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Narcissism and Risk-Taking for Others

Tyler B. Cowley

Louisiana State University and Agricultural and Mechanical College

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NARCISSISM AND RISK-TAKING FOR OTHERS

A Thesis

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Master of Science

in

The Department of Psychology

by
Tyler Cowley
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Table of Contents

Acknowledgements	ii
List of Tables and Figures.....	iv
Abstract.....	v
Chapter 1. Introduction	1
Chapter 2. Literature Review and Hypothesized Relationships	4
2.1. Risk-Taking	4
2.2. Narcissism and Risk-Taking	5
2.3. Risk-Taking for Self vs. Others	6
2.4. Narcissism and Decision Context	9
2.5. Exploratory Analysis	12
Chapter 3. Methods.....	13
3.1. Participants	13
3.2. Procedure	13
3.3. Measures	14
3.4. Exploratory Variables	16
Chapter 4. Results	17
4.1. Hypothesis Testing.....	18
4.2. Additional Analyses.....	25
Chapter 5. Discussion	31
5.1. Narcissism and Risk-Taking.....	31
5.2. Implications.....	33
5.3. Future Directions & Limitations.....	33
Appendix A. Institutional Review Board Approval	37
Appendix B. Demographic Survey	38
Appendix C. Narcissistic Personality Inventory (NPI).....	40
Appendix D. General Risk Propensity Scale (GRiPS)	41
Appendix E. BART Script	42
References.....	43
Vita.....	54

List of Tables and Figures

Tables

4.1. Means, Standard Deviations, Correlations, and Scale Reliabilities	17
4.2. Hierarchical Regression Table Before and After Interaction Terms	21
4.3. Model Comparison.....	24
4.4. Hierarchical Regression Table with Exploitativeness as the Predictor	25
4.5. Hierarchical Regression Table with Vanity as the Predictor	27

Figures

3.1. Balloon Analogue Risk Task	15
4.1. Test of Linearity.....	20
4.2. Test of Homogeneity.....	20
4.3. Test of Normality.....	21
4.4. Interaction between narcissism and each experimental condition on BART scores	24
4.5. Interaction between vanity and each experimental condition on BART scores	29
4.6. Interaction between exploitativeness and each experimental condition on BART scores	30

Abstract

While prior findings demonstrate that narcissists are excessively risk-seeking for themselves, research does not yet understand if their risk-seeking behaviors extend to others as well. This paper examines the role of narcissism in risk-taking on behalf of others. I hypothesize that narcissists will take more risks when deciding for others because they lack empathy and perspective taking. Therefore, narcissists are more likely to take risks based on their personal preferences, rather than the recipient's desires. To test my hypotheses, participants completed the Balloon Analogue Risk Task (BART) for themselves, another individual, and an anonymous individual, followed by completing the Narcissistic Personality Inventory (NPI) in a pre-registered experiment ([Link](#)). Using multi-level modeling, I found that narcissism is negatively related to risk-taking for the self and positively related to risk-taking for anonymous individuals.

Keywords: narcissism, decision-making, risk-taking, perspective-taking, BART

Chapter 1. Introduction

“September and October of 2008 was the worst financial crisis in global history, including the great depression” – Ben Bernanke, 14th Chair of the Federal Reserve

What caused the housing market to crash in 2008? Although some have attributed the catastrophe to corporate greed (Reavis, 2012) and lack of government oversight (Born, 2011), eminent economist Russ Roberts (2019) argued in his book *Gambling with Other People’s Money* that the financial crash was the result of the banks' reckless investments on behalf of their customers. Roberts (2019) explains that bankers were fixated on the upsides of their risky investments and dismissive of the potential liabilities. The result of this negligence was one of the most catastrophic market collapses in the last century. The 2008 financial crisis illustrates the perils of making risky decisions for others.

Although Roberts (2009) account of the financial crisis seems to suggest that investors are more risk-seeking when deciding on behalf of others, decision-making research has been mixed on whether a risky shift (i.e., more risk-seeking) or cautious shift (i.e., more risk-averse) occurs within interpersonal decision-making (i.e., deciding for others; see Polman & Wu, 2019, for review). On the one hand, early research found evidence of a cautious shift, whereby people tend to choose the less risky choice when deciding for someone else (Cvetkovich, 1972; Slovic, Weinstein, & Lichtenstein, 1967; Teger & Kogan, 1975; Wilke & Meertens, 1973; Zaleska & Kogan, 1971). For example, a cautious shift was found to occur when people felt accountable for the decisions they made for others (Viscusi et al., 1987). On the other hand, research has found that when people decide for others, they become more risk-seeking (Beisswanger et al., 2003; Liu et al., 2018; Polman & Emich, 2011; Polman, 2012a, 2012b). For example, Chakravarty and

colleagues (2005) found that people become more risk-seeking when making an anonymous risky choice for others.

Overlooked from past research is the role of individual personality differences on interpersonal risk-taking (i.e., risk-taking for others). When considering the heterogeneity of risky behaviors across decision contexts, individual differences may account for why some people take more (vs. less) risks when deciding for others. One plausible personality predictor of interpersonal risk-taking is narcissism, which has garnered considerable attention from psychologists and management scholars (Chatterjee & Hambrick, 2007; Howes et al., 2020). Past research has found that narcissism predicts risk-taking in a variety of contexts such as gambling (Biolcati et al., 2014; Lévesque et al., 2018), alcohol abuse (Kealy et al., 2017), and deceit (Jones & Paulhus, 2017). Despite substantial research showing narcissists' elevated appetite for risks, little is known about whether narcissists are willing to take more (or less) risks when deciding for others.

The purpose of this thesis is to examine the moderating role of decision context (i.e., deciding for self vs. others) on the relationship between narcissism and risk-taking. Specifically, I posit that narcissists will take more risks for others than they will for themselves, while taking the most risks for anonymous others because they lack perspective-taking and empathy. This lack of perspective-taking leads narcissists to take risks based on their personal preferences, rather than considering the preferences of others and their potential aversion to risk-taking. The present study makes several contributions to the literature on narcissism and risk-taking. First, this study sheds light on the conflicting findings of risk-seeking versus risk-aversion when deciding for others by including narcissism as a potential predictor variable. Second, this study contributes to the literature on personality and risk-taking. Specifically, this study adds insight

into the overlap that exists between risk-taking for others and personality differences. Third, this study contributes to important hiring and promotion decisions.

Chapter 2. Literature Review and Hypothesized Relationships

2.1. Risk-Taking

The Oxford English Dictionary (2015) defines risk as “exposure to the possibility of loss, injury, or other adverse or unwelcome circumstance.” Scholars have added that risk involves actions that may lead to a positive or negative outcome (Mishra et al., 2017), typically involving novelty and uncertainty (Fox & Tannenbaum, 2011). For example, we may take negligible risks, like ordering a new dish at a restaurant, to significant risks like investing a great deal of money into a startup company. The dispositional nature of risk-taking (Highhouse, Nye, & Zhang, 2018) has also led researchers to revisit the role of personality on risky behaviors (Lauriola & Weller, 2018, Weller & Tikir, 2011).

The Big Five framework of personality traits has emerged as the dominant model of personality (Costa & McCrae, 1992; Poropat, 2009). The five personality traits are conscientiousness, neuroticism, extraversion, openness, and agreeableness. Conscientious people tend to focus on high achievement, and they work towards success by being organized and disciplined. Neurotic individuals are more anxious, impulsive, and less emotionally stable. Extraverted individuals are more talkative, sociable, and assertive. Openness refers to one’s willingness to try new things and an individual’s general curiosity about the world. Lastly, agreeableness refers to one’s cooperative and helpful nature towards others. Joseph & Zhang (2021) found that personality characteristics within the Big Five (e.g., conscientiousness, openness, extraversion, and agreeableness) correlate with greater general risk-taking.

