THE ADAPTIVENESS OF POSITIVE SELF-EVALUATIONS

by

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ABSTRACT

The literature includes conflicting conclusions about the adaptiveness of positive self-evaluations. In some studies, positive self-evaluations appear to have beneficial personal and interpersonal outcomes whereas in other studies, they appear to have negative outcomes. This dissertation is an attempt to reconcile these conflicting bodies of research. Using multiple operationalizations and a diverse set of criterion measures, the present study evaluated the adaptiveness of three forms of positive self-evaluation, namely, self-esteem, narcissism, and self-enhancement.

The research design included three modes of measurement: a questionnaire component \((N = 456)\); a peer-rating component \((N = 123)\); and a laboratory component \((N = 94)\). Standard measures of the three forms of positive self-evaluations were used to predict four kinds of maladjustment: self-rated and peer-rated personal and interpersonal maladjustment, as well as defensive reactions to ego-threatening feedback.

Results indicated positive outcomes for high self-esteem but not for narcissism. The subgroup of high self-esteem individuals who were also high in narcissism was especially maladjusted. After the ego-threat induction, high self-esteem individuals exhibited more defensiveness than their low self-esteem counterparts, yet they maintained positive about themselves. Contrary to predictions, narcissists did not show defensive reactions.

The adaptiveness of self-enhancement was addressed by comparing two standard operationalizations in predicting the same set of outcomes. The social comparison operationalization (rating yourself more positively than you rate others) was negatively associated with both self-reported and peer-rated maladjustment. The discrepancy operationalization (rating yourself more positively than others rate you), had positive


associations with maladjustment, with the exception of self-reported personal maladjustment.

Also examined were the interrelations among the three forms of positive self-evaluation. The results indicated that both high self-esteem individuals and narcissists engaged in high levels of self-enhancement behavior. In addition, the mediation analyses demonstrated that self-enhancement can partially account for the association of narcissism with negative outcomes.

Overall the findings of this study help reconcile the debates over the adaptiveness of positive self-evaluations by suggesting that the conflicting findings of the previous studies are due to (a) a failure to distinguish the various forms of positive self-evaluation, (b) the use of different operationalizations, and (c) the use of different criterion measures.
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INTRODUCTION

To say that self-esteem is a basic human need is to say that it makes an essential contribution to the life process; that it is indispensable to normal and healthy development; that it has value for survival.


People with a high opinion of themselves could pose a far greater threat to others than those with low self-worth ... those with high self-esteem tend to damage other people, either because they are reckless and dangerous or because they are unpleasant.

Nicolas Emler - Personality psychologist, (2001, ¶ 2)

Our self-evaluations exert powerful effects on many domains of our lives including our aspirations, our relationships, our emotions, and the way we perceive both ourselves and others. Their importance is reflected in the abundance of research on such concepts as self-esteem, self-enhancement, narcissism, self-deception, positive illusions, and self-presentation.

The first quotation above is consistent with decades of research indicating that positive self-evaluations have an adaptive impact on human motivation, emotion, and behavior. Evidence for this adaptiveness comes from numerous studies involving such outcomes as positive affect, successful adjustment, better performance, better relationships, and lower levels of negative affect and depression (e.g., Avison &

Other lines of research, however, are more consistent with the second quotation in indicating negative consequences of positive self-evaluations. For example, higher levels of self-esteem have been linked to such negative outcomes as defensiveness and aggression (Baumeister, Boden, & Smart, 1996; Heatherton & Vohs, 2000). Other forms of positive self-evaluation have been related to lack of insight (Paulhus, 1991; Raskin, Novacek, & Hogan, 1991a, b), poor task performance (Johnson, 1995), and interpersonal problems (e.g., Colvin & Block, 1994; Colvin, Block, & Funder, 1995; Paulhus, 1998).

Varieties of positive self-evaluation

Rather than accept the notion that positive self-evaluations can have both adaptive and maladaptive consequences, most writers have reconciled the contradictory findings by making distinctions among various forms of self-esteem or distinguishing it from other forms of positive self-evaluation such as narcissism and self-enhancement. In this thesis, the term “positive self-evaluation” is used as the generic term to include high self-esteem, narcissism, and self-enhancement. Some version of the debate over adaptiveness is evident in the literature on each of these three forms.

Varieties of high self-esteem

Definitions of self-esteem vary but in the present research one common tradition in defining self-esteem as a relatively-enduring global feeling about the self (e.g., Brown, 1998; Rogers, 1961; Rosenberg, 1965)1 was followed. Attempts to distinguish among groups of high self-esteem individuals have a long history. Different theoretical

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1 See Appendix I for most widely used definitions and measures of self-esteem.
approaches to the issue were offered by different researchers: Defensive vs. genuine self-esteem (Block & Thomas, 1955; Bushman & Baumeister, 1998; Coopersmith, 1959; Horney, 1950; Rhodewalt & Morf, 1995; Schneider & Turkat, 1975; Smalley & Stake, 1996); implicit vs. explicit self-esteem (Abend, Kernis, & Hampton, 1999; Bosson & Swann, 1998; Jordan, Spencer, & Zanna, 2002; Spalding & Hardin, 1999); contingent vs. non-contingent self-esteem (Crocker & Wolfe, 2001; Deci & Ryan, 1995); unstable vs. stable self-esteem (Greenier, Kernis, & Waschull, 1995).

Each of these approaches has yielded evidence supporting the utility of its distinction; that is, each has produced results showing that the two groups of high self-esteem participants differ on some meaningful outcome measure. These distinctions all have a similar flavor (i.e., one form of high self-esteem is healthier than the other), but the distinction between them is often quite vague. In this dissertation, the terminology secure high self-esteem and insecure high self-esteem is used to refer to the constellation of these fuzzy constructs and the distinctions between them. Accordingly, secure high self-esteem refers to a form of self-esteem based on positive self-feelings that are secure, genuine and stable. Insecure high self-esteem, on the other hand, is characterized by self-views that are generally unstable, overly sensitive, and defensive.

Narcissism

The narcissistic personality is characterized by self-focus, grandiosity, and positive self-evaluations (e.g., Kernberg, 1980). The debate over adaptiveness has been captured in the phrase “paradoxes of narcissism” (Morf, & Rhodewalt, 2001, p. 177). For example, although narcissism appears to have adaptive personal outcomes such as low neuroticism, low anxiety and low depression (Emmons, 1984; Raskin, & Novacek,

Taking the heterogeneity approach, several researchers have addressed the paradox of narcissism by explicitly making a distinction between adaptive and maladaptive aspects of narcissism (Emmons, 1987; Raskin & Novacek, 1989; Rhodewalt & Morf, 1995; Wink, 1991). Research to support this claim requires taking apart a questionnaire to form adaptive and maladaptive subscales (e.g., Watson et al., 1987).

Self-enhancement

The self-enhancement literature has witnessed a parallel debate. In their influential paper on the adaptiveness of the positive illusions, Taylor and Brown (1988) argued that viewing oneself in unrealistically positive terms promotes mental health. However, critics of their position (e.g. Colvin & Block, 1994; Paulhus, 1998) disagreed with their argument on the adaptive value of unrealistically positive evaluations, and suggested that self-enhancement is indicative of an enduring personality profile marked by narcissism and self-deception. Their criticisms centered on the operationalization of self-enhancement (i.e., self-ratings where participants claimed to be above-average on a set of positive attributes) and the self-report outcomes used by the positive illusions perspective. Thus, the critics operationalized self-enhancement as the tendency to overestimate one’s positivity relative to a credible criterion (e.g., Colvin, Block, & Funder, 1995; John & Robins, 1994) and insisted that independent, external measures (e.g., peer-ratings, IQ tests, etc.) be used as criteria for adaptiveness. Despite numerous
studies on self-enhancement, there has been no research that attempted to tackle the
controversy on the adaptiveness of self-enhancement by including multiple
operationalizations of self-enhancement and linking them to multiple criterion measures
in the same study\textsuperscript{2}.

\textit{Overlap among the constructs}

The constructs of high self-esteem, narcissism, and self-enhancement are so
closely related that they are sometimes used interchangeably. For example, in their
extensive review of the self-esteem literature, Baumeister, Campbell, Krueger and Vohs
(2003) discussed findings from studies where self-enhancement was the predictor along
with studies using self-esteem or narcissism as predictors. Although Baumeister and
colleagues acknowledged the heterogeneity of the concepts, they did not qualify their
conclusions nor attempt to organize the findings with respect to those different concepts.

In fact, the popular measures of these constructs do show positive associations but
they are only moderate in size. Nonetheless, it is not surprising that the constructs have
been confused in the past given that various key aspects seem to overlap. For example,
both high self-esteem and narcissistic individuals have been shown to engage in self-
enhancement behavior. Both narcissism and insecure self-esteem are associated with
defensiveness. A clearer distinction requires a more detailed review, which follows
below.

\textsuperscript{2} To date, there are only two published studies (i.e., Kwan, John, Kenny, Bond, & Robins, 2004; Taylor,
Sherman, & Lerner, 2003) that included both operationalizations of self-enhancement together in the same
study. The present research was designed before the publication of those articles.
Overlap among the controversies

The issues regarding the adaptiveness of these different forms of positive self-evaluation are inter-related in several ways. First, possessing high self-esteem is often used as a criterion measure of adjustment in self-enhancement research (e.g., Taylor & Brown, 1988; Taylor, Lerner, Sherman, Sage, & McDowell, 2003). Self-esteem measures traditionally were designed with the assumption that high self-esteem is a sign of healthy adjustment and successful adaptation to life (Baumeister, Boden, & Smart, 1996). A positive attitude toward the self or positive self-regard has been considered among the criteria of positive mental health (Jahoda, 1958; Jourard & Landsman, 1980).

However, if there is more than one type of high self-esteem, and some of these (i.e., secure high self-esteem) have more positive outcomes than others (i.e., insecure high self-esteem), then using self-esteem scores as an indicator of mental health is problematic. Hence, an investigation of the associations of self-enhancement with secure and insecure high self-esteem might have implications for the controversy on the adaptiveness of self-enhancement.

Nonetheless, the possible causal relations among self-esteem, narcissism, and self-enhancement must be considered. Scores on self-esteem scales might partly be determined by individual differences in self-enhancement. Part of the narcissistic personality is the tendency to compensate for self-doubt by engaging in self-enhancement (Bosson, Brown, Zeigler-Hill & Swann, Jr., 2003; Raskin, Novacek, & Hogan, 1991). Some researchers have argued that individuals with insecure high self-esteem tend to engage in self-enhancement strategies in order to protect their self-esteem (e.g., Horney, 1950; Raskin, Novacek, & Hogan, 1991).
Summary

So far, the key elements in the dissertation have been introduced without providing an overwhelming amount of detail. In the rest of this document, the adaptiveness of positive self-evaluations is addressed in relation to the each of the constructs discussed above. After reviewing the literatures on the adaptiveness of high self-esteem, narcissism and self-enhancement, new research designed to help reconcile the controversies in each literature is presented. The inter-relations among these important forms of positive self-evaluation are also examined.


Achieving and maintaining high self-esteem have been assumed to be among the most fundamental psychological needs (e.g., Rogers, 1951; 1959, Taylor & Armor, 1997). Empirical research has documented the many adaptive and affective benefits of high self-esteem. As noted earlier, however, the more recent self-esteem literature has increasingly acknowledged the notion that people who claim to feel good about themselves might be separated into two groups, one more maladaptive than the other. This section begins with review of the self-esteem literature to elucidate those outcomes that led researchers to conclude that high self-esteem is a heterogeneous construct, followed by a review of the adaptive outcomes associated with each subgroup.

The Nature of High Self-Esteem

The bright side

Baumeister (1993) commented that people with high self-esteem are no mystery: “They generally want and expect to succeed, and they generally want and expect other
people to like them, even to admire them. They approach new situations with a confident optimism that helps them to thrive.” (p. viii). Empirical research has demonstrated a robust link between self-esteem and better functioning in various psychological domains (Kling, Hyde, Showers, & Buswell, 1999). In numerous studies, high self-esteem has been associated with higher levels of positive affect and successful adjustment, and lower levels of negative affect and depression (e.g., Avison & McAlpine, 1992; Brage & Merdith, 1994; Brown & Mankowski, 1993). Evidence suggests that high self-esteem people have positive, well-anchored, and secure feelings of self-worth and are satisfied with themselves (Greenier et al., 1995; Kernis, 2000). They have confidence in their skills and abilities.

According to this portrayal of high self-esteem, which is consistent with the writings and research by humanistically-oriented clinical and personality psychologists (e.g. Rogers, 1951; 1959), these individuals are accepting of their weaknesses and they are satisfied being on an “equal plane with others” (Rosenberg, 1995). Since their feelings of self-worth are built on solid foundations, their experiences of positive and negative outcomes do not strongly implicate their global feelings of self-worth (Kernis & Paradise, 1999).

In sum, from this perspective, individuals characterized by high self-esteem have secure feelings of self-worth that prove adaptive throughout their lives. According to Baumeister, Campbell, Krueger and Vohs (2003): High self-esteem serves “as a stock of positive feelings that can be a valuable resource” (p. 37). These positive feelings lead to greater initiative and render them less vulnerable to failures and stress.
The dark side

In contrast to the above depiction of high self-esteem as an adaptive construct, Baumeister and colleagues have challenged the adaptive view of high self-esteem. They point to research that shows the negative consequences of high self-esteem; one example is higher levels of aggression (Bushman & Baumeister, 1998) and prejudice against out-group members (Crocker, Thompson, McGraw, & Ingerman, 1987). Those with high self-esteem also set risky goals (i.e., goals that exceed their performance capabilities) and lead to prolonged failure. They act in an aggressive and defensive fashion when they are faced with an ego-threat (Baumeister, Heatherton, & Tice, 1993; Vohs & Heatherton, 1999). In contrast to the adaptive view, this approach suggests that high self-esteem individuals may not be as secure as assumed and that their engagement in various types of self-protective or self-enhancement strategies may be designed to protect their self-esteem (e.g., Horney, 1950). Hence, high self-esteem individuals will be more likely to engage in self-enhancement strategies and react defensively to a wide variety of negative self-relevant events.

Research supporting this maladaptive perspective has shown that high self-esteem individuals self-handicap by creating obstacles for the purposes of enhancing the potentially positive implications of successful performance (Tice, 1991). They display more self-serving attributions (Fitch, 1970). They also tend to derogate out-group members who pose a threat to their in-group (Crocker et al., 1987), and create less fortunate others (by derogating them) for the purposes of downward comparison (Gibbons & McCoy, 1991). Moreover, when their egos are threatened, high self-esteem individuals are likely to employ maladaptive self-regulatory processes (e.g. setting
inappropriately risky goals) which lead to unnecessary performance declines (Baumeister, Heatherton, & Tice, 1993). In their review of assorted bodies of research, Baumeister, Smart and Boden (1996) also concluded that aggression results when a favorable and even inflated view of the self is challenged or attacked by other people (i.e., a phenomenon that they call “threatened egotism”).

