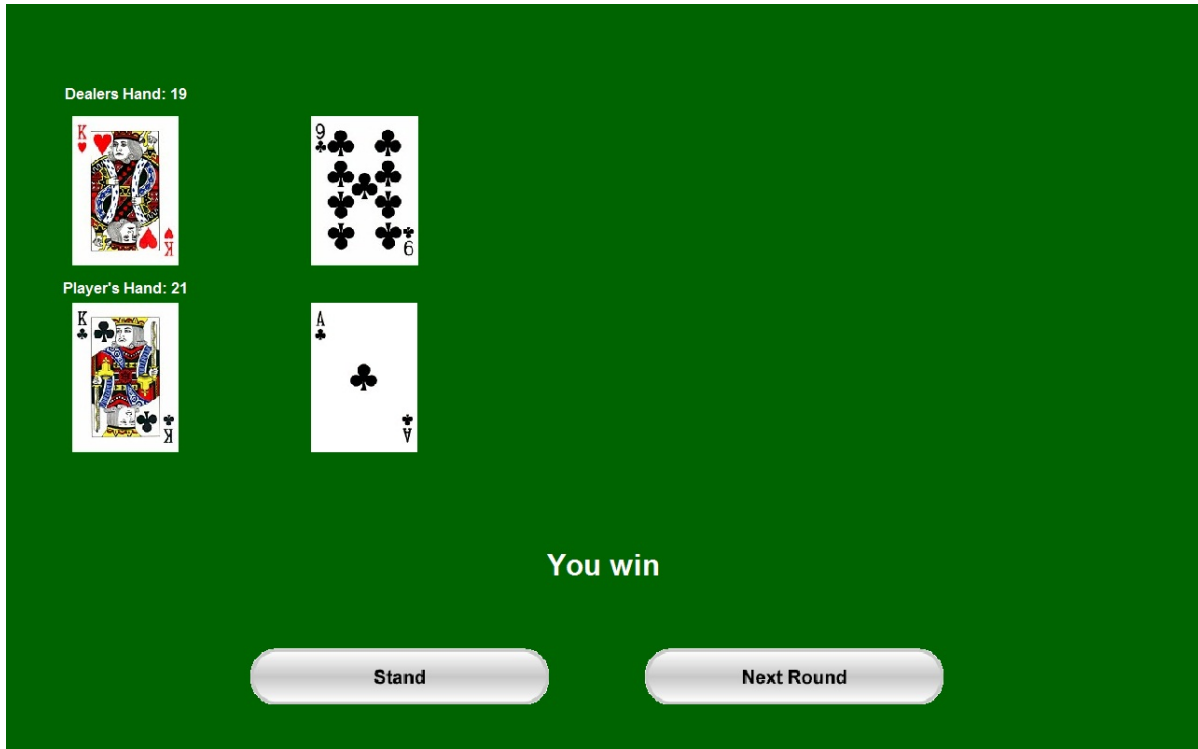


Figure 3-3. Screenshot of blackjack task.

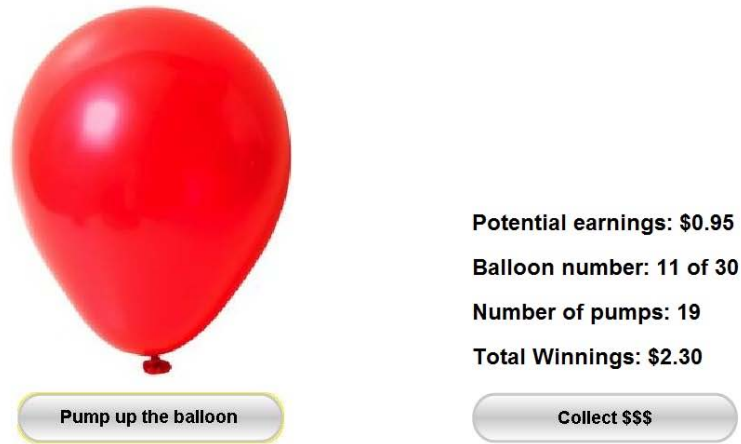


Figure 3-4. Screenshot of the Balloon Analogue Risk Task.