In addition to the Big Five, the Dark Triad is a personality measure that refers to a group of personality traits (psychopathy, narcissism, and Machiavellianism) characterized by a general callousness towards others (Jones & Paulhus, 2011a; Paulhus & Williams, 2002).

Machiavellianism is linked to self-interested behavior, including manipulateness and selfishness (Jones & Paulhus, 2009), psychopathy is linked to antisocial behavior (Williams & Paulhus, 2004) and impulsivity (Newman, 1987), and narcissism is linked to grandiosity and entitlement (Morf & Rhodewalt, 2001). Individuals high on the Dark Triad are more willing to steal from (Hare, 1990) and cheat (Bogart et al., 1970; Williams et al., 2010) other individuals to get what they want. This willingness to take advantage of others for personal gain leads to poor organizational culture and negative work outcomes (O'Boyle et al., 2012). This thesis focuses primarily on narcissism.

2.2. Narcissism and Risk-Taking

One of the most well-studied dark traits is narcissism, which is characterized by a desire to enhance personal status and esteem in the eyes of others and the self (Böckler et al., 2017; Campbell et al., 2005). Although narcissism is traditionally seen as a clinical disorder, personality psychologists recognize that there is a subclinical trait of narcissism, which is far more common among the general population (Campbell et al., 2004). According to Campbell's agency model, narcissists are more likely to have an approach orientation when making decisions (Campbell et al., 2006, Campbell and Foster, 2007). In other words, narcissists are motivated to take risks because they are attracted to potential rewards (approach motivation) and tend to ignore potential consequences (avoidance motivation) (Foster et al., 2009; Malesza & Ostaszewski, 2016). Scholars have theorized that both narcissism and an individual's approach orientation develop from indulgent and permissive parenting practices (Capron, 2004; Horton et al., 2006; Kohut, 1977; Millon et al., 2004; Otway & Vignoles, 2006). When children grow up having few experiences where they were limited or disciplined, they may begin to believe that punishment rarely happens; inversely, when children are consistently indulged, they may believe

that reward almost always follows decisions made (Foster & Brennan, 2012). Thus, narcissists are likely to have an approach orientation, meaning they likely believe reward always follows risk.

The narcissistic belief that rewards - rather than punishment - typically follow risky decisions has been demonstrated in studies that examine their willingness to engage in short-term risky behaviors (Foster & Trimm, 2008). For example, narcissists are more likely to become pathological gamblers than non-narcissists (Lahey et al., 2006) demonstrating that narcissists likely act without considering the potential consequences of a risky decision (Crysel et al., 2013; Santesso & Segalowitz, 2009; Zuckerman, 1994; Zuckerman & Kuhlman, 2000). This action without consideration of consequences can be attributed to narcissists' enhanced impulsivity (Foster & Trimm, 2008; Vazire & Funder, 2006) which leads to an increase in risk-taking (Barratt, 1983; Crysel et al., 2013; Santesso & Segalowitz, 2009). All of this together suggests that narcissists are weakly motivated by punishment and strongly motivated by reward, further supporting the research claiming that narcissists have a high approach motivation and a low avoidance motivation. Thus, I hypothesize the following:

Hypothesis 1: Narcissism will be positively associated with risk-taking.

2.3. Risk-Taking for Self vs. Others

Although research on risk-taking and narcissism has predominantly focused on contexts where decision-makers decide for themselves, a different body of research has examined risky decisions people make on behalf of others (see Polman et al., 2019, for review). A central question from this research is whether people are more risk-seeking (risky shift) or risk-averse (cautious shift) when deciding for others. Although research from before the 2000s demonstrated (likely due to an emphasis on decision context after the early 2000s; e.g., loss versus gain frame)

that people are more cautious than risky when deciding for others (Cvetkovich, 1972; Slovic, Weinstein, & Lichtenstein, 1967; Teger & Kogan, 1975; Wilke & Meertens, 1973; Zaleska & Kogan, 1971), there is emerging discord within the literature between risk-taking for self vs. others. For example, some authors within recent literature (e.g., Chang et al., 2012) claim that individuals are more cautious when deciding for others. While other scholars (e.g., Pollmann et al., 2014) claim that individuals are more risk-seeking when deciding for others.

Several theories explain why risk preferences may differ when deciding for others (versus self). First, research has examined contextual factors of risk-taking, such as cognitive theories. The account of information weighting (Von Gunten & Scherer, 2018) and the account of information search (Liu et al., 2018) highlight two important cognitive theories. These theories suggest that people weigh and search for information differently when deciding for others, such as an individual considering an option's desirability more important than the option's feasibility (Lu et al., 2013). Second, research has examined varying emotional theories. One such theory is the risk-as-feelings hypothesis (Loewenstein et al., 2001), which was designed to account for an individual's behavior in risky situations because of an emotional response to the presented risk. The risk-as-feeling hypothesis explains that people choose based on their positive emotions (leading to risk-seeking behavior) or negative emotions (leading to risk aversion) (Ziegler & Tunney, 2012). In terms of self-other decision-making, the central argument of the risk-as-feelings hypothesis is that people are less emotionally invested when making choices for others, which would be especially true regarding anonymous others.

There are a variety of reasons a cautious shift may happen instead of a risky shift. First, a cautious shift may happen when decision-makers feel that others value the most prudent decision over a risky one (Rettig, 1966). Second, when they are aversive to the responsibility that is

associated with making decisions for others, leading to conservative decision-making (Bolton et al., 2015; Pahlke et al., 2015; Teger & Kogan, 1975). Third, when they are worried they will regret their decision (Mengarelli et al., 2014). Lastly, when a decision entails real versus hypothetical consequences (Kvaløy et al., 2014; Pahlke et al., 2015). Thus, research shows that the responsibility associated with failure appears more significant than the responsibility associated with success. In other words, people are more compelled to avoid hurting someone than they are to help someone (e.g., De Dreu et al., 1992; Viscusi et al., 1987). Thus, we see that many studies show that we take the same if not more risk for ourselves than for others (Lonergan & Clintock, 1961; Wallach et al., 1964; Weinstein & Lichtenstein, 1967; Wilke & Meertens, 1973; Zaleska & Kogan, 1971).

A separate body of literature suggests that people are more risk-seeking when making decisions for others compared to when they make decisions for themselves (Chakravarty et al., 2011; Pollmann et al., 2014). For example, scholars have found that risk-taking increases for others within a variety of contexts: 1) relationship scenarios (Beisswanger et al., 2003; Stone & Allgaier, 2008). 2) Monetary decision tasks (i.e., gambling) (Mengarelli et al., 2014; Polman, 2012b). 3) Hypothetical surrogate decision-making for a friend and stranger (Batteux et al., 2017; Stone & Allgaier, 2008). 4) When decision-makers face no consequences for their decisions (e.g., anonymity; Chakravarty et al., 2005; Füllbrunn & Luhan, 2017). 5) When personal involvement is low (Beisswanger et al., 2003; Harkness et al., 1985). One explanation for this opposing literature of risky shift is psychological distance. Psychological distance happens when a decision-maker feels distant from the decision recipient (Danziger et al., 2012). For example, psychological distance has been shown to occur when people make financial decisions for others (Trump et al., 2015). Even more, studies have found that self-interested

behavior decreases by over 70% when participants use their own money versus another person's money, thereby demonstrating that people are willing to take more chances with the money of other people (Cherry et al., 2005; Polman & Wu, 2019). Andersson et al. (2013) similarly claim that gambling with someone else's money, rather than house money (i.e., money given to them), makes losses feel less salient. This decreased salience and increased distance may help explain why bankers and money managers take significantly more risks on behalf of others.

