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Narcissism and Binge Drinking:
Exploring the Role of Overconfidence and Confidence Based Risk-Taking

A thesis
presented to
the faculty of the Department of Psychology
East Tennessee State University

In partial fulfillment
of the requirements for the degree
Master of Arts in Clinical Psychology

by
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August 2010

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Keywords: Narcissism, Binge Drinking, Overconfidence, Risk Taking, Georgia Gambling Task

ABSTRACT

Narcissism and Binge Drinking:

Exploring the Role of Overconfidence and Confidence-Based Risk-Taking

by

Alicia M. Wood

Binge drinking (BD) entails excessive alcohol intake in a short time period. Despite numerous negative outcomes associated with BD and efforts to curtail it, rates remain steady. Thus, it is important to identify “who” binge drinks and “why” it occurs. Drawing from past research, I sought to replicate the link between trait narcissism and BD; moreover, I examined if overconfidence and confidence-based risk-taking assessed via the Georgia Gambling Task (GGT), explained why they did so. The results generally supported my hypotheses. As expected, narcissism related to poor GGT performance and high levels of BD; likewise, poor GGT performance related to BD. GGT performance accounted for (i.e., mediated) the narcissism-to-BD relation, but only partially, in subsequent regression analyses. In the discussion I focus on the social and clinical relevance of these findings especially for university interventions, parents, and therapists. I also discuss avenues for future research including other potential mediators.

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CHAPTER 1

INTRODUCTION

Risk-taking behaviors are a commonly studied topic throughout psychological research. As of June 2009 simply typing “risk-taking” as a keyword into the Psycinfo Database resulted in more than 2,600 available articles. Binge drinking (BD), which represents a specific type of risk-taking behavior, is the focus of nearly 1,400 articles. Over a half a century ago Straus and Bacon (1953) pioneered research on college student drinking. More than 50 years later researchers continue to find support for their research – that alcohol use generally, but BD particularly, results in many negative effects for consumers, consumers’ friends and families, and societies. Importantly, these negative effects are especially frequent among young adults such as college students (O’Malley & Johnson, 2002). Indeed, BD represents the number one public health problem affecting college students (Wechsler et al., 2002). The basis for this concern is that college students who drink excessively are at an increased risk of experiencing numerous negative outcomes including perpetrating acts of violence, being the target of violence, engaging in risky sexual activity, using other illicit drugs, and participating in other forms of risk-taking behavior (Benton, Benton, & Downey, 2006; Perkins, 1992; Presley et al. 1996; Sayette, Kirchner, Moreland, Levine, & Travis, 2004; Wechsler & Isaac, 1992). While the majority of research on binge drinking has focused on the outcomes associated with such risky behavior, very little research has examined personality types such as narcissism that place certain individuals at risk to engage in BD. Even less research has examined the cognitive biases of judgment and decision-making such as overconfidence and confidence-based risk-taking that

may underlie BD behavior (Stacy, Newcomb, & Bentler, 1991; Weingardt et al. 1998). The purpose of this thesis is to address this situation. Before describing the study in which I examined the possibility that narcissists (i.e., people high in trait narcissism) are especially likely to binge drink, and that narcissists' tendencies towards BD might be explained by their general overconfidence and risk attitudes, I first provide a review of the BD literature. Next, I define narcissism and describe the risk-taking behaviors that accompany narcissistic tendencies. Finally, I describe overconfidence and the manner in which overconfidence leads to risk-taking behavior.

CHAPTER 2

BINGE DRINKING

What Constitutes Binge Drinking?

Throughout the literature, there has been a debate regarding the best label that captures the dangerous pattern of college student drinking. Traditionally, researchers used the label *heavy episodic drinking* (HED) to define large consumption patterns of alcohol intake during one drinking occasion. Recently researchers as well as agencies such as the National Institute of Alcohol Abuse and Alcoholism (NIAAA) and the World Health Organization (WHO) adopted the term *binge drinking* (BD) to capture this pattern of alcohol consumption (Jackson & Sher, 2008; Wechsler et al., 2002; Wechsler & Nelson, 2001). Thereafter, these agencies operationalized BD as a pattern of alcohol consumption that raises an individual's blood alcohol concentration (BAC) to .08 grams / milliliter (or .08% of the blood's total volume), which is generally thought to result from 5 drinks for men and 4 drinks for women when imbibed within a 2-hour time period (NIAAA, 2004; Courtney & Polich, 2009; Wechsler, Dowdall, Davenport, & Rimm, 1995a). A "drink" by this definition is considered a standard half an ounce of alcohol found in a 12-ounce beer, 5-ounce glass of wine, or a 1.5-ounce shot of liquor either drunk as a "shot" or within a cocktail (NIAAA, 2004). The differential cutoff value for men versus women (i.e., 5/4, respectively) is based upon women's lower gastric metabolic rates for alcohol that lead to higher BAC levels given equal consumption as men (Wechsler et al. 1995a).

Although BD has become the dominate indicator of problematic drinking among young adults over the last decade, which is largely the result of national college-based drinking surveys (O'Hare, 2005), there has also been a debate regarding the proper cutoff that should be used to

define a BD episode. For example, Lange and Vaos (2001) state the 5/4 threshold as too low. They argue that the use of this threshold does not accurately capture drinking patterns that result in excessive intoxication or other alcohol-related problems, which only serves to overstate the BD problem. Other researchers counter. Wechsler and Austin (1998) as well as Jackson and Sher (2008), for instance, argue that while no cutoff score is perfect (i.e., clearly superior to another), the 5/4 cutoff accounts for the greatest variance in alcohol-related problems. Likewise, Schaus et al. (2009) report that the 5/4 cutoff accurately accounts for those students who are admitted to college student health centers and who are experiencing negative consequences related to their alcohol use. Wechsler and Nelson (2008) report similar findings and go on to describe what they call the “prevention paradox”. They argue that the negative outcomes of BD are so severe researchers should be bound to use the lowest scientifically-based threshold possible to define BD and identify individuals who are most likely to binge drink and thereafter experience (and often cause) these negative consequences. Due to its extensive usage and the balance of evidence supporting the 5/4 cutoff, I used this cutoff to describe participants as binge drinkers.

Who Binge Drinks? Where Does It Happen?

Despite numerous social, demographic, political, and economic changes over the last half century, alcohol consumption and BD rates are staggering, yet they have remained relatively consistent through the years (Schulenberg & Maggs, 2002). The National Epidemiological Survey on Alcohol and Related Conditions (NESARC; Chen, Dufour, & Yi, 2004) for example found that 70% of 19-22 year old respondents, which equates to approximately 19 million individuals, admitted to consuming alcohol in the previous year. Similarly, the National Survey on Drug Use and Health conducted by the Substance Abuse and Mental Health Services

Administration (SAMHSA; 2007) reported that of the 10.8 million 12–20 year old participants who reported consuming alcohol in the previous month, 7.2 million were classified as binge drinkers. McMahon, McAlaney, and Edgar (2007) found that among a sample of young adults 16-24, 64% of men and 60% of females were binge drinkers, although this percentage steadily decreases among each older cohort. As these numbers suggest, BD is so especially frequent among young adults, that people in the 18-24 age bracket report the highest prevalence rates of BD (Chen et al., 2004; Hingson, Heeren, Zakocs, Kopstein, & Wechsler, 2002; McMahon, McAlaney, & Edgar, 2007; Schulenberg & Maggs, 2002).

College students represent a subpopulation of young adults who are at an extremely high risk of problematic drinking and especially BD. Because many college campuses embed excessive drinking behavior into the local culture by promoting and reinforcing BD, college students report significantly higher rates of alcohol use and BD upon entering college (Dawson, Grant, Stinson, & Chou, 2004) despite their drinking less than their same aged cohort, non-college bound peers during high school (O'Malley & Johnston, 2002; Schulenberg & Maggs, 2002). In fact Presley, Meilman, and Leichliter (2002) found that 44% of fulltime students attending a traditional 4-year institution met BD criteria. Courtney and Polich (2009) report similar data from the College Alcohol Survey (CAS), which assessed alcohol use among 140 colleges in the United States. These authors likewise found that 44% of the surveyed students met BD classification criteria over the 30 days prior to evaluation (also see O'Hare, 2005). Numerous other nationwide samples such as the Monitoring the Future (MTF) and National College Health Risk Behaviors Survey (NCHRBS) reported similar BD rates (i.e., 40+%), even when only assessing drinking behavior using a 2-week window (O'Malley & Johnston, 2002).

Although the rates of college student BD are relatively shocking, there is considerable heterogeneity among college students with particular subgroups especially likely to binge drink (Wechsler, Molnar, Davenport, & Baer, 1999). Indeed, Wechsler et al. (1999) found that as few as 17% of the student population imbibes as much as 68% of the total alcohol consumption on campuses. Among these subgroups male college students are twice as likely as their female counterparts to binge drink (Chen et al., 2004; Harrell & Karim, 2008; O'Malley & Johnston, 2002). Likewise, White or Caucasian as well as Native American or Alaskan Native students are especially prone to binge drink (followed by Hispanic or Latino students, then Black or African-American students, and finally Asian / Asian-American students; Caetano, & Kaskutas, 1995; Marten, Rocha, Martin, & Serrao, 2008; O'Hare, 2005; O'Malley & Johnston, 2002; Presley, Meilman, & Leichliter, 2002). Ethnic group-specific attitudes towards alcohol account for at least part of these differences. For example, White or Caucasian students tend to view BD as a normal part of a youthful lifestyle whereas Hispanic or Latino students endorse that heavy drinking is a right earned only by reaching maturity (Caetano & Kaskutas, 1995). Those attending 2-year institutions consume less alcohol weekly and binge drink less than students at 4-year institutions (Presley et al., 2002). Perhaps not surprisingly, researchers find the highest rates of BD and weekly alcohol consumption levels among students who live on campus (relative to those who live at home and or commute; O'Hare, 1990). Finally, students attending colleges located in the Northeast and North Central regions of the continental United States binge drink with greater frequency than other US regions including the Southern region, where students drink the least (O'Malley & Johnson 2002; Presley et al. 2002).

Beyond sex, ethnicity, and institutional demographics college students' social activities and group affiliations also affect the prevalence of BD. For example individuals involved in

athletics (Baer, 2002; Leichter, Meilman, Presley, & Cashin, 1998; Presley et al., 2002) or Greek organizations (Baer, 2002; Cashin, Presley, & Meilman, 1998; Presley et al., 2002; Wechsler et al., 1998) are especially prone to binge drink, particularly at colleges where athletics (Nelson & Wechsler, 2002) and Greek organizations are promoted and highly prized (Presley et al., 2002). Presumably because they “set the stage” for alcohol norms, leaders within these organizations are at an even greater risk for BD than other members (Cashin et al., 1998; Leichter et al., 1998). Further, relative to any other class freshmen entering college for the first time are at an extremely high risk of BD (Greenbaum, Del Boca, Darkes, Wang, & Goldman, 2005; O’Hare, 2005). Perhaps most disconcerting is that plural membership in the aforementioned groups (e.g., being a white, male leader of an athletic team and member of a fraternity) increases both the likelihood of BD (Leichter et al., 1998; Presley et al., 2002) and the severity of problems associated with BD (Baer, 2002).

Why Do College Students Binge Drink?

A number of broad, interrelated factors contribute to the prevalence of BD among college students. For example Spear (2002) notes that college students and especially freshmen experience many dramatic changes upon going off to college. Most students find a new sense of independence as they move out of their parents’ homes into college dormitories or other housing with friends or peers. Increasing options and opportunities often without recognition of the numerous responsibilities and constraints that come along with their newfound freedom mark this transition from late adolescent to adulthood. As a means of personal exploration many students use this opportunity to “try on masks”, that is, try new experiences that often were not allowed under parental supervision (NIAAA, 2006; Spear, 2002), even when many of these

experiences carry inherent risks that have long lasting consequences (Schulenberg & Maggs, 2002). Alcohol use and engaging in BD represent such a risky but often tried experience. Indeed, many individuals perceive alcohol use and getting drunk as a normal part of growing up or a rite of passage from childhood into adulthood (Caetano & Kaskutas, 1995). As such, the fact that an increase in heavy drinking often accompanies these dramatic developmental changes is not coincidental (Schulenberg & Maggs, 2002).