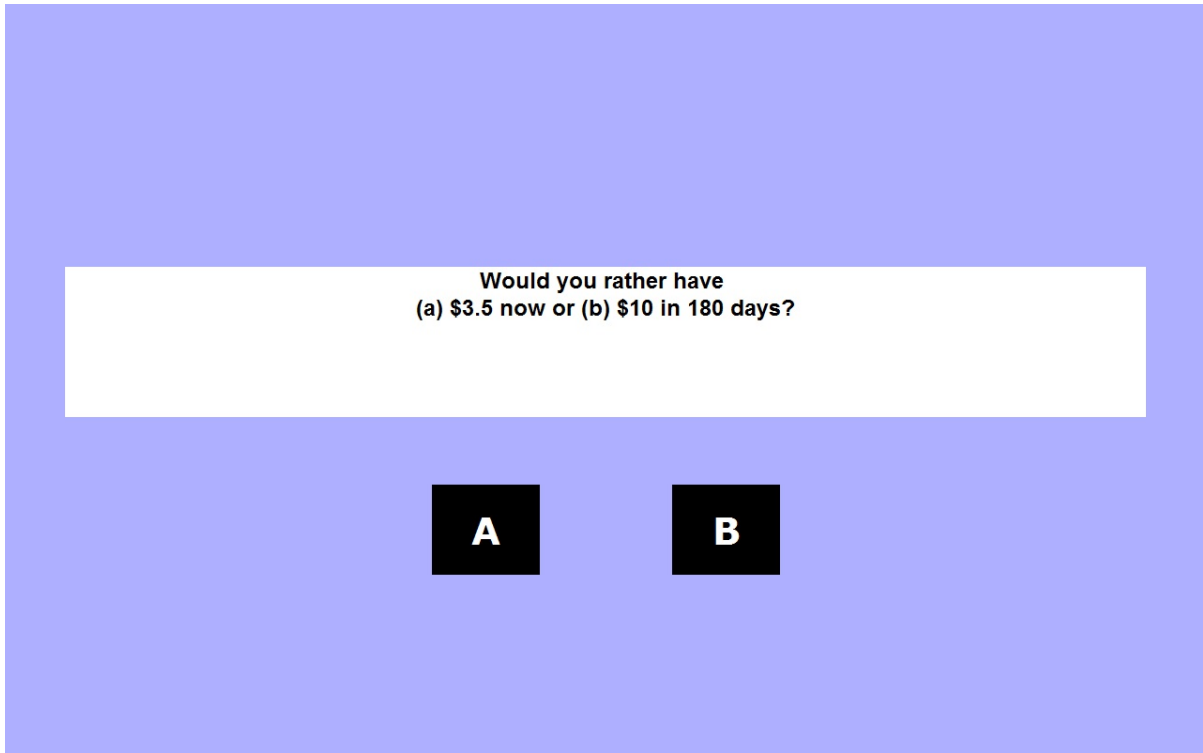


Figure 3-5. Screenshot of Delay Discounting task.

CHAPTER 4 GENERAL DISCUSSION

As predicted, impulsivity and sensation-seeking were moderately positively correlated with the Dark Triad and its three subscales. Consistent with previous research, the higher a person scored on the Dark Triad Dirty Dozen and its three components, the higher they scored on sensation-seeking and impulsivity (Jakobwitz & Egan, 2006; Vazire & Funder, 2006). Also as predicted, those scoring higher on the Dark Triad Dirty Dozen and higher on the Impulsivity and Sensation-Seeking Scale (IMPSS) were riskier in gambling by betting more money in games of blackjack and engaged in steeper temporal discounting. Of the individual Dark Triad traits, narcissism was the one that most consistently related to the behavioral measures of impulsivity. This could suggest that the relationship between gambling and temporal discounting and narcissism is driving the relationship with the Dark Triad construct, or that the Dark Triad as a construct is measuring something that the individual traits cannot predict alone.

However, neither the self-report nor behavioral measures correlated with the number of balloon pumps on the Balloon Analogue Risk Task (BART; Lejuez et al., 2002), and no effects were found for probabilistic discounting. It is unclear why the BART, probabilistic discounting, and the ImpSS were unrelated, and further research could shed light on the role of impulsivity in these behavioral measures. It is unlikely that the self-report measures failed to accurately assess their underlying constructs, as the Dark Triad and ImpSS behaved as expected for the other behavioral measures and with each other. Moreover, both studies found high reliability for the Dark Triad Dirty Dozen (Jonason & Webster, 2010), its three subscales, and the ImpSS.