These and related findings imply that high self-esteem individuals are “especially caught up in how they feel about themselves” (Kernis, 2003, p.3), and they will engage in strategies to bolster, maintain and enhance their feelings of self-worth in their “insatiable quest for self-worth” (Crocker & Nuer, 2003, p.31). From this perspective, high self-esteem reflects an aggressively self-enhancing presentational style characterized by self-aggrandizing and self-promotion (Baumeister, Tice, & Hutton, 1989). In short, this perspective suggests that high self-esteem individuals are not very secure in their feelings of self-worth and that a variety of maladaptive outcomes are the result.

This complexity in the profile of high self-esteem individuals makes it difficult to agree with Baumeister’s (1993) assertion that people with high self-esteem are “no mystery” (p. viii). Rather than assuming that each of these individuals has a single complex personality, another way to reconcile the perspectives is separate them into two groups.

Secure and Insecure Types of High Self-Esteem

Although high self-esteem individuals are thought to be secure, some may be more secure than others. The research by Salmivalli et al. (1999) highlights this distinction in a striking way. In a large sample of over 300 adolescents, the relationship between self-esteem and bullying was examined. They collected data on both self-
evaluated and peer-evaluated self-esteem, peer ratings of defensive egotism (i.e. grandiose, self-enhancing attitude coupled with defensiveness in response to criticism), as well as a number of behavioral measures. They used these various measures of self-esteem to construct categories of defensive high self-esteem, genuine high self-esteem and low self-esteem in the following manner: Defensive high self-esteem students were characterized by very high scores on defensive egotism with above average scores on self-rated and peer-rated self-esteem; genuine high self-esteem students were identified by high scores on both self-rated and peer rated self-esteem, but not on defensive egotism and; low self-esteem students had low scores on all three measures.

The findings confirmed the heterogeneity of high self-esteem. Students with defensive high self-esteem were more likely to be bullies or assist bullies, while genuine high self-esteem students were more likely to defend the victims of bullying. Low self-esteem students, meanwhile, were more likely to be victimized by bullies.

A similar pattern of results was reported by Lobel and Levanon (1988). Children who cheated the most and who cheated the least both came from the high self-esteem group. In both the Salmivalli et al. (1999) and Lobel and Levanon (1988) studies, the authors used other measures (namely defensive egotism and need for approval, respectively) along with the self-esteem measure to partition the two groups of high self-esteem participants. This suggests the need to consider additional variables when looking at the relations between self-esteem and various outcome variables.

In short, taken together the findings on the heterogeneity of high self-esteem suggest that people who report to have favorable evaluations of themselves can be separated into two groups. One group possesses secure high self-esteem, which is
associated with positive outcomes and is based on positive self-feelings that are sound and stable. The other group possesses insecure high self-esteem, which is related to undesirable outcomes and is based on defensive and narcissistic self-views that are fragile and overly sensitive.

Although the distinction between secure and insecure high self-esteem has been conceptualized in a number of ways, most approaches converge on the same notion; compared to their secure counterparts, those with insecure high self-esteem react defensively in face of negative feedback and therefore show more emotional instability.

Implicit vs. explicit self-esteem. One approach to distinguishing secure from insecure high self-esteem is to consider the discrepancy between conscious and non-conscious feelings of self-worth. Individuals who report favorable self-evaluations, yet simultaneously hold relatively negative implicit associations of the self are thought to possess insecure high self-esteem (Bosson et al., 2003; Jordan, Spencer, Zanna, 2002; Spalding & Hardin, 1999). Recently, Jordan, Spencer, Zanna, Hoshino-Browne and Correll (2003) investigated the role of correspondence between implicit and explicit self-esteem in distinguishing between secure and insecure high self-esteem. They operationalized implicit self-esteem by scores on Implicit Associations Test, and used narcissism (Study 1), in-group bias in the minimal group paradigm (Study 2) and cognitive dissonance reduction (Study 3) as forms of defensiveness as the dependent variables. Their results indicated that individuals who possessed high explicit and low implicit self-esteem showed higher levels of narcissism, in-group favoritism and cognitive dissonance reduction when compared to individuals who were high on both implicit and explicit self-esteem and individuals who were low on both. Even though
there are research findings (e.g., Abend, Kernis, & Hampton, 1999; Bosson & Swann, 1998; Jordan, Spencer, & Zanna, 2002; Jordan et al., 2003) that support the distinction between implicit and explicit self-esteem, the measures of implicit self-esteem are far from perfect; they do not correlate with each other, and they tend to correlate minimally, if at all, with explicit self-esteem (Bosson, Swann, & Pennebaker, 2000).

**Contingent vs. non-contingent self-esteem.** In a second approach, Deci and Ryan (1995) define insecure self-esteem as “the feelings about oneself that result from – indeed, are dependent on – matching some standard of excellence or living up to some interpersonal or intra-psychic expectations” (p.32). In contrast, secure self-esteem refers to “more stable, more securely based on a solid sense of self” (p.32). Thus, people with secure high self-esteem have well-anchored and secure feelings of self-worth. Their self-esteem is not contingent upon success or failure outcomes, and they do not respond defensively in the face of failure feedback because they do not see specific outcomes as indicators of their worth. In contrast, individuals who possess insecure high self-esteem are likely to be ego-involved and continuously focused on their contingencies of self-worth. Because their self-worth is always on the line, they react defensively when they are presented with threatening self-relevant feedback, and engage in various self-enhancing and self-protective strategies. Paradise and Kernis (1999) investigated the effects of overall contingency of self-esteem in predicting the intensity of anger following an ego-threat. They assessed contingent self-esteem with a 15-item Likert self-report measure (The Contingent Self-Esteem Scale, Paradise & Kernis, 1999), along with self-esteem level and stability of self-esteem. Their findings showed that for participants with more contingent self-esteem the experience of anger was more intense.
While Deci and Ryan (1995) focus on whether contingencies per se are operative, Crocker and Wolfe (2001) recently suggested a model of contingencies of self-worth. They define a contingency of self-worth as "a domain or category of outcomes in which a person has staked his or her self-esteem, so that the person's view of his or her value or worth depends on perceived successes or failures in that domain" (p. 594). Crocker and Wolfe (2001) proposed seven contingencies of self-worth: approval, appearance, family support and competition, which are more interpersonal, as well as more internal contingencies like virtue, God's love and competency. They note that self-threatening information in domains of contingency may be quite painful, and thus might spur defensiveness in relation to the issue of secure versus insecure high self-esteem.

**Unstable vs. stable high self-esteem.** Another approach that contributes to an understanding of different types of high self-esteem is based on the degree to which individual's contextually-based feelings of self-worth fluctuate across time and situations (Greenier et al., 1995). Secure high self-esteem individuals are thought to possess stable high self-esteem, whereas insecure high self-esteem individuals "possess positive, yet fragile and vulnerable feelings of self-worth that are internally generated (e.g. reflecting on one's earlier interactions with others) or externally provided (e.g. a positive evaluation)" (Kernis, 2003, p.10)

Kernis et al. (1998) investigated the relation of stability and level of self-esteem with subsequent increases in depressive symptoms due to daily hassles. After controlling for self-esteem level, people with unstable self-esteem experienced greater increases in depressive symptoms than people with stable self-esteem. In contrast, self-esteem level was not as predictive of depressive symptoms. Research has also demonstrated that, when
compared to stable high self-esteem individuals, people with unstable high self-esteem are more defensive as reflected in their responses of anger and hostility; presumably those reactions function to restore impaired self-feelings (Felson, 1984). Kernis, Grannemann and Barclay (1989) reported that anger and hostility scores were the highest for unstable high self-esteem individuals and the lowest for stable high self-esteem individuals, while low self-esteem people fell in between these two groups. There are also studies showing that unstable high self-esteem individuals are more self-aggrandizing than individuals with stable high self-esteem (e.g. Kernis et al., 1997; Kernis, Grannemann & Barclay, 1992).

Recently, Paradise and Kernis (1999) explored the implications of stability of high self-esteem for the psychological health and well being in a sample of college students. The authors used Ryff’s (1989) measure of psychological well-being, which is composed of subscales assessing self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. Their findings showed that, compared to individuals with unstable high self-esteem, stable high self-esteem individuals reported higher autonomy, environmental mastery, purpose in life, self-acceptance, and positive relations with others.

Defensive vs. non-defensive self-esteem. A fourth way to distinguish between secure and insecure high self-esteem relates to the question of whether some high self-esteem people are misconstruing their true self-feelings (Kernis, 2003). This distinction was originally proposed by Horney (1950), Coopersmith (1959) and Schneider and Turkat (1975). They presumed that insecure high self-esteem was related to increased efforts to weaken self-threatening information and to an emphasis on personal strengths
unrelated to the content of threat. Some individuals were thought to report positive self-evaluations as part of a defensive reaction to shield the self from conscious awareness of self-doubts (Coopersmith, 1959). Historically, secure and insecure high self-esteem were distinguished by responses to the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960), as advocated by Schneider and Turkat (1975). It was presumed that insecure high self-esteem was reflected in high self-esteem scores coupled with high social desirability scores, while high self-esteem scores coupled with low social desirability scores reflected secure high self-esteem. More recently, however, Paulhus (1991) refined the secure versus insecure high self-esteem approach by suggesting a distinction between deception of others (i.e. impression management) and self-deception. According to this approach, individuals who have a strong desire for being accepted by others would deliberately misrepresent their feelings by engaging in impression management; that is, they purposefully tailor their answers to create a positive, “socially conventional, dependable persona” (Paulhus, 1991, p.21). Self-deceptive positivity, on the other hand, refers to an honest, but overly positive, self-representation. High self-esteem individuals who are deceiving themselves about inner feelings of worthlessness will engage in verifiable distortion on certain forms of self-report (Paulhus, 1988).

**Narcissism plus high self-esteem.** The final approach to the distinction between secure and insecure high self-esteem is to measure the joint effects of narcissism and self-esteem. As reviewed earlier, both narcissism and high self-esteem are associated with positive self-views. The two constructs overlap partially and show moderate positive intercorrelations as indicated by a recent meta-analysis ($r = .29$, $p < .001$, Campbell, 2001). Even though both represent positive self-evaluations, they are dramatically
different constructs (Campbell, Rudich, & Sedikides, 2002; Rhodewalt & Morf, 1995). Rhodewalt and Morf (1995), in their research on the self and interpersonal correlates of the Narcissistic Personality Inventory (NPI), underlined the complex relation between the narcissism and self-esteem. Narcissism seems to be indicative of more than a genuine positive self-view, and that it is of great importance to test the independent effects of narcissism and self-esteem.

Conceptually, the combination of narcissism and high-self esteem seems to best capture the notion of insecure high self-esteem; that is, a vulnerable individual who reacts to ego threat in a defensive fashion by self-enhancing. In this case, it is the interaction between the two that should predict adaptive or maladaptive outcomes.

Another type of joint effect of narcissism and self-esteem results from entering them together in a regression equation predicting an adaptive outcome. If the overlap is removed, one has more purified measures of each. This approach was taken in a series of studies reported by Paulhus, Robins, Trzesniewski and Tracy (2004). Results showed that the link between self-esteem, narcissism and aggression could be characterized as a suppressor relationship. This characterization suggests that the relationship between two predictors is hiding or suppressing their relationship with the outcome variable, which would be larger or possibly of opposite direction were they not correlated (Cohen, Cohen, West & Aiken, 2003). The results of their study supported this hypothesis, and across three samples, self-esteem was negatively associated with anti-social tendencies when they controlled for narcissism. Raskin, Novacek, and Hogan (1991) also found the suppression effect, where partialing out narcissism, along with grandiosity and dominance, led to a negative association between hostility and self-esteem.
Smalley and Stake (1996) studied the effects of self-esteem and narcissism on responses to ego-threatening feedback. They found that, following bogus negative feedback, self-esteem was not associated with higher levels of hostility. In fact, when controlled for narcissism, self-esteem was inversely related to hostility. Thus, Smalley and Stake (1996) concluded that it was important to distinguish between healthy and defensive elements of self-esteem. In his study on the adaptiveness of trait self-enhancement, Paulhus (1998) also demonstrated the separate effects of self-esteem and narcissism. He investigated reactions to self-enhancers in two longitudinal studies where he had groups of 4-6 participants meet weekly for a total of 7 weeks. High self-esteem (controlled for narcissism) was associated with being rated favorably in both the first and the last week of the study. Narcissists, however, were initially perceived favorably but were despised by the last week.

In short, the inclusion of narcissism along with self-esteem as joint predictors appears promising as an operationalization of the distinction between secure and insecure high self-esteem. It also allows for an evaluation of the independent effects of narcissism and high self-esteem3.

3 Some researchers suggested measuring narcissism instead of self-esteem (Baumeister et al., 2003; Stucke & Sporer, 2002) because of the aforementioned similarities between the narcissism and insecure high self-esteem. In two studies, Stucke and Sporer (2002) tested the link between self-images that were extremely positive (grandiose), unstable and fragile (namely narcissism) and aggression following an ego-threatening feedback. Their results showed that narcissism coupled with low self-concept clarity was indeed associated with higher levels of aggression.
Summary

This review of the research on the various forms of high self-esteem supports the notion that individuals who claim to have positive views and feelings about themselves should be separated into (at least) two groups. The various conceptual distinctions regarding the heterogeneity of high self-esteem all come to a similar conclusion, namely, that one form of high self-esteem is healthier than the other. The term secure high self-esteem is used to describe the form of self-esteem based on positive self-feelings that are secure, genuine and stable. The term insecure high self-esteem, on the other hand, is used to describe self-views that are unstable, overly sensitive, and defensive.

Part 2: Research on the Adaptive Value of Narcissism

Narcissism is another common term for a positive self-evaluation but its construct differs dramatically from that of high self-esteem. As discussed by Freud (1914/1957), the narcissist’s positive self-evaluation is said to have an exaggerated quality to it. The exaggeration aspect is said to derive from an inner insecurity. Thus the narcissist’s positive self-view needs constant re-affirmation and reinforcement (Kohut, 1971). According to the Diagnostic and Statistical Manual of Mental Disorders (4th ed. [DSM–IV]; American Psychological Association, 1994), narcissists display a pervasive pattern of grandiosity, a tendency to exploit others for their own gains and a need for extreme amounts of attention and admiration.