Preexisting expectations that excessive alcohol intoxication is a normal part of college life are not entirely unfounded. Social norms and implicit drinking pressures lie entrenched within campus culture (Bosari & Carey, 2001, 2003; Jackson, Sher, & Park, 2005). Positive expectancies regarding alcohol use generally stem from the positive connotations ascribed to certain traditions passed down from previous generations of students (NIAAA, 2002a). Excessive drinking is often regarded as a way of life such that many (or most) social events include alcohol as a central theme (Toomey & Wagenaar, 2002). For example students may find themselves in environments where others, even if they are the minority, consider five drinks to be a small amount of alcohol to consume. Interpretations of frequent and heavy consumption as normal parts of drinking events can lead to vast misperceptions regarding peer alcohol rates (Perkins, Meilman, Leichliter, Cashin, & Presley, 1999) that perpetuate unhealthy and dangerous consumption patterns (Perkins, 2002a). Unfortunately, most college students (and young adults generally) hold distorted views on what “normal” or “healthy” alcohol consumption during a drinking occasion entails. These distorted views are why many students would argue that social drinking without a “goal” of getting “drunk” and consuming five drinks in a couple of hours represents responsible drinking (NIAAA, 2002b; Perkins, 2002a; Wechsler & Nelson, 2001).

Given the inherent social norms and implicit pressures on college campuses, it is not surprising that many students also face explicit peer pressures to drink excessively. College students experience a drastic increase in social activities that furthers the number of avenues whereby they may experience drinking pressures, while at the same time parents wield significantly less influence over students' behavior (Schulenberg, Maggs, & O'Malley, 2003). Together, these factors facilitate peer pressure becoming the strongest influence on students' drinking behavior both with regard to the choice to drink (or not) and with the quantity of alcohol that is consumed (Baer, 2002; Borsari & Carey, 2001; Perkins, 2002a). Moreover, these external pressures to drink can be exceedingly strong and pervasive. For example when individuals mention their personal decision to abstain from alcohol at party, other partygoers often experience relatively extreme emotional reactions (e.g., shock) directed toward the abstainer. Presumably, their reactions come because the abstainers' perceived social confidence and choice not to partake indirectly invalidates their choice to drink and undermines an unspoken group bond among the drinkers (cf Newcomb & Bentler, 1988). Thus, to assuage the emotional reactions the people who are drinking alcohol generally respond in one of two ways. One, they attempt to act "prosocially" by repeatedly offering alcoholic drinks to abstainers (Rabow & Duncan-Schill, 1994) or, two, they ridicule and disparage abstainers (Borsari & Carey, 2001). Similar processes (e.g., public scorn) as well as threats of social rejection also strongly influence BD (Baer, 2002; Cashin et al., 1998; Leichliter et al., 1998).

In conjunction with the previous contributory factors, among college students the brain is still immature. That is, the brain continues to develop until (around) the age of 25 (Petersen, Silbereisen, & Sorenson, 1996). Most of this "final stage" maturation occurs in the prefrontal cortex (PFC), an area of the brain responsible for executive functioning and adaptive judgment

and decision-making. Thus, their brain immaturity contributes to college students' risky nature and thereby their decision to engage in BD. Like other young adults, the fact that their brains, and especially the PFC, are also particularly sensitive to the effects of alcohol compounds the problem (Spear, 2002). In fact recent findings suggest that toxic levels of alcohol, which are often ingested during BD episodes, can thwart the development of or otherwise cause damage to the PFC (Casey, Giedd, & Thomas, 2000; Spear, 2002) and the hippocampus (NIAAA, 2004b). Damage to these areas impairs neurocognitive processes such as learning (Acheson, Ross, & Swartzwelder, 2001), memory (Brown, Tapert, Granhoom, Delis, 2000; Gessa et al., 1998; Mintzer, 2007; Nelson, McSpadden, Fromme, & Marlatt, 1986), spatial and verbal abilities (Brown et al., 2000), and gauging the long-term consequences of risky behavior (Bechara, Damasio, Damasio, & Anderson, 1995; Goudriaan, Grekin, Sher, 2007; Johnson et al., 2008). In short, properties inherent to college students' brains cyclically contribute to BD behavior. That is, their immature brains lead to BD behavior that can cause immediate or long-term brain damage, which can fuel the cycle by propagating other BD episodes (see NIAAA, 2006).

Why Is Binge Drinking so Dangerous?

Young adults and especially college students are prone to possess extremely high levels of optimism and feelings of invincibility, which contribute to their demonstrating the highest levels of risk-taking, and often illegal behavior relative to any other age cohort (Arnett, 2005; Baer, 2002). This period is therefore critical because these behaviors can result in damaging and lasting consequences (Fromme, Katz, & D'Amico, 1997; Schulenberg & Maggs, 2002). Even among individuals who are not prone to engage in many risky behaviors, a single night of BD can have lasting effects that occur at the individual, interpersonal, and social levels. For example

individuals who binge drink also generally engage in other risky behaviors such as unsafe and promiscuous sexual activities, illicit drug use, and drunk driving (Benton et al., 2006; Wechsler et al., 2002; Fromme et al., 1997). BD, its outcomes, and the lifestyle decisions associated with it, represent the leading cause of illnesses and diseases among young adults (Schulenberg, Maggs, Steinman, & Zucker, 2001) especially those related to intoxication (Benton et al., 2006; Lange & Voas, 2001; Wechsler & Nelson, 2001). Alcohol consumption most frequently due to BD is the third leading preventable cause of death for US citizens (McGinnis & Foege, 1993) and is frequent (but not necessarily common) among college students, although these facts are often ignored by college students at large (NIAAA, 20002b; Schaus et al., 2009).

Among college students BD also severely undermines academic performance. For example people who frequently binge drink report especially low grade point averages and are eight times more likely than even moderate drinkers to report getting behind on class work (Perkins, 2002b; see also Presley, Meilman, & Cashin, 1999). BD contributes to physical (e.g., hangovers) and psychological (e.g., depression) problems, places people at risk for personal harm or injury (e.g., rape) due to for example alcohol-induced blackouts, and often results in legal issues due to their increased risk-taking (Perkins, 2002b; Perkins et al., 1999; Schaus et al. 2009; Wechsler & Nelson, 2008; Wechsler & Austin, 1998, Wechsler et al., 2002). Moreover, given the brain's sensitivity to alcohol (as I discussed earlier), BD episodes also can alter immediate and lifetime cognitive abilities in a number of ways, such as impairing working memory, episodic memory (in the form of encoding, rather than retrieval problems), and semantic memory (Fromme et al., 1997; Gessa et al., 1998; Mintzer, 2007; NIAAA, 2006; Spears, 2002). Taken together, even a single event of BD has the potential to drastically alter an individual's identity, educational, and career development.

Moreover, alcohol- (or BD-) induced neurological alterations cause other cognitive problems by affecting the PFC, whose functions include discerning when a behavior is good (adaptive) or bad (maladaptive) and inhibiting impulses (including aggressive and or sexual impulses). As such the negative effects of alcohol abuse and especially the negative effects of BD are not just personal; rather, these negative effects extend to the interpersonal and societal levels as well. For example a large number of individuals decide to operate a motor vehicle after BD (Hingson, Heeren, Winter, & Wechsler, 2005) and each year over 80% of all incidents in which people drive vehicles while intoxicated involve those who have binged (Quinlan et al., 2005). In 2008 binge drinkers were involved in the majority of over 11,000 fatal vehicular accidents (NHTSA, 2008). Wechsler, Dowdall, Maenner, Gledhill-Hoyt, and Lee (1998) also speak to the interpersonal problems that stem from the BD's lack of inhibition. They argue that abstainers who live in campus dormitories represent the highest risk group to experience numerous secondhand consequences from intoxicated students who create studying troubles due to environmental distractions, interrupt sleep, attempt insults or acts of humiliation, and put undue responsibilities on other students when they require care. Among college students alcohol directly or indirectly contributes to 1,400 - 1,700 deaths per year (such as from alcohol poisoning), over 500,000 nonfatal injuries, and more than 600,000 official complaints from those assaulted by an intoxicated individual (Hingson et al., 2002; NIAAA, 2002b; Schaus et al., 2009). As indicated in the latter statistic aggressive and destructive tendencies also characterize people who binge drink, as they often litter and or vomit in public, terrorize neighborhoods surrounding their campuses, and vandalize campus property including dormitories, sporting arenas, and public restrooms (Perkins, 2002). Many students report being involved in an argument and or a physical altercation during intoxication from BD themselves (Engs & Hanson,

1994) or being the target of aggression in the form of physical or verbal assault by one who has binged (Wechsler, Moeykens, Davenport, Castillo, & Castillo, 1995). The commission of hate crimes (i.e., crimes involving verbal or physical assault or harassment most often due to the target's ethnicity, religion, or sexual orientation) often occurs subsequent to BD by the perpetrator(s). Aside from instances of purely physical and or verbal aggression, BD strongly contributes to the number and severity of sexual assault (Perkins, 2002), which is common on college campuses (Abbey, 2002). Indeed, over 50% of all reported sexual assault cases involve alcohol intoxication (Testa, 2002), and this percentage would likely increase if it accounted for all cases, that is, including those unreported. Parkhill, Abbey, and Jacques-Tiura (2009) found that subsequent to heavy drinking sexual assault perpetrators misperceived victims' sexual intentions, employed isolating and controlling behaviors during the assault, and ultimately engaged in assaults that were especially physically forceful and severe. Taken together, the interpersonal and social expense of binge drinking is very large.

Binge Drinking Summary

Although there is debate about the exact level of alcohol consumption that constitutes BD, no doubt exists regarding the fact that most college campuses are hotbeds of drinking activity. BD only serves to exacerbate the often reckless tendencies found among the young adults who make up the majority of college students. These alcohol-heightened tendencies toward risk result in a large number of negative problems that extend past the consumer to interpersonal and social levels. In light of these issues it is important to identify individuals who may be likely to engage BD. As I discuss in the next chapter, narcissists represent one such group.

CHAPTER 3

NARCISSIM

What Is Narcissism?

Narcissism's rich history throughout psychological literature draws from the fable of Narcissus, whose extreme self-love directed towards his own beauty led to his demise. Briefly, in the fable Narcissus' self-absorption left Echo brokenhearted, as he spent his days staring into his own reflection in a pool of water. Freud (1914) built upon this fable, where he describes narcissistic self-love and self-focus as a normal means of self-preservation for the psyche. Other psychoanalysts such as Kernberg (1975) and Kohut (1966, 1977) portrayed narcissism much more negatively than Freud by arguing that narcissistic tendencies represented a form of pathology. Their depiction of narcissism suggested that *narcissists*' (i.e., individuals scoring high in trait narcissism) conscious statements of self-love (reflecting their especially high *explicit* self-esteem) serves as a "mask" that hides deeply seated, nonconscious self-loathing (reflecting their particularly low *implicit* self-esteem; cf Bosson et al. 2008). Stated differently, both Kohut and Kernberg argued that narcissists' cold, dismissive, and inconsistent parents prevent the development of a secure sense-of-self. As a result narcissists convey a lack of empathy towards others and construct grandiose self-views, when in reality, their exploitativeness and other negative personality traits merely reflect their strong need for approval and admiration and low implicit self-esteem. Levy, Reynoso, Wasserman, and Clarkin (2007) accredit Kohut and Kernberg's negative portrayals as the driving force behind the American Psychiatric Association's (APA) decision to include narcissistic personality disorder (NPD) in the Diagnostic and Statistical Manual of Mental Disorders-III (DSM- III; APA, 1980). The

diagnostic criteria for NPD in the most recent, fourth-edition of the DSM (i.e., DSM-IV-TR; APA, 2004) changed very little by maintaining most of the original diagnostic criteria (Del Rosario & White, 2005).

The DSM-IV- TR (p. 717; APA, 2004) describes NPD narcissism as “a pervasive pattern of grandiosity, need for admiration, and lack of empathy starting in early adulthood and present in a variety of contexts.” It lists nine distinct markers that are “grandiose sense of self-importance,” “preoccupied with fantasies,” “believes he or she is special and unique,” “requires excessive admiration,” “sense of entitlement,” “interpersonally exploitative,” “lacks empathy,” “envious of others, or believes other are envious of him or her,” and “arrogant behaviors or attitudes” (APA, 2004, p. 717). A person must meet five of nine criteria for a diagnosis of NPD to be assigned. There are a number of problems with relying on these criteria, however. For example an official diagnosis of NPD is relatively burdensome because it necessitates a clinical interview conducted by a trained clinician. Despite their interpersonal problems, many narcissists live relatively successful lives which when coupled with their grandiose self-views prevents them from seeking treatment. Often when narcissists do seek treatment, outcomes are not especially positive because their chronic tendencies to interpret information in a manner consistent with the self-serving bias (i.e., taking responsibility for success, even unduly, and externalizing responsibility for failure; Campbell & Baumeister, 2006; cf. Campbell & Sedikides, 1999) make them highly resistant to therapeutic change. Further, although some clinicians estimate that the number should be higher (Stinson et al., 2008; Twenge & Foster, 2008), the DSM-IV lists the base rate of NPD at less than 1% of the population (APA, 2004), which would make it really difficult to find narcissists who would participate in research.