The ego threat manipulation was meant to interact with the Dark Triad Dirty Dozen, especially narcissism, to predict riskier behavioral responses compared to participants who received no ego threat. This manipulation did have a main effect — those in the negative feedback condition engaged in steeper temporal discounting than those in the neutral feedback condition, and the Dark Triad traits at Time 2 were more strongly related to temporal discounting. Though a lack of significant results precludes more than speculation ($p = .11$), the trends in the data suggested that narcissism had a stronger relationship with temporal discounting in the negative feedback condition than it did in the neutral feedback condition. Perhaps a stronger ego threat could illuminate the effects of such threats on the Dark Triad, but there are ethical concerns in giving participants especially damaging feedback. The feedback condition did not appear to have an effect on any other variables, so the full effect of this manipulation is unclear.

Strengths and Limitations

A primary strength of this research is that, though it included the controlled college sample, it also went beyond the WEIRD population of undergraduates frequently used in social psychology by using an online sample from Amazon's Mturk. Measures of impulsivity were extended from self-report measures to behavioral measures, and one of those measures (gambling in blackjack) is directly comparable to an important real-world behavior. In fact, the real-world importance of this research is found in the behavioral outcomes of the Dark Triad, whether they are extreme cases (e.g., gambling addiction) or a deeper understanding of commonplace impulsive behaviors and why they may be ultimately rewarding. The study had sufficient power given expected effect sizes, and most participants appeared to be somewhat conscientious (determined

through use of a code at the end of the experiment). By using Inquist 3 Web (2010) in conjunction with Mturk, data on several measures was collected quickly and efficiently.

The limitations of this study include the unclear effectiveness of the ego threat manipulation. Unlike previous research (Bushman & Baumeister, 1998; Jones & Paulhus, 2010), ego threat failed to interact with narcissism and psychopathy. Attempts to measure or influence personality traits as if they were “states” may require more robust manipulations. Therefore, the data is essentially correlational and one can only speculate as to the causal mechanisms of these results. Some behavioral measures that should relate to impulsivity (the BART and probabilistic discounting) did not do so.

Future Directions

Future studies should consider the Dark Triad, particularly narcissism, as an additional source of information when studying impulsive behaviors. When attempting to establish causality, it may be that a stronger ego threat is required, or that another manipulation would be better at affecting or interacting with these personality traits. For example, if participants are given false feedback on their Dark Triad scores, believing them to be particularly high, they may actually behave in the expected way, ostensibly leading to higher impulsivity as well. Future studies could also consider the role of “bigger” personality dimensions, such as extraversion, in relation to the Dark Triad and impulsive behaviors.

Future studies should continue to seek new sources of participants and go beyond the undergraduate psychology research pool. Specifically, it would be interesting to see if these effects are stronger for those suffering from gambling addiction. For example, are they proportionately higher in the Dark Triad traits? Is the relationship between the Dark Triad and impulsivity stronger in participants higher in impulsive behaviors?

Moreover, is there common genetic basis for the Dark Triad and impulsivity? Whether we are interested in a clinical population, or describing commonplace behaviors, is essential for theories to be developed around a truly representative sample. Our science is not and should not be the study of only one specific group of people, because the ability to explain “human” behavior is a fundamental goal of what we do.

APPENDIX A
THE DARK TRIAD DIRTY DOZEN (JONASON & WEBSTER, 2010)

1. I tend to manipulate others to get my way.
2. I have used deceit or lied to get my way.
3. I have use flattery to get my way.
4. I tend to exploit others towards my own end.
5. I tend to lack remorse.
6. I tend to be unconcerned with the morality of my actions.
7. I tend to be callous or insensitive.
8. I tend to be cynical.
9. I tend to want others to admire me.
10. I tend to want others to pay attention to me.
11. I tend to seek prestige or status.
12. I tend to expect special favors from others.

APPENDIX B
IMPULSIVITY AND SENSATION-SEEKING SCALE (IMPSS; ZUCKERMAN ET AL.,
1993)

Original instructions: If you agree with a statement or decide that it describes you, answer 1 on your scantron to indicate TRUE. If you disagree with a statement or feel that it is not descriptive of you, answer 2 to indicate FALSE. Answer every statement either True or False even if you are not entirely sure of your answer.