2.4. Narcissism and Decision Context

According to construal level theory, people take more risks for others because of a psychological distance created between themselves and a decision they make for another individual (Danziger et al., 2012). This psychological distance leads to greater risk-taking for others as people often focus on the positive rewards that could be gained from a risky decision instead of the potential adverse outcomes (Liu et al., 2018; Polman & Emich, 2011; Polman, 2012a, 2012b). When psychological distance is created, people interpret decision problems differently (Danziger et al., 2012). For example, when individuals go to an advisor, the advisor usually does not think about what they would do if they were in the same situation as the recipient. Instead, advisors provide recommendations through a distanced perspective and assign more weight to values associated with a high-level construal (e.g., personal values and idealistic considerations); whereas choosers typically assign more weight to values associated with a low-level construal (e.g., pragmatic considerations and feasibility of implementation; Danziger et al., 2012). This distance is especially pronounced when decision recipients are anonymous receivers of decisions (Chakravarty et al., 2005).

Furthermore, psychological distance between a decision recipient and a decision-maker leads to more abstract thinking (Trope & Liberman, 2010). In other words, decision-makers are

not likely to think about the recipient's subjective experience while making the decision (Batteux et al., 2017). Thus, as psychological distance between the recipient and the decision-maker increases, it is expected that others' risk preferences will become less important to the decision-maker. This distance would be especially pronounced when dealing with anonymous individuals because of the lack of responsibility associated with decisions being made. Importantly, research has demonstrated that when we make choices for others, it requires high construal levels (Holt et al., 2020) to take on the perspective of others and make decisions that they would make themselves (Blakemore, 2008).

Perspective-taking - the ability to judge a situation from another person's viewpoint (Blakemore & Choudhury, 2006) - increases the empathy people feel for others (Davis, 1983; Herrera et al., 2018). One study demonstrated that as people take on the perspective of others, their brain begins to more rationally examine the decision ahead, leading to more conservative decision-making for others (Crone et al., 2008). In other words, people take fewer risks for others when they take on their perspective. Furthermore, research has found that risk preferences are minimized in surrogate decision-making, which is consistent with the risk-as-feelings hypothesis (Loewenstein et al., 2001).

Thus, there are reasons to suspect that the shift in risk preferences when deciding for others (both anonymous and non-anonymous) versus deciding for yourself may depend on the decision maker's narcissistic tendencies. Narcissism may impact decision-making for others due to psychological distance and perspective-taking. One model of surrogate decision-making (Epley et al., 2004) - The Egocentric Anchoring and Adjustment model - explains that people use their perspective as an anchor and adjust from it when deciding for others. Furthermore, the egocentric perspective explains that a decision maker's ability to separate their preferences is

based on their ability to empathize with others and take on their perspective. The separation of personal preferences may be important to empathy because, in some other-focused risk scenarios, those higher in empathy were concerned with the potential losses others faced rather than the potential rewards (Baldner et al., 2015). One reason this may be the case is that empathetic people can understand why a decision may be beneficial or harmful to someone, which is important for perspective-taking. For instance, Holt et al. (2020) state that people who can take on the perspective of another will be able to empathize with them, and their construal levels will increase, thereby helping them to traverse psychological distance created between a decision and its recipient.

Empathy is an essential aspect of social interaction because it involves understanding the feelings of others and taking on their perspective (i.e., theory of mind; Mead, 1934). When empathy is high, individuals are typically interested in helping others (Batson, 1991), whereas when empathy is low, individuals are more self-centered (Eslinger et al., 2002) and impulsive (Spinella, 2005). When individuals have low levels of empathy, they have been found to lack guilt and compassion for others (Dodell-Feder et al., 2011; Hare et al., 1990; Santesso & Segalowitz, 2009). This lack of guilt leads people to become more risk-seeking as decision-makers with high levels of guilt are more cautious in their decision-making for others (Teger & Kogan, 1975). Thus, people make the most prudent decision when deciding between maximizing rewards and minimizing losses in an attempt to avoid guilt (Stone et al., 2002). Those prone to feelings of guilt may take fewer risks for others because they are good at perspective-taking (Leith & Baumeister, 1998). A variety of studies have shown that perspective-taking is negatively related to general narcissism, in part, due to narcissists' low levels of guilt and empathy (Jonason & Krause, 2013; Vachon & Lynam, 2016; Wai & Tiliopoulos, 2012).

Therefore, narcissists' desire to take risks because of potential self-serving rewards and their low levels of empathy and guilt may lead them to take more risks for others regardless of the cost.

Hypothesis 2: People will take greater risks for anonymous individuals than they will for themselves or non-anonymous individuals.

Hypothesis 3: Decision context (self vs. other vs. anonymous other) will moderate the relationship between narcissism and risk-taking such that narcissists will become more risk-seeking for both others and anonymous others than they would be for themselves.

2.5. Exploratory Analysis

In addition to my hypotheses, I examined potential confounding variables and individual differences for exploratory purposes. The General Risk Propensity Scale (GRiPS) was used as an exploratory variable as it measures an individual's general risk-taking propensity (Zhang et al., 2019). The GRiPS was used because an individual's general desire to take risks may play an important role in narcissistic decision-making for others. Narcissists may be more risk-seeking for others solely because they want to take the risk, which could directly impact the way my findings should be interpreted.

Chapter 3. Methods

3.1. Participants

I recruited college students as the primary participants via SONA. Through SONA, participants were able to receive extra credit for their ongoing classes. Participants had to be 18 years of age to participate in this study. I was able to recruit 124 participants. 15 participants were removed due to missing data and incorrectly answering an attention check question. 15 participants were removed because they answered “yes” when asked if they were suspicious of the study's procedures (i.e., this was my manipulation check). Lastly, I used a Mahalanobis distance test to identify any statistical outliers within the data. No outliers were identified, thereby leaving a total sample of 94 participants. Of those 94 participants, 75% were female, 68% were White, with 94% of the participants being between the ages of 18 and 22 years.

3.2. Procedure

I conducted a within-subjects experiment to examine if narcissism predicts risk-taking within different decision contexts (self, other, and anonymous other). Specifically, I manipulated decision scenarios by having individuals take risks for themselves, others, and anonymous others via the Balloon Analogue Risk Task (BART). The ‘other’ individual was a confederate (i.e., a fake participant) who was in the same room as the participant and followed the same procedures, and the anonymous individual was believed to be an additional participant that was placed in a room upstairs. I set up the experiment this way to examine if decision context significantly moderates the relationship between narcissism and risk-taking without the potential confounding variable of prior friendships. Participants did not complete the task for guaranteed money, however, their final score on the BART was converted into raffle tickets used towards a \$10 gift card to Amazon, thereby incentivizing participants to focus on the task. Importantly, participants

were told that the raffle tickets they earned for others would not impact their own odds of being drawn for the gift card because we had created three separate raffles, thus, the tickets earned for another person would be entered into a separate raffle and be used to help that person without negatively impacting one's own chance of being drawn in the raffle and vice versa.

Throughout the study, participants completed the BART for raffle tickets. I used a simple randomization technique where participants moved through the decision contexts within the BART in a different sequence depending on their participant number. This allowed me to easily counterbalance the decision scenarios. For example, the first participant started the experiment by taking risks for themselves and finished by taking risks for the anonymous participant, while the second participant started in the other condition and finished by taking risks in the self condition, and so on. Participants were given five trial balloons at the beginning of the experiment to see what the task was and how to complete the task. Once the trials had been completed, participants took the BART in all three contexts, one at a time. Higher scores on the BART indicated higher levels of risk-taking. This experiment took place in a behavioral laboratory on LSU campus.