Importantly, assessment tools exist to measure narcissism that do not rely on the relatively improbable and taxing NPD diagnosis. For example the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979, 1981; Raskin & Terry, 1988) is the most widely used and well-validated measure of trait narcissism. The NPI is available for use with subclinical or general populations, yet it does not rely on categorical cut-off points; rather, Foster and Campbell (2007) demonstrate that narcissism occurs in a continuous manner along a continuum of severity. Importantly, the NPI captures the central features of NPD (e.g., grandiosity) as shown by Miller, Gaughan, Pryor, Kamen, and Campbell (2009), who provide evidence that NPI-measured narcissism in both clinical samples and undergraduates correlates strongly with a measure of narcissism that explicitly employed items from the DSM-IV NPD diagnostic criteria as well as diagnoses of narcissism using semistructured clinical interviews. Both NPD and NPI-measured narcissism capture individuals' strong sense of entitlement, arrogance, exploitativeness in interpersonal relationship, and desires for dominance and power (Del Rosario & White 2005; Levy et al., 2007; Miller & Campbell, 2008; Miller et al., 2009; Pryor, Miller, & Gaughan, 2008; Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004). This relative overlap between NPD criteria and NPI-measured narcissism supports the conclusion that both "types" share many behavioral and personality characteristics of narcissistic individuals. Because of the abundance of research that supports the validity of the NPI, I used it as the means to assess narcissism.

What Are Narcissists Like?

As indicated above, most (if not all) accounts of narcissism include grandiosity as the defining feature at least at the explicit level. As such one of the central features of narcissism is their high explicit self-esteem. Not surprising is that narcissism and self-esteem strongly and

positively correlate (Bosson et al., 2008; Sedikides et al., 2004). Important in relation to the “mask model” (Bosson et al., 2008) suggested by Kohut (1966, 1977) and Kernberg (1975), among others current researchers counter this model finding that narcissists do not seem to harbor feelings of self-loathing “deep down inside.” Rather, as noted by Bosson et al. (2008) empirical evidence demonstrates that narcissism correlates positively with at least two measures of implicit self-esteem including the Implicit Association Test (Campbell, Bosson, Goheen, Lakey, & Kernis, 2007) and the Name-Letter Task (Lakey, Campbell, Bosson, Young, & Goodie, 2009). In light of these findings it is perhaps understandable why some theorists go so far as to define narcissism as an “addiction” to self-esteem (Baumeister & Vohs, 2001). However, evidence guided by Campbell’s (Campbell, 1999; Campbell & Buffardi, 2008; Campbell & Foster, 2007; Lakey et al., 2008) agency model of narcissism as well as research from a number of personality theorists (e.g., Miller et al., 2009; Paulhus, 2001; Paulhus & John, 1998) demonstrate that narcissists exhibit two features that differentiate it from simple high explicit self-esteem.

The first difference between general high self-esteem and narcissism builds upon Leary’s (1957) original conception of the interpersonal circumplex. Researchers (e.g., Foa, 1961; Kiesler, 1983; Locke, 2000; Wiggins, 1979) developed an integrated framework on which to map unique personality characteristics exhibited by all humans in varying degrees (Gurtman, 1992). The “map” consists of two orthogonal axes pictorially represented as two dimensions of a circle. The first axis captures agentic (or agency-related) traits such as being assertive and powerful (versus submissive and unassured). The second, communion-related axis, is defined by communal traits such as being friendly and loving (versus hostile and cold). Nonnarcissistic people with high self-esteem have self-views that reflect their placing value on being strong (an agentic trait) *and*

warm (a communal trait). In contrast narcissists' self-views are inordinately defined by agentic traits; communal traits in contrast comprise little if any of their self-views. As such narcissism aligns positively and strongly (i.e., extremely towards the "dominance" pole) on the agentic axis, whereas it aligns negatively, though weakly (i.e., relations are often null) on the communal axis (Pincus & Wiggins, 1990; Romney & Bynner, 1989; Wiggins & Pincus, 1989). According to Locke (2000) narcissists' placement on the interpersonal circumplex, and their association with agentic traits is indicative of their desire to be heard, create an environmental impact, and gain status and power instead of making intimate connections with others. Perhaps most importantly narcissists' self-esteem reflects their imbalanced self-views. Narcissists score especially strongly on explicit and implicit measures of agency-based self-esteem (i.e., these relations are stronger than normally assessed self-esteem), yet null relations emerge on communion-based explicit and implicit self-esteem (Campbell et al., 2007; Lakey et al., 2008).

These narcissistic agency-communion differences are relatively robust when research is looked at collectively. Moreover, the motivational and self-regulatory efforts driven by narcissists' imbalanced self-views represent the second way that narcissism is different from high self-esteem. That is narcissists engage in a wide range of behaviors that are especially pronounced when their egos are threatened (e.g., Barry, Chaplin, & Grafeman, 2006; Baumeister, 1997) to support their agency-imbalanced self-perceptions (and the related self-esteem). Importantly, these self-regulatory efforts are often coupled with extremely high levels of approach motivation that propel them to seek immediate gratification for something they desire (Foster & Trimm, 2008; Lakey et al., 2008). In the next section I review these self-regulatory behaviors and the risk-taking that often results from them including binge drinking.

How Do Narcissists Regulate Their Behavior and How Does This Relate to Risk-Taking?

The evidence in the previous section suggests that narcissists desire to maintain positive self-perceptions (and self-esteem) without regard for other people around them. They are also strongly approach motivated or led to gain immediate reward when they see something they desire (Foster & Trimm, 2008). Both of these traits underlie the manner in which they regulate their behaviors. For example narcissists entertain fantasies of success, fame, and power (Campbell, Rudich, Sedikides, 2002; Raskin, & Novacek 1991; Raskin, Novacek, & Hogan, 1991). The result is that they seek situations in which to obtain or achieve these fantasies. Compared to the general population and even MBA students (who are highly narcissistic) Young and Pinsky (2006) found that celebrities in the entertainment industry are extremely narcissistic. Reality television stars were by far the most narcissistic followed by comedians, other actors, and musicians. Reality television stars also scored significantly higher than others on measures of vanity and self-sufficiency. Comedians scored the highest on measures of authority, exhibitionism, superiority, exploitativeness, and entitlement.

It is also not just the case that narcissists *dream* of being especially intelligent or powerful. Instead, most narcissists actually *believe* they are smarter or better than others are even when objectively they are not (Campbell, Goodie, & Foster, 2004b). To support these beliefs they actively seek out interpersonal relationships that fuel their perceptions of being powerful and their “needs” for attention and admiration (Campbell, 1999; Young & Pinsky, 2006). Because they are outgoing, extraverted, and self-assured, narcissists are actually quite likeable, they make highly positive first impressions, and they quickly assume positions of leadership (Miller & Campbell, 2008; Paulhus, 1998; Rosenthal & Pittinsky, 2006). However, people quickly realize that narcissists simply use interpersonal relationships as avenues to enhance

themselves at the expense of others (Campbell et al. 2002). Thus, their sense of entitlement (Campbell, Bonacci, Shelton, Exline, & Bushman, 2004a), antagonistic and manipulative nature (Campbell, Foster, & Finkle 2002; Miller & Campbell, 2008), overconsumption of resources (Campbell, Bush, Brunell, & Shelton, 2005), and efforts to put down or domineer others (Morf & Rhodewalt 1993) quickly undermine their likability and often erode their relationships (Paulhus, 1998). It is not surprising that they lack emotional intimacy in close relationships (Campbell et al. 2002; Smolewska & Dion, 2005). Narcissistic individuals choose romantic partners based upon superficial qualities such as physical appearance and social status (Campbell, 1999; Campbell & Foster, 2007). Narcissists believe that choosing “trophy” partners (Campbell, 1999) or associating with others of a higher status will increase their own social standing as well as the likelihood they will receive praise and admiration from others (Rhodewalt, Madrian, & Cheney 1998). In fact, narcissists are common among professional athletics (e.g., Terrell Owens, Chad Ochocinco), business moguls (e.g., Donald Trump, Kenneth Lay), and political leaders (e.g., Adolf Hitler, Saddam Hussein). Their tendencies to exploit others, actively manipulate situations to bolster their agentic self-views (power, dominance), and otherwise engage in behaviors to increase their social standing often contribute to their successes (Twenge & Campbell, 2009).

In short narcissists are driven to uphold their sense of superiority (John & Robins, 1994) especially regarding their own intelligence (Gabriel, Critalli, & Ee, 1994; Palhaus, 1998; Wallace, Ready, Weitenhagen, 2009). Despite the interpersonal difficulties that result from narcissists imbalanced self-perceptions, saving face (Zhang & Baumeister, 2006) and receiving public glory (Wallace & Baumeister, 2002) are strong motivators for them. Thus, because narcissists strive to feel good, they seize any opportunity immediately (Foster & Trimm, 2008) to bolster their esteem (Baumeister & Vohs, 2001; Rose & Campell, 2004). As noted by Sedikides

and Strube (1997) despite their self-esteem facilitating high levels of hedonic well-being (e.g., happiness, life satisfaction, low levels of depression and anxiety; Rose, 2002; Sedikides et al., 2004), they will go to great lengths to defend the self and regain a sense of control and power when their egos are threatened. For example narcissists are prone to derogate (Morf & Rhodewalt 1993) or attack aggressively the source of the threat (Bushman & Baumeister, 1999). Moreover, their drive to maintain positive albeit imbalanced self-perceptions serves to bias narcissists' judgment and decision-making (e.g., Campbell et al., 2004b), leads to risky and self-defeating behaviors (Baumeister 1997), and increases the likelihood of contracting biological illness and developing symptoms of psychiatric pathology (Lakey et al., 2008).

Research using the Georgia Gambling Task (GGT) (Goodie, 2003) demonstrates how poor narcissists' judgment and decision-making can be. The GGT is a well-validated behavioral assessment of overconfidence (cf. Fischhoff, Slovic, and Lichtenstein, 1977) and risk-taking as a function of confidence. Subjects begin the GGT by answering 100 two-choice general knowledge questions and assessing their level of confidence for each answer using a rating scale with categories ranging from 50%-52% (which conveys absolute uncertainty) to 98%-100% (which conveys absolute certainty). In the second phase of the GGT subjects are offered a bet for points for each question, with the bets structured using the confidence noted in the first phase. Subjects can either reject the bet and lose nothing or accept the bet and win 100 points if correct or lose a certain amount if incorrect. The amount lost depends of the confidence as the bets are structured to be fair so that if subjects are well calibrated at a particular confidence category (e.g., 80% confidence), they will be correct at a rate equal to their noted confidence, and they will break even. For example if a person is well-calibrated when expressing 98%-100% confidence, over 100 questions the person should be correct 99 times (the middle point of the

confidence category) and incorrect only one time. In this case the subject would win 100 points for each of the correct answers and lose 9900 points for the one incorrect answer, thus breaking even ($9900 - 9900 = 0$). Most people are overconfident, however, yet even as the value of bet decreases as subjects approach higher confidence categories (i.e., the potential loss is greater if a person is not well-calibrated), they still are more likely to accept bets at extreme confidence, which results generally in negative point totals (Goodie, 2003; Lakey, Campbell, Brown, & Goodie, 2007a).

Importantly, when compared to people low in narcissism, narcissists' confidence is particularly unfounded (i.e., they are *especially overconfident*), yet they are especially prone to use their confidence as the guide in making risky decisions (i.e., they are *especially prone to take bets*). To speak to their poor meta-knowledge even subsequent to being told their performance was poor, narcissists argue that they would do better than others if given the opportunity to complete the task again (Campbell et al., 2004b). Moreover, these GGT-assessed judgment and decision-making biases partially explain why narcissists are especially likely to become pathological gamblers (Lakey et al., 2007a). Specifically, narcissists' overconfidence, focus on attaining a big monetary rewards, and willingness to take risks undermines their ability to predict their own capabilities and hinders their ability to perform well and make good decisions in betting (or other risky) situations. Perhaps this is why narcissism leads to a number of negative outcomes like compulsive shopping (Rose, 2007), pathological gambling (Lakey et al., 2008), risky driving (Britt & Garrity, 2006), risky financial decisions (Foster, Misra, & Reidy, 2009a; Foster, Shenese, and Goff, 2009b), and alcohol use in general, but particularly BD (Luhtanen & Crocker, 2005). Indeed, results suggest that overconfidence may be the missing link that explains

why narcissists grandiose and imbalanced self-perceptions and general sensitivity to reward manifests into risk-taking behavior.