Although the construct of narcissism originally derives from a clinical tradition, it was recently brought into the subclinical literature by Raskin and Hall (1979). The majority of studies in social and personality psychology have examined the correlates of
narcissism in the general population using the Narcissistic Personality Inventory (NPI, Raskin & Hall, 1979) as an individual difference measure of narcissism. The NPI measures narcissism along a continuum from pathological narcissism, as represented by extreme manifestations, to narcissism as a personality trait, as represented by less extreme forms. (For reviews, see Emmons, 1987; Morf & Rhodewalt, 2001; Rhodewalt & Morf, 1995).

Following Freud, the assumption is that narcissistic self-evaluation is maladaptive even at the subclinical level. Below is a brief summary of the literature relevant to that assumption.

*Self-report outcomes*

A number of studies investigated the relations of narcissism with self-report outcomes. Consistent with the inflated self-image of narcissists, the NPI correlates positively with high self-reported self-esteem (e.g., Emmons, 1984, 1987; Raskin, Novacek, & Hogan, 1991a; Raskin & Terry, 1988; Rhodewalt & Morf, 1995). Similarly, the NPI is associated with self-focused attention (Emmons, 1987), self-referencing (Raskin & Shaw, 1988), need for uniqueness (Emmons, 1984), need for power (Carroll, 1987), and with lack of discrepancy between actual and ideal self (Rhodewalt & Morf, 1995). Other studies, in turn examined the strategies that the high scorers on the NPI used to maintain their inflated self-views. For example, the NPI has been linked to self-enhancement, particularly on agentic traits (Campbell, Rudich, & Sedikides, 2002). There are also findings indicating that these individuals fantasize about fame and power (Raskin & Novacek, 1991a), make situational attributions following failures (e.g., Campbell,
Reeder, Sedikides, & Elliot, 2000), and interpersonally seek to dominate others (Carroll, 1987).

Other findings indicate that high scorers on the NPI report being happier, less socially anxious, and more energetic than the low scorers (e.g., Emmons, 1984; Raskin & Novacek, 1989; Raskin & Terry, 1988; Rhodewalt, Madrian & Cheney, 1998). Despite these positive outcomes, narcissists also display greater positive mood variability, mood intensity, and self-esteem instability than do less narcissistic individuals (Rhodewalt, Madrian & Cheney, 1998).

In terms of the self-reported interpersonal outcomes, the NPI has been found to be negatively associated with empathy and perspective taking (Watson, Grisham, Trotter, & Biderman, 1984), agreeableness (Rhodewalt & Morf, 1995, 1998), need for intimacy (Carroll, 1987), commitment (Campbell & Forester, 2002), and intimacy (Carroll, 1987). Taken together these findings support the claim that individuals who score high on the NPI lack concern for interpersonal relationships.

*Peer-rated outcomes*

There are fewer studies that have examined the peer-rated outcomes of narcissism. In a longitudinal study, Paulhus (1998) examined the short- and long-term consequences of narcissism. The results showed that although the narcissists made positive impressions initially, in the long-term their peers rated them negatively. More specifically, high scorers on the NPI were initially seen as agreeable, well-adjusted and competent, whereas by the end of the 7 weeks they were rated as arrogant and hostile. In another study, narcissism was related to spouse-ratings of personal and interpersonal adjustment (Wink, 1991). Individuals who were high on narcissism were described by
their spouses as bossy, argumentative, arrogant, intolerant, and conceited. The NPI is also related to objective measures of self-enhancement. It correlates positively with the discrepancy between self and peer ratings of negative outcomes (e.g., Colvin, Block, & Funder, 1995; John & Robins, 1994; Robins & Beer, 2001) as well as with the tendency to claim knowledge about nonexistent items (Paulhus et al., 2003). The tendency of narcissistic individuals to self-enhance appears to help them perform well in certain performance settings. More particularly, narcissistic individuals perform well when the task goal is challenging, when there is performance pressure and when their performance could be evaluated by others (Wallace & Baumeister, 2002). In other words, narcissism has adaptive performance outcomes in these particular situations whereby narcissistic individuals rise to the challenges and perform well.

Ego threat: Reactions to negative feedback

A number of studies investigated the reactions of narcissistic individuals to ego-threat. In one study by Morf and Rhodewalt (1993), participants were given feedback that they had either been slightly or substantially outperformed on an ego-relevant task. Individuals who scored higher on the NPI reacted by rating the outperforming other more negatively than less narcissistic individuals. In another study, following feedback (success or failure), more narcissistic participants responded with greater changes in anxiety, anger, and self-esteem than those who were less narcissistic (Rhodewalt & Morf, 1998).

Bushman and Baumeister (1998) investigated the link between self-esteem, narcissism and aggression in two laboratory studies. They measured aggression in different situations and correlated the measures of aggression with self-esteem and
narcissism. Although there were no significant correlations between aggression and self-esteem, the combinations of narcissism and ego-threat was a significant predictor of aggression. Stucke and Sporer (2002) similarly tested the link between narcissism and aggression following an ego-threatening feedback. Their results showed that narcissism coupled with low self-concept clarity was associated with higher levels of aggression. In sum, the pattern of findings indicates that more narcissistic individuals react to ego-threat more negatively than their less narcissistic counterparts.

*Adaptive and Maladaptive Components of the NPI*

Because they noted some positive outcomes, a number of researchers have explicitly made a distinction between adaptive and maladaptive aspects of narcissism (Emmons, 1987; Raskin & Novacek, 1989; Rhodewalt & Morf, 1995; Wink, 1991). These researchers looked within the NPI itself to subdivide the different aspects of narcissism. Factor analyses yielded certain factors of the NPI (e.g., Leadership/Authority, Self Absorption/ Self-Admiration) that seem to reflect an adaptive aspect of narcissism, while others (particularly Exploiteveness/Entitlement) seem to reflect the maladaptive aspects (Rhodewalt & Morf, 1995). When these factors were used separately to predict outcomes, the adaptive component proved adaptive, or at least not harmful (Emmons, 1984; Watson et al., 1987).

Taken together, studies examining the outcomes of narcissism suggest that narcissism is a complex trait with mixed outcomes. Although it appears to have a number of positive self-reported outcomes, it is associated with negative peer-rated outcomes. It is positively related to personal adjustment whereas it is detrimental to interpersonal functioning. In addition, narcissism has long-term costs as opposed to its short-term
benefits. Finally, the most widely-researched measure of narcissism, the NPI, taps adaptive as well as maladaptive aspects of the construct.


Self-enhancement refers to the unrealistic exaggeration of one’s positive features. The possible adaptiveness of this propensity has become a continuing source of debate as well as research. One side of the debate holds that viewing oneself in unrealistically positive terms (i.e., having positive illusions) is adaptive both personally and interpersonally (e.g., Brown, 1986; Taylor & Brown, 1988; Taylor & Armor, 1997). The other side disputes that claim arguing instead that a chronic tendency to self-enhance indicates a maladaptive personality profile that is interpersonally offensive (e.g., Colvin & Block, 1994; Colvin, Block, & Funder, 1995; Paulhus, 1998; Robins & Beer, 2001; Shedler, Mayman, & Manis, 1993).

The Taylor & Brown proposition

The highly cited review by Taylor and Brown (1988) set off the contemporary debate about the adaptiveness of positive illusions. They argued, in short, that viewing oneself in unrealistically positive terms is not only common, but adaptive in a variety of ways. Their review pointed to illusions in people’s tendencies to: (a) perceive an exaggerated degree of control over the environment, (b) be unrealistically optimistic, and (c) hold overly positive self-evaluations. The third one of Taylor and Brown’s (1988) related...
positive illusions -- overly-positive self-evaluations -- has received the most attention under the label *self-enhancement*. It is also a primary concern in this dissertation. Their assertion was, for the most part, based on research that indicate that people have a tendency to emphasize the positive rather than the negative when they describe themselves in comparison to how they describe others (Taylor & Brown, 1994). They labeled this tendency as *an illusion* based on their argument that it is not possible for most people to be better than others. In support of their position, they presented associations between self-enhancing tendencies and such adaptive criteria as self-esteem, well being, the ability to care for others and the ability to engage in productive and creative work. For example, Brown (1986) showed that individuals who claimed to be above average across a wide variety of traits also scored high on a standard self-esteem scale.

*The critics*

This assertion that self-enhancement is healthy conflicts with traditional conceptions of mental health that emphasize the importance of perceiving oneself accurately (e.g., Allport, 1937; Jahoda, 1958; Rogers, 1959). Critics strongly disagreed with Taylor and Brown's position claim for the adaptiveness of self-enhancement, arguing instead that it is maladaptive. First, Colvin and Block (1994) disputed both the logic and evidence presented for the adaptive value of self-enhancement. They acknowledged that positive illusions might be helpful in mood regulation and, therefore, might provide temporary relief from negative affect. But they expressed concern with the notion that self-enhancement could function as a beneficial long term strategy.
The critics also found fault with the studies reported by Taylor and Brown (1988) because most lacked a reality criterion against which the validity of the self-descriptions could be evaluated. For example, self-enhancement was typically operationalized by a set of self-relative-to-others ratings (or above-average) on a set of positive attributes. Critics also pointed out the limitation of using self-report outcomes when studying self-report predictors. The problem is that any source of self-favorability bias will contaminate both the predictor and outcome; both will contain a global response bias differentiating people with a positive self-favorability bias from those with a negative self-favorability bias (Colvin & Block, 1994). For that reason, critics have insisted that the criterion measures for adaptiveness be independent, external measures such as peer-ratings or school grades, for example.

Most of the critics operationalized self-enhancement as the tendency to overestimate one’s positivity relative to a credible criterion (e.g., Colvin, Block, & Funder, 1995; John & Robins, 1994). For example, John and Robins (1994) collected self-ratings of performance in a group task. The self-ratings were compared against two criterion measures: (1) others’ ratings of the target’s performance and (2) a concrete measure of success (money earned). Others’ ratings were the average value received by the five peers in the group. The discrepancy between self-ratings and the two criterion measures provided two indicators of self-enhancement. Both indicators correlated substantially with ratings of maladjustment by 11 trained psychologists. Later Robins and Jones (1997), using data from John and Robins (1994), compared participants who showed self-enhancement bias with participants who were relatively accurate and participants who showed self-diminishment bias with respect to adjustment. Their
analyses showed that individuals who self-enhanced had the lowest adjustment scores among the three groups.

Colvin et al. (1995) followed up the research by John and Robins (1994) with two longitudinal studies and a laboratory study. They assessed self-enhancement by comparing participants’ self-evaluations with trained examiners’ assessments of their personalities. Participants’ self-enhancement scores were then correlated with various judgments of personality traits or observed behaviors by another set of observers. The results of their longitudinal studies showed that self-enhancement was associated with poor social skills and psychological maladjustment 5 years before and 5 years after the assessment of self-enhancement. When placed in a confrontational laboratory situation, self-enhancers were rated very negatively by expert interviewers and peers.

Consistent with these findings, Johnson, Vincent and Ross (1997) reported that the trait of self-deceptive enhancement was related to higher levels of hostility following negative feedback, after controlling for self-esteem. Later, Paulhus (1998) investigated reactions to self-enhancers in two longitudinal studies where he had small groups meet weekly for a total of 7 weeks. Trait self-enhancement was measured by questionnaire measures of narcissism and self-deception. Results showed that, although high self-enhancers were initially perceived favorably, over time, they were perceived more and more negatively by group members. Paulhus concluded that self-enhancement did not lead to uniformly positive or negative outcomes but was a ‘mixed blessing’ (p.1207).

This mixed blessing was also evident in later research reported by Robins and Beer (2001). They showed, in two studies, that self-enhancing tendencies had short-term affective benefits but did long-term damage to self-esteem and task engagement as
disconfirmation of overly positive self-assessments became evident. In their first study, Robins and Beer demonstrated that the discrepancy between self-evaluations of performance in a group task and the mean peer evaluations of performance was related to narcissism, ego-involvement in the task, self-serving attributions and positive affect. College students were followed longitudinally through college to examine the long-term consequences of self-enhancement. The results showed that self-enhancers were more narcissistic and that they declined in self-esteem and well being over time. Using objective indicators of academic performance, Robins and Beer (2001) demonstrated that self-enhancement did not predict higher academic performance or higher graduate rates. Together, these studies are uniform in arguing that, in the long run, self-enhancement is maladaptive.

In the most recent study on self-enhancement, Kwan, John, Kenny, Bond and Robins (2004) compared different approaches to self-enhancement. In addition to the social comparison and discrepancy measures of self-enhancement, they offered a new method that decomposes self-perception into perceiver effect, target effect, and unique self-perception components. Their results indicated that both the discrepancy measure and their novel measure were negatively related to task performance – the only objective outcome included in the study. The social comparison measure failed to correlate with the outcome. These findings dovetail with previous research in revealing the negative consequences of self-enhancement. Although sophisticated, their method requires a specific type of data, namely, a round-robin design where all targets rate each other.

Response to the critics
Taylor and Armor (1997) responded to one of the criticisms. They disputed criticism of the Rosenberg Self-esteem scale as a criterion for adjustment by declaring that self-esteem is inherently a type of adjustment. Feeling good about oneself represents mental health on its own.

More recently, Taylor and her colleagues responded to the critics with a multi-method study (Taylor et al., 2003). They included a wide range of operationalizations of self-enhancement – including the method favored here, that is, self-criterion discrepancy. The criteria for adaptiveness included peer-ratings of mental health. In support of the Taylor-Brown hypothesis, even the discrepancy operationalization showed positive correlates.

Two aspects of the research suggest that those results should be regarded with some skepticism. The validity of a discrepancy operationalization of self-enhancement requires a reliable and valid criterion (Robins & John, 1997). The criterion measure used in the Taylor et al. (2003) study was a single peer rating, rendering the criterion rather unreliable. Moreover, the correlation between the peer-ratings with the self-report was so small that the residualization process (of peer-ratings from self-ratings) removed very little variance from the self-report. Thus, the discrepancy measure was ultimately another self-report of positive traits.

**Self-Enhancement in Agentic and Communal Domains**

In addition to the overall self-enhancing tendencies, researchers have differentiated self-enhancing tendencies in two value domains: agentic and communal

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6 The present research was initiated before the publication of that study.
value systems. Paulhus and John (1998) factor analyzed and summarized the many possible dimensions on which one can self-enhance. Their two large factors of self-enhancement were labelled agentic self-enhancement and communal self-enhancement. Agentic self-enhancement reflects a tendency to see oneself overly talented and socially dominant. It involves inflated self-views in the domains of intelligence, extraversion, and openness. Communal self-enhancement refers to a tendency to hold overly positive self-views in the domains of agreeableness, conscientiousness, and morality.

