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PSYCHOPATHIC AND NARCISSISTIC PERSONALITY TRAITS: IMPACT OF EGO THREAT ON THE EXPERIENCE OF ANGER

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ABSTRACT

PSYCHOPATHIC AND NARCISSISTIC PERSONALITY TRAITS: IMPACT OF EGO THREAT ON THE EXPERIENCE OF ANGER

By

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This study was designed to further our understanding of links between personality, anger, and aggression, by building on previous research related to self-esteem and narcissism. In this study, psychopathic and narcissistic traits in a noncriminal sample were assessed, along with their relations to anger experience in the face of ego threats. Participants (N = 162) completed scales of psychopathy (Psychopathic Personality Inventory), narcissism (Narcissistic Personality Inventory) and self-esteem (Rosenberg's Self-Esteem Scale). The sample of participants was randomly divided into an experimental manipulation group and a control group. Experimental group participants read a series of vignettes in which they imagined themselves in a number of situations in which their self-esteem was threatened (ego threat). Control group participants read vignettes describing similar situations, but with neutral or unresolved outcomes. All participants then completed a mood questionnaire and a measure of state and trait anger (State-Trait Anger Expression Inventory).

Results indicated positive correlations between trait anger and both psychopathic and narcissistic personality traits. Contrary to predictions, there was no interaction between narcissistic traits and self-esteem on the outcome variable of state anger following the ego threat, nor was there a main effect of self-esteem on state anger.

Levels of psychopathic and narcissistic traits were higher among males than females, but no gender differences were found in level of self-esteem. No gender differences were present in the relationship between psychopathic and narcissistic traits and the effect of the ego threat on state anger. However, the ego threat affected males and females differently; males who received the ego threat were less angry than males who did not, while the reverse pattern was found for females.

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INTRODUCTION

The study of factors that contribute to anger and aggression is an area that has long been investigated by researchers in clinical and social psychology. For a number of years, the predominant belief was that low self-esteem led individuals to behave aggressively, and it was assumed that raising self-esteem would help to combat this problem. However, in recent years, this belief has been challenged by the presence of conflicting research results, some of which have linked high, rather than low, self-esteem to violence. This study seeks to further our understanding of links between personality, anger, and aggression, by building on findings related to self-esteem and narcissism. In this study, psychopathic and narcissistic traits in a noncriminal sample are assessed, along with their relations to an imagined anger experience in the face of ego threats.

This literature review begins with a discussion of the construct of psychopathy, including issues regarding its definition, assessment, and links to theories of personality, as well as gender differences in psychopathic traits. Then the construct of narcissism is described from a range of theoretical orientations. The often fuzzy concept of "self-esteem" is defined for the purposes of the proposed study, and previous research regarding ego threats and their impact on individuals with high and low self-esteem is reviewed. Anger is analyzed in terms of its varied components, including state and trait anger. Finally, advantages of and predictions for the proposed study are described.

The Psychopathic Syndrome

In his seminal work on psychopathy, The Mask of Sanity, Cleckley (1941) derived a set of criteria for identifying individuals with this disorder. This consisted of a list of sixteen personality traits and behaviors, including superficial charm and intelligence, lack of remorse, poor judgment and failure to learn by experience, as well as pathological egocentricity. Cleckley believed that both specific observable actions (such as lying and other antisocial behavior) as well as inferred personality traits (such as absence of nervousness and loss of insight) were part of the psychopathic syndrome, and he provided the framework for later research into this subject.

Hare's program of research has built upon, and provided an empirical basis for, the Cleckley criteria. Most of his work has involved the study of incarcerated individuals, and he developed the Psychopathy Check List - Revised (PCL-R; Hare, 1991) as a diagnostic tool for use in prisons. His model of psychopathy (Hare, 1993) includes two dimensions: an emotional/interpersonal factor, including symptoms such as egocentric and grandiose, and deceitful and manipulative, as well as a social deviance factor, comprised of symptoms such as impulsivity and poor behavioral controls. Hare has found that a major component of the psychopathic syndrome is extreme self-centeredness and grandiosity: "Psychopaths have a narcissistic and grossly inflated view of their self-worth and importance, a truly astounding egocentricity and sense of entitlement, and see themselves as the center of the universe, as superior beings who are justified in living according to their own rules" (Hare, 1993, p. 38). Part of this egocentricity includes the setting of lofty goals, without a realistic conception of the skills and effort required to

reach those goals. Psychopaths assume that they are highly deserving of praise and respect from others, regardless of whether their actions justify this adulation.

Widiger and Lynam (1998) provide a link between Hare's 20 Items of the PCL-R and their corresponding domains in the Five Factor Model (FFM) of personality functioning (McCrae & Costa, 1990). They state that the egocentricity aspect of psychopathy is represented in the arrogance subcategory of antagonism (vs. agreeableness). In addition, psychopaths are characterized by low or absent self-consciousness (an aspect of neuroticism), and high excitement-seeking (a component of extraversion), among other traits. The main subcategory relevant to the emotional/interpersonal component of psychopathy appears to be the antagonism construct (low agreeableness). The social deviance aspect is best captured by low conscientiousness, such as actions done impulsively and with little regard to their impact on other people. Poor behavioral controls contribute to this as well, including psychopaths' poor modulation of anger, hostility, and aggression (Hare, 1991).

Other attempts have been made to further subdivide the construct of psychopathy. Millon and Davis (1998) delineated ten subcategories based on clinical observation and a review of research findings. They argued that psychopathy has as its core a "marked self-centeredness and disdain for the needs of others," (p. 161), yet there are notably different patterns of personality organization within this overarching construct. For example, they identify the covetous psychopath as "completely self-centered and self-indulgent...unfulfilled, empty...dissatisfied" (p. 164-65), while the malevolent psychopath shows "minimal guilt or remorse for their violent acts, but may instead display an arrogant contempt for the rights of the others." No attempt has yet been made to develop

a diagnostic tool to capture these proposed types. However, if empirically validated, they would further add to our fund of knowledge about psychopathy.

There is disagreement as to whether psychopathy is a categorical variable or a continuous construct. For diagnostic purposes, the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) contains the diagnosis of Antisocial Personality Disorder, which captures many of the symptoms of psychopathy (American Psychiatric Association, 1994). To make this determination, specific cutoffs regarding the necessary type and number of symptoms are used. However, there is a growing number of researchers studying subclinical levels of psychopathy from a variety of theoretical orientations, who argue that psychopathy is best conceptualized as a continuum. Meloy (1988), working from a psychodynamic perspective, argued that psychopathy may be defined for purposes of diagnosis as a categorical list of traits and behaviors, but that for treatment, it is most useful to view psychopathy as a continuous variable, with differing treatment implications from one person to another. Similarly, writing from an interpersonal orientation, Widiger and Lynam (1998) stated that psychopaths do not have a unique personality organization, but rather that they exist on a continuum with normal personality functioning. Research by Levenson, Kiehl, and Fitzpatrick (1995) concluded that psychopathy is most accurately viewed along a continuum of traits and behaviors, adding, "It seems plausible that a psychopathic interpersonal style, even in a muted form, could be situationally amplified with destructive consequences" (p. 157). Thus, the argument can be made that understanding psychopathy along a continuum of psychopathic traits rather than an either-or construct may be beneficial for understanding both clinical and everyday interpersonal interactions.

Identifying "true" psychopaths may be useful for tasks such as the prediction of dangerousness in criminals (Hare, 1993), but it seems unlikely that they represent a qualitatively different type of person than those found in a normal population.

The cluster of symptoms comprising the psychopathic syndrome are varied, but marked by a grandiose sense of self, as well as impulsivity, poor behavioral controls, and a lack of concern about the feelings of other people. We now turn to a discussion of the ways psychopathy has been measured, in both criminal and noncriminal populations. This information on assessment of psychopathy is included in order to demonstrate how research in the area has progressed since Cleckley (1941) first developed his sixteen criteria, and to show how researchers approach the study of psychopathy from a variety of perspectives and techniques, including self-report, observation, and interview methods. In particular, information relevant to the study of psychopathic traits in non-incarcerated populations is presented. This serves to help define psychopathy as a personality characteristic which exists along a continuum, and to highlight the need for further research in areas addressed by the proposed study.

Assessment of Psychopathy

The study and assessment of psychopathy is marked by disagreement as to how best to measure this construct. Lilienfeld (1994) highlights several major debates in the literature. One issue centers around whether psychopathy should be measured through a personality-based or behavior-based approach, with the former focusing on identifying traits, and the latter emphasizing observable actions. The trait approach more closely matches Cleckley's (1976) concept of psychopathy, and is thus considered by some to be

a more valid representation of the construct. In addition, the trait approach would include those "successful psychopaths" who are high-functioning and do not have the extensive contact with law enforcement that more overtly antisocial psychopaths do. However, the behavior-based approach, which includes such criteria as criminal behavior, results in greater interrater reliability among researchers and clinicians.

The Psychopathy Checklist (PCL; Hare, 1980) and its current, revised version (PCL-R; Hare, 1985) are the most widely researched and clinically used instruments for studying psychopathy. These measures were devised based on the Cleckley criteria for psychopathy (Cleckley, 1976), and were designed to be used with an incarcerated population. The PCL-R contains 20 items, scored on a scale from 0 to 2, with 0 indicating that the item does not apply, 1 indicating that it applies somewhat, and 2 indicating that it definitely does accurately describe the individual. Items are rated based upon a semi-structured clinical interview, as well as a review of file information. A score of 30 is used as a cutoff to determine psychopathy; however, this is intended to be a rough estimate rather than an absolute determination (Hart, Hare, & Harpur, 1992). When this cutoff is used, 15 to 25 percent of incarcerated offenders in North America are estimated to meet criteria for psychopathy (Hare, 1998). The source for this figure is unclear as to whether this includes both violent and nonviolent offenders, or what particular types of crimes are represented in the offender population being studied.

In addition to a total score, factor scores are also obtained. Two factors comprise the PCL-R (Templeman & Wong, 1994); the first contains items regarding interpersonal behavior and affect. According to Harpur, Hare, and Hakstian, (1989), this factor has been shown to be most closely linked to measures of narcissism, negatively linked to

anxiety, as well as matching the prototypical psychopath as described by Cleckley. Examples of items include "lack of remorse or guilt" and "egocentricity/grandiose sense of self-worth". Factor 2 consists of items descriptive of antisocial behavior, irresponsibility, and impulsivity. This factor correlates more with DSM diagnoses of antisocial personality disorder, scales 4 and 9 of the MMPI-2, and diagnoses of substance abuse. Examples of items include "parasitic lifestyle" and "lack of realistic long-term plans." These factors correlate in the range of 0.5 to 0.6 in both forensic patients and inmates (Hart, Hare, & Harpur, 1992). Although these factors are found to be robust across studies, it is important to note that statistical analyses such as inter-item correlations and principal components analyses support the unidimensionality of the scale as well (Harpur, Hare, & Hakstian, 1989).