3.3. Measures

Balloon Analogue Risk Task. Through Qualtrics, I used the standard version of the Balloon Analogue Risk Task (BART) to measure participants' willingness to take risks (Lejuez et al., 2002). Participants saw 20 balloons, one at a time, and earned raffle tickets for themselves and two other individuals (fake participants) by pumping up a computerized balloon. Participants started with 0 tickets and slowly accumulated 0.05 tickets per pump. If participants over-pumped a balloon, it would explode and all of the tickets from the current balloon would be lost, then the next balloon would appear. The computer screen displayed six items: a balloon, a pump that was

clicked to fill up the balloon, a button labeled “Collect,” a section showing participants how much money they had gained on the previous round, a section showing the amount of pumps participants had taken on the current balloon, and a section showing how much money participants made over the entire experiment (Figure 3.1).



Figure 3.1. Balloon Analogue Risk Task

Participants could transfer their earnings to the permanent bank account at any time during the balloon pumping. If participants chose to move their temporary earnings to a permanent account, their earnings would be saved in the permanent bank account, the balloon on the screen would disappear, and the next balloon would be displayed for participants to begin pumping again. The dependent variable of the study was the number of pumps participants took

for each balloon that did not pop. The more participants pumped up a balloon, the greater risk they were willing to take.

Importantly, each balloon exploded between 1 and 32 pumps. As participants pumped up each balloon, their chance of exploding that balloon increased. Thus, if participants reached 31 pumps out of 32, the next pump would yield a 100% chance of exploding, while pump 16 would yield a 50% chance of exploding. I explained to participants that they would personally decide how many pumps they would use to fill up each balloon. Then I explained that some balloons could explode after the first pump, and others might not explode until they reached the end of the task.

Narcissistic Personality Inventory (NPI). Subjects completed the 40-item NPI (Raskin & Hall, 1979; Raskin & Terry, 1988). These 40 items are answered using a simple true-false format. Higher scores on this scale indicate elevated narcissism. Sample items from the NPI include: “I can read people like a book;” “I find it easy to manipulate people;” “I insist upon getting the respect that is due me;” and “I like to look at myself in the mirror.” The internal consistency of this scale had a good alpha of $\alpha = 0.8$.

3.4. Exploratory Variables

General Risk Propensity Scale (GRiPS). The GRiPS is an 8-item self-report scale that measures general risk-taking propensity (Zhang et al., 2019). It is used to measure participants’ general propensity for risk-taking across domains. The GRiPS presents short statements to participants that describe aspects of their personality. Participants indicated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree) the degree to which they agree or disagree with each statement. This scale had good internal consistency of $\alpha = 0.88$.

Chapter 4. Results

Table 4.1 contains the correlation matrix of the study's variables. A variety of these variables had significant correlations that are worth mentioning. For example, I found that gender was significantly correlated with risk-taking for the self ($r = -.33$) and risk-taking in general ($r = -0.23$), such that men were on average more risk-seeking than women. Further, gender correlates with the narcissism dimension of exhibitionism ($r = 0.24$), such that women were found to be more exhibitionistic than men. Interestingly, I found that narcissism was correlated with the general risk propensity scale (GRiPS) ($r = 0.45$). Even more, the GRiPS had significant relationships with the narcissism dimensions of vanity ($r = 0.24$), self-sufficiency ($r = 0.25$), exploitativeness ($r = 0.31$), exhibitionism ($r = 0.35$), and authority ($r = 0.35$), making it by far the greatest correlate of the narcissistic personality inventory. These findings show an interesting relationship between narcissism and risk propensity as almost every single dimension of narcissism was positively correlated with the GRiPS, suggesting that narcissists have a general affinity towards risky behavior.

Table 4.1. Means, Standard Deviations, Correlations, and Scale Reliabilities

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. BART	32.63	9.08													
2. Anonymous	32.45	9.79	.72***												
3. Other	32.26	9.13	.69***	.18											
4. Self	33.16	8.33	.74***	.33*	.32*										
5. GRiPS	23.99	6.37	.01	.01	-.07	.80	(.88)								

(table cont'd.)

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
6. Narcissism	58.47	5.81	-.13	.07	-.14	-.25*	.45***	(.80)							
7. Vanity	1.68	0.36	-.16	-.08	-.01	-.28*	.24*	.49***							
8. Superiority	1.52	0.26	-.15	.04	-.20	-.18	.19	.55*** .27*							
9. Self-Sufficiency	1.34	0.18	-.11	-.07	-.08	-.11	.25*	.48*** .33* .21*							
10. Exploitative	1.61	0.29	.05	.15	.03	-.01	.31*	.61*** .23* .20 .26*							
11. Exhibitionism	1.84	0.18	-.19	-.02	-.19	-.21*	.35**	.64*** .25* .25* .09 .18							
12. Entitlement	1.50	0.26	.01	.12	-.03	-.09	.18	.64*** .15 .20 .17 .22* .46***							
13. Authority	1.37	0.24	-.06	.09	-.11	-.12	.35**	.71*** .08 .23* .18 .37** .40** .37**							
14. Gender	1.75	0.44	-.22*	-.05	-.13	-.33*	-.11	.08 .09 .07 -.06 .10 .24* .01 -.06							

Note. Anonymous = Risk-taking for anonymous individuals; Other = Risk-taking for non-anonymous individuals; Self = Risk-taking for the self; GRiPS = General Risk Propensity Scale; Cronbach alpha values are represented within the parentheses; Sub-dimensions of narcissism = Vanity, Superiority, Self-Sufficiency, Exploitative, Exhibitionism, Entitlement, Authority; Gender: 1= Male; 2= Female; * $p < .05$. ** $p < 0.01$. *** $p < 0.001$.

4.1. Hypothesis Testing

I employed a multi-level model to test my hypotheses. A multi-level model was used because this study was set up as a within-subject design where participants took risks in three different conditions, while having a between-subject predictor (narcissism).

Furthermore, a multi-level model was chosen because each participant was measured multiple times, thus, I needed to control for the correlated error of repeated subjects as participants were nested within each condition. In other words, the data is structured with the

first level being individual participants and the second level being the differing conditions. Due to this structure, I tested a series of models to examine the appropriateness of multi-level modeling for my research goals. Multi-level analysis was performed in *R* using the *lme4* package.

I first examined a random intercept model (i.e., controlling for likely variation in participant baseline risk-taking scores) against a fixed intercept model (i.e., not controlling for individual differences of participants). Results demonstrated that the random intercept model had better fit to the data than the fixed intercept model $\Delta\chi^2(1) = 16.91, p < .001$. These results show that some individuals are inherently more (less) willing to take risks than others, which a multilevel model takes into account. Further, the multilevel model allowed me to use each data point within the study, rather than creating averages for each participant. Thus, using a multilevel model allowed me to expand my 94 participant data points to 282 useful data points. Lastly, using a multilevel model allowed me to leave narcissism as a continuous variable, which was the best fit for the data.

Data met assumptions of linearity, homogeneity, and normality. These assumptions were checked on the final multilevel regression model by examining a QQ-plot for linearity (Figure 4.1), a scatterplot of the residuals and fitted values for homogeneity (Figure 4.2), and a histogram of the residuals (Figure 4.3) (Pavlicic et al., 2021; Tabachnick et al., 2007). Following those tests, I structured the data so that each participant had a fixed narcissism score while allowing BART scores to vary by decision context.