A number of subsequent studies have exploited this "simplification" of the self-enhancement universe (e.g., Campbell, Rudich, & Sedikides, 2002; Kurman, 2001; Pauls & Stemmler, 2003). For example, Campbell et al. (2002) explored the possibility that the positive self-views of high self-esteem individuals and narcissists might be associated with positivity in different domains. Their results confirmed their predictions in that narcissists engaged only in agentic self-enhancement, whereas high self-esteem individuals engaged in self-enhancement in both domains. Pauls and Stemmler (2003) examined the relationship between self-enhancement and socially desirable responding. Their findings revealed that agentic self-enhancement was related to self-deceptive enhancement, whereas communal self-enhancement was related to the impression management component of socially desirable responding. Even though, to date, no studies have investigated agentic and communal self-enhancement in the context of adaptiveness of self-enhancement, taken together the results from these studies provide substantial support for the importance of considering self-enhancement in the two domains separately besides focusing on the overall self-enhancement.
Part 4: The Present Research

The literatures on high self-esteem, narcissism, and self-enhancement contain inconsistent findings with respect to the adaptiveness of positive self-evaluations. The present research evaluates these claims in a multi-component analysis of issues that are usually analyzed in separate studies.

In the present research, a number of key outcome variables were selected because they were used in previous research on the adaptiveness of positive self-evaluations. The most widely-used criteria of adaptiveness originate from the writings of Allport (1937), Jahoda (1958), and Jourard and Landsman (1980) on criteria of mental health. Allport listed seven characteristics of mental health: specific, enduring extensions of self (i.e., involvement), warm and trusting relationships with others, emotional security and self-acceptance, development of problem-solving skills, self-objectification (i.e., self-insight), and a unifying philosophy of life. Similarly, Jahoda’s (1958) five criteria included positive attitudes toward the self; the ability to grow, develop, and self-actualize; autonomy; environmental mastery in work and social relationships; and integration (i.e., the balance of psychic forces of the id, ego, and superego). Jourard and Landsman (1980) also listed parallel criteria.

In line with the above criteria, researchers have examined both personal and interpersonal consequences of positive self-evaluations using a wide range of outcomes such as happiness and depression (e.g., Avison & McAlpine, 1992; Brage & Merdith, 1994; Brown & Mankowski, 1993), coping (e.g., Greenberg et al., 1992; Bonanno et al., 2002), job and task performance (e.g., DiPaula & Campbell, 2002; Sandelands, Brockner, & Glynn 1984), interpersonal relationships (e.g., Brockner & Lloyd, 1986; Campbell &
Fehr, 1990), defensiveness (e.g., Bushman & Baumeister, 1998; Heatherton & Vohs, 2000), and prejudice against out-group members (Crocker, Thompson, McGraw, & Ingerman, 1987).

To cover most of these, self- and peer-rated personal adjustment measures were included. These measures tapped general well-being including happiness, contentment, and emotional stability. Two measures of interpersonal adjustment were also used. The latter measures related to getting along with others.

The final criterion of adaptiveness included in the present research was reactions to ego-threat. One of the most widely used methods of assessing responses to ego-threat in the literature is measuring cognitive and affective reactions to negative feedback (Swann, Griffin, Predmore, & Gaines, 1987). Cognitive reactions are assessed via items about perceived accuracy of feedback, the diagnosticity of the evaluation technique, and the competence of the evaluator. Affective reactions are measured using items about attraction to the evaluator and emotion words. A number of studies have shown that high self-esteem individuals have less favorable cognitive reactions to negative feedback when compared to their low self-esteem counterparts (Kernis, Cornell, Sun, Berry & Harlow, 1993, Study 1; Swann et al., 1987). Defensive reactions in the face of ego-threatening feedback have also been linked to insecure high self-esteem. In other words, individuals with secure versus insecure high self-esteem are thought respond to ego-threat differently. The former group reacts by exhibiting hostility and aggression towards the source of feedback, whereas the latter group is relatively more willing to accept concrete evidence of their limitations.
Two studies examined the effects of self-esteem and narcissism on cognitive and affective reactions to feedback using similar methods to those of Swann et al. (1987). In a lab study, Kernis and Sun (1994) presented the participants with negative or positive feedback which was ostensibly written by another participant who observed them reading a passage in front of a one-way mirror. The participants were earlier told that the study was designed to investigate the accuracy of first impressions based only on nonverbal information. Upon receiving the feedback, they were asked to rate the accuracy of feedback, the diagnosticity of the evaluation technique (namely the nonverbal technique), the competence of the evaluator, their attraction to the evaluator, and their emotional reactions. The results indicated that both self-esteem and narcissism were related to more favorable reactions following positive feedback and more unfavorable reactions to negative feedback. When examined separately, both narcissism and self-esteem were associated with lower ratings for the diagnosticity of the evaluation technique and for the competence of the evaluator, and somewhat less attraction toward the evaluator. In the hierarchical regressions where both self-esteem and narcissism were predictors however, they were only related to perceiving the evaluator more (less) favorably following positive (negative) feedback. In other words, "...when considered together, the variance shared between them resulted in neither making a unique contribution to some of the reactions assessed (i.e., diagnosticity and attraction)." (Kernis & Sun, 1994, p. 12).

Smalley and Stake (1996) also examined the effects of self-esteem and narcissism on reactions to ego-threat. In their study, the participants were first administered bogus personality and intelligence tests that were presented as reliable indicators of people’s social and intellectual abilities. They then received an evaluation based on these tests
ostensibly written by “a graduate student in psychology who was being trained to do these kinds of analyses.” (p. 487). Reactions to the ego-threatening feedback were assessed via questions and written comments relating to the accuracy, fairness, and the suitability of the test battery, as well as the competence of and value of the evaluator and positive and negative affect measures. The results indicated that self-esteem by itself was only related to negative ratings and negative comments about the test. Once the effect of narcissism was partialed out of self-esteem, however, only the relation between self-esteem and negative comments remained significant. When the comments were coded for hostility, unpartialed self-esteem was not associated with hostility, and partialed self-esteem had a negative association with hostility. In addition high self-esteem was related to more positive and less negative affect. Narcissism scores were related to unfavorable ratings of the test and the evaluator, negative comments about the evaluator, and greater hostility. These effects were not substantially changed when self-esteem was partialed out of narcissism. Narcissism was not associated with positive or negative affect.

The findings from the above studies indicate that reactions to negative feedback represent an important outcome indicative of how high self-esteem individuals and narcissists react to ego-threat. It is also a key outcome in distinguishing between secure and insecure types of high self-esteem.

In sum, following previous research, self- and peer-rated personal and interpersonal outcomes were included to investigate the adaptiveness of positive self-evaluations. Self- and peer-rated personal and interpersonal outcomes included in the present research represent rather long-term consequences, whereas reactions to ego-threat represent relatively short-term consequences of positive self-evaluations. Note that even
though the capacity for productive and creative work, prejudice against out group members, and coping represent other aspects of adaptiveness, no outcome measures reflecting these particular criteria were included in the current study.

Adaptiveness of Self-Esteem and Narcissism and the Heterogeneity of High Self-Esteem

The primary difficulty in establishing the adaptiveness of high self-esteem, from a methodological perspective, is that traditional self-report measures of self-esteem do not lend themselves to making a distinction between secure and insecure high self-esteem. Accordingly, the foregoing review of the approaches to secure and insecure high self-esteem indicates that a) researchers have considered including other measures along with self-esteem and b) that narcissism appears to be the most commonly-used construct with self-esteem in addressing the heterogeneity of high self-esteem. Self-esteem and narcissism researchers, so far, have focused on the independent (main) effects of these two forms of positive self-views by controlling for the effects of one construct when examining the relations of the other with the outcomes. Although the main effects provide valuable information about the relations of positive self-evaluations with the outcomes, they do not allow a classification of high self-esteem individuals as possessing secure versus insecure high self-esteem. In the only study that considered the combination of self-esteem and narcissism, Papps and O’Carroll (1998) compared high self-esteem individuals who were either high or low on narcissism with respect to the experience of anger and aggression. Their results indicated that groups defined by their
extreme scores on self-esteem and narcissism scales reported a greater tendency to experience and express anger than did high self-esteem, low narcissism groups.

In the current research, the possibility that individuals with high self-esteem possess insecure or secure forms of high self-esteem as a function of their levels of narcissism, which draws on the interaction between self-esteem and narcissism, was explored. In other words, the secure versus insecure high self-esteem distinction was operationalized by the self-esteem X narcissism interaction, such that people high in self-esteem (i.e., Rosenberg Self-Esteem Scale, Rosenberg, 1965) and low in narcissism (i.e., Narcissistic Personality Inventory, Raskin & Hall, 1991) possess secure high self-esteem, whereas people who are high in both self-esteem and narcissism possess insecure high self-esteem.

Adaptiveness of Self-Enhancement: Reconciling Social Comparison and Discrepancy Literature Findings

The review of conflicting studies on the adaptiveness of self-enhancement, suggests a possible key to reconciling the two approaches; namely, by considering the way that self-enhancement is operationalized. The positive illusions perspective advocated by Taylor and Brown (1988) is based mainly on studies where self-

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7 The interaction of two variables, in this case self-esteem level and narcissism, signifies that the regression of the criterion variable (e.g., defensiveness) on one of the predictors (e.g., self-esteem) depends upon the specific values of the other predictor (e.g., narcissism) at which the slope of the criterion on the first predictor is measured. Thus, in the current context, the interaction provides information about whether different levels of narcissism (i.e., high or low) affect the association between high self-esteem and the criterion of interest.
enhancement is assessed with ratings of the self in comparison to others. A well-replicated body of research has demonstrated that the majority of people tend to rate themselves above average on lists of evaluative traits (Alicke, 1985; Brown, 1998).

Social comparison index:

Self-enhancement is often scored simply as the proportion of traits on which "above average" was the choice. Others have used a rating scale anchored at one end by "below average" and at the other by "above average" and summed across the set of traits. Here the latter method is preferred and this index is labeled as the social comparison index. Two criticisms have been directed towards this operationalization. The first concerns a potential positive response bias operating on both the self-enhancement and mental health measures. Shared response bias and shared method variance could inflate the relationship between self-enhancement and mental health. The second criticism relates to the fact that self-reports of being better than average ignore the possible accuracy of those claims. In fact, many people who claim to be above average actually are!

The discrepancy index:

The alternative approach to self-enhancement does include a criterion for accuracy. Such methods compare self-perceptions on an evaluative dimension with criteria such as expert clinician judges (John & Robins, 1994), peers (Colvin et al., 1995), IQ tests (Paulhus, 1998), and scholastic performance (Robins & Beer, 2001).

The discrepancy index could be criticized on the basis of impracticality. Whereas the social comparison index can be collected entirely in a self-report questionnaire, the discrepancy index requires a self-report plus an external criterion for reality. The latter is
usually much more difficult to obtain. Moreover, one has to ensure that the criterion is parallel to the self-report. One might question, for example, whether a self-report of intelligence should be compared against an IQ test (Paulhus, Lysy, & Yik, 1998).

To date, there are two published studies (Kwan et al., 2004; Taylor, et al., 2003) that included both operationalizations of self-enhancement together in the same study. Taylor et al., (2003) concluded that both intrapsychic and discrepancy measures predict adaptive outcomes. Unfortunately, the discrepancy measure collected in that research was questionable in that only one peer rating was collected to compare with the self-reports, rendering the criterion rather unreliable. Moreover, its correlation with the self-report was so small that the residualization process removed very little variance from the self-report. Hence, the discrepancy measure was ultimately another self-report of positive traits. The fact that it predicted positive outcomes was therefore guaranteed by its computation. In a more recent study, Kwan et al. (2004) showed that the social comparison and the discrepancy indexes were both related to better self-reported adjustment. However, the results also indicated that, in terms of objective outcomes, the social comparison index did not correlate with performance, and the discrepancy measure showed a negative association with performance. Unfortunately Kwan et al.'s (2004) study did not include any other objective measures of adjustment other than task performance.

The present research was designed before the publication of the articles by Taylor et al. (2003) and Kwan et al. (2004) described above, and its design overcomes the deficits noted above. It included multiple operationalizations of self-enhancement and links them to multiple criterion measures. In particular, it included both an intrapsychic
operationalization of self-enhancement, namely, the social comparison index, and the discrepancy index comparing self with peer-ratings. Both self-report and peer-rated outcome variables were included to assess the relation between self-enhancement and adjustment.

*Relationships among Positive Self-Evaluations*

Even though a number of studies demonstrated the relations of self-esteem and narcissism with self-enhancement (e.g., Campbell, Rudich & Sedikides, 2002; Paulhus, 1998; Rubin & Hewstone, 1998; Taylor & Brown, 1988), the adaptiveness of these different forms of positive self-evaluations, and the respective debates around their adaptiveness are generally discussed in separate literatures. Although self-esteem, narcissism and self-enhancement represent three different types of positive self-evaluations with different outcomes and thus they need to be considered separately, it is important to examine how they are related to each other in the context of the adaptiveness of positive self-evaluations.

Previous research on self-esteem and narcissism indicates that high self-esteem individuals and narcissists are more likely to engage in self-enhancement than low self-esteem individuals and non-narcissists (e.g., Campbell, Rudich & Sedikides, 2002; Paulhus, 1998; Rubin & Hewstone, 1998). However, to date there is only one published study that investigated the relations of secure and insecure high self-esteem with self-enhancement. Bosson et al. (2003) examined the moderating role of implicit self-esteem on the self-enhancing tendencies among people with high explicit self-esteem. Their findings indicated that among people with high explicit self-esteem, those with low implicit self-esteem (i.e. insecure high self-esteem individuals) displayed more unrealistic
optimism, stronger preferences for an overly positive personality profile, and smaller actual-ideal self-discrepancies.

Summary

The current research, by examining self-esteem, narcissism and self-enhancement together, aimed to contribute to an understanding of the adaptiveness of positive self-evaluations literature in three ways. First, it investigated the adaptiveness of high self-esteem, narcissism and self-enhancement using the same set of subjective and objective outcomes. Second, it explored relations of secure and insecure high self-esteem with measures of self-enhancement. Third, it explored the possibility that one form of self-evaluation, that is self-enhancement, plays a mediating role in the associations of high self-esteem and narcissism with maladjustment outcomes.

Hypotheses

Several key issues regarding the adaptiveness of positive self-evaluations were examined in terms of 10 hypotheses. For simplicity, all outcomes were scored in the maladaptive direction (e.g., maladjustment, defensiveness, etc.).