A shorter, 12-item version of the PCL-R was recently devised to screen for psychopathy in forensic populations (Hart, Cox, & Hare, 1995). The Psychopathy Checklist – Screening Version (PCL:SV) contains the same factor structure as the PCL-R, and provides adequate validity and reliability; thus, it can be used as a parallel form of the longer scale (Hare, 1998). A cutoff score of 18 is used to diagnose psychopathy. An item-response theory analysis of this measure indicated that as with the PCL-R, items in Factor 1 have a higher threshold for scoring than those in Factor 2. That is, Factor 1 characteristics must be more prominent and noticeable to be scored (Cooke, Michie, Hart, & Hare, 1999). Possibly this is due to the greater level of inference required to determine whether the individual possesses traits as opposed to documented behaviors. Both forms of the Checklist are effective in predicting violence and recidivism among inmates and forensic patients (Hare, 1998). Salekin, Rogers, and Sewell (1996) wrote of the PCL-R

as being "unparalleled" as a predictor of dangerousness. In their meta-analysis of studies which employed the PCL/PCL-R, using violence as an outcome measure, they found effect sizes ranging from 0.42 to 1.92; the mean effect size was 0.79. This robust finding has led to use of the PCL/PCL-R by parole boards and others who undertake the serious and difficult task of predicting dangerousness.

Prompted to a large extent by Hare's development of psychopathy scales, other researchers have developed instruments to assess psychopathy, ranging from observer ratings to self-report measures. These measures are useful in that they can provide additional information to the researcher or clinician, and are particularly important for use among nonforensic, nonincarcerated populations, thus overcoming one potential limitation of the Hare scales.

Reise and Oliver (1994) designed the Psychopathy Q-Sort (PQS) in order to allow for observer ratings of psychopathy based on interpersonal interaction. Seven judges used the 100 items of the California Q-Set to develop a Psychopathy Prototype, a measure of primary psychopathy. Items were sorted into nine categories based upon the judges' conceptions of prototypical psychopathic traits. Most characteristic items included "self-indulgent," "guileful, deceitful, manipulative, and opportunistic," and "personally charming." Least characteristic items included "behaves in a giving way toward others," " has a readiness to feel guilt," and "is basically anxious." When complete, the person's prototype receives a score from -1.0 to 1.0, from complete dissimilarity from to total agreement with the prototype.

The authors compared the psychopathy prototype to those for other constructs which had been developed independently by other researchers. Prototype Q-Sorts for

hysteria and narcissism were compared to that of psychopathy, with notable similarities and differences being found. The Psychopathy and Narcissism prototypes correlated moderately highly, $\underline{r} = 0.51$, indicating a great deal of overlap between the types. However, the Narcissism prototype received higher values for items including, "concerned with own adequacy as a person," "is basically anxious," " and "is thin-skinned; sensitive to anything that can be construed as an interpersonal slight." Items which received higher values in the Psychopathy prototype included, "is calm, relaxed in manner," and "is personally charming." Reise and Oliver conclude, "Typically, primary psychopaths show a marked absence of self-concern and do not react defensively when criticized...In point of fact, they appear not to be able to fully appreciate insults or criticism and do not often report experiencing such complex affective concepts as humiliation or shame" (pp. 142-143).

In a follow-up study, Reise and Wink (1995) further explored the construct validity of the Psychopathy Q-Sort by analyzing its correlations with DSM-III personality disorder clusters. According to the DSM-III (American Psychiatric Association, 1980), Cluster A personality disorders include Paranoid, Schizoid, and Schizotypal, and generally refer to individuals who are viewed by others as odd or eccentric. Cluster B encompasses borderline, narcissistic, histrionic, and antisocial personality disorders, which entail behaviors which are emotional, dramatic, or highly variable. Finally, Cluster C refers to the Avoidant, Dependent, and Obsessive-Compulsive personality disorders, which refer to a high degree of anxiety or fearfulness in the individual's personality. Reise and Wink (1995) found high correlations between the PQS and Cluster B personality disorders in DSM-III, and low correlations with Clusters A and C. However,

particularly among females, the PQS did not discriminate adequately among the Cluster B disorders, suggesting that the construct assessed by the PQS has some degree of overlap with all four of the disorders in this Cluster (defined above). The PQS also correlated positively with measures of self-assurance and social poise and negatively with measures of impulsivity. The participants in this study were normal individuals recruited from the community.

Levenson's Self-Report Psychopathy Scale (LSRP) was developed by Levenson, Kiehl, and Fitzpatrick (1995) in order to produce a two-factor psychopathy measure appropriate for use in noninstitutionalized populations. They were interested in differentiating primary from secondary psychopaths, using trait anxiety scales to differentiate these types. This measure assesses primary psychopathy, similar to Hare's Factor 1, secondary psychopathy, aligned with Hare's Factor 2, and antisocial action, which load onto three scales. Thirty items are each endorsed on a 4-point scale, ranging from "disagree strongly" to "agree strongly."

The most comprehensive self-report measure of psychopathy was developed by Lilienfeld and Andrews (1996). The Psychopathic Personality Inventory (PPI) was designed to assess the presence of psychopathic traits in noncriminal populations. As discussed above, the Psychopathy Check List - Revised (PCL-R; Hare, 1991) is the most widely used measure of psychopathy among incarcerated criminals; however, it has not proven to be generalizable outside of the prison population (Lilienfeld & Andrews, 1996). In addition, the PCL-R requires extensive interviewing, institutional record review, and case history review, making it less applicable to "successful psychopaths"-- individuals who do not have a legal record (Lykken, 1995). The PPI, a relatively new instrument, has

demonstrated high positive correlations with the Cleckley criteria for psychopathy, as determined by interview and peer ratings. The 160-Item, true/false questionnaire also has the advantage of easy administration due to the self-report format.

Gender Differences in Psychopathy and Psychopathic Traits

A number of studies of noncriminal populations suggest that higher levels of psychopathic traits are found in males than in females. Forth, Brown, Hart, and Hare (1996) found higher scores for males than females on the majority of items of the PCL:SV. However, they note the possibility of rater bias in this study; since ratings were made by females only, they may have systematically ascribed different traits to males than females. Lilienfeld and Andrews (1996) found that the factor structure of the PPI was the same for males and females but that males scored significantly higher on the PPI total score than females, in addition to obtaining higher scores on subscales such as Machiavellian Egocentricity and Fearlessness. Support for a similar factor structure for men and women who completed the LSRP was found by Lynam, Whiteside, and Jones (1999); however, these authors did not report data on overall levels of psychopathy for both genders.

Hamburger, Lilienfeld, and Ogben (1996) found that males with psychopathic traits exhibited more Antisocial Personality Disorder characteristics, while females with psychopathic traits exhibited more Histrionic Personality Disorder characteristics. They suggest that, if future research supports this finding, psychopathic traits may be a common basis for two syndromes which are moderated by biological gender. Notably, they investigated the possibility that gender roles, rather than biological gender, were

responsible for this difference. However, this hypothesis was not supported. On a measure containing subscales for primary and secondary psychopathy, a large gender difference was found between males and females for primary psychopathy, with males exhibiting much higher subscale means (Levenson, Kiehl, & Fitzpatrick, 1995). However, the gender difference for secondary psychopathy, while significant, was much smaller.

Among a sample of female inmates with a wide variety of offenses, Salekin, Rogers, and Sewell (1997) found a lower prevalence of psychopathy (16%) as determined by the PCL-R, compared to previous studies of prevalence among male inmates. Among males, prevalence in correctional samples ranges from 25 to 30% (Hare, 1991). In contrast to the findings from a noncriminal sample in which items loaded onto similar factors for males and females (Lynam et al., 1999), Salekin et al. found a different factor structure for incarcerated females than males. While a generally similar 2-factor structure (i.e., traits and behaviors) did emerge for the PCL-R in their female sample, the types of items comprising these factors varied from previously reported studies of males.

In terms of severe psychopathy, the estimated prevalence among men (1%) in the United States is roughly three times that for women (Meloy, 1992). A case study of a female psychopath which employed objective and projective personality tests (Nesca, Dalby, & Baskerville, 1999) indicated that the subject had high levels of anger, was very aggressive, displayed a number of antisocial behaviors, and had difficulty modulating her affect. These characteristics are in line with those described by researchers studying male psychopaths. One notable finding of this study was that, while the subject scored high on a measure of psychopathy (PCL-R = 34), she did not evidence an abnormal egocentricity

ratio on the Rorschach (0.39). The authors interpret this to mean that she did not have elevated levels of narcissism, and they suggest that the theoretical link between psychopathy and narcissism merits further investigation.

Varying approaches to the assessment of psychopathy highlight the diversity of this construct, the consistent finding of gender differences in levels of psychopathic traits, as well as the complexity of measuring psychopathy among people who, by definition, have little insight into their own inner functioning. It is worthwhile at this point to discuss another personality construct that is similarly diverse, and can also be destructive when it exists to an extreme degree.

The Narcissistic Syndrome

The criteria for a DSM-IV (American Psychiatric Association, 1994) diagnosis of Narcissistic Personality Disorder include five or more of the following traits: has a grandiose sense of self-importance, has fantasies of power or success, feels special or unique, requires excessive admiration, has a sense of entitlement, is interpersonally exploitative, lacks empathy, often is envious of others, and shows arrogant behaviors or attitudes. In addition, the DSM-IV states that individuals with NPD are highly sensitive to perceived criticism from others, and that they may react with rage to what they view as an attack. In terms of gender differences, men are more likely to exhibit the narcissistic syndrome, with males representing 50-75% of those diagnosed with narcissistic personality disorder (American Psychiatric Association, 1994).

The above criteria effectively capture the narcissistic syndrome described by theorists from a range of theoretical orientations. However, while the symptoms are

generally agreed upon, the purported causes and treatment for the syndrome are varied. In addition, theorists do not generally draw a clear distinction, as does the DSM-IV, between narcissistic disorder and normal levels of narcissism. Rather, narcissistic traits are viewed as existing along a dimension rather than being a categorical distinction. Kernberg (1984) has conceptualized narcissism along a continuum of normal to pathological; the normal adult is able to regulate self-esteem and integrate object representations. Normal infantile narcissism represents a stage of development in which self-esteem regulation and goal attainment occur through processes which are appropriate for this age. Finally, pathological narcissism involves either regression to this level of development, which is a relatively mild type of pathology; narcissistic object choice, in which the person projects their infantile self onto another object; or most severely, narcissistic personality disorder, which involve self-love, object love, and superego which are all of a pathological nature (Kernberg, 1998). This most severe level of pathology involves "infantile values," such as an emphasis on external status symbols such as money or physical attractiveness. It includes a feeling of excessive self-centeredness and superiority, as well as grandiosity and an "inordinate dependency on external admiration" (p. 36). Kernberg (1998) states that individuals with narcissistic traits fall along the above continuum from nearly normal to borderline functioning.

A somewhat different view of narcissism was taken by Kohut (1966), working from the orientation of self-psychology. Kohut saw pathological narcissism as an arrest in the normal development of the libido, in which the individual does not integrate the idealized parent and grandiose self personality structures. These structures eventually become split off, and the narcissistic person seeks to fulfill, unconsciously, the need for

grandiosity and a perfect other. Therefore, these individuals are prone to disappointment when they discover that their view of the other has been shattered by realistic interactions.

Millon (1969) developed a social learning approach to understanding the development of narcissism. In this model, one or both parents provide the child with a grandiose sense of self-worth through both modeling behavior and direct feedback. This level of self-worth becomes internalized but is not confirmed by external reality, beyond the reactions of the parent(s). Drawing upon some of these ideas, Beck, Freeman, and Associates (1990) describe the cognitive theory of narcissism, which involves a distorted view of self, world, and future. This view is developed, as in Millon's model, through interactions with significant others who provide skewed feedback about the person being more special, important, and unique than others. Notably, this can also involve negative treatment, such as being the target of abuse by a parent who does not abuse the other siblings. Over time, the individual comes to believe they are different from others, and they do not get disconfirming feedback. Beck et al. (1990) explain that this may "contribute to the hypersensitivity to evaluation so common among narcissists" (pp. 238-239).