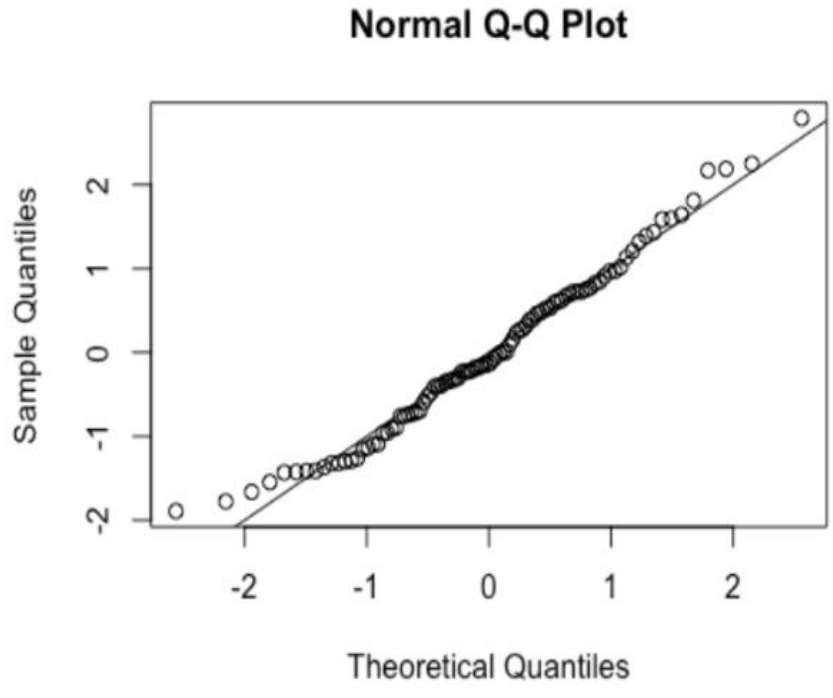


Figure 4.1. Test of Linearity

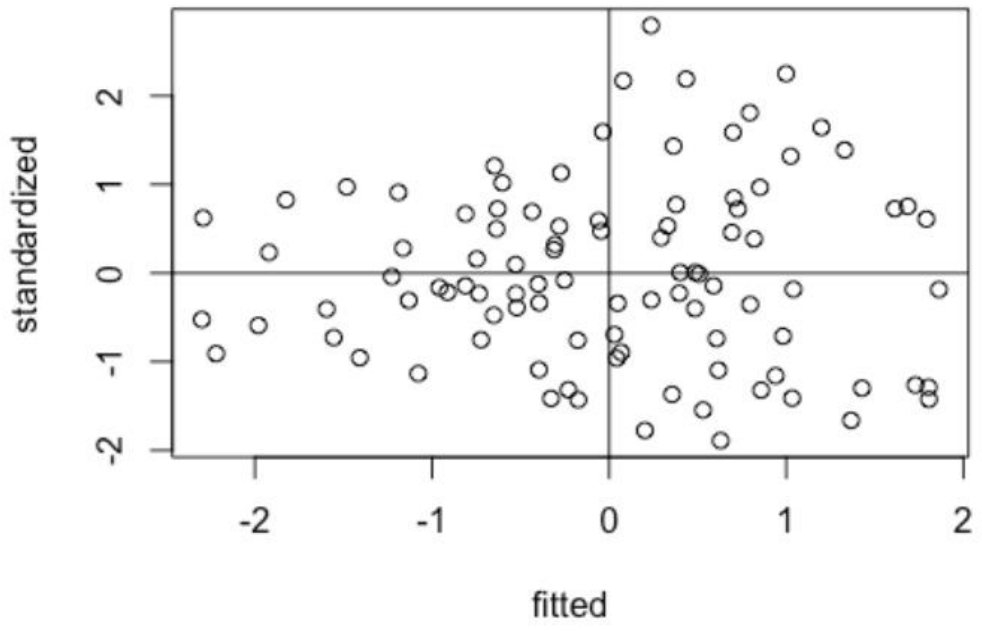


Figure 4.2. Test of Homogeneity

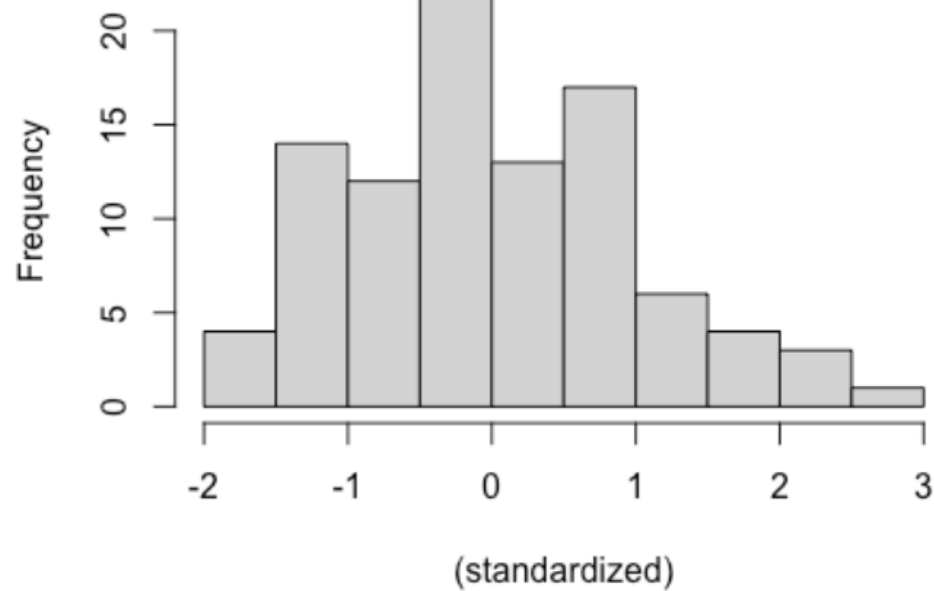


Figure 4.3. Test of Normality

Table 4.2 presents the results of the three comparison models used in this study: model 1, model 2, and model 3. These models were set up in a hierarchical regression fashion where model 1 solely examines risk-taking regressed onto narcissism (Risk ~ Narcissism), model 2 adds to model 1 by including the moderating variable (Risk ~ Narcissism + Condition), and model 3 adds to model 2 by including the interaction term (Risk ~ Narcissism + Condition + Narcissism * Condition).

Table 4.2. Hierarchical Regression Table Before and After Interaction Terms

	Model 1	Model 2	Model 3
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(table cont'd.)

<i>Predictors</i>	Model 1			Model 2			Model 3		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	0.00	-0.14 – 0.14	1.00	0.05	-0.15 – 0.25	0.61	0.05	-0.15 – 0.25	0.61
Narcissism	-0.09	-0.24 – 0.05	0.20	-0.09	-0.24 – 0.05	0.20	-0.23	-0.43 – 0.03	0.03
Condition [Other]				-0.08	-0.33 – 0.16	0.51	-0.08	-0.32 – 0.16	0.50
Condition [Anonymous]				-0.07	-0.32 – 0.17	0.57	-0.07	-0.31 – 0.17	0.56
Narcissism * Condition [Other]							0.09	-0.15 – 0.33	0.47
Narcissism * Condition [Anonymous]							0.31	0.07 – 0.55	0.01
Random Effects									
σ^2	0.73			0.73			0.70		
τ_{00}	0.26			0.26			0.27		
ICC	0.26			0.26			0.28		

(table cont'd.)

	Model 1	Model 2	Model 3
Random Effects			
n	94	94	94
Observations	282	282	282
Marginal R ² / Conditional R ²	0.01 / 0.27	0.01 / 0.27	0.03/ 0.30

Note. n is used to represent the number of participants within each condition.

I first tested hypothesis 1, which pertained to the relationship between narcissism and willingness to take risks (Model 1). To examine this relationship, I regressed the risk-taking scores from all three decision contexts in an aggregated fashion onto narcissism. Unfortunately, this hypothesis was not supported, $b = -0.09$, $t(91) = -1.21$, $p = .20$ (Table 4.2; Model 1).