Hypothesis 1: Adaptiveness of High Self-Esteem

The literature reviewed in the Introduction indicates that, on the whole, those with high self-esteem (HSE) are better adjusted than those with low-esteem (LSE). Therefore, across all outcome measures, it was predicted that HSE individuals would appear less maladjusted than LSE individuals.
**Hypothesis 2: Maladaptiveness of Narcissism**

The literature reviewed in the introduction indicates that higher narcissism is associated with more maladaptive outcomes (e.g., Morf & Rhodewalt, 2000). The only clear exception is self-report personal maladjustment (Emmons, 1994; Raskin & Terry, 1988). Therefore, it was predicted that narcissists would score higher on all maladjustment outcomes than non-narcissists -- with the exception of self-report personal maladjustment.

**Hypothesis 3: Adaptiveness of Secure High Self-Esteem**

The literature reviewed above indicates that secure HSE is a form of positive self-evaluation that is related to more adaptive outcomes than is insecure HSE. Nothing in the literature indicates a parallel difference among LSE individuals. Therefore, across all outcome measures, significant interactions of self-esteem with narcissism were predicted such that high narcissism would be particularly detrimental among HSE individuals.

**Hypothesis 4: Laboratory Reactions to Ego Threat**

A. Compared to those with LSE and low narcissism, HSE individuals and narcissists were expected to respond to the ego threat by expressing more defensiveness (Rhodewalt & Morf, 1995; Smalley & Stake, 1999)

B. Compared to those with LSE and low narcissism, HSE individuals and narcissists were expected to remain positive about themselves (Swann et al., 1987).

C. Compared to those with secure HSE, those with insecure HSE were expected to exhibit more defensiveness. Therefore an interaction of SE with NPI was predicted such that, among the HSE individuals, narcissists would show a particularly high level of defensiveness in response to ego threat.
Hypothesis 5: Adaptiveness of Social Comparison Operationalization of Self-Enhancement

As reviewed above, all the research using the social comparison operationalization indicates that self-enhancement is adaptive (e.g., Brown, 1986; Taylor et al., 2003). Therefore, it was predicted that the social comparison operationalization of self-enhancement would be negatively associated with all four types of maladjustment outcomes.

Hypothesis 6: Maladaptiveness of Discrepancy Operationalization of Self-Enhancement

The bulk of previous research on the discrepancy method (e.g., Colvin et al., 1995; Paulhus, 1998; Robins & Beer, 2001) showed that self-enhancement is associated with negative outcomes, if the latter are scored with objective criteria. On the other hand, self-enhancers should appear less maladjusted on self-report measures. Accordingly, it was predicted that self-enhancement as operationalized by the discrepancy method would be positively associated with peer-rated maladjustment and negatively associated with self-rated maladjustment.

Hypothesis 7: Adaptive Value of Agentic and Communal Self-Enhancement

Self-enhancement on agentic traits (i.e., egoistic bias, Paulhus & John, 1998) refers to inflated self-views in such domains as extraversion, openness, and intellect. Communal self-enhancement (i.e., moralistic bias, Paulhus & John, 1998), on the other hand, refers to self-views in such domains as agreeableness, conscientiousness, and morality. Agentic self-enhancement would be positively related to the maladjustment outcomes. Because there is no previous research, no predictions were made about the impact of communal self-enhancement on the outcome variables.
Hypothesis 8: Self-Enhancement among HSE and Narcissistic Individuals

Previous research showed that HSE individuals as well as narcissists are more likely to self-enhance than their LSE and non-narcissistic counterparts (Paulhus, 2003; Taylor et al., 2003). Therefore, it was predicted that both operationalizations of self-enhancement would be associated positively with self-esteem and narcissism.

Hypothesis 9: Agentic and Communal Self-Enhancement among HSEs and narcissists

HSE individuals would self-enhance on both agentic and communal traits, whereas narcissists would self-enhance only on agentic domains. This hypothesis was based on the results reported in a recent study by Campbell, Rudich and Sedikides (2002). This outcome would replicate their findings and extend them by using multiple assessments of self-enhancement (i.e., social comparison index and discrepancy between self and peer ratings) on both agentic and communal traits.

Hypothesis 10: Mediation of Narcissists' Negative Outcomes by Self-Enhancement

Together, the fact that narcissists self-enhance and that self-enhancement is maladaptive suggests the possibility that self-enhancement mediates the negative outcomes of narcissism. Purposely or not, narcissists may offend people by their constant exaggeration and self-focus. Accordingly, it was predicted that the association between narcissism and negative outcomes would be reduced when self-enhancement is controlled.8

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8 Similar mediation effects for high self-esteem in its different forms will also be explored. There is no obvious hypothesis because HSE individuals tend to have positive outcomes despite their tendency to self-enhance.
METHOD

Sample and Procedures

Four hundred and fifty six undergraduate students (73% women) from the University of British Columbia were recruited. The ethnic breakdown of the participants was 36% European heritage, 53% of East Asian heritage, and 11% other ethnic/racial groups (e.g., South Asian, First Nations, Middle Eastern). The average age was 19.2 years ($SD = 2.45$). Data were collected in three components: Questionnaire, peer-ratings, and laboratory. Although all 456 participated in the questionnaire component, only 123 had peer-ratings, and 94 participated in the laboratory component. There were only 13 participants who participated in all three components of the study. The measures and procedures used in each component are described below in that order.

Questionnaire Component

The participants were asked to complete a questionnaire package in exchange for research credit\(^9\). The participants took the questionnaires home and returned them within two days. The return rate was 81 percent.

Global self-esteem was measured via the 10-item Rosenberg Self-Esteem Scale (SE; Rosenberg, 1965). Items are rated on a scale from 1 (strongly disagree) to 5 (strongly agree). Extensive support for the reliability and the validity of the scale is available (Blascovich & Tomaka, 1991; Rosenberg, 1989). Among the items are: “On the whole, I am satisfied with myself” and “I take a positive attitude toward myself”. The alpha coefficient was .80.

\(^9\) The questionnaire package was part of a larger project and included other measures that were not analyzed for this dissertation.
Narcissism was measured with the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979, 1981). Designed specifically for non-clinical populations, the NPI is the most widely used and well-documented measure of narcissism (Morf & Rhodewalt, 2000). It contains 40 forced-choice items with a potential scores ranging from 0 to 40. A typical narcissistic option is: “If I ruled the world, it would be a much better place” and “I am an extraordinary person.” The alpha coefficient was .84.

Participants also completed three additional sets of self-ratings. The first was an 18-item list of traits in social comparison rating format (see below under social comparison index). The second set was a list of 19 items in a trait rating format. The second set was combined with a parallel set of 19 peer-ratings to form the discrepancy index (See details below under Peer-Rating Component). The third set of items was used to measure self-report adjustment.

Social comparison index (SCI). Items in this measure asked respondents to compare themselves to other people. The 22 traits were selected to cover personality as widely as possible. Of these, 19 were derived from Saucier’s (1994) mini-markers version of Goldberg's Big-Five markers. The items were as follows: extraversion (bold, energetic, shy, quiet), agreeableness (kind, cooperative, cold, unsympathetic), conscientiousness (dutiful, systematic, unorganized, inefficient), neuroticism (relaxed, envious, jealous, fretful), and openness to experience/intellectance (creative, deep, un-intellectual). Three additional traits reflecting agency (“assertive” and “passive” [reverse coded]) and communion (“dependable”) were also included. Eleven of the traits represented desirable characteristics while eight of them were undesirable traits. Equal
number of items tapped domains of agency (e.g., extraversion, openness, intellect) and communion (e.g., agreeableness, conscientiousness).

For each item, participants rated themselves on a 5-point scale with endpoints of 1 (*much less than the average college student*) and 5 (*much more than the average college student*). The scores on undesirable traits were reversed, and the SCI was formed by summing up the scores on desirable traits and reversed undesirable traits\(^{10}\). The alpha reliability was .76 for the SCI total score. The scores on traits representing agentic and communal domains were aggregated separately to form separate social comparison indexes. The alpha reliabilities for the latter two measures were .71 and .67, respectively.

**Trait positivity measures.** The calculation of the discrepancy measure of self-enhancement requires the comparison of a global self-rated trait positivity index to a global peer-rated trait positivity index. For this purpose, another set of 23 variables were rated by both self and peers (the peer-ratings are described below). The items included 20 traits from the Big Five personality mini-markers (Saucier, 1994). Also included were three other traits; one related to agency (dominance) and two related to communion (fault-finding [reverse-coded], reliable). Participants were instructed to rate how accurately each of the traits described them on a 5-point scale with endpoints of 1 (*not accurate*) and 5 (*very accurate*).

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\(^{10}\) Only 18 of the 23 items were used for this purpose. The four Neuroticism items were dropped to simplify comparison of the agentic and communal components of the Big Five (Paulhus & John, 1998).
In addition to overall trait positivity indexes, scores were also calculated separately for agentic and communal domains. The alpha reliabilities for the total score, and scores on agentic and communal traits were .71, .60, and .77 respectively.

**Criterion measures.** The two self-report criteria were personal and interpersonal maladjustment. Interpersonal maladjustment was measured with five items from the Buss Aggression scale (Buss, & Perry, 1992): Items are answered on a 5-point scale ranging from “least characteristic” to “characteristic”. The items include ‘When people annoy me, I may tell them what I think of them’, ‘I can’t help getting into arguments when people disagree with me’. The alpha coefficient was .69.

Personal maladjustment was measured with seven items tapping self-perceived mental health including well-being, hostility, paranoia, and anxiety. Five relevant items were selected from the Buss Aggression scale (Buss & Perry, 1992). Items included: ‘At times I feel I have gotten a raw deal out of life’, ‘When people are especially nice, I wonder what they want.’, ‘I wonder why sometimes I feel so bitter about things’. Two items were selected from the neuroticism scale of the NEO-FFI (Costa, & McCrae, 1989) were also included: ‘I am not a worrier’ [reverse-coded] and ‘I often feel inferior to others’. The alpha coefficient was .73.

**Peer-Ratings Component**

A subset of participants from the Questionnaire Component ($N = 123$) agreed to allow the researchers to interview their peers. The resulting peer ratings served two purposes. One set of evaluation items was used as the external criterion for developing the self-peer discrepancy index. A second set of rating items provided a variety of personal and interpersonal outcome ratings.
The peer raters, nominated by the participant, were contacted either via email or phone, and were asked to rate the participants on a number of traits. They were also told that if they chose not to respond there would not be any consequences for the participants. Among 123 participants, 27 were rated by three peers; 55 were rated by two peers; and 41 were rated by one peer\textsuperscript{11}.

**Peer-rated trait positivity ratings.** Peers rated the participants on the same set of 23 traits rated by the participants themselves (see self-rated trait positivity measures above). They used the same 5-point scales as with the self-ratings, that is, endpoints of 1 (*not accurate*) and 5 (*very accurate*). The complete list is provided in Appendix III. Alpha reliability coefficients for the peer-rated total score and scores on agentic and communal traits were .67, .60, and .65 respectively\textsuperscript{12}. The correlations between self-rated and peer-rated trait positivity indexes for total score and scores on agentic and communal traits were .25 ($p < .01$), .23 ($p < .05$), and .29 ($p < .01$), respectively.

**Discrepancy index.** The discrepancy between the self-rated and peer-rated trait positivity indexes was calculated for each of the 19 traits.\textsuperscript{13} The discrepancy score for each item was operationalized using simple difference scores between standardized self-

\textsuperscript{11} Group comparison analyses were conducted to ascertain if there were any personality differences between the participants with peer-ratings and those without peer-ratings. Results of independent t-tests indicated that there was no significant difference in the scores on self-esteem, narcissism, self-reported personal and interpersonal maladjustment for the two groups.

\textsuperscript{12} Please see Appendix V for a discussion on rater reliabilities.

\textsuperscript{13} Only 19 of the 23 items were used for this purpose. The four Neuroticism items were dropped to simplify comparison of the agentic and communal components of the Big Five (Paulhus & John, 1998).
ratings and standardized peer-ratings. The overall discrepancy measure was then computed by summing the 19 discrepancy scores. The alpha reliability of this composite was .65.

**Criterion measures for maladjustment.** Peer-rated criterion measures consisted of nine items tapping interpersonal maladjustment (e.g., “Can’t take criticism”, “Needs to be the center of attention”, “Gets hostile when challenged”). These were taken from past research (e.g., Paulhus, 1998; Salmivalli et al., 1999). Peers also rated the participants on six traits related to personal maladjustment (e.g., "is well adjusted", "is happy"). These items were used successfully by Paulhus (1998) in his studies of self-enhancement. The alpha coefficient for the personal and the interpersonal maladjustment measures were .82 and .81, respectively.

**Laboratory Component**

Another subset of 94 participants from the Questionnaire Component participated in the Laboratory Component of the study in exchange for research credit. This component was designed to create an ego-threatening situation in order to assess defensiveness in response to negative feedback (i.e., ego-threat) from a personal source. All participants received the same negative feedback.

**Procedure.** The ego-threat induction procedure was a combination of the procedures used by Swann et al. (1987) and Bosson and Swann (1999). The participant

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14 Rogosa (1988; Rogosa & Willett, 1983) has demonstrated that difference scores are preferable to residual scores despite previous allegations that the former are unreliable. Zumbo (1999) also established that difference scores can provide statistically valid and psychologically meaningful results.
was asked to play a role in the evaluation of a graduate student. They were told that graduate students were being evaluated on their ability to provide an insightful profile of a client's personality based on a brief observation. Playing the role of the client, each participant was asked to read two excerpts in an expressive way in front of a one-way mirror. The participant was told that the graduate student would watch from behind the mirror, and write a personality profile.

Later, participants read the profiles supposedly written about them, and evaluated them for accuracy and insightfulness. The profile was clearly negative and read as follows:

*From the way he (she) interpreted the excerpts, this person does not appear to be good at expressing and interpreting emotions. He (she) probably has a cold and distant interpersonal style. Compared to the other participants, he (she) tended to interpret the excerpt in a very dull manner. I would guess that he (she) is not perceived as interesting and warm in his (her) interpersonal relationships.*

The participant then provided his/her reaction on a set of rating scales. A debriefing session followed and the participant was thanked for his/her participation.