Although theoretical differences exist between these models, all seem to have as a major component an emphasis on dysregulation of self-esteem; that is, failure to take a realistic view of the self and one's abilities, leading to a skewed perception of one's self-worth. This in turn leads to maladaptive interactions with other people.

It may be clarifying at this point to illustrate the concepts of psychopathy and narcissism as personality traits which fall along a continuum, resulting in a disorder in the extreme. While there is no clear point at which these traits obviously become a disorder,

the chart below was devised to show the criteria that are often used when making this determination. The proposed study aims to assess traits among people who would fall under the heading of "normal sample," and can be measured using instruments such as the Psychopathic Personality Inventory and Narcissistic Personality Inventory. Individuals who meet criteria for a disorder are best assessed through use of the DSM-IV, PCL-R or PCL:SV.

Table 1: Subclinical personality traits vs. disorder

	Normal Sample	Disorder
Psychopathy	Traits including egocentricity, superficial charm, fearlessness, lack of empathy or remorse, poor impulse control	Score above 30 on PCL/PCL-R Score above 18 on PCL:SV No DSM-IV diagnostic category
Narcissism	Traits including vanity, grandiosity, attention-seeking behavior, feelings of superiority	Narcissistic Personality Disorder (must meet at least 5 of 9 DSM-IV criteria)

It is appropriate at this point to further explore the construct of self-esteem, a key aspect of both narcissistic and psychopathic personality traits.

Self-Esteem: Definitions and Associated Behaviors

Self-esteem is a concept that is as difficult to define as it is integral to the study of individuals' psychological functioning. Mruk (1995) eloquently speaks to the heart of the dilemma in studying self esteem:

> "...it makes achieving a respectable degree of scientific validity very difficult. But another way of looking at this situation is to see the complexity as a necessary evil in self-esteem research: it simply reflects the fact the self-related phenomena coexist in an intricate, multidimensional, interlocking network of structures that cannot be completely unraveled. Although this condition is not an excuse for poor research or analysis, it does set the parameters under which we must work and, therefore, limits the kind of certainty we can realistically expect" (p. 26).

Given this situation in current research on self-esteem, Mruk argues that rather than searching for an all-encompassing definition for which a universal measure could be created, a more reasonable goal is to simply make clear what definition of self-esteem is to be used. This necessitates a choice about what aspects of self-esteem, from its myriad potential components, will be measured. A major contribution to the area of self-esteem research was made by Rosenberg (1965), in his description of self-esteem as making cognitive, attitudinal judgments about the self, as well having an evaluative dimension which involves approval or disapproval of the self. He developed a brief inventory which assesses self-esteem according to this definition, and is widely used today.

A point that further clarifies this definition was made by Steffenhagen (1987), who argued that self-esteem and ego strength are often treated as equivalent concepts in psychological literature, while they are more accurately viewed as separate constructs. What makes this distinction important is his notion of ego strength as an individual's functional orientation to reality, including feelings of adequacy, as well as the ability to be flexible and spontaneous. As mentioned earlier, self-esteem refers to one's overall estimation of the self. According to this view, then, one may have poor ego strength, but relatively high self esteem as long as reality orientation is poor but the self-view is

positive. This would seem to be the case among individuals with psychopathic and narcissistic traits.

In recent years, Baumeister has studied self-esteem extensively, concurring with Mruk's (1995) view that people tend to have a consistent baseline level of self-esteem, which may vary somewhat at different points in time, as well as along different domains (Baumeister, 1998). Measures of global self-esteem have been used most often in research and have produced more notable results than measures of self-esteem in various domains of functioning. In general, studies have found that people with high self-esteem are happier and in better health than those with low self-esteem, and tend to persist longer when faced with failure. However, Baumeister (1998) points to some potential pitfalls of high self-esteem. People with high self-esteem may be more prone to interpersonal violence, particularly in response to an ego threat. They may also respond in self-destructive ways when faced with an ego threat, a possibility which was investigated in the laboratory study described below, which measured the personal financial costs of overinvestment in one's self-esteem.

Baumeister, Heatherton, and Tice (1993) investigated the tendency of people with high self-esteem to overstate their abilities and to predict success for themselves. They predicted that this tendency, while often adaptive, may lead to failure when individuals are presented with an ego threat, reasoning, "...people with high self-esteem should outperform people with low self-esteem and self-management under normal, nonthreatening conditions, but an ego threat (or other esteem challenge) will tend to make self-esteem become an influential factor in the decision process" (p. 143). If it is true that people with high self-esteem become more invested in maintaining self-esteem when

faced with an ego threat, they may be more likely to exhibit poor judgment in decision-making tasks than people with low self-esteem, or when not presented with an ego threat.

In the Baumeister et al. (1993) study, participants practiced playing a video game and were then allowed to wager money on the last trial of the series, with the amount of the bet being determined by the participant. Results from this study showed that in cases where participants with high self-esteem were faced with an ego threat by the experimenter (suggesting that the participants might be the type to "choke under pressure"), they were likely to lose more money than when not faced with the threat. This was because they bet larger amounts of money and then were unsuccessful on the critical trial.

Baumeister (1996) discussed two main strategies that people use to minimize the effects of an ego threat. One method is to avoid attending to the threat, so that it is not processed, or is only minimally processed. The second technique, a refutational defense, involves interpreting information that cannot be avoided in order to place it in a positive light for the individual. The extent to which these strategies are effective, then, may be a determining factor in the extent to which ego threats impact people with high self-esteem.

In addition to difficulties with self-regulation that impact only themselves, people with high self-esteem may respond to ego threats by experiencing negative affect and attacking others. Bushman and Baumeister (1998) designed a study to investigate whether high or low self-esteem would be correlated with aggression toward others. They predicted that, "In particular, inflated, grandiose, or unjustified favorable views of self should be most prone to causing aggression, because they will encounter the most threats and be chronically most intolerant of them" (p. 220). They propose that narcissism,

which would entail the sort of self-view described above, may be the strong need to believe that one is superior, whereas true high self-esteem would mean that a person truly thinks well of himself or herself. Since narcissism could be a trait of people with either high or low self-esteem, this is a distinction that would make it possible to explain differences in aggressive behavior theoretically, among both high and low self-esteem people.

Bushman and Baumeister (1998) predicted that people who scored high on the Narcissistic Personality Inventory would produce the highest rates of aggression when presented with an ego threat in the form of a negative evaluation of an essay they wrote. Aggression in this study was assessed by the duration and intensity of a blast of noise the participant would deliver to the person who they believed had negatively evaluated them. Their prediction was confirmed in two related studies, and they further discovered that self-esteem ratings were not related to aggression, through either main effects or an interaction.

Kernis, Grannemann, and Barclay (1989) investigated how participants' overall levels and stability of self-esteem were predictive of their self-reported experiences of hostility and anger. They defined self-esteem as an overall self-view, and stability of self-esteem as the amount and intensity of change in this evaluation within a period of time. This study assessed changes in level of self-esteem by sampling individuals' feelings 40 times over a one-week time span using a pager system called the Experience Sampling Method. Participants were given a list of 20 positive and 20 negative self-feelings, such as "confident" or "unsure," and asked to circle whatever words described their current feelings at the time they were paged. The score for each event was computed by

subtracting the number of negative words circled from positive words circled, and dividing by the total number of circled words. The level of self-feelings was defined as the average of these 40 individual scores, and the standard deviation was computed and used as the primary measure of stability. The authors predicted that individuals with unstable self-esteem would have more negative reactions to ego threats, in terms of angry feelings, than people with more stable self-esteem. As in the Bushman and Baumeister (1998) study, these researchers sought to elucidate the mechanism which may account for why individuals with both high and low self esteem may become aggressive.

The Kernis et al. (1989) study hypothesized that individuals with high, unstable self-esteem would be most prone to experience and express anger, and those with stable high self-esteem would be least likely to respond in this way. The authors hypothesized that individuals with low self-esteem would respond at a level between these two groups. They argued that stability of self-esteem would be less of an issue for people with low self-esteem, due to higher levels of depression and increased likelihood of inhibiting angry responses among this group. One week after the last self-esteem score was collected, participants filled out measures of anger and hostility, including Novaco's Anger Inventory (Novaco, 1975), the Trait Anger Scale (Spielberger, Jacobs, Russell, & Crane, 1983) and the Buss-Durkee Hostility Inventory (Buss & Durkee, 1957).

Results from this study were in line with predictions. Individuals with high, unstable self-esteem endorsed the highest levels of anger and one component of hostility; those with high, stable self-esteem reported the lowest levels. Participants with low self-esteem had scores between these two groups. Kernis et al. (1989) explain these results in terms of high sensitivity to evaluative feedback among the unstable high self-esteem

group. Among those with low self-esteem, they suggest that negative feedback may confirm an already negative self-view and will thus have less impact upon feelings of anger. The authors add that they would expect to see even more significant correlations between self-esteem stability and angry feelings if they assessed anger aroused specifically in reaction to threats to self-esteem. In addition, they call for further investigation of the role of personality factors in anger-proneness. To understand the usefulness of measuring anger-proneness, it is necessary first to define what anger is.

Definition and Assessment of Anger

Spielberger, Reheiser, and Sydeman (1995) discuss definitional differences between anger, hostility, and aggression. According to these researchers, anger describes an emotional state which may contain a range of feelings, from low levels such as irritation, to high levels such as rage. It includes physiological factors, such as increased heart rate or body temperature, an affective component (the subjective feeling of being angry), behavioral aspects, such as clenched fists, and a cognitive component, which involves thoughts related to intending harm towards another person. Hostility may include the feeling of anger, but is also associated with attitudes that can lead someone to want to hurt objects or people. Aggression, then, is the actual behavior involved in acting on these feelings and attitudes. In constructing the State-Trait Anger Scale (STAS) Spielberger (1980) developed two subscales relevant to the intensity of the subjective experience of anger (State subscale), as well as the frequency of the experience of anger (Trait subscale). Anger itself may be subdivided further, as Spielberger (1988) has done in constructing the State-Trait Anger Expression Inventory (STAXI). This measure

contains subscales which tap factors such as Anger-In, Anger-Out, and Anger-Control, in addition to State (immediate) and Trait (chronic) anger.

Hypotheses

For each of the four hypotheses presented below, a brief summary of the relevant research findings that guided each prediction is provided.

Research on personality correlates suggest that trait anger may be associated with psychopathy. Widiger and Lynam (1998) found that psychopathy was correlated with low agreeableness, or antagonism, as measured by the Five Factor Model (FFM) of personality functioning. Hart and Hare (1994) found strong negative correlations between the warmth-agreeableness factor, and scores on the PCL-SV for both students and inmates. Harpur, Hart, and Hare (1994) indicate that high scorers on the PCL are those with high levels of hostility, antagonism, and aggressiveness. Previous research has also shown correlations between narcissism and anger. McCann and Biaggio (1989) found that, in an undergraduate sample, participants with high levels of narcissism were more verbally expressive of anger than individuals low in narcissism. Rhodewalt and Morf (1995) found that higher levels of narcissism as assessed by the NPI were associated with the traits of hostility and antagonism.

Hypothesis 1: Trait anger will be positively correlated with both psychopathic and narcissistic traits, for participants in both the experimental and control groups. The possibility of an unintended effect of group assignment will be tested.