CHAPTER 4

THE PRESENT RESEARCH

Summary

Compared to previous generations, researchers are finding startling increases in the rates of narcissism particularly among American college students (Twenge & Campbell, 2008, 2009; Twenge, Konrath, Foster, Campbell, & Bushman, 2008a, 2008b). As the numbers of college students increases, the problems associated with BD will likely rise as well. Further identification of those such as narcissists who are especially likely to binge drink is of the utmost importance. Moreover, understanding cognitive factors that may explain why narcissists are especially prone to BD is particularly relevant to this identification goal. Overconfidence, and risk-taking that ensues as a function of confidence, offers one potential explanatory variable, although no research has yet addressed this possibility. As such, I examined a data set that offers the possibility to replicate past research (e.g., Luhtanen & Crocker, 2005) in demonstrating that narcissism relates to BD frequency and severity.

To extend this replication I examined participants' GGT performance, which represents a behavioral assessment of their overconfidence and their willingness to take risks based on their confidence, and the extent to which it related to narcissism and BD. Finally, I tested a mediation model (cf Baron & Kenny, 1986) to see if overconfidence and risk-attitudes explain the narcissism-to-BD link. Because of the research linking age (Chen et al., 2004; Hingson et al., 2002; McMahon et al., 2007; Schulenberg & Maggs, 2002), sex (Harrell & Karim, 2008; O'Malley & Johnston, 2002), ethnicity (O'Hare, 2005; O'Malley & Johnston, 2002), alcohol use history (Dawson et al., 2004; O'Malley & Johnston, 2002; Schulenberg & Maggs, 2002), and

student fraternity- sorority status (Presley et al., 2002; Wechsler et al., 1998) with regards to BD, and the documented importance in controlling for self-esteem when examining narcissism (Baumeister & Vohs, 2001; Bosson et al., 2008; Campbell et al., 2007; Lakey et al., 2008; Sedikides et al., 2004), I controlled for these variables in all analyses. My explicit hypotheses are listed below.

Explicit Hypotheses and Data Analysis Strategy

H1: Based on past research (Campbell et al., 2004b; Goodie, 2003; Lakey et al., 2007a; Lutanen & Crocker, 2005), I hypothesized that narcissistic students would be more likely than people low in narcissism to report engaging in especially frequent and severe binge drinking. Similarly, I hypothesized that narcissistic students would be more overconfident and willing to take risks based on their confidence than those who are low in narcissism I analyzed these possibilities by computing bivariate correlations among all variables included in this study. As a more stringent test I conducted two hierarchical multiple regression analyses. In the first analysis I regressed BD severity onto covariates age, gender, ethnicity, alcohol use history, student fraternity-sorority status, and self-esteem (block one) and NPI scores (block one). In the second analysis I regressed GGT points onto the covariates age, sex, ethnicity, alcohol use history, student fraternity-sorority status, and self-esteem (block one) and NPI points (block two).

H2: Although to my knowledge no research has examined directly the overconfidence-to-BD link, research examining overconfidence and other self-defeating risky behaviors such as gambling (Lakey et al., 2008) suggests that the two would relate. *Thus, I hypothesized that overconfidence and risk-taking as a function of confidence assessed via the GGT would relate to BD frequency and severity.* To analyze this possibility I examined the bivariate correlation between these two variables and thereafter conducted a hierarchical multiple regression analysis in which I regressed BD severity onto the covariates age, sex, ethnicity, alcohol use history, student fraternity-sorority status, and self-esteem (block one), NPI score (block two), and GGT points (block three). This regression analysis was also pertinent to the next hypothesis.

H3: *I hypothesized that GGT performance would explain (i.e., mediate) the narcissism-to-BD severity relation.* To analyze this possibility, I followed Baron and Kenny's (1986) documented guidelines for establishing mediation using the aforementioned analyses. I also followed up with a Sobel (1982) test to examine the statistical significance of the decrease in the relation between narcissism and BD.

CHAPTER 5

METHOD

Participants

The data set I analyzed was collected from a pool of freshmen undergraduate psychology students (N=423) from a university in the southeastern United States. Of these 423 students 182 (43%) reported not engaging in a binge drinking episode within the previous 30 days and were excluded from this study. Of the remaining 241 students, 145 females (60.2%) and 96 male (39.8%), additionally 186 participants were Caucasian White (77.6%). The mean age of participants was 18.03 ($SD = 1.06$). Further, 63 (26.1%) reported pledging a fraternity or sorority. See Table 1. Participants received course credit in return for participating in this study. The use of college students is important because they represent the population with the highest probability of BD.

Table 1.

Participant Demographics

Demographic Characteristic	n (%) or $M (SD)$
Sex	
Male	96 (39.8%)
Female	145 (60.2%)
Age	18.03 (1.06)
Race Ethnicity	
Caucasian White	186 (77.6%)
Non-Caucasian White	55 (22.8%)
Fraternity Sorority	63 (26.1%)

Note. N = 241.

Procedure

Subsequent to providing informed consent, participants completed all measures via computer. These measures included a basic demographic questionnaire that asked about participants' age, gender, ethnicity, alcohol use history (i.e., whether or not the participant drank alcohol while in high school), and student fraternity-sorority status (i.e., whether the participant had begun the pledging process for a Greek campus organization). See Appendix A. Participants also completed individual questionnaires of narcissism, self-esteem, and prior 30 days binge drinking behavior. After the completion of these measures all participants completed the GGT. Finally, they were debriefed and thanked for their participation.

Measures

Narcissism. Narcissism was measured using the Narcissistic Personality Inventory (NPI) (Raskin & Hall, 1979, 1981), which is a self-report inventory originally developed as a tool to assess individual differences in narcissism among nonclinical populations (Raskin & Hall, 1979, 1981; Raskin & Terry, 1988) using a continuum of symptom severity without categorical cut-points (Foster & Campbell, 2007; Sedikides et al., 2004). The NPI employs 40 forced-choice, two-answer questions (Twenge et al., 2008). For example one of the items requires participants to choose between “*I am more capable than other people*” and “*There is a lot I can learn from other people*” regarding which one is most self-descriptive. Participants receive a point for each narcissistic response endorsed. As such higher scores represent higher levels of narcissism, with the range going from 0 to 40 ($M = 17.66$, $SD = 6.87$, $\alpha = .84$). A large number of studies attest to its reliability and validity; in fact the NPI is the most widely used and extensively validated measure to assess narcissism in the general population (Campbell et al., 2004; Miller et al., 2009; Twenge et al., 2008). Importantly, research demonstrates that NPI scores do not relate to social

desirability scores (Watson, Grisham, Trotter, & Biderman, 1984; Watson & Morris, 1991). See Appendix B.

Self-Esteem. As the measure of self-esteem participants completed the Rosenberg (1965) Self-Esteem Scale (RSES). The RSES is one of the most widely used measures to assess self-esteem, and research supports its reliability and validity (Blascovic & Tomaka, 1991). Participants answered 10 items (e.g., *On the whole, I am satisfied with myself.*) using a five-point scale (1 = *strongly disagree*, 5 = *strongly agree*), which I summed with higher scores indicating higher levels of self-esteem ($M = 39.9$, $SD = 5.72$, $\alpha = .81$). See Appendix C.

Binge Drinking. Binge drinking severity was assessed with items adapted from the College Alcohol Survey, which was designed and has been used prominently by Wechsler and colleagues (e.g., 1998; 2002) in their work on college BD. First participants are provided an explicit definition of a “drink”, as they are told that “A ‘drink’ means any of the following: a 12-ounce can or bottle of beer, a 4-ounce glass of wine, a 12-ounce bottle or can of wine cooler, or a shot of liquor straight or in a mixed drink.” BD severity was then assessed using the following four items: *Think back over the last 30 days. How many times have you had five or more drinks in a row?; The last time that you had five or more drinks in a row, how many drinks did you actually have?; How long did it take you to consume the number of drinks you indicated in the last question?; and During your last year in high school, on how many occasions did you ever have 5 or more drinks in a row?* All questions were answered using a seven-point scale worded to represent the individual item (e.g., for the first item, 1 = *1 time*, 7 = *12 or more times*). However, questions one, two, and four varied based on the gender of the participant such that the number four was inserted for females. Also, the range was lowered by one for each answer in question two (1 = *4 drinks*, 7 = *14 or more drinks*). Question three was scored such that quicker

consumption indicated a higher score. I added these scores and then standardized them based on gender, with higher values indicating more severe BD (Range = 3-27; $M = 16.30$, $SD = 5.74$).

See Appendix D.

Overconfidence and Confidence Based Risk-Taking. Overconfidence was measured using the Georgia Gambling Task (GGT), which has been established as a behavioral measure of overconfidence as well as risk willingness (Goodie, 2003). This measure starts by asking participants 100 dyadic general answer questions regarding the population size of two US states. The GGT also concurrently questions the participants level of confidence for each question using scale categories ranging from 50%, which represents complete uncertainty, to 100%, which represents certainty (Goodie, 2003; Lakey et al., 2007a; Lakey et al., 2007b). The specific confidence categories are 50%-52%, 53%-60%, 61%-70%, 71%-80%, 81%-90%, 91%-97%, and 98%-100%. Overconfidence is measured by the difference between the individual's average confidence and the accuracy across 100 questions. In the second phase participants accept or reject bets for points, with the payoffs based upon their willingness to accept the bet, their correctness, and their confidence in their answers in the first phase. Specifically, participants win 100 points for each bet they take when they are correct. However, when they are incorrect participants lose a certain amount, which is derived from the confidence interval chosen. As I discussed earlier, this measure is set up to be fair as long as the individual participant is well calibrated, meaning that if a person expresses being 80% confident, this person should be accurate 80% of the time (Lakey et al., 2007a). However, because most people are overconfident, they inappropriately accept bets especially at high levels of confidence and thereby ultimately lost points (Goodie, 2003; Lakey et al. 2007a; 2007b). As *GGT Points* reflect

both overconfidence and risk-taking (bet acceptance), this is my variable of interest ($M = 10616.17$, $SD = 1528.34$). See Appendix E.

CHAPTER 6

RESULTS

Preliminary Analyses

Prior to conducting statistical analyses, I compared demographic characteristics for their similarity to other college student samples. See Table 1 for general results. Overall, this sample's demographic characteristics are consistent with others. For example the higher proportion of women than men reflects the trend towards women being more likely to seek degrees in higher education especially in the social sciences like psychology (Lilienfeld, Lynn, Namy, & Woolf, 2009). The ethnic breakdown reflects that of the at-large student body. Also, the number of students who reported pledging a Greek organization aligns with other universities in the U.S., which often fall in the 20%-30% range (Green & Green, n.d.). Of note, however, is that 56% of students reported BD within the previous 30 days. This percentage is a little higher than reports from most college campuses, where the normative range of BD falls between 40%-50% (Weitzman, Nelson, Lee, & Wechsler, 2004). This higher rate may be attributable to the time of data collection (beginning of the fall semester), the participants (college freshman), the wording of the BD questionnaire (using only the last 30 days), and the university (ranked as a "top 10 party school" by the Princeton Review and others), all of which relate to BD. Scores and reliabilities on NPI, RSES, and GGT were acceptable and relatively comparable to normative scores found in the literature. As I discuss in the next section, while the correlations with other relevant variables are comparable to other reports, the reliability of the BD questionnaire is somewhat low, though acceptable for research purposes (Cronbach, 1951).

Correlation Analyses

NPI correlated significantly with RSES ($r = .38, p < .01$), GGT points ($r = -2.08, p < .01$) as well as BD ($r = .20, p < .01$). These correlations align with other demonstrations of narcissists' high self-esteem (Bosson et al., 2008), overconfidence and risk-taking (Campbell et al., 2004s; Lakey et al., 2008), and propensity to BD (Luhtanen & Crocker, 2005), respectively. GGT points likewise significantly correlated with BD ($r = -.19, p < .01$), indicating that those who performed relatively poorly on the GGT also tended to engage in BD. These results confirm the first two of my hypotheses. See Table 2 for the matrix of correlations among all relevant variables.

Table 2.

Variable Correlations and Descriptive Statistics

Measure	1	2	3	4	5	6	7
1. NPI	--						
2. BD	.20**	--					
3. GGT	-.20**	-.19**	--				
4. RSES	.38**	.05	-.07	---			
5. Age	-.05	.10	-.04	-.04	--		
6. Gender	-.04	-.12*	-.02	-.11*	-.05	--	
7. Frat-Sor	.18**	.06	-.0	.02	-.04	-.07	--

Note: NPI= Narcissistic Personality Inventory; BD= Binge Drinking; GGT= Georgia Gambling Task; RSES= Rosenberg (1965) Self-Esteem Scale; Frat-Sor = fraternity or sorority status.