Next, I examined hypothesis 2, which posited that people, regardless of narcissism, would be more risk-seeking for anonymous individuals than they would be for themselves or others. Results showed that there was no significant difference between the self and anonymous condition, $b = -0.07$, $t(186) = -0.63$, $p = 0.57$ or the self and other condition, $b = -0.08$, $t(186) = -0.80$, $p = 0.51$ (Table 4.2; Model 2). Therefore, this hypothesis was not supported.

Lastly, I examined hypothesis 3, which posited that decision-context would moderate the relationship between narcissism and risk-taking such that individuals high in narcissism would take more risks for others and anonymous others than they would take for

themselves. The moderation hypothesis (H3) was tested by including the interaction term (narcissism x decision context) in model 3. Here, I found a significant improvement in overall model fit: model 2 -1022.44 vs model 3 -1019.12, $p = 0.04$ (Table 4.3).

Table 4.3. Model Comparison

Model	df	AIC	BIC	logLik	Test	L. Ratio	p
1	4	787.35	801.92	-389.68			
2	6	790.83	812.68	-389.41	1 vs 2	0.53	0.77
3	8	788.24	817.38	-386.12	2 vs 3	6.58	0.04

Note. Model comparison was done to examine if the interaction term was significant.

Specifically, I found that narcissism negatively predicted risk-taking in the *self* condition, $b = -0.23$, $t(91) = -2.21$, $p = 0.03$. Furthermore, while using the *self condition* as the referent group, I also found the interaction term between narcissism and the dummy-coded variable for the *anonymous* condition to be significant, $b = 0.31$, $t(184) = 2.49$, $p = 0.01$. Figure 4.4 contains the pattern of this interaction.



Figure 4.4. Interaction between narcissism and each experimental condition on BART scores

The significant interaction term between narcissism and the dummy-coded variable for the anonymous condition suggests that narcissists exhibited a risky shift (i.e., took more risks) when making decisions on behalf of anonymous participants compared to the self. These results are in line with hypothesis 3, which stated that narcissists would be more risk-seeking when deciding for others and anonymous others than for themselves. While narcissists were more willing to take risks for anonymous others, they were not, however, found to be more risk-seeking for non-anonymous others than themselves, $b = 0.09$, $t(184) = 0.73$, $p = 0.47$. As such, hypothesis 3 was partially supported.

4.2. Additional Analyses

Narcissism and its impact on decision making for others was the focus of this study. To measure narcissism, I used the NPI scale which has been shown to have seven different dimensions (Raskin & Terry, 1988). Thus, I re-examined my hypotheses using the sub-dimensions of narcissism, instead of the general score. I found evidence of the interaction between narcissism and decision-context for two out of the seven dimensions of narcissism: exploitativeness (Table 4.4) and vanity (Table 4.5).

Table 4.4. Hierarchical Regression Table with Exploitativeness as the Predictor

<i>Predictors</i>	Model 1			Model 2			Model 3		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	0.00	-0.15 – 0.15	1.00	0.05	-0.15 – 0.25	0.62	0.05	-0.15 – 0.25	0.62
Exploitativeness	0.03	-0.11 – 0.18	0.64	0.03	-0.11 – 0.18	0.65	-0.09	-0.29 – 0.11	0.38

(table cont'd.)

<i>Predictors</i>	Model 1			Model 2			Model 3		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
Condition [Anonymous]				-0.07	-0.32 – 0.17	0.57	-0.07	-0.32 – 0.17	0.56
Condition [Other]				-0.08	-0.33 – 0.16	0.51	-0.08	-0.33 – 0.16	0.50
Exploitativeness * Condition [Anonymous]							0.25	0.01 – 0.49	0.05
Exploitativeness * Condition [Other]							0.12	-0.12 – 0.37	0.32
Random Effects									
σ^2	0.73			0.73			0.71		
τ_{00}	0.27			0.27			0.27		
ICC	0.27			0.27			0.28		
n	94			94			94		
Observations	282			282			282		

(table cont'd.)

	Model 1	Model 2	Model 3
Random Effects			
Marginal R ² / Conditional R ²	0.01 / 0.27	0.01 / 0.27	0.01 / 0.29

Note. n is used to represent the number of participants within each condition.

Table 4.5. Hierarchical Regression Table with Vanity as the Predictor

<i>Predictors</i>	Model 1			Model 2			Model 3		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	0.00	-0.14 – 0.14	1.00	0.05	-0.15 – 0.25	0.61	0.05	-0.15 – 0.25	0.61
Vanity	-0.12	-0.26 – 0.03	0.11	-0.12	-0.26 – 0.03	0.11	-0.26	-0.46 – -0.05	0.01
Condition [Anonymous]				-0.07	-0.32 – 0.17	0.57	-0.07	-0.31 – 0.17	0.56
(table cont'd.) [Other]				-0.08	-0.33 – 0.16	0.50	-0.08	-0.33 – 0.16	0.50
Vanity * Condition [Anonymous]							0.17	-0.08 – 0.41	0.18
Vanity * Condition [Other]							0.25	0.01 – 0.49	0.05
Random Effects									

(table cont'd.)

	Model 1	Model 2	Model 3
Random Effects			
σ^2	0.73	0.73	0.71
τ_{00}	0.25	0.25	0.26
ICC	0.26	0.26	0.27
n	94	94	94
Observations	282	282	282
Marginal R ² / Conditional R ²	0.01 / 0.27	0.02 / 0.27	0.03 / 0.29

Note. n is used to represent the number of participants within each condition.

Specifically, using the *self condition* as the referent group, I found a significant interaction between vanity and the dummy-coded variable for the *other* condition, $b = 0.25$, $t(186) = 2.23$, $p = 0.05$. This significant interaction term between vanity and risk-taking for others suggests that those high in vanity exhibited a risky shift (i.e., took more risks) when making decisions on behalf of a participant that they could see (Figure 4.5).

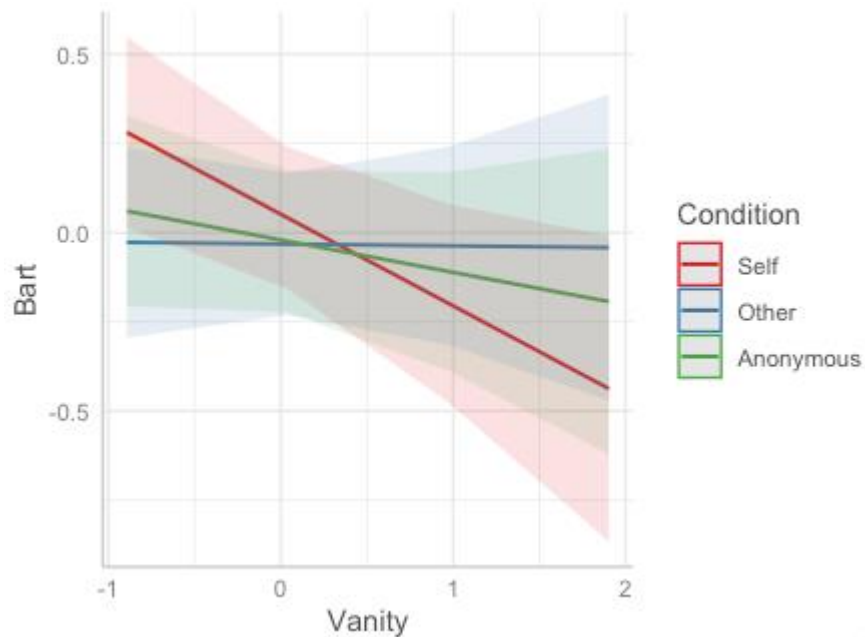


Figure 4.5. Interaction between vanity and each experimental condition on BART score

Similarly, using the *self condition* as the referent group, I found a significant interaction between exploitativeness and the dummy-coded variable for the *anonymous* condition, $b = 0.25$, $t(186) = 2.05$, $p = 0.04$. This significant interaction term suggests that those high in exploitativeness exhibited a risky shift (i.e., took more risks) when deciding for anonymous individuals (Figure 4.6). Thus, the data shows that narcissism, along with its dimensions, are uniquely related to risk-taking for the self, others, and anonymous others, thereby warranting further discussion.