A body of research literature exists linking narcissism and high self-esteem to anger and aggression (Baumeister, Heatherton, & Tice; Bushman & Baumeister, 1998; Kernis, Grannemann, & Barclay, 1989; Rhodewalt & Morf, 1998), in contrast to the commonly held belief that high self-esteem is a protective factor against negative affect. Specifically, these studies found that individuals with high narcissism and high (particularly unstable) self-esteem, evidenced a tendency to respond with anger and/or aggression to a perceived failure or negative interpersonal feedback.

Hypothesis 2a: High narcissism on the NPI and high self-esteem on the RSE are expected to be associated with high levels of state anger on the STAXI-2 following the ego-threat manipulation. Low narcissism and high self-esteem will be associated with low levels of state anger.

The psychopathy literature indicates a general shallowness of emotional experience and interpersonal response on the part of psychopaths (Hare, 1993; Reise & Oliver, 1994) as well as low levels of neuroticism (Widiger & Lynam, 1998). These findings indicate that, unlike narcissists, psychopaths are not easily "rattled" by criticism from others and would thus be less susceptible to the type of ego threat present in the current study.

Hypothesis 2b: High psychopathy on the PPI and high self-esteem on the RSE are expected to be associated with low levels of state anger on the STAXI-2 following the manipulation. Low psychopathy on the PPI and high self-esteem on the RSE are expected to be associated with low levels of anger. Low self-esteem is expected to be associated with high levels of anger for individuals at all levels of psychopathic traits.

These effects are predicted only for the experimental group, as the vignettes are not intended to produce an angry reaction among control subjects. Pilot testing will be done to provide support for this idea.

This hypothesis predicts a negative correlation between self-esteem and state anger. For theoretical reasons outlined above, psychopathy is not expected to interact with self-esteem to affect state anger, in contrast to the predicted interaction between narcissism and self-esteem. This expected difference is a key component of the study. The prediction of no interaction is somewhat controversial, because a lack of interaction may be due to a number of reasons, while statistically significant findings support the presence of a true difference. In developing this hypothesis, it was necessary to determine whether adequate statistical power was present to detect a difference if one did exist. Group size was determined based upon the statistical tables created by Cohen (1992) in his article regarding power analysis. This article states that an ANOVA will be able to detect a large effect at the alpha = .05 level if there are at least 18 participants per group. The design of the current study meets this criterion; therefore, the prediction of no interaction is supported by the study methodology.

Gender differences have been found which consistently show males to have higher levels of psychopathy (Forth, Brown, Hart, & Hare, 1996; Lilienfeld & Andrews, 1996; Meloy, 1992; Salekin, Rogers, & Sewell, 1997), narcissism (Watson, Taylor, and Morris, 1987), and self-esteem (Kendler, Gardner, & Prescott; Kling, Hyde, Showers, & Buswell). However, it was unclear to what extent this would hold true in a nonclinical, college population.

Hypothesis 3: Overall, females are expected to have lower levels of self-esteem (RSE score), narcissistic traits (NPI score), and psychopathic traits (PPI score) than males.

Previous investigations into ego-threat manipulations have used a variety of methods, including the suggestion of upcoming failure on a task (Baumeister, Heatherton, & Tice, 1993), and negative evaluation of an essay written by the participant (Bushman & Baumeister, 1998). The current study was designed to test and implement the use of vignettes as a way of administering an imaginary ego threat. This was done in order to minimize any long-term negative affect resulting from the manipulation, as well as to tap into various domains of self-esteem. This would not be possible given the other methods reported in the literature, which tend to focus on one area of performance (e.g., score on a video game, writing ability).

Hypothesis 4: Participants in the control group will endorse lower levels of state anger as measured by the STAXI-2 after receiving the neutral manipulation than will participants in the experimental group, who will receive the ego-threat manipulation.

METHOD

Participants

One hundred sixty-two undergraduate participants were self-selected from an introductory psychology class at a large Midwestern university. All students read the title of the experiment, "Personality Traits and Reactions to Life Events" among the on-line list of experiments, and signed up to participate in a group administration session. They received course credit for their psychology class. The sample included 106 females and 56 males, ranging from 18 to 24 years of age (M = 19.31; SD = 1.37). All participants were single. Participants self-reported their racial background as follows: Caucasian, 80.9%; African-American, 7.4%, Asian, 4.9%, Hispanic, 4.3%; Native American, 1.2%; multiracial, 1.2%.

Measures

Demographic Information

A brief questionnaire was given to obtain demographic information for participants, including age, race, marital status, native language, and occupation.

Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996). The PPI was developed as a means of assessing the presence of psychopathic traits in noncriminal populations, and was validated using a sample of undergraduates at colleges in Minnesota. Validation was conducted through three rounds of item writing, distribution and data collection, and item analysis. The first two rounds of data collection were done exclusively on males in order to maximize the expected variance on psychopathic traits endorsed. After eliminating items which had high social desirability and those which

assessed overt antisocial behaviors, the items were subjected to further factor analysis and finally distributed to both males and females. At this point scores on the PPI were correlated with existing measures of psychopathy (see below).

The PPI is a relatively new instrument and has demonstrated high positive correlations with the Cleckley criteria for psychopathy, as determined by interview and peer ratings. The 160-Item, true/false questionnaire also has the advantage of easy administration due to the self-report format.

The measure contains two validity scales, the Deviant Responding (DR) scale, designed to detect malingering and random response style, and the Variable Response Inconsistency (VRIN) scale, which detects inconsistent responses to items with similar content. The PPI consists of 8 subscales, including Machiavellian Egocentricity, Social Potency, Coldheartedness, Carefree Nonplanfulness, Fearlessness, Blame Externalization, Impulsive Nonconformity, and Stress Immunity. The internal consistency of these subscales computed by Cronbach's alpha ranged from 0.70 to 0.90, with the PPI total score having an internal consistency of 0.90 to 0.93. Test-retest reliability ranged from 0.82 to 0.94 for the subscales; PPI total score was very high, at 0.95. Finally, the PPI was found to correlate significantly with existing self-report measures of psychopathy, including the Levenson Psychopathy Scale ($r = 0.37$), the Self-Report Psychopathy Scale-Revised ($r = 0.91$) and the MMPI ASP scale ($r = 0.58$).

Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979). This 40-Item scale is presented in a true-false format, and contains seven subscales: Superiority, Authority, Exhibitionism, Self-Sufficiency, Vanity, Exploitativeness, and Entitlement. The NPI was designed to assess the extent to which a person reports having narcissistic personality

traits, such as believing they are superior to other people and possess extraordinary capabilities. Thus, it was not designed to assess narcissistic personality disorder per se, and is appropriate for use in nonclinical populations.

Raskin and Hall (1979) found the split-half reliability of the original 80-item scale to be 0.80. In 1981, two alternate forms were developed, each containing 40 items. When forms A and B were administered eight weeks apart to a sample of college undergraduates, the reliability coefficient was 0.72, indicating a stable construct underlying this measure (Raskin & Hall, 1981). However, the authors note that this general component is not strong: "...it is worth bearing in mind that both theoretically and clinically, narcissism represents a syndrome of relatively diverse behaviors that would not predict for a particularly strong or overriding general factor" (p. 899). The internal consistency of the NPI was found to be 0.83, and the measure was essentially uncorrelated with age or gender (Raskin & Terry, 1988).

Rosenberg's Self-Esteem Scale (RSES; Rosenberg, 1965). This instrument was developed to provide a measure of individuals' global self-evaluations. Rosenberg's self-esteem scale is widely used in research on self-esteem and has been well-validated in this domain. Fleming and Courtney (1984) and Gray-Little, Williams, and Hancock (1997) both reported an internal consistency of alpha = 0.88 using different samples of college students. Test-retest reliability has been found to range from r = 0.50 on a 1-year retest (McCarthy & Hoge, 1984) to r = 0.82 over a one-week period Fleming and Courtney, 1984). A factor analysis by Gray-Little et al. (1997) determined that a single-factor solution to the RSE was the best fit, supporting Rosenberg's original contention (1965) that his scale was a unidimensional measure of a person's perceived self-worth.

State-Trait Anger Expression Inventory, Revised (STAXI-2; Spielberger, 1998). The STAXI-2 is a 57-Item scale consisting of six subscales relevant to the intensity of the subjective experience of anger (State subscale), frequency of the experience of anger (Trait subscale), and subscales assessing the ability to control one's anger. The main subscale of interest in the present study is State Anger, which is defined by the test developer as subjective feelings that vary in intensity from irritation to intense fury, and are accompanied by autonomic nervous system arousal. In addition, the author states, "It was assumed that S-Anger would fluctuate over time as a function of frustration, perceived affronts, injustice, or being verbally or physically attacked" (Spielberger, Reheiser, & Sydeman, 1995; p. 213). This subscale makes it particularly appropriate as an operationalization of the construct of interest in the present study.

Vignettes

Participants read a series of four vignettes, written by the author of the study, in which they were asked to picture themselves in a variety of situations (see Appendix A for full texts of the vignettes). For the experimental group, these scenarios involved an imagined ego threat, including receiving a poor grade in an important class, being rejected by a potential dating partner, being denied a coveted job offer, and being told that their family disapproves of them. Participants in the control group read similar scenarios, but those in which the outcome was neutral or unresolved (e.g., waiting to hear about the final course grade or the results of a job application).

Mood Scales

This is a questionnaire in the form of Likert scales, developed by the author (see Appendix B). The individual is asked to think about how they are feeling at that moment,

and to rate a series of mood words (e.g., happy, sad, embarrassed) on a scale from 1 to 5, with "1" indicating "not at all" and "5" indicating "extremely." These scales were included in order to reduce the salience of experimental constructs assessed by the anger inventory, but were not used in any of the analyses.

Procedure

Before the full data collection began, pilot testing was done on 16 participants from an introductory psychology class (13 females and 3 males); half in the control and half in the experimental group. They were asked to read the vignettes, write their responses, and then fill out the mood questionnaires. This was done to determine whether the vignettes were effective at eliciting different types of responses between the experimental and control scenarios.

The state anger subscale on the STAXI-2 was used as one dependent measure of the effectiveness of the vignettes. As expected, the score for the experimental group (M = 22.25, SD = 7.87) was higher than that of the control group (M = 17.38, SD = 4.53), although this difference was not significant ($p < .15$). Inspection of the score distribution revealed one participant in the control group with a score of 28, falling more than 2 standard deviations above the group mean. When this outlier was eliminated from the analysis, group differences closely approached significance $F(1, 13) = 4.424$, $p < .06$. Significant differences ($p < .05$) between groups were observed for several items on the mood questionnaires. Experimental participants reported feeling more annoyed, depressed, and tense than controls, and controls reported feeling more proud, happy, confident, relaxed, and lighthearted than those in the experimental group. These results suggested that reading the vignettes did tend to induce a more angry and less positive

feeling among the experimental group. Therefore, it was determined that the vignettes were effective and could be used for their intended purpose in the study.

After pilot testing was completed, the full data collection began. Participants came to the administration room, which was a large classroom with desks, in groups ranging in size from 1 to 27. Over the three-month data collection period, 162 participants were assigned to receive either the experimental manipulation or to be a member of the control group, resulting in 81 participants in each group. A packet was given to each participant, with either control or experimental group vignettes inside. Every second person received a packet with control vignettes. Control vignettes consisted of stories with neutral outcomes; experimental vignettes contained negative outcomes. Included in the packet was a consent form, demographic questionnaire, PPI, NPI, RSE, 4 vignettes, STAXI-2, and mood scales. Each packet contained the same order of questionnaires and vignettes.