* $p < .05$; ** $p < .01$.

Regression-Based Mediation Analyses

The model I described earlier suggests that overconfidence and risk-willingness, as captured by GGT points would mediate the relation between NPI and BD. See Figure 1. In order to test this hypothesized mediation model, two hierarchical regression analyses were conducted following Baron and Kenny's (1986) guidelines. In the first regression analysis I regressed GGT points (i.e., overconfidence and risk-willingness) onto the covariates age, gender, ethnicity, alcohol use history, student fraternity-sorority status, and self-esteem (in block one) and NPI scores (in block two). The first hierarchical regression analysis indicated that the independent variable (i.e., NPI scores) significantly predicted the mediator (i.e., GGT performance) such that individuals scoring higher on the NPI have poorer performance (i.e., indicative of overconfidence, one's willingness to engage in risky behaviors) ($\beta = -.20, t = -2.71, p < .01$).

Next, I regressed BD scores onto the covariates age, gender, ethnicity, alcohol use history, student fraternity-sorority status, and self-esteem (in block one), scores from the NPI (in block two), and GGT points (in block three). As originally hypothesized, NPI significantly predicted BD in block two ($\beta = .28, t = 4.04, p < .01$) even when controlling for the effects of the covariates. This NPI-to-BD relation indicates that higher scores on the NPI significantly predict BD frequency and severity. Additionally, lower GGT points also significantly predicted BD frequency and severity in block three ($\beta = -.17, t = -2.71, p < .01$). Baron and Kenny's (1986) final guideline for establishing mediation is to examine if the statistical significance of the predictor on the dependent variable remains the same (or drops to nonsignificance) with the inclusion of the proposed mediator into a regression model. More specifically, to the extent that the relation between the predictor and criterion drops to statistical nonsignificance, I can infer

full mediation. The third block of the regression equation directly tested the existence of the mediation relation of GGT on the NPI-BD relation. With the inclusion of GGT points in the regression equation, the original strength of the relation for NPI in predicting BD dropped from block two to block three ($\beta = .24, t = 3.53, p < .01$). Additionally, with the inclusion of the mediator the change in R^2 was .086 indicating that the mediator GGT (i.e., overconfidence and willingness to take risk) accounted for 8.6% of the variation between BD and NPI scores. However, because the direct relation between narcissism and BD remained statistically significant, a Sobel (1982) test is appropriate to analyze if the drop (i.e., change) of NPI scores is statistically significant. The results of the Sobel test indicated that GGT points was in fact a statistically significant partial mediator ($z = 2.02, p < .05$). Thus, GGT performance partially explains the relation between NPI and BD. Stated differently, among narcissistic college students levels of overconfidence and willingness to take confidence-based risks explains part of the reason why these individuals are at a higher risk of engaging in especially severe and frequent binge drinking compared to nonnarcissistic college students.

Figure 1: Overconfidence and Risk-Taking (assessed via GGT Points) Mediates the Relation Between Narcissism (NPI scores) and Binge Drinking Severity (BD Severity).

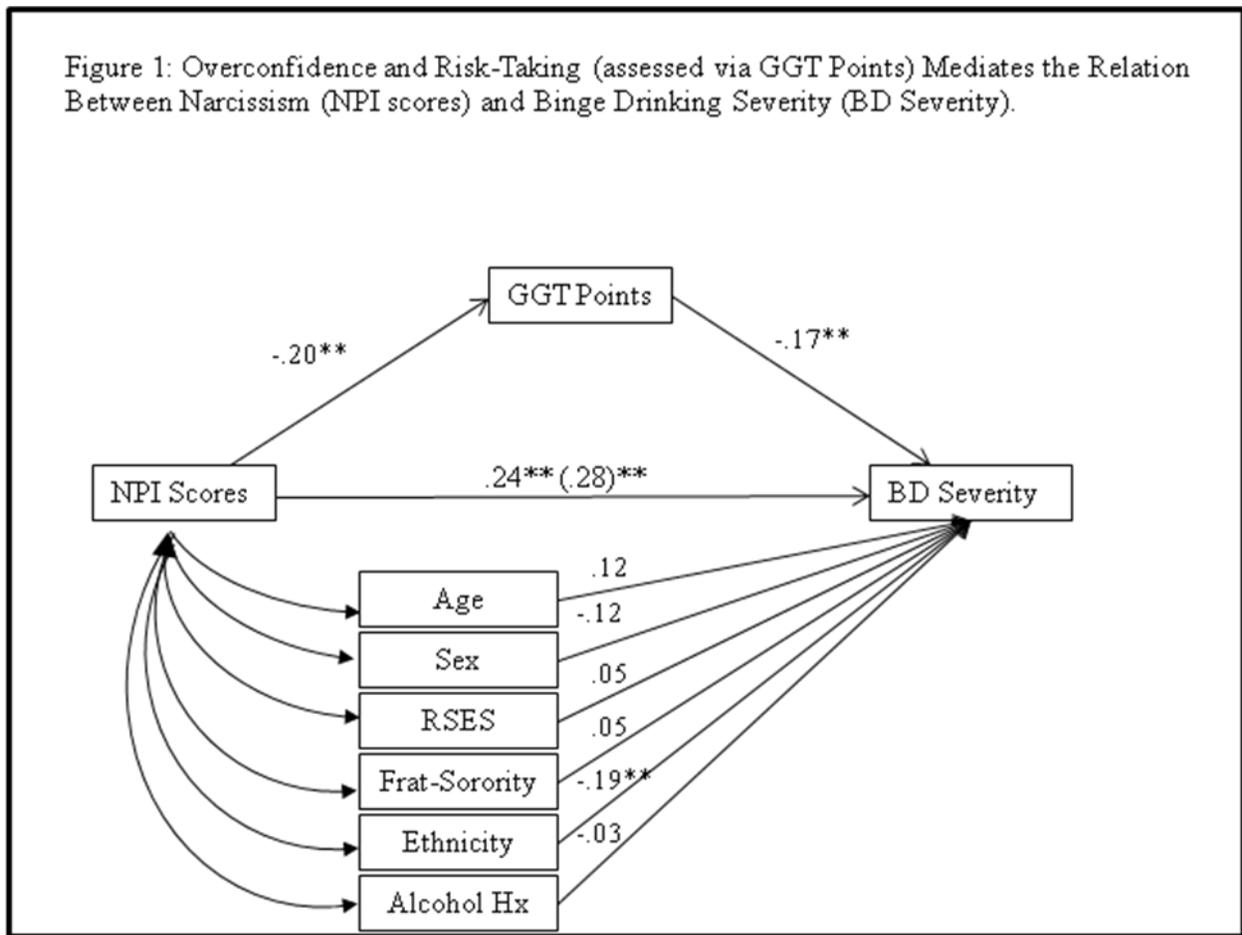


Figure 1. Path Model of GGT Assessed Overconfidence and Risk-Taking Mediating the Relation Between Narcissism and Binge Drinking Severity

Note: NPI Scores = Narcissistic Personality Inventory; BD= Binge Drinking; GGT Points = Georgia Gambling Task points earned; RSES= Rosenberg (1965) Self-Esteem Scale; Frat-Sorority = fraternity or sorority status; Alcohol Hx = alcohol use history. ** $p < .01$

CHAPTER 7

DISCUSSION

General Discussion

Over the past 50 years a large body of research has focused on the dangerous alcohol consumption pattern of binge drinking (BD) and has consistently identified it as the number one public health concern facing young adults (Wechsler et al., 2002). Indeed, the acute alcohol intoxication inherent to BD leads to cognitive, neuropsychological, and executive functioning impairments (Acheson et al., 2001; Brown et al., 2000; Casey et al. 2000; Gessa et al., 1998; Mintzer, 2007; Nelson et al., 1986; Spear, 2002) and increases the likelihood of entering dangerous situations. For example BD leads to an increased risk of physical assault and sexual assault, undermines academic performance, and increases the likelihood of using illicit substances, drunk driving, and many other risky behaviors (Benton et al., 2006; Fromme et al., 1997; Perkins, 2002b; Presley et al., 1999; Wechsler et al., 2002). Unfortunately, college students are extremely likely to engage in BD, and as such they are especially likely to experience these negative outcomes.

In light of these considerations my first goal in this study was to examine the extent to which college students relatively high in the personality trait of narcissism were likely to engage in this risky behavior (e.g., Luhtanen & Crocker, 2005). I drew from a number of lines of evidence that pointed to these possibilities. For example a number of studies find especially high rates of comorbidity with substance use and abuse and traits like grandiosity and entitlement that are inherent to narcissism and especially NPD (Verheul, Bosch, & Ball, 2009). Narcissists' strong approach motivations lead them to seek instant satisfaction for their desires (Foster &

Trimm, 2008). They self-regulate their behaviors in such a way as to bolster their self-system, which is defined almost wholly according to agentic traits (e.g., being “the best”) and without regard for communal traits (e.g., being kind). Although they demonstrate little regard for people and commonly derogate and exploit others (Morf & Rhodewalt, 1993; Twenge & Campbell, 2009), they are sensitive to evaluative information and strongly desire to ‘save face’ in the face of evaluative threat (Zhang & Baumeister, 2006). Yet, narcissistic individuals actively seek out situations in which they can bolster their need for dominance or superiority by obtaining admiration and praise for their performance (Wallace & Baumeister, 2002). Given that within a college environment BD is often strongly reinforced, it stands that narcissistic individuals may use situations where alcohol is involved to gain instant feelings of superiority and satisfaction. Importantly, narcissists’ imbalanced self-perceptions and tendencies to engage in behaviors that provide immediate positive reinforcement fuel their overconfidence and their strong willingness to engage in risky behaviors based on their confidence even when their confidence assessments are poorly calibrated (Campbell et al., 2004b; Lakey et al., 2007a). BD, and the attendant mindset typified in phrases like “Just one more drink” and “I’m okay to drive”, represents one potential manifestation of overconfidence and risk-willingness as a function of confidence. Drawing from these lines of evidence, my second goal was to examine if these judgment and decision-making biases (i.e., overconfidence and risk-willingness) accounted for why narcissists were particularly likely to binge drink.

Preliminary analysis supported the first of these goals. Specifically, I replicated past research in demonstrating that narcissism and BD are significantly correlated (Luhtanen & Crocker, 2005). That is, students who were high in trait narcissism were significantly more likely than those low in trait narcissism to engage in frequent and severe BD. Importantly, this

association between narcissism and BD remained statistically significant after controlling for participant age, gender, ethnicity, fraternity-sorority status, and alcohol use history, self-esteem level, all of which have demonstrated relevance for narcissism and BD behavior. Somewhat surprisingly these covariates actually seemed to suppress the strength of the relation between narcissism and BD. That is resulting from significant correlations among variables included in this study, controlling for the covariates allows the magnitude of the relation between narcissism and binge drinking to increase. Thus, removing the contribution of covariates in the first block of a regression equation allows a deeper understanding of the narcissism-to-binge drinking relation by isolating the effect attributable to narcissism alone.

Subsequent analyses also lent support for the second goal although only partially. That is to expand upon the previous finding I sought to move beyond an examination of the simple narcissism-to-BD relation to determine if I might find a variable that would account for (i.e., mediate) it. As I discussed earlier, narcissists' judgments are often biased by overconfidence or poor calibration between the correctness or accuracy about a belief and the confidence assigned to that belief. Even in the face of this overconfidence narcissists are particularly likely to take gambles or take risks based on their confidence. In this study overconfidence and risk-attitudes were assessed using the GGT, a well-validated behavioral assessment of these judgment and decision-making biases (Goodie, 2003). I used total GGT points earned as the mediating variable because it provides a collective measure of these judgment and decision-making biases. Preliminary analyses replicated past research by showing that narcissists earned significantly fewer points on the GGT than their nonnarcissist counterparts (Campbell et al., 2004b). In addition I found that GGT performance related to BD such that those who displayed especially poor judgment and decision-making on the GGT were more likely to binge drink than those who

demonstrated relatively good GGT performance. Furthermore, and most importantly, GGT performance accounted for a significant portion of the relation between narcissism and BD. Stated differently, at least part of the reason “why” narcissists binge drink is because of their general overconfidence and propensity to take risks based on their confidence.