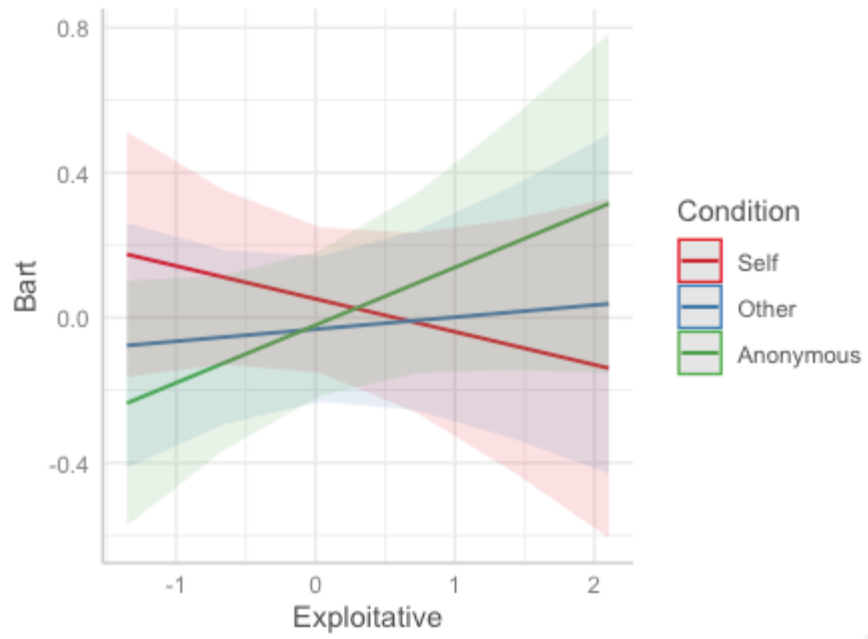


Figure 4.6. Interaction between exploitativeness and each experimental condition on BART scores

Chapter 5. Discussion

This study focused on a new context within the narcissism and risk-taking literature, namely, risk-taking for others. Risk-taking for others was split into two groups, individuals that are tangible and able to be seen (i.e., others) and individuals that are more abstract or unable to be seen (i.e., anonymous others). This study demonstrated that narcissists are reckless when making decisions for anonymous individuals, and seemingly become risk-averse when making decisions for themselves and non-anonymous individuals. Thus, we see that decision context matters to narcissists when making risky decisions for themselves versus others.

5.1. Narcissism and Risk-Taking

While the results of the current study did not find a significant relationship between narcissism and risk-taking across all the conditions, they do indicate that narcissists are willing to take excessive risks for anonymous others. Thus, these results seem to be generally in line with prior research that has found that narcissists are strongly motivated by risk (Foster et al., 2009; Malesza & Ostaszewski, 2016). To further understand narcissists' relationship with risk-seeking, this study was conducted to examine if psychological distance (i.e., seeing a decision recipient versus not seeing the recipient) would impact decision-making based on an individual's level of narcissism. Results show that this is, in fact, the case. As narcissism increased, risk-taking for anonymous others significantly increased compared to risk-taking for the self, thereby demonstrating that narcissists become risk-seeking as psychological distance increases. It is interesting, however, that narcissists were seemingly unwilling to take risks for themselves (Figure 4.5). This finding was opposed to my first hypothesis as I anticipated that risk-taking for the self, others, and anonymous others would increase alongside narcissism. These results show that we may need to further examine the relationship between narcissism and risk-taking as

narcissists may be able to satisfy their risk-seeking appetite by taking excessive risks for someone else, while mitigating personal risk.

Even more, I discovered that the different dimensions of narcissism, specifically vanity and exploitativeness, were both differentially related to risk-taking for the self, others, and anonymous others. The sub dimension of vanity is defined by regarding oneself as being more physically attractive than others (Raskin & Terry, 1988). Prior research has shown that those who are more attractive than others often receive greater rewards and more lenient punishments than their less attractive counterparts (Udry & Eckland, 1984). Thus, vanity may explain why narcissists are so willing to take risks for others as they may believe that because they are more physically attractive than others, negative social outcomes due to their excessive risk-seeking will likely be minimal to none, thereby allowing them to pursue their risky desires.

Additionally, prior research has demonstrated that exploitativeness is negatively correlated with responsibility, along with its association with rebelliousness, low tolerance for others, nonconformity, hostility, and a lack of consideration for others (Raskin & Terry, 1988). Thus, the finding that high levels of exploitativeness results in a greater willingness to take risks for anonymous others is not surprising. Those high in exploitativeness have a lack of consideration for others and do not care about another individual's misfortunes. Thus, exploitative individuals are more likely to pursue their risk-seeking desires for anonymous individuals as responsibility reduces with anonymity, along with their general lack of regard for others. These findings demonstrate that even within the general narcissism measure, differential relationships are contributing to risk-taking for others that need to be further examined.

5.2. Implications

There is a range of theoretical and practical implications that can be drawn from this study. For instance, narcissists seem to be impacted more heavily than non-narcissists when psychological distance is high. The data showed that as narcissism levels increased, along with increasing the empathy gap and psychological distance, risk-taking likewise increased. This demonstrates that anonymous individuals become very abstract to narcissists, thereby leading to excessive risk-taking. Thus, high levels of psychological distance seemingly leads narcissists to focus on their own desires and preferences, even at the expense of another. This may be particularly problematic within an organizational setting.

Recent research has found that narcissists are often in positions of power (Cragun et al., 2020), as such, their decisions could have major ramifications for others. Thus, these significant findings regarding narcissism and psychological distance are important to note, especially in careers where narcissists can take excessive risks for individuals that are not always seen, like financial advisors and bankers. My findings show that narcissists in positions of power will be unlikely to gamble with the future of someone else when psychological distance is low, however, as personal interactions with clients decrease and individuals become more abstract, narcissists will eventually become excessively risk-seeking on another's behalf. Thus, as organizations hire narcissistic individuals, they should emphasize reducing psychological distance by introducing narcissists to their clients and avoiding situations where decisions are made for clients that are rarely or never seen.

5.3. Future Directions & Limitations

Future research should focus on identifying why some of my variables correlate with risk-taking and narcissism and why those same variables were not predictors within the

multilevel model (i.e., general risk propensity). The significant positive correlation between narcissism and general risk propensity is interesting and should be examined further. Why is it that narcissists only take excessive risks for anonymous individuals, while seemingly becoming risk averse for themselves when the GRiPS measure shows that narcissists have a high propensity for risk-seeking in general? This correlation should be examined in greater depth as it may signal that narcissists have a strong desire to take risks, though they would rather avoid excessive risk-taking for themselves and would prefer to take risks for another individual. Thus, future research should examine narcissism and risk-taking for the self, along with its relationship to empathy and risk-taking for others in greater depth.

Additionally, future research should examine in what circumstances narcissists will become more risk-seeking for themselves over others. For instance, risk-taking for the self may have been stronger with real money being distributed throughout the study instead of raffle tickets. Thus, there is a need to re-examine narcissists' willingness to take risks for themselves and others as contexts that feel more meaningful may yield different results. Furthermore, I believe that future research should create a more salient environment like money being distributed on the spot, or creating a between-subjects experiment where people only take risks for themselves (others) to more effectively examine this relationship.