Participants were given an overview of the study procedures, and read and signed an informed consent form. They were told that the experimenter was interested in the ways that people describe themselves, their ability to imagine themselves in a variety of interpersonal situations, and the ways that people respond in these situations. They received the following instructions:

"In this experiment you will be asked to complete a set of three questionnaires about your personality. The instructions for each questionnaire are on the front page. Please take your time and answer each question honestly. You may skip any questions that you do not wish to answer. After this, turn to the first story in your packet. Read the story and then write a paragraph describing how you would feel and what you would do in that situation. You will have as long as you want to write your response. Then go on

and do the same for the other three stories. After you are done, please complete the two questionnaires at the back of the packet. The instructions are on the top of each page. If you have any questions while you are working, please don't hesitate to ask the experimenter. Be sure that you answer all of the questions truthfully--there are validity scales built into the questionnaires. Please keep the pages in your packet in the same order they are now. You may begin whenever you are ready."

All participants first completed three questionnaires: the Psychopathic Personality Inventory (PPI), Narcissistic Personality Inventory (NPI), and Rosenberg's Self-Esteem Scale (RSE). The PPI contains 160 items that are in the form of statements about one's personality traits, habits, and preferences. For each item; the individual must indicate whether the statement is false, mostly false, mostly true, or true, recording their answers on a scale from one to four. The NPI has 40 items, and is similar to the PPI in that each item is a statement about a personality trait to which the individual must respond with "true" or "false" as it applies to him or her. The RSE contains 10 items assessing the domain of self-worth, which are endorsed on a scale of 1 to 5, with 1 corresponding to "strongly agree" and 5 corresponding to "strongly disagree." In order to increase participants' investment in responding honestly to the personality measures, they were told that the questionnaires have built-in validity scales, and that they should answer truthfully.

Following completion of the three questionnaires, participants read the four vignettes. After reading each vignette, participants wrote a short paragraph on the page beneath the story, describing what they would do and how they would feel in each situation. This was intended to increase participants' focus on the situations they read

about. At this point, participants completed a brief set of Likert scales asking about their mood, as well as the State-Trait Anger Expression Inventory - Revised. Individuals completing this self-report measure are asked to read each item (e.g., I feel furious) and rate their immediate feelings on a scale of 1 to 4, with 1 corresponding to "not at all" and 4 corresponding to "very much so." The additional mood questions/Likert scales were given to participants in order to reduce the salience of experimental constructs and variables of interest to the experimenter.

After the measures were completed, participants filled out a final questionnaire in which they were asked whether they were able to guess the purpose of the study, whether they attempted to imagine themselves in the situations and answered the questionnaires honestly, and if reading the stories had any effect on their mood. It was planned that data from individuals who successfully guessed the study's purpose or did not complete the measures truthfully would not be included in the analyses. A check of participants' post-experiment questionnaires as well as PPI validity scales revealed that no data had to be eliminated due to knowledge of the hypotheses or improper responding to the measures.

RESULTS

Hypothesis 1: Trait anger was expected to be positively correlated with both psychopathic and narcissistic traits. This was expected to be true for participants in both the experimental and control groups.

Although not part of the original hypothesis, post-hoc analyses for Hypothesis 4 revealed a significant gender by group interaction; therefore, it was deemed necessary to assess any effects of gender on trait anger for Hypothesis 1. A 2 (group) X 2 (gender) ANOVA was conducted to assess for equality of the outcome measure, trait anger. Results showed no main effects of group or gender on trait anger. The interaction was not significant. Because there were no significant differences between the experimental and control groups, or males and females, on the outcome variable of trait anger, further analyses collapsed data across these groups.

Table 2. Correlations between personality traits and trait anger

	PPITOTAL	NPITOTAL	STAXI-T
PPI Total Score	1.000		
NPI Total Score	.533**	1.000	
STAXI-T	.222**	.130*	1.000

** $p < 0.01$, one-tailed
* $p < 0.05$, one-tailed

Results of Pearson correlations are presented in Table 2. The correlation between PPI and trait anger was significant, indicating a positive relationship between these

variables. The correlation between NPI and trait anger was also statistically significant, but the correlation was not as strong. Thus, the prediction of a positive relationship with trait anger was true for both psychopathic and narcissistic personality traits.

Hypothesis 2a. High narcissism on the NPI and high self-esteem on the RSE were expected to be associated with high levels of state anger on the STAXI-2 following the ego-threat manipulation. Low narcissism and high self-esteem were expected to be associated with low levels of state anger. This hypothesis was not supported.

To test this hypothesis, a median split was performed for scores on both the NPI (median score = 62) and the RSE (median score = 41). State anger scores for the four groups based on the median split are presented in Table 3. A 2 (low vs. high NPI) X 2 (low vs. high RSE) ANOVA was conducted to assess for equality of the outcome measure (state anger). Results showed no main effects of NPI score or RSE score on state anger. The interaction was not significant.

Table 3. State anger scores for low vs. high NPI and RSE (means and standard deviations)

	Low NPI	High NPI
Low RSE	16.482 *(2.637)* (n=27)	20.938 (*12.162*) (n=16)
High RSE	16.824 *(4.035)* (n=17)	17.450 (*4.662*) (n=20)

Hypothesis 2b. High psychopathy on the PPI and high self-esteem on the RSE was expected to be associated with low levels of state anger on the STAXI-2 following the manipulation. Low psychopathy on the PPI and high self-esteem on the RSE were

expected to be associated with low levels of anger. Low self-esteem was expected to be associated with high levels of anger for individuals at all levels of psychopathic traits. These effects were predicted only for the experimental group, as the vignettes were not intended to produce an angry reaction among control subjects.

To test this hypothesis, a median split was performed for scores on the PPI (median score = 367) and the RSE (median score = 41). State anger scores for the four groups based on the median split are presented in Table 4. A 2 (low vs. high PPI) X 2 (low vs. high RSE) ANOVA was conducted to assess for equality of the outcome measure (state anger). Results showed no main effects of PPI score or RSE score on state anger. As expected, the interaction was not significant.

Table 4. State anger scores for low vs. high PPI and RSE (means and standard deviations)

	Low PPI	High PPI
Low RSE	17.958 (*6.410*) (n=24)	18.368 (*9.581*) (n=19)
High RSE	17.000 (*4.648*) (n=16)	17.286 (*4.200*) (n=21)

Hypothesis 3: Overall, females were expected to have lower levels of self-esteem, narcissism, and psychopathic personality traits than males.

An independent samples t-test was conducted to compare the mean scores for males and females on the Rosenberg Self Esteem Inventory (RSE). Scores on this measure range from 0 to 50, with higher numbers indicating higher self-esteem. The

mean scores for females on the RSE ($\underline{M}$ = 40.08, $\underline{SD}$ = 7.35) were not significantly different than mean scores for males on this measure ($\underline{M}$ = 40.69, $\underline{SD}$ = 8.33). This indicates similar levels of self-esteem among males and females, and does not support the prediction that female levels of self-esteem would be lower.

On the Psychopathic Personality Inventory (PPI), an independent samples t-test showed that the mean total score for females ($\underline{M}$ = 352.40, $\underline{SD}$ = 36.75) was significantly lower than the mean total score for males ($\underline{M}$ = 393.32, $\underline{SD}$ = 30.00), $\underline{t}(160) = -7.16$, $\underline{p} < 0.0005$, in line with the prediction that females would show lower overall levels of psychopathy than males. Further analysis of gender differences was then performed for all subscales of the inventory (see Table 5). A correction was made for multiple comparisons; an alpha of .05 was divided by 8, so that the level of significance was set at 0.00625. Levene's test was performed for equality of variance between scores for males and females, and for the subscales on which variance for males and females differed (Social Potency, Coldheartedness), analyses are reported with equal variance not assumed. Significant differences in subscale scores were found on the subscales of Machiavellian Egocentricity, Fearlessness, Coldheartedness, Impulsive Nonconformity, and Stress Immunity. In all of these cases, the total scores for males were higher than those of females.

Table 5. Comparison of males and females on PPI subscale totals

Subscale	**Mean (female)**	**Mean (male)**	**t**	**df**	**Mean Difference**
Machiavellian Egocentricity**	64.132	73.179	-4.721	160	-9.047
Social Potency	64.462	67.143	-1.681	139	-2.681
Fearlessness**	44.330	54.375	-6.176	160	-10.045
Coldheartedness*	38.094	42.339	-2.812	83	-4.245
Impulsive Nonconformity**	35.453	40.929	-4.232	160	-5.476
Blame Externalization	35.925	39.339	-2.413	160	-3.415
Carefree Nonplanfulness	35.038	35.696	-0.626	160	-0.659
Stress Immunity**	27.076	31.054	-3.932	160	-3.978

** $p < .0005$
* $p < .005$

On the Narcissistic Personality Inventory (NPI), an independent samples t-test revealed that the mean total score for females ($M = 60.66$, $SD = 6.01$) was significantly lower than the mean total score for males ($M = 65.00$, $SD = 6.01$), $t(160) = -4.37$, $p < 0.0005$, in line with the prediction that females would show lower overall levels of narcissism than males. Further analysis was conducted to assess gender differences on subscales of the measure (see Table 6). A correction was made for multiple comparisons; an alpha of .05 was divided by 7, so that the level of significance was set at 0.00714. Levene's test for equality of variance was performed between males and females, and for the subscale on which variance for males and females differed (Authority), analyses are reported with equal variance not assumed. Significant differences were found on the subscales of Authority, Exploitativeness, and Entitlement, with males showing higher scores than females.

Table 6. Comparison of males and females on NPI subscale totals

Subscale	Mean (female)	Mean (male)	t	df	Mean Difference
Authority**	12.528	14.500	-6.619	133	-1.972
Self-Sufficiency	9.859	10.375	-2.585	160	-0.517
Superiority	8.481	8.661	-1.033	160	-0.180
Exhibitionism	9.359	9.500	-0.496	160	-0.142
Exploitativeness**	7.104	7.964	-3.982	160	-0.861
Vanity	4.236	4.054	1.013	160	0.182
Entitlement**	9.094	9.946	-3.659	160	-0.852

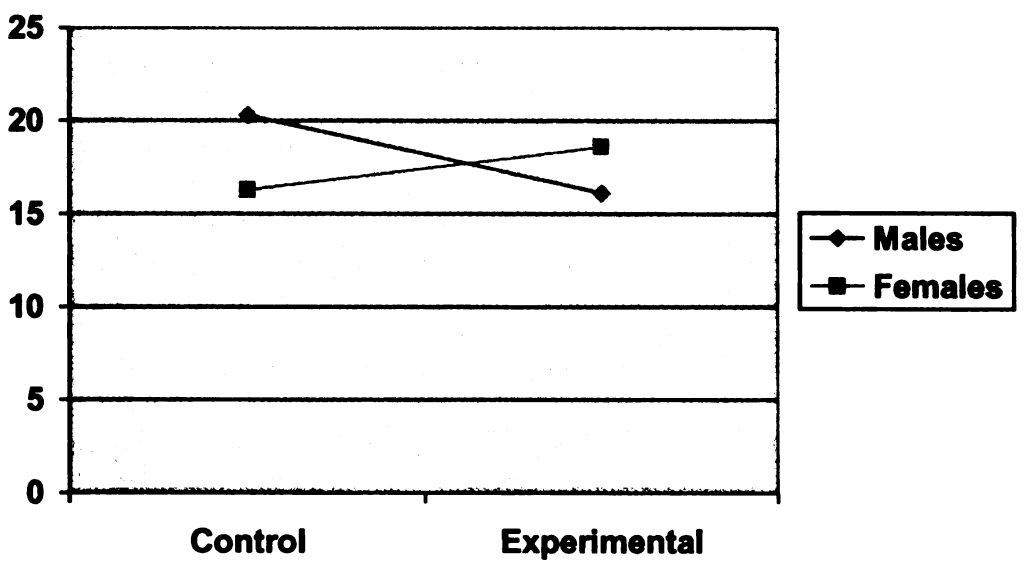
** $p < .0005$

Hypothesis 4: Participants in the control group were expected to endorse lower levels of state anger after reading the vignettes than participants in the experimental group. A t-test was conducted to compare the State-Anger subscale mean scores for control subjects to mean scores for experimental subjects. Results revealed no significant difference between subscale scores for control subjects ($M = 17.64$, $SD = 6.04$) and those for experimental subjects ($M = 17.68$, $SD = 6.42$). A post-hoc analysis of clusters within the subscale also did not reveal any significant differences between the groups in the clusters of Feelings, Verbal, or Physical State Anger.