Measures of reactions to ego-threat. Defensive and affective reactions to ego-threat were measured on a set of 39 rating scales. The 13 items tapping defensiveness were the same 7-point scales administered by Swann et al. (1987). They covered four facets of defensiveness: (1) disparaging the accuracy of feedback (e.g., How accurate do you think this impression of you was? (extremely accurate - inaccurate)), (2) disparaging the overall diagnosticity of the evaluation technique (e.g., How much do you think people's nonverbal behavior generally reveals to others about their personalities?)
(nothing at all - a great deal)), (3) criticizing the competence of the evaluator (e.g., Ability to judge other people's personalities (extremely unable - extremely able)), and (4) disliking the graduate student evaluator (e.g., How much do you think you would like the person who wrote this impression of you? (would not like this person at all - would like this person a great deal)). The reliability of the composite of these 13 items was .69.

Global affective reactions were assessed with 24 items used by Kernis and Sun (1994) in a similar study of reactions to ego-threat. The participants were asked to rate the extent to which each word reflected how they felt at that moment (1 = not at all, 2 = slightly, 3 = moderately, 4 = considerably, 5= very strong). The items tapped feelings such as irritation, dejection, competence, and happiness. An overall index of positive self-affect was created by combining the items by reversing the items referring to negative affect. Its alpha reliability was .92.

RESULTS

Preliminary analyses were conducted to investigate possible group differences with respect to gender and ethnicity. There were some minor gender differences discussed under Group Differences below. They were neither strong, nor consistent, nor interpretable when they did appear. The two largest ethnic groups were those of European heritage and those of East Asian heritage. There were some mean differences, which are also discussed in the section below on Group Differences. However, the pattern of correlations among the key variables, which was the focus of the current research, was consistent across gender and ethnicity. Hence it seemed reasonable to analyze the results after pooling across groups.
The overall results are presented in five parts following the 10 hypotheses of the study. Following the first section on basic statistics, the data for the adaptiveness of high self-esteem and narcissism, and the data for the adaptiveness of self-enhancement are presented. The last two parts present the results for mediation analyses and group differences.

Part 1. Basic Statistics

**Trait self-report measures.** Table 1a includes the means, standard deviations, and alpha reliabilities of all of the self-report self-evaluation measures. The mean values of the Rosenberg SE scale (37.02) and the NPI scale (14.38) are very close to those obtained in previous research on college students (e.g., Paulhus, 1998). Table 1b provides the intercorrelations among these variables. Of particular note is the correlation between SE and NPI (r = .25), a value that is well within the range documented by Morf and Rhodewalt (1995).

Also included are the two self-report adjustment measures, scored as personal and interpersonal maladjustment. Note that they have only a modest intercorrelation (r = .20, p < .05), supporting the choice to score them as separate variables.

**Trait positivity index: Self-rated vs. peer-rated.** Recall that the development of a discrepancy measure of self-enhancement requires both self- and peer-ratings on a large set of positive character variables. Tables 2a and 2b contain the descriptive statistics and intercorrelations developed from a comprehensive set of 19 variables involving self- and peer-ratings of personality and intellect. The trait positivity index was compiled by (a) scoring each variable in the positive direction, and (b) summing the 19 variables. This same procedure was followed for peer-rated variables. Both means are above the
midpoint indicating that both self and peers assign generally positive ratings. The correlation between the self-ratings and the peer-ratings was substantial ($r = .25$, $p < .01$). In short, self and peers tend to agree on who has a positive character and who does not.

Also provided in Table 2a are details about the self-peer discrepancy. The lack of a mean difference may seem surprising because self-ratings are usually higher than peer-ratings (Brown, 1999). In fact, this finding is typical of studies where the observer ratings are friends and/or family members: Such raters tend to be very lenient in their ratings – often even more lenient than the respondents’ self-ratings (Peabody & Goldberg, 1977). Most important, the difference scores remain valid as indicators of self-enhancement (Paulhus, 1998).

**Peer-rated outcomes.** Table 3 provides details about a different set of peer-ratings. These are the two sets of maladjustment measures combined into two composite variables. The interpersonal maladaptiveness composite is the aggregate of six items ($\alpha = .82$). Similarly, personal maladaptiveness is the aggregate of nine items ($\alpha = .81$). These alpha reliabilities seem to be more than acceptable.

Of particular interest is the intercorrelation of the two composites ($r = .52$, $p < .01$). This value is higher than that obtained with the self-report measures of personal and interpersonal adjustment ($r = .20$). This tendency is consistent with previous work showing higher correlations of peer-rated than self-reported personality dimensions (e.g., Costa & McCrae, 1989).
Part 2. Adaptiveness of High Self-Esteem and Narcissism

*Predicting Maladaptive Outcomes*

For ease of interpretation, all outcomes were scored in the maladjustment direction. As noted above, the outcomes were organized into four types: Self- and peer-rated personal and interpersonal maladjustment.

**Outcomes of high self-esteem and narcissism.** Hypotheses 1 and 2 were evaluated by examining the raw correlations of SE and NPI with the four types of outcomes. The results are presented in Table 4. The associations of maladaptive outcomes with self-esteem were uniformly negative. This pattern supports Hypothesis 1 in indicating that self-esteem has uniformly adaptive outcomes.

Recall from Hypothesis 2 that narcissism was predicted to have negative outcomes except on self-reported personal adjustment. For the most part, the results in Table 4 support that hypothesis: The associations with maladaptive outcomes are all positive although only one value is significant. Only self-reported personal adjustment has a significantly positive association with narcissism.

**Secure vs. insecure high self-esteem.** Hypothesis 3 required testing an interaction. It was examined using hierarchical regression analyses with self-esteem (SE) and narcissism (NPI) and their product as the predictor variables. The four adjustment outcomes, self- and peer-rated personal and interpersonal maladjustment, served as dependent variables.

In all regressions, the main effects of the predictors (i.e. self-esteem and narcissism) were entered into the regression equation in the first step and the two-way self-esteem X narcissism (i.e. SE X NPI) interactions were entered in Step 2. Following
Cohen, et al. (2003), all predictors were converted to z scores before computing the interaction terms, which reduces the correlation between the product term and the components of the term. In all analyses, dependent variables were kept in the original scales. Because the present predictions concerned the high self-esteem individuals who were high versus low on narcissism, the regression analyses were followed with simple slope tests to explore the relations of narcissism with the outcomes among people high in self-esteem.

The results of these regression analyses are presented in Table 5. Self-esteem main effects emerged for all four outcome variables, that is, self- and peer- reported personal and interpersonal adjustment. Narcissism main effects emerged for self-report and peer-report interpersonal maladjustment.

The SE X NPI interactions were marginally significant for self-reported and peer-reported interpersonal maladjustment and peer-rated personal maladjustment, suggesting further analyses of simple slope tests. Results of simple slope tests revealed that, among high self-esteem people, narcissism was positively related to self-report interpersonal maladjustment ($\beta = .43, t(451) = 6.92, p < .01$) and peer-rated personal maladjustment ($\beta = .19, t(119) = 1.66, p < .05$). That is, insecure high self-esteem participants reported being more interpersonally maladjusted than did secure high self-esteem participants.

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15 The simple slope analyses were conducted following the procedure recommended by Aiken and West (1991). The procedure involves testing the significance of the slopes of the simple regression lines of the outcome variable regressed on one predictor at certain values (e.g., -1 and +1 SD) of the other predictor, using t-tests.
They were also rated by their peers as being more personally maladjusted than were secure high self-esteem participants. These effects are illustrated by the predicted values that appear on Figure 1 and 2. Results of simple slope tests indicated that, among the high self-esteem individuals, narcissism did not have a significant effect on self-reported personal maladjustment, $\beta = .03$, $t (452) = 0.65$, $p = .26$, or peer-rated interpersonal maladjustment, $\beta = .07$, $t (119) = 0.63$, $p = .28$.

In summary, Hypothesis 3 was partially supported: Insecure high self-esteem individuals scored higher on all four categories of maladjustment although only two, self-reported interpersonal maladjustment and peer-rated personal maladjustment, reached conventional significance levels.

**Independent effects of SE and NPI.** Although the major concern was with the SE X NPI interactions, the independent effects of SE and the NPI deserve comment here. The beta for SE represents the effects of a purer measure of self-esteem, free from any confounding due to the overlap with narcissism. Similarly, the beta for NPI represents the effects of a cleansed measure of narcissism, independent of the shared variance with self-esteem. Researchers in the narcissism literature have underlined the importance of controlling for self-esteem scores when reporting narcissism correlates in order to evaluate "those elements that uniquely distinguish narcissism from high self-esteem" (Rhodewalt & Morf, 1995, p. 5).

However, the outcomes of these purified indicators of self-esteem and narcissism differed little from those found with the raw correlations. Note from columns 1 and 2 in Table 5, the similarity of the beta coefficients when the predictor was entered in the regression alone versus entered together with the other predictor. However, there is some
evidence for mutual suppression between self-esteem and narcissism. Narcissism had slightly positive zero-order correlations with peer-rated personal and interpersonal outcomes. In contrast, self-esteem had negative correlations with personal and interpersonal peer-rated outcome variables. Given that self-esteem and narcissism were positively correlated \( r = .25, p < .001 \), this pattern hinted at a possible suppressor situation.

When SE and NPI were entered simultaneously as predictors of maladaptive outcomes, the effect (beta) of self-esteem became more negative, and the effect (beta) of narcissism became more positive. Thus there was some evidence for mutual suppression of self-esteem and narcissism (see Paulhus et al., 2004). The Sobel test was used to evaluate the significance of these suppressor effects (MacKinnon et al., 2000). The results of these tests however indicated that none of the suppressor effects were significant \( (ps > .50) \).

*Laboratory Outcomes: Reactions to Ego-Threat*

Recall that all participants in the Laboratory Component received the same negative feedback about the impression they had made on another participant. The expectation was that HSE and narcissistic individuals would exhibit high levels of defensiveness (Hypothesis 4A) and yet report positive affect (Hypothesis 4B). The results in Table 6 provided partial support for Hypothesis 4A in that SE showed a marginally significant correlation with defensiveness \( (p = .15) \); the correlation with narcissism was in the same direction, but not significant. Hypothesis 4B was supported with significant positive correlations of SE and NPI with positive affect. In short, high self-esteem individuals derogated the negative feedback but remained positive about themselves.
Hypothesis 4C was that those with insecure HSE would show more defensiveness and less positive affect than those with secure HSE. To address the hypothesis, separate regressions were run for the two dependent variables, defensiveness composite and the positive affect composite. SE, NPI and the SE x NPI interaction were used to predict the defensive and affective reactions to feedback. The main effects of the predictors were entered first and the interaction (i.e., SE X NPI) was entered in Step 2. The results of these regression analyses appear in Table 7.

The SE X NPI interaction was not significant for positive affect but was marginally significant for defensiveness. The latter finding is grounds for conducting further analyses with simple slope tests (see Aiken & West, 1991). The results of simple slope tests however, indicated that among high self-esteem individuals, narcissism scores did not affect the defensiveness composite. In other words, secure and insecure high self-esteem individuals did not differ in the degree to which they were defensive in response to negative feedback.

In summary, HSE participants were more defensive in reaction to negative feedback, and both HSE and narcissists remained positive about themselves. However, the hypothesis that insecure high self-esteem individuals would react more defensively than their secure high self-esteem was not supported.

Part 3. Adaptiveness of Self-Enhancement

In this section, adaptiveness was measured the same way as self-esteem and narcissism with one exception. Reactions to ego threat could not be used here because there was minimal overlap in the subsamples used in the peer-rating and laboratory components.
Social Comparison vs. Discrepancy Indexes

Correlates of self-enhancement. The two operationalizations of self-enhancement, the SC and discrepancy indexes, showed a substantial positive intercorrelation ($r = .44, p < .001$). Nonetheless, the SC index was expected to be negatively associated with maladjustment, whereas the discrepancy index was expected to be positively associated with maladjustment. The results in Table 8 provided evidence for these predictions.

Hypothesis 5 was supported by three negative correlations of the SC index with the outcomes although the association with peer-rated interpersonal maladjustment was not significant. Contrary to the prediction, SC index was not correlated with self-report interpersonal maladjustment.

Hypothesis 6 made rather different predictions when self-enhancement was operationalized by the discrepancy index. As expected, this index showed significant positive associations with the two peer-rated forms of maladjustment. Also expected was its negative association with self-reported personal maladjustment. Surprisingly, self-reported interpersonal maladjustment showed a positive association indicating that self-enhancers are forthright about admitting their interpersonal problems.

Mutual suppression of the two self-enhancement indexes. Note that the two peer outcomes showed opposite effects with the two self-enhancement measures. These opposite effects seem at odds with their substantial positive intercorrelation ($+.44$). This pattern suggests that the SC and discrepancy indexes may exhibit a mutual suppression effect. In other words, the relationship between the two self-enhancement indexes might be hiding or suppressing their relationships with the outcome variables, which would be larger or possibly of opposite direction were they not correlated (Cohen, et al., 2003). To
test this possibility, regression analyses were conducted with the two self-enhancement indexes as predictors of those two outcomes where the predictors had opposite signs.

The results indeed showed a mutual suppression between these two predictors. When entered simultaneously into regression analyses, the predictors had independent effects on both of the peer-rated outcomes (all betas significant at $p < .05$). Specifically, the effect (beta) of the SC index on peer-rated personal and interpersonal maladjustment increased in size from -.23 and -.09 to -.42 and -.22, respectively. Similarly, the effect (beta) of discrepancy index on the two maladjustment measures increased from .23 and .20 to .41 and .29, respectively.

The significance of these suppressor effects can be tested using the same Sobel formulas as used in tests for mediation (MacKinnon et al., 2000). The results indicated that all four effects were significant ($zs = -3.49, -2.08, 3.57,$ and $2.64$, respectively, all $ps < .05$). In short, controlling for the effects of one self-enhancement measure clarified the relationship of the other with outcome measures which was earlier suppressed by the controlled predictor due to the overlap between the two predictors (Cohen, et al., 2003).

**Controlling for trait positivity.** The standard criticism of the SC index is that it represents trait positivity rather than self-enhancement (Colvin & Block, 1995). This allegation was tested by re-calculating the values in the first two rows of Table 8 by partialing out trait positivity. The latter was calculated by standardizing the self-rated and peer-rated trait positivity indexes and combining them into an overall estimate of positive traits for each participant.

Note from Table 8 that, when trait variance was partialled out, all correlates of the SC index became non-significant. This result supports the allegation that the ability of
the SC index to predict positive self-enhancement outcomes is due to its overlap with trait positivity.

Although the same criticism has not been directed at the discrepancy index, it seemed fair to partial trait positivity out of that measure too. Note from Table 8, that the results were not noticeably affected, indicating that the discrepancy index does not have the same confounding problem that the SC index has.