These results carry a number of important implications. For example earlier I discussed the role of misperceptions of BD as a normative social behavior (e.g., “Everyone does it.”). Specifically students hold inflated beliefs regarding the number of days per week the average student consumes alcohol and the quantity consumed per drinking episode (Bosari & Carey, 2001, 2003; Jackson et al., 2005; Perkins et al., 1999). Many students also maintain the belief that the proper “college life experience” necessitates the consumption of alcohol for social events (e.g., sporting events, Greek functions) and that to “fit in” they must drink until (or past) the point of intoxication or they are missing out. It is likely the case that these same misperceptions underlie narcissists’ overconfidence about drinking and contribute to their willingness to take alcohol-related risks by increasing the differentiation between actual drinking ability (e.g., to drink a certain amount within a certain time frame and not stumble walking) and their purported confidence about this ability. These inaccurate beliefs are damaging because they bias students towards risky and potentially dangerous behaviors, and as such, colleges and universities need to adopt institutional level changes to address misperceptions among students regarding alcohol consumption rates and BD.

One method toward this end would be to place informative and visually appealing posters around campuses in high-traffic areas (i.e., areas where high volumes of students are likely to see them such as dormitories, student centers, dining areas, and those where students exercise). To make the information pertinent posters could attack ignorance and myth all at once by directly

informing students about what constitutes BD and reporting actual rates of alcohol consumption from their respective campuses (e.g., results from student self-report survey). These posters could include statistics like the average number of drinks consumed per week and the percentage of students who do *not* consume alcohol or binge drink. Directly informing students that the majority of the student body is not consuming alcohol on a regular basis or in large quantities (i.e., BD) may serve to deflate the misperceptions associated with it and thereby the role of overconfidence that increases the likelihood of its occurrence.

Targeting students before they become immersed fully within the college environment also is imperative. One possibility is to address alcohol-related misperceptions directly when incoming students (usually freshmen) visit for college orientation the summer before the semester begins. Disseminating accurate information on this topic should help students understand that nightly alcohol consumption, intoxication, and BD are not the norm. Another means of curtailing alcohol-related myths would be to focus on the proper behavior of the majority of students (and not the maladaptive behavior of the minority), or in a sense, focusing on the “good of the many”. For example instead of pointing out that up to 44% of students reported BD at least once in the past month, which might only reinforce drinking behavior by making salient thoughts of BD, orientation leaders should inform incoming students that 56% of students chose to either abstain or consume alcohol at safe and responsible rates (Courtney & Polich, 2009; Presley et al., 2002). This focus on the majority of students acting responsibly would alter students’ reference for behavior, especially regarding the choice to abstain or drink moderately, and thereafter align “fitting in” with responsible behavior. Such a change in cultural attitudes might even invert the relation between narcissism and BD. Furthermore, it may be important to inform incoming students of certain risk factors associated with high levels of BD,

such as social affiliations (e.g., athletic programs, Greek status). Students could integrate this information into the decision-making equation about the expectations and pressures that may come with joining certain groups. This might keep some students from joining Greek organizations for example, which could keep them from engaging in BD to the same extent as they might have had they joined.

Replacing misperceptions with the understanding that the social norm across campuses is not to binge drink may be the only means of eliciting change and decreasing future consumption rates of alcohol that extend beyond orientation day. Recently Milkman, Chugh, and Bazerman (2009) argued for research to move beyond studying the types of judgment and decision-making biases toward developing strategies to combat them (also see Lilienfeld, Ammirati, & Landfield, 2009). Conveying objective, fact-based information is one means proposed to alter biases including those that underlie overconfidence or narcissism for example. As such another implication of these findings, and an avenue for future research, stems from the possibility that in addition to informing students about BD informational appeals also may decrease the personality traits and decision-making processes that underlie BD. One way to attack these issues of student narcissism and overconfidence would be for orientations to entail information about these constructs (i.e., narcissism and overconfidence), traits that typify them, and the problems associated with them. For example many students may come to college convinced that compared to others they can consume especially high levels of alcohol safely in a short period of time (i.e., without experiencing any personal harm from intoxication; Perkins, 2002a; Wechsler & Nelson, 2001). However, as I discussed earlier, this overconfidence in their drinking abilities increases their risk of finding themselves in situations where they lose control and make poor decisions (e.g., to drive or engage in unprotected sex while intoxicated). Research examining

overconfidence demonstrates that contextual factors and social pressures (e.g., being in a dorm room with a few friends with a beer versus a fraternity-sorority party; Klayman, Soll, Gonzales-Vallejo, & Barlas, 1999) can cause overconfidence to increase (Yates, Lee, & Shinotsuka, 1996) or decrease to the point that it may even disappear (Bjorkman, Juslin, & Winman, 1993; Gigerenzer, 1991). These same social pressures especially if they pose threat to perceptions of competence or superiority also influence the expression of narcissistic tendencies (Wallace & Baumeister, 2002). In the same vein of conveying objective information, pointing out traits, contextual cues, and potential social pressures may decrease their influence on BD behavior.

Additionally, college orientation represents a wonderful opportunity to teach advantageous decision-making skills that may function to debias overconfidence and reduce the likelihood students will make rash and risky decisions. For example students could be taught to take a moment to consider alternatives to their decisions and think through all the potential outcomes that would result from each alternative. Milkman et al. (2009) showed that this simple technique if used properly prior to making a decision, mitigated overconfidence and reduced decision-making errors. Taking a second to consider the aversive outcomes associated with excessive alcohol consumption such as physical problems (e.g., vomiting, hangovers), poor decision-making (e.g., drunk driving, unprotected sex), or the myriad other negative consequences may attenuate its appeal. Indeed, arguments about feeling “buzzed”, decreasing social anxiety, and lessening inhibitions (i.e., providing courage to engage in activities normally hesitant to try) all seem much less appealing when considered relative to spending the night in a hospital with acute alcohol poisoning. This technique would be especially relevant for helping narcissistic individuals learn to pause and consider outcomes and alternatives especially in light

of the fact that they are both particularly overconfident and impulsive (Miller et al., 2009; Vazire & Funder, 2006).

Narcissists are also sensitive to status - they strive to attain it and engage in behaviors to avoid losing it (Twenge & Campbell, 2009). Because narcissists show respect for and want to befriend people with status (because it would improve their own status; Rhodewalt et al., 1998), employing campus leaders (i.e., those who have a high degree of status on campus) to convey these messages likely would be especially important to curtail BD among narcissists. Instead of devaluing information presented by those whom the narcissist might easily dismiss as a “nobody”, campus leaders can attack misperceptions forcefully through such statements as, “You are not able to consume these amounts of alcohol you think you can. Even if you consume it, you will make stupid decisions and place yourself at risk to die. In fact, 1,400 college students die each year from alcohol related injuries. Another 500,000 students are harmed by unintentional injuries, and 600,000 are involved in physical altercations. Just don’t do it” (NIAAA, 2002b). People with status would provide students and especially narcissistic ones with specific and tangible risks regarding alcohol consumption in a way that could help to debias misguided confidence assessments, increase the likelihood of students accurately assessing outcomes associated with risky behavior, and thereafter potentially improving decision-making abilities (Lakey et al., 2008; Milkman et al., 2009).

However, it is worth noting again that the narcissism and BD relation remained statistically significant even after including GGT points into the regression model, which indicated partial mediation. As such, while the results of this study demonstrate that the relation between narcissism and BD is at least partially explained as a function of biased judgment and decision-making, it will be important in future research to explore other potential mediators that

may serve to explain this association. For instance narcissists' stance towards interpersonal relationships, which is exemplified by their reticence to listen to others and their highly pervasive sense of personal entitlement, represents one potential mediator (Campbell et al. 2004a; Rosenthal & Pittinsky 2006). For example the phrase "I'm the best, so if something happens, somebody else will take care of it." speaks to the sense that narcissists care little about the consequences of their behavior like costs to others. With a sense of entitlement and a belief that other "lesser" individuals will handle or take the blame for any negative outcomes, they are left to engage in behaviors like BD that may provide an immediate positive emotional boost without any of the psychological turmoil likely experienced by those who do not harbor such beliefs (like those low in narcissism).

Another potential mediator may be narcissists' hypercompetitive nature (Campbell et al., 2005; Morf & Rhodewalt, 2001; Ryckman, Thornton, & Butler, 1994). Narcissists' often wed their egos to outcomes or standards that bolster (or denigrate) their biased and unbalanced agentic-based self-perceptions. Chances at glory or threats of defeat contribute to their being hypercompetitive. Accordingly, environments that reward an ability to consume large quantities of alcohol and to do so quickly likely trigger their hypercompetitive nature. Moreover, narcissists' strong desire to achieve praise and status from visible and many times ostentatious behaviors in public arenas likely account for some of the reason they binge drink (Campbell et al., 2004b). Indeed, many times the desire for success or attention guides their lives. As such narcissistic individuals may seek out memberships in social organizations such as fraternities or sororities as a means of status. Thus they increase the likelihood of taking part in events where drinking alcohol is expected and BD is positively reinforced. Finally, narcissists' inherent impulsivity may be a potential mediator of the narcissism-to-BD relation (Miller et al., 2009;

Vazire & Funder, 2006). Because narcissists are guided so strongly by their impulses to seek instant gratification, they may not take the time to examine the negative outcomes of their behavior. Lack of cognizance for behavioral consequences represents one means by which narcissists sometimes make poor financial decisions (Foster et al., 2009a), develop pathological gambling (Lakey et al., 2008), and develop compulsive shopping (Rose, 2007).

These additional potential mediators may function as a means to bolster the link between narcissism and BD behaviors and they may further explain the judgment and decision making biases that augment this dangerous behavior. Taken as a whole these potential mediators point to the consistent finding that narcissistic individuals are prone to make maladaptive decisions and engage in numerous self-defeating behaviors. In light of the maladaptive decisions and the interpersonal problems narcissists create, it seems to be the case that campus-based interventions can only do so much to curb BD and other risky health behaviors; instead, a better focus may be to curtail narcissism. In the next two sections I discuss some means to address this problem from the perspective of parental and therapeutic interventions, respectively.

Parents, Narcissistic Development, and Other Risky Health Behaviors

Unfortunately, the rates of narcissism are on the rise (see Twenge & Campbell, 2008). As such, the present results carry a number of broad implications for social factors linked with rising rates of narcissism from generation to generation and the extent to which these factors will only increase the likelihood that future narcissists will engage in other dangerous and risky behaviors (Stinson et al., 2008; Twenge & Foster, 2008). Early psychoanalytic writings suggest parental deficiencies provide precipitating factors leading to adulthood narcissism (Otway & Vignoles, 2006). Kernberg (1975) and Kohut (1977) both pointed to parental coldness, conveyances of

indifference, or even attitudes of hostility as the factors that lead to the development of narcissism. In contrast Millon (1981) took a social-cognitive approach to understanding narcissism. He proposed that excessive parental indulgence, admiration, and overvaluation enhance a child's self-image in such a way as to create the grandiosity, self-focus, and entitlement inherent to narcissism. Millon's explanation resonates with Freud's (1957) original writings on narcissism in which he also conjectured that narcissism is a normal part of development but that parental overindulgence curtails growing out of it.

So which of these theories are correct? Otway and Vignoles (2006) found a strong link between narcissism and parental overvaluation such as when parents show unrealistic portrayals of their child's accomplishments. In their view such praise creates an unstable and overly enhanced self-view that is highly sensitive to positive reinforcement from external sources. Mueller and Dweck (1998) provide congruent evidence that external praise can undermine motivation in learning endeavors whereby children develop a tendency to work only when an opportunity for glory or praise exists (see also Baumeister, Campbell, Kruger, & Vohs, 2003). As demonstrated by Wallace and Baumeister (2002), narcissists' self-regulatory strategies reflect this sensitivity.

In light of this evidence it is not surprising that the "self-esteem movement" (Twenge & Campbell, 2008) that has swept through the United States and other western, individualistic cultures in the latter part of the 20th Century has had some particularly negative effects. Specifically instead of creating generations of children who have positive but well founded self-views balanced with a genuine concern for the well-being of others, this movement has dramatically increased the rates of narcissism (Stout, 2000; Twenge, 2009; Twenge & Campbell, 2008, 2009; Twenge et al., 2008a, 2008b). In fact this self-esteem movement has been described

as an “epidemic” (Twenge & Campbell, 2008) and a recent Internet search of “increase self esteem”, with over 28 million sites devoted to this topic, offers support for this description. A number of parental behaviors, then, give cause for concern. For example under the banner of increasing self-esteem, parents strive to build children’s self-views at all cost without regard to the actual level of achievement or existence of objective merit. Social systems like schools and community teams also practice this type of behavior (Baumeister et al., 2003). Parental “protection” or “defense” of a child’s self-esteem also represents a double-edged sword. Of course parental indifference and lack of involvement are problematic, but so too are efforts geared to protect or soothe positive self-feelings when it comes at the expense of recognition of reality. Indeed, behaviors like passing off blame onto other individuals if (or when) a child actually fails (or does not win) prevents a child from important life lessons (like learning from mistakes), undermines maturity, and thwarts the development of positive coping skills (Campbell & Sedikides, 1999). Incessantly bailing out a child from self-induced troubles likewise only serves to reinforce negative behavior and increase perceptions of entitlement and superiority that contribute to beliefs about being “above the law”, which typify narcissists (Campbell et al., 2004a)

To the extent that we keep seeing increases in the levels of narcissism, we may likewise see an increase in BD, criminal behavior, and other risky health behaviors. Indeed, narcissistic individuals are not likely to receive unconditional praise especially in competitive work environments during adulthood. Without adequate coping skills the lack of positive reinforcement may result in psychological turmoil, discomfort, and uncertainty. This novel and potentially tumultuous environment may thereafter trigger narcissists to engage in a range of problematic behaviors in an attempt to restore certainty. Or in the absence of restoration they

may strive for feelings of interpersonal dominance and power even when the behavior aimed to supply these feelings entails acts of aggression and violence (see Twenge & Campbell, 2003) like the 2007 mass shooting committed at Virginia Technical Institute in Blacksburg, VA (see Twenge & Campbell, 2008).