Further analysis was performed to determine whether the combined effects of group assignment and gender were related to the outcome variable of state anger. An ANOVA showed that a gender X group interaction did achieve statistical significance, $F(1, 158) = 9.931$, $p < .005$). Follow-up contrasts were performed to test for simple effects. Results (see Figure 2) showed that females in the control group ($M = 16.33$, $SD = 2.20$) were significantly less angry as measured by the STAXI-2 state anger subscale than

males in the control group (M = 20.26, SD = 9.57), F(1, 79) = 8.305, p< 0.005. Females in the experimental group (M = 18.54, SD = 7.73) did not have significantly different state anger score after the manipulation than males in the experimental group (M = 16.14, SD = 2.23). Females in the control group had significantly lower state anger scores than females in the experimental group, F(1, 104) = 4.054, p < .05. Males in the control group had significantly higher state anger scores than males in the experimental group, F(1, 54) = 5.084, p<.05. Thus, the manipulation affected each gender differently. Specifically, undergoing the manipulation was associated with higher levels of state anger among females, while males who received the manipulation showed lower levels of state anger than males who did not.

Figure 1. State anger scale scores



DISCUSSION

This study was designed to further our understanding of links between personality, anger, and aggression, by building on previous research related to self-esteem and narcissism. In this study, psychopathic and narcissistic traits in a noncriminal sample were assessed, along with their relations to anger experience in the face of ego threats. Some theoretical overlap exists between these personality constructs (Reise & Oliver, 1994): both involve a grandiose sense of self as well as low empathy, and it appeared that studying anger might further our understanding of the conceptualization of these clusters of traits.

One aim of this study was to investigate the association between chronic (trait) anger and psychopathic and narcissistic personality traits. In addition, while a body of literature exists linking narcissism and high self-esteem to anger and aggression (Baumeister, Heatherton, & Tice; Bushman & Baumeister, 1998; Kernis, Grannemann, & Barclay, 1989; Rhodewalt & Morf, 1998), very little study has been made of the interaction between high self-esteem, psychopathic traits, and anger. This study was designed to investigate further how self-esteem might interact with personality traits to produce anger in response to an attack on one's self-esteem. The way in which individuals respond to an attack was also seen as a potentially useful way to distinguish the psychopathic and narcissistic syndromes.

Gender differences have been found that consistently show males to have higher levels of psychopathy (Forth, Brown, Hart, & Hare, 1996; Lilienfeld & Andrews, 1996; Meloy, 1992; Salekin, Rogers, & Sewell, 1997), narcissism (Watson, Taylor, and Morris,

1987), and self-esteem (Kendler, Gardner, & Prescott; Kling, Hyde, Showers, & Buswell). This study aimed to determine whether this pattern held true with a nonclinical, college undergraduate sample. Finally, the methodology of writing responses to vignettes was used in conjunction with an anger inventory to determine the effects of reading neutral or threatening vignettes.

Relationship of Trait Anger to Psychopathy and Narcissism

For all participants, a positive correlation was predicted between psychopathic traits and trait anger. Specifically, higher scores on the PPI were expected to be associated with higher levels of trait anger as measured by the STAXI-2 trait anger subscale. Trait anger is not one of the core components of psychopathy as defined by Hare (1993) and is not part of the operational definition of psychopathy as it is assessed by measures in current use. However, research on personality correlates suggest that trait anger may be associated with psychopathy. Widiger and Lynam (1998) found that psychopathy was correlated with low agreeableness, or antagonism, as measured by the Five Factor Model (FFM) of personality functioning. Hart and Hare (1994) found strong negative correlations between the warmth-agreeableness factor, and scores on the PCL-SV for both students and inmates. Harpur, Hart, and Hare (1994) indicate that high scorers on the PCL are those with high levels of hostility, antagonism, and aggressiveness. In addition, Hare (1991) found that psychopaths evidence poor modulation of anger, hostility, and aggression.

This does not imply a causative relationship between anger and psychopathy such that all expressions of anger are indicative of psychopathy. Anger may occur in response

to a wide variety of situations, and is experienced to some degree by all individuals regardless of their personality type. However, given the above findings from the personality literature, there is empirical evidence to suggest that the personality variables associated with psychopathy are associated with hostility, aggressiveness, and antagonism, and negatively related to warmth and agreeableness. While anger has not generally been studied as separate from the variables mentioned above, there is reason to expect that it would show similar correlations with psychopathic traits as do hostility, disagreeableness, and antagonism.

It is important to note, however, that the construct of psychopathy involves experiencing shallow emotions, and that psychopaths often have difficulty describing their emotions verbally (Hare, 1993). Therefore, it was important to investigate whether individuals with high levels of psychopathic traits would endorse higher levels of chronic anger than those with lower levels of the trait. While the literature suggests an association between psychopathy and anger, it was unclear whether this would hold true for individuals with subclinical levels of psychopathy, and whether their feelings would adequately be captured by a self-report measure.

Results indicate that this hypothesis was supported. Higher levels of psychopathic traits were associated with higher levels of trait anger. This indicates that, at subclinical levels of psychopathy, trait anger may be consistently positively related to psychopathic traits. Trait anger was measured in the current study as the frequency of experiencing the emotional, physiological, affective, and behavioral aspects of anger as defined by Spielberger, Reheiser, and Sydeman (1995). As discussed above, characteristics such as hostility, antagonism, and irritability have been linked to psychopathy in previous

research; the current findings suggest that anger may be a component deserving of future study.

It is also worthwhile to consider the issue of psychopathy on a continuum. The DSM-IV (American Psychiatric Association, 1994) does not include a psychopathic personality disorder; however, Hare (1998) conceptualizes psychopathy as a categorical phenomenon. The current study has investigated psychopathy as a continuous construct, which suggests the question of how much psychopathy is necessary for it to become clinically meaningful. For example, when does a person feeling very good about himself become grandiose; when does risk-taking behavior become impulsive? In addition, what are the implications of having a small amount of psychopathy? There is no way to definitively answer these questions; however, it may be useful to consider this in terms of the negative consequences, both personal and interpersonal, of having these traits. That is, even a low level of psychopathy may be harmful if it results in distress. Lower levels of psychopathy are unlikely to result in criminal behavior, and it is among the incarcerated population that psychopathy has been most studied. However, psychopathic traits may still lead to aversive outcomes for oneself. For example, sensation-seeking and poor behavioral controls may result in engaging in unsafe sex with many partners, resulting in contracting a sexually transmitted disease. Low empathy toward others combined with a feeling of grandiosity about the self make intimate relationships frustrating and unbalanced. These traits may be present in varying degrees, with different types of behavioral outcomes.

For all participants, a positive correlation was predicted between narcissistic traits and trait anger. Specifically, higher scores on the NPI were expected to be associated

with higher levels of trait anger as measured by the STAXI-2 Trait Anger subscale. Previous research has shown correlations between narcissism and anger. McCann and Biaggio (1989) found that, in an undergraduate sample, participants with high levels of narcissism were more verbally expressive of anger than individuals low in narcissism. Rhodewalt and Morf (1995) found that higher levels of narcissism as assessed by the NPI were associated with the traits of hostility and antagonism. Other research has found individuals who were higher in narcissism to react more angrily to ego threat (Bushman & Baumeister, 1998), and failure (Rhodewalt & Morf, 1998). Although not part of diagnostic criteria for Narcissistic Personality Disorder, the DSM-IV (American Psychiatric Association, 1994) states that individuals with NPD are highly sensitive to perceived criticism from others and are likely to react with feelings of rage. Given their heightened sensitivity to negative interpersonal evaluations, it seems likely that individuals with narcissistic traits would frequently encounter this type of perceived attack and thus, often feel angry. In addition, because narcissistic individuals have unduly high opinions of themselves, they may be more likely to irritate other people, thus eliciting the very sort of negative feedback from others which they find so aversive (Papps & O'Carroll, 1998).

This hypothesis was supported. Higher levels of narcissistic traits were associated with higher levels of trait anger. This finding is consistent with previous studies which have showed a link between narcissism and the tendency to experience anger. Research strongly suggests that this tendency toward experiencing anger is related to narcissistic individuals' characteristic responses to criticism. Specifically, the fragile sense of self-worth that is typical of narcissists makes them extremely sensitive to negative evaluations

from others, resulting in feelings of anger, whereas individuals whose self-esteem is more stable would not show this frequent angry response.

Although coping styles were not assessed in the current study, it is useful to consider whether the sensitivity to interpersonal criticism seen in narcissistic individuals would apply equally to the concepts of "repressors" and "sensitizers." Weinberger, Schwartz, and Davidson (1979) studied the coping responses of individuals with low anxiety and high defensiveness (repressors) and their counterparts with high anxiety and low defensiveness (high anxious, previously described in the literature as "sensitizers"). They suggest that repressors cope with disturbing cognitions through avoidance, while high-anxious individuals make no effort to avoid aversive thoughts. Although speculative, it seems likely that narcissists would comprise a third category, individuals with high anxiety and high defensiveness. Narcissists seek to convey an image of unflappability, yet underneath they are quite concerned with the opinions of others. Therefore, they may use a coping strategy with elements of both avoidance of unpleasant self-referent thoughts, as well as heightened sensitivity to negative interpersonal feedback.

Finally, a moderate correlation emerged between scores on the PPI and NPI. This is not surprising, given the high degree of conceptual overlap between these clusters of traits (Reise & Oliver, 1994), including elements of grandiosity, exploitativeness of others, and low empathy. However, there are differences between these constructs as well. Narcissism involves a need for excessive admiration, envy towards others, and sensitivity to criticism, which are not characteristic of psychopathy. Psychopathy includes a tendency toward early behavior problems and shallow emotional experience,

both of which differentiate this syndrome from that of narcissism. While individuals with both types of traits do not truly empathize or identify with the needs of others, narcissists appear dependent on the responses of others to validate their sense of self-worth, and may have very strong emotional reactions to interpersonal feedback. Psychopaths, by contrast, are concerned with other people only to the extent that others can help them to get what they want. Therefore, we would expect to observe a moderate correlation between the two traits, as was found in the current study.