*Self-Enhancement on Agentic and Communal Traits*

Based on previous research, Hypothesis 7 predicted that agentic self-enhancement would have negative outcomes. No prediction was made with regard to communal self-enhancement. The correlations between self-enhancement on agentic and communal domains and the outcome measures are given in Table 9.

Consider first the correlates of the discrepancy index. Agentic self-enhancement showed two significant correlations, both positive, indicating maladjustment. Hence, Hypothesis 7 was partially supported. Interestingly, self-enhancement on communal traits also showed positive correlations with maladjustment. This latter finding is novel and extends previous research.

Recall from the previous section that partialing out trait positivity undermined the correlates of the SC index. Hence, rather than trying to interpret the SC results in Table 9 directly, trait positivity was partialed out. This procedure wiped out all of the peer-rated outcomes in Table 9. The only correlate that survived was a positive correlation of the SC index on agentic traits with self-report interpersonal maladjustment ($r = .16, p < .05$). The latter result is difficult to interpret.

Self-Enhancement among HSE Individuals and Narcissists

Hypothesis 8 predicted that both HSE and narcissistic individuals would self-enhance. The results indicated that this was indeed the case (see Table 10). Both the SC index and the discrepancy indexes of self-enhancement were positively associated with higher levels of both self-esteem and narcissism\(^\text{16}\). The results supported previous findings by Taylor et al. (2003), Paulhus (1998), and John and Robins (1994).

Finally, Hypothesis 9 predicted that HSE would be related to self-enhancement in both agentic and communal domains, whereas narcissism would be associated with self-enhancement only on agentic traits. The results presented in Table 10 supported the hypothesis. Interestingly, this effect was observed for both operationalizations of self-enhancement. Hence the current findings replicated Campbell et al.'s (2002) findings with the SC index and supported them by using a more valid operationalization of self-enhancement.

Part 4. Mediation Analyses

The possibility that self-enhancement, one form of positive self-evaluation, might mediate the associations of other positive self-evaluations (e.g., HSE, narcissism) with the outcomes was tested.\(^\text{17}\) A variable may be considered a mediator to the extent that it accounts for the relation between the independent variable and the dependent variable.

\(^{16}\) Partial correlations were also calculated to examine the independent relations of self-esteem and narcissism with the self-enhancement measures. The associations did not differ across zero-order and partial correlations.

\(^{17}\) As in the previous section, reactions to ego threat cannot be analyzed here because there was minimal overlap of participants in the laboratory and peer-rating components.
(Baron & Kenny, 1986). To explore this possibility, mediation tests were conducted for each of three independent variables: narcissism, self-esteem, and secure vs. insecure self-esteem.

Recall that, when trait variance was partialed out, all the correlates of the SC index became non-significant. Therefore, only the discrepancy operationalization of self-enhancement will be used in these analyses. Sobel tests were used to evaluate the significance of the mediation effects of self-enhancement for the relations of the independent variables with the outcome variables.

**Narcissism and self-enhancement.** Hypothesis 10 predicted that self-enhancement would mediate the negative outcomes of narcissism. Four outcome variables were used in the analyses: self- and peer-rated personal and interpersonal maladjustment.

The Sobel test was used to evaluate the significance of mediation effects. The mediation patterns for the four outcomes are presented in Figures 3–6. Self-enhancement partially mediated the relation between narcissism and self-report personal maladjustment ($z = -1.74, p < .05$) and the relation between narcissism and peer-rated personal maladjustment ($z = 1.80, p < .05$). The mediation effect was also marginally

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18 For each of the three mediation tests, two regression analyses were conducted: A simple regression analysis with narcissism predicting self-enhancement; and a multiple regression analysis with narcissism and self-enhancement predicting the outcome. The regression coefficients from these analyses were then entered in Goodman (II) test equation (MacKinnon et al., 2000) in order to test the significance of the mediation effect. Note that the significance of the mediation effects (i.e., the change in the regression coefficients) depend on the value of regression coefficients and their standard errors.
significant for the relation between narcissism and peer-rated interpersonal maladjustment ($z = 1.53, p < .06$).

**Self-esteem and self-enhancement.** Although no hypothesis had been advanced, Sobel tests were used also to evaluate the significance of the mediation effects of self-enhancement for the relation of self-esteem with the outcome variables. The mediations for the four outcomes are presented in Figure 3–6. The mediation effects of self-enhancement were not significant for the associations of self-esteem with self-report personal maladjustment ($z = .20, p < .85$) and interpersonal maladjustment ($z = .14, p < .89$). Self-enhancement did partially mediate the relation between self-esteem and peer-rated personal maladjustment ($z = 3.44, p < .01$) and between self-esteem and peer-rated interpersonal maladjustment ($z = 2.68, p < .01$). These latter mediation effects revealed that self-enhancement played a suppressor role in the relation between high self-esteem and peer-rated maladjustment. In other words, high self-esteem individuals were perceived to be well adjusted by their peers despite the fact that they self-enhanced.

**Secure vs. insecure high self-esteem and self-enhancement.** The independent variable was calculated as the residual of the SE x NPI interaction after removing the main effects of SE and NPI. The mediation tests revealed the interaction did not predict self-enhancement ($\beta = .08, p = .35$). Therefore secure and insecure high self-esteem individuals did not show any particular differences in their tendencies to self-enhance. Moreover, none of the mediation effects was significant. For example, out of the four mediation tests (MacKinnon et al., 2000), the strongest mediation effect was observed between self-esteem X narcissism interaction and self-report personal maladjustment ($z =$
-.62, \( p = .54 \)). Thus, the relations between secure and insecure high self-esteem and the outcomes were not explained by self-enhancement.

Part 5. Group Differences

**Ethnic differences.** The two major demographic variables of concern were gender and ethnicity. In the self-esteem literature, there is evidence that the pursuit of high self-esteem and self-enhancing tendencies is less common in Eastern than Western cultures (see Heine et al., 1999). That research is based primarily on comparisons of samples from different countries rather than immigrant- vs. host-culture samples as is the case here. Because more than half of the participants in the present sample were of East Asian heritage, possible ethnic differences in the means and intercorrelations of key variables were investigated. The means and standard deviations as well as inter-correlations among self-esteem, narcissism and the self-enhancement indexes are presented in Table 11.

Note first that European heritage participants had significantly higher scores on both the Rosenberg Self-Esteem Scale and the Narcissistic Personality Inventory (both \( ps < .01 \)). The corresponding effect sizes were .60 and .32. These values are large and moderate, respectively, according to Cohen's categorization system (1988).

A few ethnic differences in self-enhancement were also observed. European-heritage participants scored significantly higher than their Asian-heritage counterparts on the overall social comparison (SC) index (\( p < .05 \), effect size = .23 and the SC index for agentic traits (\( p < .01 \), effect size = .27. They also had significantly higher scores on the self-peer discrepancy index for the communal domain (\( p < .05 \), effect size = .46. Effect sizes within gender and ethnicity may be seen in Appendix VI.
Rather than mean differences, more important is the possibility of different patterns of relationships among the positive self-evaluation measures as well as those with the outcome variables. For each of these relations, correlation coefficients were calculated separately for the two cultural groups. The correlations are presented in Tables 11 and 12. Note that the pattern of relations is very similar for the two ethnic groups. When the difference in values was tested\(^{19}\), only one of 45 values was significant. By chance, one would have expected more than two significant values.

**Gender differences.** Table 13 contains the mean values for the key variables broken down by gender. Note that, on the Rosenberg Self-Esteem scale, female participants \((M = 38.0)\) scored significantly higher than male participants \((M = 34.5)\), \(t(450) = 4.22, p < .001\). The effect size was .30. No significant gender differences were found on the NPI or the Discrepancy index of self-enhancement. Differences on the Social Comparison Index of self-enhancement were coherent: Although no difference was observed overall or in the agentic domain, female participants \((M = 32.6)\) scored higher than males in the communal domain \((M = 30.9)\), \(t(450) = 3.63, p < .001\). The effect size was .38.

Again, it is not the mean differences that are important but possibility of different patterns of associations among the self-evaluation measures and those with outcomes. Note from Table 13, the pattern of correlations of SE and NPI with the self-enhancement

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\(^{19}\) For each association the two correlation coefficients were transformed with the Fisher Z-transform. Then the difference was tested using the formula: \(z = (Zf1 - Zf2) / \sqrt{1/(N1-3) + 1/(N2-3)}\) (Papoulis, 1990)
measures was comparable across gender (see Table 13). Similarly, the pattern of correlations between the self-evaluation measures and the outcome measures was comparable across gender (see Table 14).

Note again, that it is the pattern of relationships, rather than mean group differences, that were the focus of the current research. The finding of similarity in overall patterns justifies the pooling of participants regardless of gender and ethnicity.

**DISCUSSION**

In this dissertation the adaptiveness of several important forms of positive self-evaluation, namely, self-esteem, narcissism, and self-enhancement have been addressed. By examining a variety of forms of self-evaluation simultaneously, this research was able to shed light on a number of controversies. Among the specific aims were: (a) to evaluate the adaptiveness of both self-esteem and narcissism, (b) to compare the adaptiveness of secure vs. insecure forms of high self-esteem, (c) to compare the adaptiveness of the two standard operationalizations of self-enhancement, and (d) to explore the relations among different forms of self-evaluations.

To address these issues, a combination of replication and novel hypotheses were tested. The replication hypotheses were critical because they highlighted the contradictory findings in the literature and then replicated them in the same sample. The source of each contradictory finding in the literature could then be isolated. Several other hypotheses were novel in that they went beyond debates currently in the literature. For example, the relative adaptiveness of self-enhancement in agentic vs. communal domains has never been addressed before. Nor has insecure HSE ever been operationalized by the
interaction of self-esteem with narcissism. Finally, the hypothesis that the negative consequences of narcissism might be mediated by excessive self-enhancement has never been addressed before. In short, the present tests of the replication hypotheses and the novel hypotheses both provided contributions to the literature.

Adaptiveness was operationalized by a wide variety of self- and peer-ratings of maladjustment and defensiveness. The maladjustment outcomes were organized into four types. Those having to do with emotional stability and well-being were described as “personal” outcomes and those having to do with social interactions were described as “interpersonal”. Each of these was rated by both the participant and a set of peers. The fifth outcome indexed defensive reactions to ego threat induced in a laboratory situation. Although other outcomes have been used, these five cover the bulk of the research in the literature.

In brief, the results showed that:

(a) those high in self-esteem show substantially better adjustment outcomes than those high in narcissism.

(b) those with secure high self-esteem show better adjustment outcomes than those with insecure high self-esteem.

(c) the social comparison index is a less defensible operationalization of self-enhancement than is the discrepancy index. The latter shows negative outcomes.

(d) the different forms of positive self-evaluation overlap but play different roles. For example, self-enhancement mediates the relations of self-esteem and narcissism with some of the adjustment outcome variables.
Criteria for Adaptiveness

The choice of adaptiveness outcomes was the first challenge in this dissertation. Debates over how to measure adaptiveness have been around for some time (e.g., Allport, 1937; Jahoda, 1958; Jourard & Landsman, 1980; Funder, 1993; Ryff, 1989). It is clear that a positive self-evaluation could be adaptive by one standard but not by another standard. Many published studies in the present literature have not acknowledged this complexity but made an arbitrary choice of outcomes. Therefore, as many criteria as possible were tried to be covered in an organized fashion while maintaining overlap with outcomes used in previous studies.

The distinction of personal adjustment from interpersonal adjustment has been part of most standard lists (e.g., Allport, 1937). Some writers maintain that self-reports of adjustment can be used as a criterion. Taylor and Armor (1996), for example, have argued that high self-esteem is inherently a positive mental health outcome and, by necessity, must be measured by a self-report. Most researchers, however, question the validity of self-reports and recommend peer-ratings instead (e.g., Kenny, 1994). To organize the outcomes measures of both self- and peer-report of both personal and interpersonal maladjustment were included.

The present results justified the separation of these four maladjustment categories. A number of key results differed across the four outcomes. As one example, narcissists were found to rate themselves as being especially well-adjusted but their peers did not. Theoretically, the finding of a discrepancy between the self-report and peer-rated adjustment adds to the construct validity of subclinical narcissism (Emmons, 1986).
Nonetheless, it cannot be claimed that the four categories are comprehensive. This limitation is discussed below under Limitations and New Directions. One could even consider the adaptive value of positive self-evaluations in light of broader theories such as terror management (Greenberg et al., 1999) and evolutionary psychology (Krebs, Denton, & Higgins, 1988; Lockard & Paulhus, 1988). However, those theories are more concerned with ultimate origins and make little distinction between self-esteem, narcissism, and self-enhancement. Moreover, any evaluation of those theories is well beyond the scope of this thesis.

**Trait Measures of Positive Self-Evaluation**

The two most important trait conceptions of positive self-evaluation are self-esteem and narcissism. Typically, the two concepts have been operationalized by the Rosenberg Self-esteem scale and the Narcissistic Personality Inventory, respectively. Both concepts distinguish between people who have a positive view of themselves and those who have a negative self-view. Yet the former has traditionally been assumed to be a positive attribute and the latter, a negative attribute. Recent researchers have questioned this simple distinction and wondered about the benefits and detriments of both concepts (e.g., Baumeister et al., 2002; Paulhus, 1998; Robins & Beer, 2001). Firm conclusions about the consequences of self-esteem and narcissism have been difficult to draw because of their positive intercorrelation, typically in the range of .25 to .45. The rare reports of negative effects of self-esteem and positive effects of narcissism, for example, might be attributable to their overlap. To address these complexities, both the Rosenberg SE scale and the NPI were included in the present research. The analysis of
the ability of the two predictors jointly to predict a wide variety of outcome measures helped to clarify some central issues about positive self-evaluation.

**Self-esteem.** The present findings indicate a high degree of psychological functioning in high self-esteem individuals. All four maladjustment variables showed negative relations with Rosenberg scale, with three of the four being significant. The associations with self-report measures might be explained away as an artifact of a self-favorability bias (Colvin & Block, 1995). But the peer-rating correlations were also substantial, thereby supporting the self-report results. In sum, those with high self-esteem are viewed as being well-adjusted both by themselves and by those who know them well. Moreover, they remain positive about themselves following ego-threat (please see more details below).

This pattern of results is consistent with previous research relating high self-esteem to higher levels of positive affect and successful adjustment, and lower levels of negative affect and depression (e.g., Avison & McAlpine, 1992; Brage & Merdith, 1994; Brown & Mankowski, 1993). Taken together, these studies support the conclusion that high self-esteem “appears to operate as a stock of positive feelings that can be a valuable source under certain conditions” (Baumeister et al., 2003 p. 37). These positive feelings do help high self-esteem individuals to be more resilient to negative events, and maintain positive relations with others.