Moreover, despite arguments advancing the view that narcissists are “psychologically healthy” and “psychologically resilient” - measured by low rates of depression, anxiety, and neuroticism as well as high rates on subjective well-being (Rose, 2007; Rose & Campbell 2004; Sedikides et al., 2004) - their imbalanced self-views, overconfidence in their abilities, and other inherent traits set the stage for a wide array of maladaptive behavioral patterns. For example one manifestation of the drive for status and power is a high degree of monetary focus and the conveyance of wealth with brand name items like cars, clothing, and accessories (Rose, 2007). Narcissists’ superficial desire for wealth and status coupled with their tendency to seek immediate gratification of their desires contribute to their becoming pathological gamblers (Lakey et al., 2008) and compulsive shoppers (Rose, 2007). Their hyperfocus on reward and pleasure also has been identified as one link to explain why narcissists use cocaine (McCown & Carlson, 2004; Platt, 1997). A similar pattern likely exists for nicotine, marijuana, and other illicit substances. Finally, the tendency to hedge interpersonal relationships upon superficial or materialistic qualities such as status and appearance coupled with the drive for continual positive reinforcement (Campbell, 1999; Campbell & Foster, 2007) may explain why some narcissists are especially prone to develop maladaptive eating patterns including anorexia (i.e., severe restriction of food intake resulting in an individual being 85% underweight; APA, 2004) and bulimia nervosa (i.e., consumption of a large quantity of food followed by a compensatory

behavior such as vomiting or using laxatives; APA, 2004) (Humphrey, 1991; Johnson, 1991; Sours, 1980; Steiger, Jabalpurwala, Champagne, & Stotland, 1996).

In short the relation between narcissism and this wide range of maladaptive and (at times) life threatening problems goes against arguments that narcissism is an unequivocally healthy trait that buffers the individual from against negative outcomes. These findings are especially disconcerting in the context of increasing rates of narcissism from one generation to the next. Given their unwillingness to listen to interpersonal feedback regarding their maladaptive behaviors (Peyton & Safran, 1998), curtailing narcissism likely necessitates stopping it before it starts. To do so social change likely has to occur at the parental level. One means to this end would be to target parents before or soon after having children, have them complete parent skills training, and therein inform them of the dangers for narcissistic development from excessive and inappropriate reinforcement focused on bolstering self-esteem; instead, as Twenge and Campbell (2008) argue, parents need to offer praise relatively sparingly such as after successfully accomplishing a difficult task or challenge. Changing maladaptive parenting styles may decrease rates of narcissism by adequately preparing children for real world situations in which they will not receive unconditional positive praise or reinforcement. Proper parenting may also equip college students with secure high self-esteem (Kernis, 2003) that is stable, not linked to meeting outcomes or standards, and not defensive in the face of threat (see Kernis, Lakey, & Heppner, 2008). Such a state should curtail many of the negative traits associated with narcissism (like exploitativeness, grandiosity) and thereby decrease the likelihood of engaging in risky behavioral choices like BD.

Implications for Therapeutic Interventions for Narcissists

Building from concerns of ever increasing rates of narcissism and the rampant “self-esteem movement” throughout western, individualistic cultures (Twenge & Campbell, 2008), therapists are likely to see increases in the rates of narcissists seeking (or forced into) therapy. These encounters will span narcissists with diagnosable NPD to those who might be described as “subclinical”, but who share the same central features that underlie maladaptive decision-making and risky behavior like BD. As noted by Campbell and Baumeister (2006), however, narcissists seek treatment only when they have failed to such an extent that the self-system collapsed (a “failed narcissist) or when forced to do so by court order for example. Given their inflated self-perceptions and likely hostile attitudes towards therapy, therapists need to be aware of ways to interact with these difficult clients.

Like traditional depictions of narcissism, suggestions for their therapeutic treatment are rooted in psychoanalytic literature and psychodynamic treatment (Kohut, 1966, 1971, 1977; Kernberg, 1975). One problem, however, is that these psychoanalytic depictions rest on narcissism merely masking insecure, unstable low self-esteem. As I discussed earlier, the idea of fragile narcissists does not align with current literature that illustrates they are genuinely self-assured people who possess imbalanced self-views inordinately focused on agency-related traits (e.g., being intelligent). These imbalanced self-views underlie their grandiosity, self-centered nature, exploitativeness, and entitled attitudes. These traits in turn make them resistant to change and can provide a great deal of frustration for therapists. Narcissists’ strong, dominant, and hostile interpersonal styles (Bradlee & Emmons 1992; Dimaggio, Fiore, Salvatore, & Carcione, 2007; Ruiz, Smith, & Rhodewalt, 2001) also can increase therapists’ negative emotions and attitudes that may prevent developing an intimate empathic therapeutic relationship with them.

Nonetheless, Kohut's (1971) and Kernberg's (1975) depictions of therapist empathy as an essential trait for successfully working with narcissistic clients seem valid. Threatening narcissists would only magnify their hostility, and it is likely the case that successful relationship formation necessitates a somewhat nontraditional means of making them feel comfortable and not threatened in the therapy setting. At the onset of treatment, then, it is important to recognize that the therapist and client are most likely going to have different opinions on the desired outcome goals from treatment. Specifically, narcissistic individuals generally will enter treatment with one of two mindsets. One, as I mentioned above, narcissists will likely endorse that "nothing is wrong" and attribute their coming to therapy to an external source (e.g., judge). Alternatively, even if recognition exists of something being wrong, narcissists' will likely view the goal of therapy (and therefore the therapist) to help guide them back their "perfect" narcissistic selves (or re-establish the traits that bolstered the narcissism in the first place). The therapist must recognize this mindset in order to help these clients adjust their self-defeating (or externalizing) behaviors that prevent them from, among other problems, experiencing genuine and intimate interactions with others (Peyton & Safran, 1998). One means of increasing a narcissist's initial comfort is by the therapist allowing the narcissist to feel freedom by "leading" (to some extent) the sessions. Such a maneuver by the therapist would satisfy the narcissist's need for dominance which again may be especially relevant in a therapeutic setting. Eventually the therapist must take a directive role.

Against this backdrop, time limited dynamic psychotherapy (TLDP) provides one potential means of effectively working with narcissists. TLDP is a brief psychotherapy (i.e., maximum 20 weekly sessions) designed to curtail chronic interpersonal problems found in many personality disorders including narcissism (Levenson, 1995). Recall that a number of studies

(Del Rosario & White, 2005; Levy et al., 2007; Miller & Campbell, 2008; Miller et al., 2009; Pryor et al., 2008; Sedikides et al., 2004) demonstrate that subclinical narcissism and NPD share the essential features of narcissism like grandiosity and entitlement that undermine narcissists' interpersonal relationships (Campbell et al., 2004a; Morf & Rhodewalt, 1993; Paulhus, 1998) and contribute to psychological disturbances and risk-taking behaviors. TLDP relies upon interpersonal elements of the therapist-client relationship and uses these elements as a vehicle to activate changes in the client's general interpersonal patterns. Although these interactions occur in an artificial setting (e.g., office), the therapist can observe narcissists' typical interpersonal behaviors and styles of interaction because they reflect their normal behaviors and styles with others. Successful TLDP relies on the conveyance of a client's transference (i.e., the patient allowing past feelings, conflicts, beliefs, or attitudes to affect the current interpersonal interaction with the therapist) and subsequently the conveyance of the therapist's countertransference (i.e., the therapist allowing past feelings, conflicts, beliefs, or attitudes to affect the current interpersonal interaction with the patient) as tools to elicit change in the patients maladaptive interpersonal style (Butler, Flasher, & Strupp, 1993; Kiesler, 1983; 1996). Within TLDP an alteration in perceived power (i.e., the shift from letting the narcissist lead the therapy session to the therapist directing the sessions) would occur via alterations in the therapist's interpersonal style, which can stimulate the narcissist towards affiliatory behaviors and strivings to associate and please the therapist because of the power held.

Although conjecture as researchers have yet to examine TLDP with narcissists to my knowledge, and most studies explicitly exclude narcissists from participation (Nathan & Gorman, 2002), two lines of evidence contribute to how I envision TLDP leading to successful therapeutic outcomes with a narcissist. One, the interpersonal circumplex research suggests that

for successful interactions with a narcissist to take place, the person with whom the narcissist is interacting (i.e., the therapist in this case) must convey a complementary profile. A narcissist's profile is that of being hostile-dominant (Leary, 1957), and as such, the therapist should act in a hostile submissive manner at least initially. As I discussed above, given narcissists' tendencies to take lead roles, exploit others, and not back down in times of confrontation, complementary behavior on the part of the therapist would entail acting somewhat aloof and distant, avoiding behaviors that might convey a desire to establish a sense of emotional intimacy, and allowing the client to take a lead role in the session. The result of the therapist's complementary behavior would be that the narcissist would experience perceptions of equality or even dominance over the therapist coupled with a relative absence of feelings of threat or inadequacy. The point of this behavior would also facilitate the development of a crucial therapeutic alliance.

The second line of evidence that I draw from may seem counterintuitive initially given the depiction of complementary behaviors and the interpersonal circumplex. However, research demonstrating narcissist's imbalanced self-views suggests that one means of gaining genuine interest in the therapy sessions and gaining narcissists' compliance is to play on their sensitivity to status. Thus, after the incipient sessions with the narcissist, an interpersonal shift must occur where any perceptions of equality or dominance felt by the narcissist inverts to the point that the narcissist views the therapist as the person with higher status on some psychologically relevant (i.e., agency-based) dimension like intelligence. (This state of affairs is where I envision high status students being able to begin conveying messages that may convey BD on campuses outside of therapeutic settings.) Again, the suggestion within the TLDP framework is for the therapist to detach from complementary behaviors and begin to act in a noncomplementary manner (e.g., push for dominance). Thus, over a number of sessions the therapist would need to

subtly adjust interpersonal behaviors from those that reflect the hostile-submissive traits, to those that reflect friendly-dominant traits (e.g., pulling for closeness). In order for the therapist to ultimately reflect traits in the friendly-dominant quadrant, the therapist is supposed to “move” around the circumplex one quadrant at a time, thus “going through” the friendly-submissive quadrant. Given narcissists’ tendencies to “prey” on friendly, submissive people (sycophants), therapists should likely move as quickly as possible to the friendly-dominant quadrant.

According to this model the narcissist should react to the therapist’s friendly but dominant behavior in such a way as to eventually become friendly but submissive. In this state the narcissist could feel empathy for others’ perspectives, which would serve as the catalyst for hearing feedback about change. The possibility that empathy might facilitate a readiness for change comes from evidence that activating a communal mindset mitigates some of the interpersonal problems narcissists generally demonstrate (e.g., aggression; Konrath, Bushman, & Campbell, 2006). In short the goal would eventually be to move “around” the interpersonal circumplex, overcoming inherent tensions in the process, until the narcissist has experienced, and through experience with the therapist in a safe environment (i.e., in vivo), integrated a new (i.e., healthier and more adaptive) interpersonal interaction style that ultimately allows for successful attenuation of maladaptive behaviors (Kiesler, 1996).