Lastly, future research should examine how narcissists make decisions within group settings. Narcissists are willing to take excessive risks for anonymous individuals, however, they decrease their risk-taking for themselves. In line with current research, narcissists may anchor their decision-making to mirror the decisions that they would make for themselves when in a group setting (Epley et al., 2004), however, they may have a desire to impress the group, thereby

increasing their risk-seeking (Chakravarty et al., 2011). Thus, future research should examine what happens when narcissists are the decision-makers within group settings.

One limitation of this study was the inability to take risk scores and convert them into a direct one-to-one money relationship (e.g., allowing participants to play the BART and earn \$12, rather than 12 raffle tickets that might turn into a gift card). Because of limited funds, raffle tickets were used in this study. The use of raffle tickets may have decreased the effectiveness of the manipulation as raffle tickets likely do not carry the same weight as real money. Thus, narcissists may have been equally risk-seeking for themselves as they were for others with real money on the line. Therefore, future research should examine how narcissists may adjust their risk-seeking for themselves and others when real money is offered instead of raffle tickets.

Another limitation of this study is the generalizability of the findings. First, I used college students who signed up to participate via SONA. Because of this recruitment method, participants' investment in the study may have been lowered because their ultimate goal was to achieve course credit, not acquire raffle tickets. Next, it is unclear if these findings can generalize to CEOs, doctors, financial advisors, etc. This is because the participants that were used in this study were not tested under high-pressure decision-making scenarios with real life consequences that professionals within those high pressure jobs likely experience on a daily basis. Therefore, this study may have been limited in scope because college students were used and their level of investment in the study may not have been ideal to find the most generalizable results.


Lastly, the use of a within-subjects design could have been problematic to the findings. While the conditions were counterbalanced by each participant, it is still something to consider as it is possible that participants learned how to more effectively play the game or became bored and disinterested by the final condition if they were not completing the task for themselves.

Thus, some of the data points may have come across as normal even though they came from a disinterested participant that just clicked the buttons to the finish line.

Appendix A. Institutional Review Board Approval

Record Number
IRBAM-22-0002

Narcissism and Risk-Taking for Others
Dr. Don Zhang - LSUAM | Col of HSS | Psychology | CC00124

 **Human Subjects Protocol**
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Submission

Initial Application **Submission Number:** IRBAM-22-000201 **Created on:** 05-Jan-2022 **Status:** Approved

Document/Form	Type	Status		Show Current Route (Route History)
IRB Protocol Review Form	Protocol	Completed	PDF	(Mandatory Form)

Appendix B. Demographic Survey

Directions: Answer all those that apply or fill in the blank when necessary.

1. How do you identify?
 - a. Male
 - b. Female
 - c. Non-binary/gender non-conforming
 - d. Other: I self-identify as... (fill in the blank)
2. Age:
 - a. 17 and under
 - b. 18-22
 - c. 23-27
 - d. 28-32
 - e. 33-39
 - f. 40 and above
3. Ethnicity:
 - i. Asian or Pacific Islander
 - ii. Asian Indian
 - iii. Black/African American (non-Hispanic)
 - iv. Caucasian/White
 - v. Native American
 - vi. Latino/Hispanic
 - vii. Puerto Rican
 - viii. More than one race (specify): _____
4. Major(s): _____
5. Minor(s): _____
6. Year in college:
 - i. Freshman

ii. Sophomore

iii. Junior

iv. Senior

Appendix C. Narcissistic Personality Inventory (NPI)

Below is a list of statements. Please read each statement carefully and select true or false, depending on how you feel each statement applies to you personally. There are no right or wrong answers, or trick questions. For example: I enjoy pineapple on pizza (True/False).

1. I would prefer to be a leader.
2. I see myself as a good leader.
3. I will be a success.
4. People always seem to recognize my authority.
5. I have a natural talent for influencing people.
6. I am assertive.
7. I like to have authority over other people.
8. I am a born leader.
9. I rarely depend on anyone else to get things done.
10. I like to take responsibility for making decisions.
11. I am more capable than other people.
12. I can live my life in any way I want to.
13. I always know what I am doing.
14. I am going to be a great person.
15. I am an extraordinary person.
16. I know that I am good because everybody keeps telling me so.
17. I like to be complimented.
18. I think I am a special person.
19. I wish somebody would someday write my biography.
20. I am apt to show off if I get the chance.
21. Modesty doesn't become me.
22. I get upset when people don't notice how I look when I go out in public.
23. I like to be the center of attention.
24. I would do almost anything on a dare.
25. I really like to be the center of attention.
26. I like to start new fads and fashions.
27. I can read people like a book.
28. I can make anybody believe anything I want them to.
29. I find it easy to manipulate people.
30. I can usually talk my way out of anything.
31. Everybody likes to hear my stories.
32. I like to look at my body.
33. I like to look at myself in the mirror.
34. I like to display my body.
35. I will never be satisfied until I get all that I deserve.
36. I expect a great deal from other people.
37. I want to amount to something in the eyes of the world.
38. I have a strong will to power.
39. I insist upon getting the respect that is due me.
40. If I ruled the world it would be a much better place.

Appendix D. General Risk Propensity Scale (GRiPS)

Below is a list of statements. Please read each statement carefully and rate how strongly you agree or disagree with it by clicking your answer. There are no right or wrong answers, or trick questions. For example: I would be very upset if I couldn't listen to music every day (1 = strongly disagree to 5 = strongly agree).

1. Taking risks makes life more fun
2. My friends would say that I'm a risk taker
3. I enjoy taking risks in most aspects of my life
4. I would take a risk even if it meant I might get hurt
5. Taking risks is an important part of my life
6. I commonly make risky decisions
7. I am a believer of taking chances
8. I am attracted, rather than scared, by risk

Appendix E. BART Script

You will see 30 balloons, one at a time, and earn “money” (i.e., raffle tickets) as you go. The amount of money you finish with on this task will equal the number of raffle tickets you will receive towards a potential \$20 gift card (in the other condition, it will state “The amount of money you finish with on this task will equal the number of raffle tickets another individual will receive towards a potential \$20 gift card”). For example, if you finish this task and have \$15, you will receive 15 raffle tickets. The first 50 raffle tickets selected will receive a \$20 gift card (however, participants can only earn one gift card, thus if a name is drawn twice, we will draw another name). The computer screen will display five items: a balloon with a pump that you can click to fill up the balloon, a button labeled “Collect \$\$\$,” a section showing you how much money you gained on the previous round, and a section showing how much money you have over the entire experiment. You will start each balloon with \$0.00 and slowly accumulate 5¢ per pump, however, if you over pump a balloon, it will explode and all the money from the current balloon will be lost and the next balloon will appear. However, you can transfer your earnings to a permanent bank account at any time during the balloon pumping by clicking the “Collect \$\$\$” button which will add to your total money that goes towards raffle tickets. If you choose to move your current balloon earnings (i.e., temporary earnings) to the permanent earnings, the balloon on the screen will disappear and the next balloon will be displayed for you to begin pumping again. Any money you transfer into the permanent bank will be added to your total earnings. The maximum amount of money you can earn on each balloon is \$6.40, but the balloon could pop at any time between pump 1 and pump 128. You will personally decide how many pumps you want to use to fill up each balloon. Keep in mind, some balloons could explode after the first pump and others might not explode until they reach the final pump.

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Vita

Tyler Brown Cowley, born in Salt Lake City, Utah, earned his bachelor's degree in psychology from Brigham Young University. He has received a grant to continue studying risk-taking, has independently collected and analyzed data, has generated new project ideas, and will be presenting his research findings at the Society of Judgment and Decision Making Conference. His growing interests include loss aversion/risk-taking at work, judgment and decision-making, and burnout. Tyler anticipates to graduate in December of 2022, following which, he plans to continue working with Dr. Don C. Zhang at Louisiana State University towards his doctorate in industrial-organizational psychology.