Narcissistic Traits, Self-esteem, and Anger

For participants receiving the ego-threat, high narcissism and high self-esteem were expected to be associated with high levels of state anger following the ego threat. Low narcissism and high self-esteem was expected to be associated with low levels of state anger. Low self-esteem was expected to be associated with moderate levels of anger. Specifically, higher scores on the NPI and higher scores on the RSE were expected to be associated with higher scores on the STAXI-2 State Anger subscale. Lower scores on the NPI and higher scores on the RSE were expected to be associated with lower scores on the STAXI-2 State Anger subscale. All levels of NPI scores combined with low RSE scores were predicted to be associated with moderate scores on the STAXI-2 State Anger subscale.

This pattern was expected based upon previous research which has consistently found a link between narcissism, high self-esteem, and vulnerability to negative interpersonal feedback (Baumeister & Boden, 1998; Baumeister, Heatherton, & Tice, 1993; Bushman & Baumeister, 1998; Kernis, Grannemann, & Barclay, 1989; Papps &

O'Carroll, 1998). The purpose of the present study was in part to determine whether this finding could be replicated using an imagined ego threat (reading vignettes) as a form of negative interpersonal feedback. It was proposed that if results were in line with predictions, this would suggest that individuals with narcissistic traits have a form of self-esteem which is grandiose, but is fragile in the face of an ego threat, and is a risk factor for felt anger. This hypothesis was not supported. Results indicated no main effects of level of narcissistic traits or level of self-esteem on state anger following the ego threat. Apparently, responses to the ego-threat were not significantly affected by participants' levels of self-esteem or narcissistic personality traits.

While these negative results were unexpected, some reasons are proposed as to why they occurred, including features of the vignettes, participants, and statistical analyses. It is possible that the vignettes did not contain the level of negative interpersonal feedback that would be required to provoke an angry response among individuals with narcissistic traits. Results from pilot testing indicated that the vignettes were effective at inducing feelings of anger. However, it may have been that the vignettes created a generally negative mood state, but because the negative information in them did not come from a real, identifiable other person, they failed to produce an angry response from participants. Alternatively, participants may not have been motivated to concentrate fully on the task. In this case, the vignettes may have shown more of an effect with individuals who were more invested in engaging in the task.

It is also possible that, in the statistical analyses, using a median split was not sufficient to identify groups that were sufficiently high or low on the variables of interest. A larger sample size would have allowed for a quartile split which would have alleviated

this problem somewhat. Results from a linear regression model were also not significant, however, suggesting that no effect was present. Another potential explanation is that the RSE, being a brief, unifactorial measure of self-esteem, did not elicit enough variance in responses to allow for meaningful differences between the high and low self-esteem groups. Bushman and Baumeister (1998) suggest that the use of more complex measures of self-esteem may be more efficacious for research of this type.

Psychopathic Traits, Self-Esteem, and Anger

Among participants receiving the ego threat, high self-esteem was expected to be associated with low levels of state anger following the ego threat. Low self-esteem was expected to be associated with higher levels of anger. These predictions were expected for individuals at all levels of psychopathy. Put simply, self-esteem was predicted to be negatively correlated with state anger, regardless of level of psychopathy. To date, there are no published studies that have specifically investigated the role of psychopathic traits as they relate to self-esteem and ego threat. The above prediction was expected based upon the psychopathy literature which indicates a general shallowness of emotional experience and interpersonal response on the part of psychopaths (Hare, 1993; Reise & Oliver, 1994) as well as low levels of neuroticism (Widiger & Lynam, 1998). These studies indicate that, unlike narcissists, psychopaths are not easily "rattled" by criticism from others and thus would not be susceptible to the type of ego threat presented in the current study. Therefore, an interaction between psychopathy and self-esteem would not be expected.

This hypothesis was partially supported. As predicted, there was no significant interaction between self-esteem and psychopathic traits on the outcome variable of state anger. However, contrary to predictions, results indicated no main effect of level of self-esteem on state anger following the ego threat. Participants with low self-esteem did not differ in their levels of state anger from those with high self-esteem. As discussed earlier, sufficient statistical power was present to detect an interaction between psychopathy and self-esteem (large effect) if one was present. The lack of interaction, while not as compelling statistically as an interaction effect, does provide support for the notion that psychopathy and self-esteem did not produce combined effects on state anger in the current study.

These results may be interpreted to suggest that psychopathic traits do not interact with self-esteem in determining an individual's response to an ego threat/attack on self-esteem. This supports the idea that it is not high self-esteem per se which leads to anger and aggression, but that it must be combined with a grandiose (Bushman & Baumeister, 1998) or unstable (Kernis et al., 1989) sense of self. Psychopathic traits did not appear to be a protective or a risk factor against anger.

Gender Differences in Psychopathic Traits

It was predicted that females would have lower levels of psychopathic traits than males. Specifically, females were expected to have lower total scores on the PPI than males. These results were expected based on previous studies using both self-report and observer ratings of psychopathic traits which showed higher levels of these traits in males. These findings emerged in both criminal (Forth, Brown, Hart, & Hare, 1996;

Meloy, 1992; Salekin, Rogers, & Sewell, 1997) and noncriminal samples (Lilienfeld & Andrews, 1996). Gender differences on several PPI subscales were found by Lilienfeld and Andrews (1996). Thus, prior research suggested that males would show both higher overall levels of psychopathic traits as well as higher levels of particular factors within psychopathy.

This hypothesis was supported. Females had lower overall levels of psychopathic traits than males. In addition, analysis of subscales within the overall total score revealed that males showed higher levels of Machiavellian Egocentricity, Fearlessness, Stress Immunity, Impulsive Nonconformity, and Coldheartedness. Results were in line with predictions, and this appears to be a robust finding, as it has been shown consistently in the psychopathy literature. Most studies to date have been done with incarcerated populations, among individuals who have been classified as psychopaths using some version of Hare's Psychopathy Checklist. This study provides further support for the gender difference among individuals who are not incarcerated and do not have clinical levels of psychopathy. It is also interesting to note that the validation study of the PPI by Lilienfeld and Andrews (1996) revealed gender differences on the same subscales in which differences emerged in the present study.

One possibility for why this gender difference exists is that similar personality traits are expressed differently in men and women, appearing to cluster into different domains. Hamburger, Lilienfeld, and Ogben (1996) found that psychopathic traits were more associated with Antisocial Personality Disorder in males, while these traits had a stronger link to Histrionic Personality Disorder in females. There is some additional support for these findings in the current study. The subscale traits on which males scored

higher than females tend to be those which support antisocial behavior rather than behavior that is dramatic and attention-seeking. The authors' proposition that the expression of psychopathy may be moderated by gender appears to be partially supported by data from the current study. In addition, studies have consistently found gender differences in aggressiveness (e.g., Paris, 1998), and the traits of Fearlessness and Impulsive Nonconformity, which involve risk-taking and a disregard for social mores, are the two subscales most closely related to aggressiveness.

Gender Differences in Narcissistic Traits

It was predicted that females would have lower levels of narcissistic traits than males. Specifically, females were expected to have lower total scores on the NPI than males. Previous research suggests that different levels of narcissism may be present between males and females. Watson, Taylor, and Morris (1987) found higher levels of narcissism in males than in females. In addition, expectations for different gender roles may explain why studies have found females to show lower levels of narcissism than males. One study of gender and narcissism investigated responses to displays of entitlement and self-absorption by a male or female target. Results indicated that both males and females showed higher levels of negative affect, disliked the target more, and attributed more negative qualities to the target when the target was female (Carroll, Hoenigmann-Stovall, & Whitehead, 1996). Thus, there is some support for the notion that these qualities are more socially accepted in males than in females, and females may inhibit their expression due to societal pressure.

This hypothesis was strongly supported. Males showed higher overall levels of narcissistic traits than did females. In addition, males had higher scores on the NPI subscales of Authority, Exploitativeness, and Entitlement. Similar to the findings for psychopathic traits, these results are generally consistent with previous findings showing higher overall levels of narcissistic traits in males than in females, as well as higher levels on particular factors within the overall construct of narcissism. The Authority subscale of the NPI measures such traits as dominance, assertiveness, and leadership, while the Exploitativeness subscale is characterized by rebelliousness, hostility, and lack of concern for the feelings of others. Finally, the Entitlement subscale summarizes ambitiousness, power-seeking, and lack of self-control. Tschanz, Morf, and Turner (1998) argue that due to social role expectations, women are less likely to engage in displays of dominance and leadership than are men. They found that the Entitlement and Exploitativeness components of the narcissistic syndrome as measured by the NPI were less strongly correlated with the other factors of the NPI in women than in men. Results from the present study were consistent with the notion that women show lower levels of these trait than men and, similar to the findings regarding psychopathic traits, the expression of the syndrome may be different for males and females. Even narcissistic women may operate within the bounds of socially constructed gender-stereotypic rules of behavior.

Gender Differences in Self-Esteem

It was predicted that females would have lower levels of self-esteem than males. Specifically, females were expected to have lower total scores on the RSE than males.

Previous research has shown gender differences in self-esteem that favor males (Kendler, Gardner, & Prescott, 1998; Kling, Hyde, Showers, & Buswell). Explanations that have been put forth to explain this effect include gender roles, peer interactions, school experiences, cultural expectations of appearance, and violence against women. While this finding is generally robust, it is not entirely consistent across studies. A recent meta-analysis (Kling, Hyde, Showers, & Buswell, 1999) was conducted to clarify disparate findings. They examined 216 effect sizes across 185 studies, and found a small overall difference ($d = 0.21$) favoring males. A strength of their study was that they also investigated gender differences among different age groups. They found that gender differences in self-esteem varied over time, but were greatest ($d = 0.33$) in late adolescence (ages 15-18). Among college-aged participants (19-22), the difference dropped to 0.18, and declined further with age, finally disappearing in adults aged 60 and older. Thus, it was hypothesized that participants in the present study, the majority of whom were college freshmen and sophomores, would show a gender difference in self-esteem favoring males.

This hypothesis was not supported. Results showed no significant differences between males and females on the measure of self-esteem. While the lack of a difference is a surprising finding, it is arguably a positive one; few would argue that lower self-esteem in women is a good thing. An exhaustive discussion of gender and self-esteem is beyond the scope of this paper; however, the literature provides some general themes which may be operating to explain this finding. Although results did not support the predicted difference in self-esteem, one explanation is suggested by the work of Kling, Hyde, Showers, and Buswell, (1999). The meta-analysis by these authors provides strong

support for a trend in which gender differences peak at around age 16, but then diminish over time. Their study suggests that by college, differences are decreasing. It seems plausible that attending college works to increase females' self-esteem, perhaps by exposing them to alternative viewpoints and opening up a new set of potential areas of mastery. The use of a global measure of self-esteem, while commonly used in studies of this construct, necessarily masks any differences among domains of esteem, such as physical appearance, academic achievement, athletic ability, or popularity among peers. Perhaps as individuals pass from late adolescence into young adulthood, these domains begin to change in importance in a way that favors females. A study by Burnett, Anderson, and Heppner (1995) suggests that more stereotypically masculine traits, such as independence, assertiveness, and decisiveness are associated with higher levels of self-esteem. It may be that after high school, it becomes more socially accepted for women to display these traits.

Gender differences in personality traits are in part a function of the sex roles present in our society, and therefore, they may change over time. This seems particularly relevant in the area of self-esteem. As society has become more accepting of women taking on more stereotypically masculine roles (i.e., breadwinner, professional), perhaps self-esteem has risen on average for women while it has not changed for men. In terms of narcissistic and psychopathic traits, it would be interesting to administer these personality measures to a cohort twenty years from now. This would allow us to assess whether any gender differences were present, and, if so, to consider how they might reflect the changing nature of sex roles.