Even if sessions with narcissists do not develop according to the trajectories outlined within TLDP I believe the steps of gaining the therapeutic alliance it outlines and subsequently creating a perceptual shift in status, are necessary precursors for the success of other therapeutic techniques (e.g., cognitive behavioral therapy or CBT). For example CBT emphasizes the interplay of thoughts, emotions, and behaviors as a means to intervene and implement change. Specifically CBT targets individuals’ automatic thoughts (i.e., quick, evaluative thoughts

occurring at superficial level of cognition), intermediate beliefs (i.e., generally unarticulated attitudes, rules, and assumptions), and core beliefs (i.e., deep fundamental beliefs central to an individual and tending to be global and rigid) as mechanisms to change emotional and behavioral reactions to self-relevant stimuli (Beck, 1995). Within the CBT framework gaining allegiance and a desire to actively participate in the therapeutic process must occur before narcissists are open to a therapist's challenges to automatic albeit dysfunctional normative behaviors. Moreover, only then will core beliefs for example be open to challenge and alteration. This fact is especially true among narcissists whose imbalanced self-views have guided a lifetime of behavior. It is my belief that this framework may provide a means by which a therapist could work towards the reduction of narcissists' propensities to engage in risky behaviors like BD and towards the development of adaptive decision-making skills. This possibility, though, awaits future research. In the next section, I also discuss some limitations of the current study and make other suggestions for future research.

Limitations and Future Directions

The results of this study suggest that narcissistic students are more likely than their nonnarcissistic peers to engage in risky, BD behavior, and that this relation is partially due to their overconfidence and risk willingness. While compelling, this study has a number of limitations, however, that should fuel future research. For instance one might question the causal link between narcissism and BD due to the cross sectional nature of this study. However, because narcissism is a pervasive personality trait, it is more likely that trait narcissism drives the individual to binge drink rather than binge drinking giving rise to narcissism. Likewise the propensity for biased judgment and decision-making is best explained as an outcome of

narcissism that drives their propensity for BD. Nevertheless future research examining longitudinal outcomes of narcissism, judgment, and decision-making biases, and BD would provide a deeper understanding of how these construct interrelate.

One might also argue that the reliance of self-report measures of narcissism and retrospective accounts of BD limit the generalizability of these findings. It might be the case that underage college students inaccurately report their BD behavior. However, similar BD findings across a number of other college populations (Courtney & Polich, 2009; O'Malley & Johnston, 2002; Presley et al., 2002) provide support for validity of these findings and limit the extent to which such self-presentational or social desirability concerns might account for them. Previous research also demonstrates that narcissism does not relate to scores on measures of social desirability (Watson et al., 1984; Watson & Morris, 1991). Moreover, the GGT does not rely on self-report per se; instead, it is a behavioral assessment that employs a series of questions designed to assess an individual's overconfidence and willingness to take risks (Fischhoff et al., 1977; Goodie, 2003). Nonetheless, one interesting possibility for future research would be to examine friend dyads (i.e., an individual as well as this person's friend) and have them complete measures assessing various aspects of the self and each other on dimensions such as narcissism. Then researchers could have them catalog their own and their friend's drinking over a period of time. The results of such a study would provide validity information regarding self-assessed data, allow for comparisons in drinking behavior among friends, and provide valuable information regarding the longitudinal progression of BD.

Another limitation of this study might stem from the use of a college student sample. It is possible that college students may not accurately represent their noncollege student, same-aged peers with regard to alcohol use broadly and BD specifically. This may be an important avenue

for future research. However, given the severity of BD that occurs among college students (Dawson et al., 2004; O'Malley & Johnston, 2002; Presley et al., 2002; Schulenberg & Maggs, 2002), it is especially important to understand as a collective group of individuals why they are most likely to engage in and experience harm from BD. The sample used in this study is highly reflective of the majority of college campuses in terms of gender, ethnicity, and age of freshmen participants, which allows the results of this study to generalize at least to other college campus populations.

Finally, because the GGT-assessed judgment and decision-making biases only partially explained (i.e., mediated) the narcissism-to-BD relation, we still are left with at least a portion of the “Why are narcissists prone to binge drink?” question intact. Likewise, we do not have evidence of any real-world problems that ensued as a function of BD. As such future research should include measures of other potential mediators, many of which I discussed earlier. Future research also needs to examine other related problems like poor academic performance or psychiatric issues experienced by narcissistic college students that may relate to (or be comorbid with) their BD.

Conclusion

The results of this study provided further evidence that among college students narcissists are more likely than their nonnarcissistic peers to engage in binge drinking. Furthermore, these results demonstrated that narcissists' general tendency to be overconfident and their willingness to engage in risky behaviors based on their confidence partially explained why they are prone to binge drink. Stated differently, narcissistic students rely on biased judgment and decision-making abilities that bolster their willingness to take maladaptive risks, in this case, BD.

Unfortunately, alcohol use and abuse (as typified by BD) stands as a central theme entrenched within many college traditions. Misperceptions regarding heavy alcohol consumption fuels risky behavior especially among those are already at an increased risk to binge drink (like those from certain social groups, those who have certain personality types, or those who fall into certain demographic categories). Narcissists represent one such group. The hope is that providing evidence of not only “who” is especially likely to binge drink (narcissists) but also “why” they do it (poor judgment and risk-taking that stems from biased self-perceptions) will help inform administrators who design campus initiated binge drinking interventions, parents who desire their children not binge drink when they go off to college, and therapists working with clients who binge drink how best to handle these situations.

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APPENDICES

Appendix A: Demographic Questionnaire

1. What is your age (please fill in)? _____ years
2. What is your gender (please check one)?
 Male Female Prefer not to answer

Please answer **BOTH** questions 3(a) and 3(b).

- 3(a). How do you describe yourself (please place a check beside your ethnicity)?

_____ Hispanic or Latino or of Spanish Origin

_____ Not-Hispanic or Latino

- (b). Please place a check beside your race. Mixed racial heritage should be indicated by checking more than one category.

_____ American Indian or Alaska Native

_____ Asian

_____ Black or African American

_____ Native Hawaiian or Other Pacific Islander

_____ White

4. Did you consume alcohol at any point before or while still in high school?

_____ Yes _____ No

5. What type of community were you raised in (please check one)?

Urban Suburban Rural

6. What year of college are you currently in (please check one)?

Freshman Sophomore Junior Senior

7. What major have you declared or do you intend to declare (please write "undecided" if you have not yet decided)? _____

8. What was your SAT score? _____ Total _____ Verbal _____ Math

Appendix B: Narcissism Personality Inventory

In each of the following pairs of attributes, choose the one that you **MOST AGREE** with. Mark your answer by writing **EITHER A or B** in the space provided. Only mark **ONE ANSWER** for each attitude pair, and please **DO NOT** skip any items.

- ___ 1. A I have a natural talent for influencing people.
B I am not good at influencing people.
- ___ 2. A Modesty doesn't become me.
B I am essentially a modest person.
- ___ 3. A I would do almost anything on a dare.
B I tend to be a fairly cautious person.
- ___ 4. A When people compliment me I get embarrassed.
B I know that I am a good person because everybody keeps telling me so.
- ___ 5. A The thought of ruling the world frightens the hell out of me.
B If I ruled the world it would be a better place.
- ___ 6. A I can usually talk my way out of anything.
B I try to accept the consequences of my behavior.
- ___ 7. A I prefer to blend in with the crowd.
B I like to be the center of attention.
- ___ 8. A I will be a success.
B I am not too concerned about success.
- ___ 9. A I am no better or no worse than most people.
B I think I am a special person.
- ___ 10. A I am not sure if I would make a good leader.
B I see myself as a good leader.
- ___ 11. A I am assertive.
B I wish I were more assertive.
- ___ 12. A I like having authority over other people.
B I don't mind following orders.
- ___ 13. A I find it easy to manipulate people.
B I don't like it when I find myself manipulating people.
- ___ 14. A I insist upon getting the respect that is due me.
B I usually get the respect I deserve.
- ___ 15. A I don't particularly like to show off my body.
B I like to show off my body.
- ___ 16. A I can read people like a book.
B People are sometimes hard to understand.
- ___ 17. A If I feel competent I am willing to take responsibility for making decisions.
B I like to take responsibility for making decisions.
- ___ 18. A I just want to be reasonably happy.
B I want to amount to something in the eyes of the world.
- ___ 19. A My body is nothing special.
B I like to look at my body.
- ___ 20. A I try not to be a show off.
B I will usually show off if I get the chance.

- ___ 21. A I always know what I am doing.
B Sometimes I am not sure what I am doing.
- ___ 22. A I sometimes depend on people to get things done.
B I rarely depend on anyone else to get things done.
- ___ 23. A Sometimes I tell good stories.
B Everybody likes to hear my stories.
- ___ 24. A I expect a great deal from other people.
B I like to do things for other people.
- ___ 25. A I will never be satisfied until I get all that I deserve.
B I will take my satisfactions as they come.
- ___ 26. A Compliments embarrass me.
B I like to be complimented.
- ___ 27. A I have a strong will to power.
B Power for its own sake doesn't interest me.
- ___ 28. A I don't care about new fads and fashion.
B I like to start new fads and fashion.
- ___ 29. A I like to look at myself in the mirror.
B I am not particularly interested in looking at myself in the mirror.
- ___ 30. A I really like to be the center of attention.
B It makes me uncomfortable to be the center of attention.
- ___ 31. A I can live my life anyway I want to.
B People can't always live their lives in terms of what they want.
- ___ 32. A Being in authority doesn't mean much to me.
B People always seem to recognize my authority.
- ___ 33. A I would prefer to be a leader.
B It makes little difference to me whether I am leader or not.
- ___ 34. A I am going to be a great person.
B I hope I am going to be successful.
- ___ 35. A People sometimes believe what I tell them.
B I can make anyone believe anything I want them to.
- ___ 36. A I am a born leader.
B Leadership is a quality that takes a long time to develop.
- ___ 37. A I wish someone would someday write my biography.
B I don't like people to pry into my life for any reason.
- ___ 38. A I get upset when people don't notice how I look when I go out in public.
B I don't mind blending into the crowd when I go out in public.
- ___ 39. A I am more capable than other people.
B There is a lot I can learn from other people.
- ___ 40. A I am much like everybody else.
B I am an extraordinary person.

Appendix C: Rosenberg Self-Esteem Scale

Listed below are a number of statements concerning personal attitudes and characteristics. Please read each statement and consider the extent to which you agree or disagree with it.

1. I feel that I am a person of worth, at least on an equal plane with others.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree

2. I feel like a person who has a number of good qualities.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree

3. All in all, I am inclined to feel like a failure.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree

4. I feel as if I am able to do things as well as most other people.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree

5. I feel as if I do not have much to be proud of.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree

6. I take a positive attitude toward myself.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree

7. On the whole, I am satisfied with myself.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree

8. I wish that I could have more respect for myself.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree

9. I certainly feel useless at times.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree

10. At times I think that I am no good at all.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree

Appendix D: Georgia Gambling Task

Examples of screen shots participants would see in each phase of this task. Participants begin by answering one of 100 two-choice, randomly generated questions regarding the state that has a larger population. Each of these questions is followed by another in which the participant provides a rating of confidence in their answer to the first question. In the second phase of the GGT, participants are offered a bet for points for each of the questions from the first phase, with points varying based on the confidence assigned for each question. These bets are fair (having zero average value in the end) so long as the participant is well calibrated at the respective confidence interval. For example, over 100 questions in which a person espouses absolute certainty (98-100%), 99 questions should be answered correctly and one question should be answered incorrectly. This person would receive 9900 points for correct responses (99 correct responses X 100 point gain for each) and lose 9900 points for incorrect responses (1 incorrect X 9900 point loss) for a net of zero (0) points. Participants also have the option of not accepting the bet and neither gaining nor losing anything. Thus, GGT performance entails both confidence calibration (overconfidence) and risk-attitude (likelihood of accepting the confidence-based bets). Two pictorial examples follow:

Which state has the larger population?
a) Rhode Island
Or
b) Hawaii

Which state has the larger population?
a) Rhode Island
Or
b) Hawaii

You chose: Hawaii

How confident are you of this?
 50-52% 53-60% 61-70% 71-80%
 81-90% 91-97% 98-100%

Which state has the larger population?
a) Rhode Island Or b) Hawaii

You chose: Hawaii

You have two options. You can move on to the next question and gain or lose nothing. Or, you can take this chance to win **100** points if you are correct or lose **133** points If you are incorrect.

[Click Here to Take this Chance](#) [Click Here to Move to the Next Question](#)

Which state has the larger population?
a) Texas
Or
b) Hawaii

Which state has the larger population?
a) Texas
Or
b) Hawaii

You chose: Texas

How confident are you of this?
 50-52% 53-60% 61-70% 71-80%
 81-90% 91-97% 98-100%

Which state has the larger population?
a) Texas Or b) Hawaii

You chose: Texas

You have two options. You can move on to the next question and gain or lose nothing. Or, you can take this chance to win **100** points if you are correct or lose **9900** points If you are incorrect.

[Click Here to Take this Chance](#) [Click Here to Move to the Next Question](#)

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