1. I tend to begin a new job without much advance planning on how I will do it.
2. I usually think about what I am going to do before doing it.
3. I often do things on impulse.
4. I very seldom spend much time on the details of planning ahead.
5. I like to have new and exciting experiences and sensations even if they are a little frightening.
6. Before I begin a complicated job, I make careful plans.
7. I would like to take off on a trip with no pre-planned or definite routes or timetable.
8. I enjoy getting into new situations where you can't predict how things will turn out.
9. I like doing things just for the thrill of it.
10. I tend to change interests frequently.
11. I sometimes like to do things that are a little frightening.
12. I'll try anything once.
13. I would like the kind of life where one is on the move and traveling a lot, with lots of change and excitement.
14. I sometimes do "crazy" things just for fun.
15. I like to explore a strange city or section of town by myself, even if it means getting lost.
16. I prefer friends who are excitingly unpredictable.
17. I often get so carried away by new and exciting things and ideas that I never think of possible complications.
18. I am an impulsive person.
19. I like wild and uninhibited parties.

APPENDIX C BLACKJACK INSTRUCTIONS

“Now you will play 30 games of blackjack. You will begin with 200 'dollars' and will have the option of betting 5 to 10 dollars on each hand. Please act as you would if you were betting your own money. Your objective is to make more money than other participants in the study. Below are instructions for the game.

You will be dealt two cards and can see only one of the dealer's (computer's) cards. The object of the game is for the value of one's cards to come as close to 21 without going over 21, which is called going 'bust.' Face cards (king, queen, jack) are worth 10 points, and number cards are worth the corresponding value on the card (a 9 is worth 9 points), and the ace can be either 1 point or 11 points. You have the option of taking another card or 'hitting' to increase the sum of the points. However, if you go over 21 points or 'bust,' the dealer wins. After the player has finished taking new cards the dealer (computer) will take cards according to the pre-programmed rules.”

APPENDIX D
BALLOON ANALOGUE RISK TASK INSTRUCTIONS

"Now you're going to see 30 balloons, one after another, on the screen. For each balloon, you will use the mouse to click on the button that will pump up the balloon. Each click on the mouse pumps the balloon up a little more.

BUT remember, balloons pop if you pump them up too much. It is up to you to decide how much to pump up each balloon. Some of these balloons might pop after just one pump. Others might not pop until they fill the whole screen.

You earn 'MONEY' for every pump, improving your performance. Each pump earns \$.05. But if a balloon pops, you lose the money you earned on that balloon. To keep the money from a balloon, stop pumping before it pops and click on the button labeled ~"Collect \$\$\$~".

After each time you collect \$\$\$ or pop a balloon, a new balloon will appear.

Click the left mouse button to see the summary."

"Summary

- * You make \$.05 for each pump.
- * You save the money from a balloon when you click ~"Collect \$\$\$~".
- * You lose money from a balloon when it pops.
- * There are just 30 balloons.

Now, do you have any questions?

Click the left mouse button to begin."

APPENDIX E
TEMPORAL DISCOUNTING INSTRUCTIONS

"Welcome to the Delay & Probability Discounting Task!

You will have the opportunity to choose between different amounts of money available after different delays or with different chances. The test consists of about 110 questions, such as the following:

Would you rather have \$10 for sure in 30 days or \$2 for sure at the end of the session?"

or

"Would you rather have \$5 for sure at the end of the session or \$10 with a 25% chance?"

Press 'Enter' to start the task!"

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BIOGRAPHICAL SKETCH

Laura Crysel was born in Statesville, North Carolina in 1987. She was inducted into Phi Beta Kappa in 2008. She graduated summa cum laude with a Bachelor of Arts in psychology with honors from Wake Forest University in May of 2009. Laura enrolled in the graduate program for social psychology at the University of Florida in August of 2009. She is pursuing her doctoral degree in social psychology at the University of Florida. Laura loves participating in fandom, such as being first in line for the final Harry Potter book release, rescuing fictional characters, and attending sci-fi conventions. She enjoys travelling to the United Kingdom, swimming at the beach, water parks, and rock climbing at Lake Wauburg.