Anger as an Outcome of Reading Vignettes

Participants in the control group were expected to endorse lower levels of state anger than participants in the experimental group. Specifically, individuals who read the neutral vignettes were expected to have lower scores on the STAXI-2 State Anger subscale than individuals who read the ego-threatening vignettes. These results were expected based upon pilot testing which showed that participants who read the ego-threatening vignettes reported more anger than those who read the neutral vignettes. These vignettes were devised by the author and have not been used in previous studies. However, a similar methodology was used by Lyubomirsky and Nolen-Hoeksema (1995) in their study of the effects of self-focused rumination in college students. These authors used a modified version of the Cognitive Bias Questionnaire (Krantz & Hammen, 1979) to elicit open-ended written responses to six vignettes, including three with achievement themes and three with interpersonal themes. The purpose of the CBQ is to assess responses to situations that involve a depressive bias.

The vignettes used in the current study were designed to tap into several domains of self-esteem that have been discussed in the literature, such as home and parents, academic competence, and attractiveness (Quatman & Watson, 2001), as well as employment. It was not possible to determine the full range of effects, if any, that reading the vignettes would have. However, for the present study, pilot data were taken as evidence that reading the ego-threatening vignettes resulted in higher levels of state anger than reading the neutral vignettes. Based upon results of the Lyubomirksy and Nolen-Hoeksema (1995) study, which found no gender differences in responses to their vignettes, no interaction between gender and vignette type was expected.

This hypothesis was partially supported. Initial comparisons of the experimental and control groups revealed no differences in level of state anger. However, further analysis revealed that there was a significant interaction between gender and group assignment. Females in the control group were significantly less angry than males in the control group. Females in the control group were significantly less angry than females in the experimental group. Males in the control group were significantly more angry than males in the experimental group. Thus, it appears that the ego-threat affected males and females differently; females who read the ego-threatening vignettes were more angry than those who did not, while males who read these same vignettes were less angry than those who did not.

It appears that the initial finding of no group differences was due to gender differences in response to the ego-threat, which cancelled out overall group effects. Why would gender differences occur? There are several possibilities, one being that females in the study were more affected by vignettes in the domains selected for the study (work, school, family, romantic relationships). An attempt was made to choose domains which would not be gender biased, based on the notion that men are more oriented toward independence and achievement, and women are more interpersonally oriented. In addition, participants were asked to write responses to the vignettes, to insure that they read closely enough to express a reaction. It is possible that women made more of an attempt to follow the instructions by imagining themselves in the situation; however, there is no clear reason why this would occur. One possibility is suggested by the work of Nolen-Hoeksema regarding gender differences in coping. She has found that a ruminative coping style, characterized by "passively focusing on one's symptoms of

distress and the circumstances surrounding those symptoms" (Nolen-Hoeksema, McBride, & Larson, 1997, p. 855) is associated with an increased probability of experiencing distress, and for longer periods of time, than not ruminating (Nolen-Hoeksema, 1991; Nolen-Hoeksema, Morrow, & Fredrickson, 1993). Her research has shown that females engage in more ruminative coping than males, who tend to use distractions (i.e., purposely thinking about or doing something else), and that this difference in coping strategies may explain part of the gender difference in rates of depression (Butler & Nolen-Hoeksema, 1994; Nolen-Hoeksema, 1991; Nolen-Hoeksema, Morrow, & Fredrickson, 1993; Nolen-Hoeksema, Larson, & Grayson, 1999).

Expanding on her response styles theory as it relates to depression, Rusting and Nolen-Hoeksema (1998) investigated coping strategies in response to an angry mood. This study found that a ruminative style increased anger, while distraction either did not affect participants' level of anger or decreased anger. However, this study also found that women were more likely to distract themselves than to ruminate when angry, and men chose the strategies of rumination and distraction equally across different mood conditions. In the present study, it is possible that females tended to ruminate more after reading the vignettes, thereby exacerbating any negative effects, while males actively distracted themselves from the negative information. This would explain why males in the experimental group, paradoxically, were less angry than those in the control group, who read the neutral stories.

Another explanation for the current findings is discussed by Kring and Gordon (1998), and has to do with gender differences in the experience and expression of emotion. Kring and Gordon's review of a large number of studies concluded that women

are more expressive of anger, among many other emotions. This has been found consistently despite the fact that anger is a less socially acceptable emotion for women to display. Interestingly, Kring and Gordon found that this difference in emotional expressiveness does not appear to be due to gender differences in the experience of emotion. Thus, it is possible that males and females both experienced anger in reaction to the vignettes, but women were more willing to endorse feeling angry on the questionnaire. It is particularly interesting that men in the control group were significantly *more* angry than men in the experimental group. This suggests that, for males, the vignettes had the opposite effect than was intended. It would be interesting to conduct further studies to determine whether this is a consistent finding using the vignette methodology.

Limitations of the Study

A number of interesting findings emerged from the present study. However, while these results may be representative of the college population, they do not easily generalize to most adults. As Sears (1987) argued, college students have stronger cognitive skills, are more willing to submit to authority, and have a less developed sense of self than the general population of adults, most of whom are older. These variables could potentially influence responses to the vignettes which deal with disapproval by an authority figure; they may also result in a more intellectualized, less emotional response to the vignettes than would be seen in the general population. It also seems likely that personality traits which reflect higher levels of self-involvement, as psychopathy and narcissism do, will be overrepresented in college-age students as compared to the general

population. In addition, this sample did not reflect the ethnic diversity of the population in general. A larger sample size would also have been useful to allow for more statistical power when comparing high and low groups on such factors as self-esteem and narcissistic and psychopathic traits. The relative lack of significant findings related to the ego threat may be due in part to the size of the sample. While enough power was present to detect large effects, small or medium effects may have been present, but insufficient power existed to detect these effects.

This study was entirely reliant on self-report information. While a validity check on the PPI and a post-experiment questionnaire were employed to eliminate data from participants who did not answer honestly, these methods are more likely to detect obvious deception or lack of effort. It is not possible to know with certainty whether the traits and feelings participants reported were entirely accurate, or were affected by social desirability factors, or minimal investment in performing the tasks.

One final limitation, which was not evident until after data collection, was that males and females were not affected in the same ways by reading the vignettes. While this makes group analyses difficult to interpret because of the likelihood that effects were washed out, it raises a number of interesting questions about gender differences in response to situations that threaten self-esteem. Thus, a methodological shortcoming produced an unexpected finding worthy of further exploration.

Implications

This study expanded on previous research by addressing questions which have not yet been investigated, including furthering our understanding of how individuals with

psychopathic traits may respond in the face of an ego threat. Psychopathy was examined as a cluster of traits relevant to ego threat, but somewhat different than narcissism. This study was designed to contribute to our understanding of the distinction between the theoretical constructs of psychopathy and narcissism, which show a moderate to high degree of overlap in previous research (e.g., Reise & Wink, 1995). Studying individuals with subclinical psychopathic traits rather than the full syndrome as defined by Hare (1993) is important for obtaining results that may generalize to a nonincarcerated population.

Use of the PPI permitted investigation into more specific domains of psychopathy, such as blame externalization and stress immunity. Use of the NPI also permitted an analysis of specific domains within narcissism, such as entitlement and exploitativeness. Gender differences were apparent on several of these subscales, as well as overall trait scores. Individuals' experience of anger was investigated in relation to ego-threatening scenarios, which may have different implications than studying aggressive behavior. Investigating anger as a dependent variable, as discussed above, can tell us more about the affective experience which may precede aggressive behavior. For example, by acting aggressively, one may be able to discharge feelings of anger and regain previous levels of self-esteem.

APPENDIX A

Vignettes for Experimental and Control Groups

Instructions: Please do your best to imagine yourself in the following situations. Try to create a visual image of the scene unfolding, and imagine what you would be thinking and feeling if these events were occurring. Then please write a paragraph describing your thoughts and feelings in each situation, and (in the experimental group only) explain what action you would take to resolve the situation.

1) You are taking a challenging course that is required for your major. All semester, you have done your best to keep up with the work, including going to see the professor and TA's during their office hours. This class has taken up more of your time than any other one so far, but you don't mind because the subject matter is so interesting and you know it will be relevant to your future work after you've graduated. In addition, you need to get at least a 3.0 in the class to keep your scholarship. You feel confident going into the final exam that you will 4-point the class. However, while you are taking the test you realize that there was a whole section of your notes that you forgot to study. Besides that, the test questions seem really difficult and you can't seem to come up with the right answers for things that you did study. After the test, you ask your friends what they thought of it. They say it wasn't bad, and in fact was easier than the midterm.

Story endings:

Experimental: When you check your grades, your fears are confirmed: while you were expecting a 4.0, your final grade is a 2.5.

Control: When you check your grades, you find that they haven't been posted yet.

2) A few weeks ago, you met someone who was introduced by a mutual friend. As you've talked with them more, you've discovered that you have a lot in common with this person—a similar sense of humor, like the same movies and the same activities. In addition, you feel very comfortable talking with this person—they accept you for who you are and make you feel good about yourself. You find yourselves spending more and more time together, you've become very attracted to them, and you learn that they aren't in a relationship with anyone at the moment. Eventually, it seems like a good time to let them know how you feel.

Story Endings:

Experimental: When you tell them you'd like your relationship to move beyond friendship, you get a look of surprise in return. The person tells you that while you're a nice person, they don't think a relationship would work out because you're not really their type.

Control: You decide to tell them you'd like your relationship to move beyond friendship.

3) You've just finished a second-round interview at a place that seems like your dream job. The work sounds really interesting, the people there are friendly, and the salary is very competitive. You haven't had the best success interviewing at other places, but this one seems different. You feel like you connected well with the people you interviewed with, and they seemed to be impressed with your experience and communication skills. At the end of the day, the person in charge of hiring decisions smiles, shakes your hand, and tells you that you're in their top group of applicants; they'll let you know within the week whether you've got the job.

Story Endings:

Experimental: The next day, your phone rings and your Caller ID shows that it's from this potential job. You excitedly pick up the phone, fairly sure at this point that the job is yours. However, the person explains to you that it turns out there were other, better qualified people for the job and an offer will not be extended.

Control: No additional ending

4) You haven't seen your favorite sibling in quite a while, but this weekend you have plans to visit with him or her. When you get there, you are happy to find that you're having a great time, relaxing and enjoying being together again.

Story Endings:

Experimental: This is fine for a while, but then you notice a change. Your sibling starts acting different, and you can't figure out why. Finally, they tell you that the rest of the family is really disappointed in some of the choices you've made recently. Basically, the family chose your closest sibling to let you know of their disapproval, thinking he or she could help you get back on the right track. This is a real surprise to you, to find out that you've failed in their eyes.

Control: The time seems to go by quickly, and eventually you head home, hoping you can visit again soon.

APPENDIX B

Mood Questionnaire

Please think about how you are feeling right now, and write a number for each item below using the following scale:

1 ---------- 2 ---------- 3 ---------- 4 ---------- 5
not at all somewhat moderately very much extremely

___ 1. Happy

___ 2. Embarrassed

___ 3. Annoyed

___ 4. Sad

___ 5. Hopeful

___ 6. Serious

___ 7. Bored

___ 8. Depressed

___ 9. Anxious

___ 10. Confident

___ 11. Relaxed

___ 12. Pessimistic

___ 13. Lighthearted

___ 14. Surprised

___ 15. Irritated

___ 16. Tense

___ 17. Fearful

___ 18. Proud

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