**Narcissism.** Previous literature suggested that narcissists rate themselves positively but others rate them negatively (Morf & Rhodewalt, 1999). The present results showed mixed support for that conclusion. The peer-report predictions were in the maladaptive direction but did not reach conventional levels of significance. The self-
report prediction was supported for personal maladjustment, and (in the opposite
direction) for interpersonal maladjustment. Apparently, narcissists are willing to admit
that they have interpersonal, but not personal problems.

In retrospect, the pattern of findings is consistent with theories of narcissism
suggesting a willing trade-off of “getting along” to advance “getting ahead” (Raskin et
al., 1991a, b). One possibility is that they just do not care about interpersonal values
because of low empathy (Emmons, 1986). Another is that they actually value toughness
and try to live up to this unusual priority of values. A third is that presentation of a tough
image actually serves them well in getting ahead.

Reactions to Ego-Threat

High self-esteem

The one literature that seemed most at odds with the adaptiveness of high self-
esteeem was that of using ego-threat in a laboratory setting. Those with HSE have been
shown to react in an especially defensive and aggressive fashion after negative feedback
(e.g., Heatherton & Vohs, 2000). Other work showed that HSE individuals react
defensively by derogating the feedback source, the testing method, and confederates who
outperformed them (e.g., Blaine, & Crocker, 1993; Gibbons & McCoy, 1991; Kernis &
Sun, 1994; Smalley & Stake, 1996).

That pattern was replicated in the present laboratory data. HSE individuals did
indeed show more defensive reactions than LSE individuals. They derogated the
evaluation method and personnel more than did the LSE individuals.\textsuperscript{20} Note that this effect remained even when the effect of narcissism was partialed out of self-esteem. Hence the defensive reactions of high self-esteem people cannot be attributed to the overlap of Rosenberg Self Esteem scale with the Narcissistic Personality Inventory.

Why is this the only outcome showing maladaptive outcomes for HSE individuals? One difference is that all four of the other outcome ratings were global and long-term. In rating adaptiveness, both the participants and the peer-raters had to summarize a wealth of experiences into a few numerical evaluations. In contrast, reactions to ego threat tap a more short-term and reactive phenomenon.

Consideration of other aspects of HSE reactions to ego threat is helpful. That is, despite the negative reaction toward the testing situation, HSE individuals were able to maintain their positive self-views.\textsuperscript{21} This interesting combination of reactions has been demonstrated before (e.g., Smalley & Stake, 1996; Swann et al., 1987).

Together, this reaction pattern of HSE individuals might be viewed as a coping response (Felson, 1984). This interpretation is consistent with the previous research

\textsuperscript{20} Note the traditional concern that self-esteem scores might be confounded with true competence (e.g., Brown, 1998). In this case, HSE individuals may be more skilled at the task required in the laboratory. Negative feedback would be more surprising and necessarily arouse more defensiveness among HSE participants. However, a recent review on the effects of high self-esteem indicated that the associations of self-esteem with objective outcomes of academic achievement, intelligence, job and task performance, and social competence were weak at best (Baumeister et al., 2003).

\textsuperscript{21} Although this study did not use a control group, previous work demonstrated that ego threat increases defensiveness and creates negative affect. Moreover, HSE individuals are not defensive before the threat is induced (Swann et al., 1987).
showing that high self-esteem individuals show various kinds of strategies to minimize the influence of negative feedback (Shrauger, 1975; Swann, Griffin, Predmore, & Gaines, 1987). HSE may be maintained by a temporary outburst of negativity toward the situation. Peers may notice these temporary outbursts but discount them in light of the fact that HSE individuals generally like others and show positive reactions toward them.

In sum, the current findings provide a reconciliation between a literature that argues for maladaptive qualities of high self-esteem and another that argues for an adaptive view. Even their laboratory defensiveness reactions can be viewed as part of an adaptive behavior pattern that leads to good long-term outcomes for those high in self-esteem.

Narcissism

The ego-threat results for narcissists were not as strong or clear. They failed to indicate a strong defensive reaction of narcissists to ego threat. There was some indication that narcissists maintained a positive self-view after ego-threat but that effect disappeared after controlling for the effects of self-esteem. These results are at odds with those of several previous studies (Kernis & Sun, 1994; Smalley & Stake, 1999).

It is suspected that some aspect of the laboratory methodology undermined the necessity for narcissists to derogate the situation. For more details on this argument, please see the section below.

Secure vs. Insecure self-esteem

The results also failed to support the prediction that insecure high self-esteem individuals would be more likely to react defensively than their secure high self-esteem counterparts.
One reason may be a weak induction of ego-threat. As described in the Method section, the participants were asked to read two excerpts in front of a one-way mirror. Ostensibly, the evaluator watched the participant behind the mirror, but was not able to hear him or her. Some of the participants, in their additional comments about the feedback, referred to being in front of a one-way mirror as an awkward experience\textsuperscript{22}. In the additional comments section on the reactions to feedback questionnaire and during debriefing, they reported that it was understandable that the evaluator thought they had a distant interpersonal style since they did not feel comfortable while reading the excerpts. In other words, for some participants there was an external attribution available to compensate for the "ego-threatening" aspect of the negative feedback. Following this logic, it is plausible that there was no need for them to feel threatened, and hence react defensively.

In sum, a weak ego threat may explain why narcissists and insecure HSE individuals did not show the expected pattern. However, this argument seems to be undermined by the fact that HSE individuals did show the expected pattern with significant derogation of the ego threat. Perhaps, they are more sensitive to ego threats than either narcissists or insecure HSE individuals. Or the different personalities react to different aspects of ego threat. Narcissists, in particular might have found the negative\textit{ interpersonal} feedback not ego-relevant because they do not appear to have concern for

\textsuperscript{22} Kernis and Sun (1994) used a very similar procedure in their study of narcissism and reactions to interpersonal feedback. Their participants were also asked to read a passage in front of a one-way mirror, and were given negative interpersonal feedback. In the Smalley and Stake (1996) study, the participants received negative feedback based on a bogus personality and intelligence test.
interpersonal relationships (e.g., Rhodewalt & Morf, 1995, 1998; Watson, Grisham, Trotter, & Biderman, 1984).

Secure and Insecure High Self-Esteem

A central proposition in this dissertation is that high self-esteem is not a homogeneous concept. Some of those with high self-esteem have a secure form that yields adaptive outcomes. Others have an insecure form of high self-esteem that yields maladaptive outcomes. Of various possibilities in the literature, the combination of high self-esteem and narcissism was found as the most compelling one. Specifically, those individuals high in self-esteem but low in narcissism were said to have secure self-esteem whereas those individuals high in both self-esteem and narcissism were said to have insecure high self-esteem.

The prediction was that insecure high self-esteem individuals would be particularly maladjusted – more so than either their secure high self-esteem counterparts or those with low self-esteem. It was assumed that the secure vs. insecure distinction was less relevant for those with low self-esteem.

For each outcome, these groups were compared in a two-step process. First, it was necessary to demonstrate (at least marginally) significant interactions of self-esteem scores with narcissism. Then the simple effect of narcissism was examined within the

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23 A variety of other operationalizations were collected as part of a larger project: Self-concept clarity, contingent high self-esteem, unstable high self-esteem, and self-deceptive enhancement. None of them showed clear or interpretable results and so are not reported here.
high self-esteem groups. This dual significance was in the right direction for all four and significant for two of the four maladjustment outcome variables. Overall, the data showed that insecure HSE individuals were more maladjusted than secure HSE individuals.

The usual explanation, as detailed in the Introduction, is that insecure high self-esteem individuals report especially positive self-views, at least in part, because their self-views are inflated. This vulnerability makes them more likely to confront disagreements with others and react aggressively than their secure high self-esteem counterparts. That assumption is supported by research showing that the narcissistic HSE individuals score especially high on reaction-to-provocation scales (Papps & O’Carroll, 1998). Their self-acknowledged interpersonal style is to protect themselves against an ego-threat by becoming verbally aggressive.

Thus the current results dovetail with previous research in supporting the conclusion that insecure high self-esteem individuals run into more problems with others, at least, according to their self-reports. Accordingly it is not surprising that insecure high self-esteem individuals are also perceived as being personally maladjusted by their peers. However, for a more complete picture of the relations of secure and insecure high self-esteem with interpersonal maladjustment, future research would benefit from informant reports of reactions to provocation and aggression.

The current findings are also consistent with previous research using other operationalizations of insecure vs. secure HSE. Kernis, Grannemann and Barclay (1989),

\[24 \text{Without a significant interaction, the demonstration that insecure HSE is more maladaptive than secure HSE would simply be part of a main effect for narcissism.}\]
for example, reported that anger and hostility scores were the highest for individuals with insecure high self-esteem individuals and the lowest for secure high self-esteem individuals, while low self-esteem people fell in between these two groups. Similarly, Salmivalli et al. (1999) reported that adolescents with insecure high self-esteem were more likely to be bullies or assist bullies, while secure high self-esteem students were more likely to defend the victims of bullying.

Finally, note that the operationalization of insecure HSE used in the present research – high self-esteem paired with high narcissism – may be seen as a parallel to the notion of “threatened-egotism” (Baumeister, Boden, & Smart, 1996; Bushman & Baumeister, 1998). Baumeister and his colleagues argued that antisocial outcomes can result when positive self-views are threatened. Because narcissists are chronically sensitive to ego threat (Morf & Rhodewalt, 1998), those who also have HSE are continually in a state of threatened egotism. Their chronic maladjustment is then understandable.

In other words, studies (including the present one) that induce ego-threat in high self-esteem participants could also be interpreted as creating “insecure high self-esteem” in the laboratory. From this perspective, the personality syndrome of insecure HSE is simply a chronic version of threatened egotism.

Instead of an adaptive coping reaction, as argued earlier, the defensiveness of HSE individuals in the present laboratory situation could then be viewed as a demonstration of the same maladaptive behavior that causes narcissistic HSE individuals to be especially disliked. The combination of studies in this dissertation, then, has served
to operationalize insecure HSE from both as a situational induction and a personality syndrome.

Thus taken together, the findings on the adaptiveness of different forms of high self-esteem support the conclusion that insecure high self-esteem individuals are more prone to undesirable actions such as defensiveness, aggression and bullying, compared to their secure high self-esteem counterparts.

**Pure self-esteem and pure narcissism.** In addition to the findings that relate to secure and insecure high self-esteem, some comment is warranted on the main effects of self-esteem and narcissism when they are included together as regression predictors. Statistically, the pattern is described as a suppression effect between measures of self-esteem and narcissism. Narcissism was found to be suppressing criterion-irrelevant variance from self-esteem. With its irrelevant variance suppressed, the purified version of self-esteem became a more efficient predictor of the criteria. In other words, when the overlap in self-favorability between self-esteem and narcissism was removed, self-esteem had an even more negative relationship with peer-rated personal and interpersonal maladjustment, and self-reported interpersonal maladjustment. The reverse pattern for the relationship between narcissism and the criteria of interest when self-esteem was controlled for.

These findings are in line with previous research that emphasized the importance of including measures of both self-esteem and narcissism in studies of the effects of self-esteem or narcissism on various outcomes. Smalley and Stake (1996), in their investigation of the effects of self-esteem and narcissism in evaluating sources of ego-threatening feedback, demonstrated that by partialing narcissism from self-esteem, the
relations between self-esteem and critical reactions to feedback were reduced. Their results showed that although self-esteem was not related to hostility, when the effect of narcissism was partialed out of self-esteem, it was inversely related to hostility. Recently, Paulhus, Robins, Trzesniewski, and Tracy (2004) demonstrated a similar mutual suppression between self-esteem and narcissism. Across three studies, they showed that the positive correlations of narcissism with anti-social behavior became more positive once the effect of self-esteem was partialed out of narcissism. The partialing out of variance related to narcissism, on the other hand, further strengthened the negative association between self-esteem and anti-social behavior. Paulhus and colleagues concluded that self-esteem was a heterogeneous construct and that narcissism should be controlled for while examining the relations with other variables. Although the effects were not as strong in the current study, they showed the same pattern.

In sum, present findings replicated previous research in underlining the importance of controlling for narcissism when investigating the correlates of self-esteem and further suggest that the interaction between these two forms of positive self-evaluation represents a valid approach to the studying the heterogeneity of high self-esteem.

Comparing Operationalizations of Self-Enhancement

Researchers who argue that self-enhancement is adaptive have tended to operationalize self-enhancement in terms of intrapsychic measures such as the social comparison index (e.g., Brown, 1986). Those arguing that self-enhancement is maladaptive have tended to operationalize self-enhancement using discrepancy methods (e.g., Robins & John, 1994). Before the present research was conducted, there were no
studies that included both. To fill this gap, both operationalizations of self-enhancement were measured on the same sample and they were tested head-to-head against a wide variety of personal and interpersonal outcomes including both self-report and peer-rated measures. For simplicity, all outcomes were scored in the negative direction, that is, maladaptiveness.

Current results were consistent with both bodies of evidence in showing that each operationalization showed its usual direction of association with peer-rated outcomes. The social comparison operationalization was negatively associated with maladaptive outcomes. That result appears to support Taylor and Brown’s (1988) position that positive illusions are adaptive (Brown, 1986; Taylor & Armor, 1996). On the other hand, the discrepancy operationalization of self-enhancement was positively associated with maladaptive outcomes. This result supports claims for the maladaptiveness of self-enhancement (e.g., Colvin & Block, 1994; Paulhus, 1998; John & Robins, 1994; Shedler, Mayman, & Manis, 1993).

The only common correlate of the two measures of self-enhancement was their apparent adaptiveness on self-report outcome measures. It is certainly not surprising that the social comparison operationalization showed this pattern, but it might seem more surprising that the discrepancy measure also appeared adaptive because its peer outcomes were negative. However, this finding is consistent with previous literature (e.g., Colvin et al., 1995; Yik et al., 1998). Recall the standard explanation that any self-report outcome will contain a global response bias differentiating people who tend to say favorable things about themselves from those who tend to have an unfavorability bias (Paulhus, 1991). This response bias plays a role in both operationalizations of self-
enhancement. For that reason, critics of the social comparison method have insisted that independent, external measures (e.g., peer-ratings, IQ tests, etc.) be used as criteria for adaptiveness. On the latter, discrepancy self-enhancement always appears maladaptive.

The fact that both operationalizations were computed in the same sample helps rule out a number of artifactual explanations of the difference in the two schools of thought on self-enhancement. For example, it rules out the possibility of sample differences (scholastic competitiveness, geography, gender, ethnicity, etc.) that might have led to self-enhancement being adaptive in some samples and maladaptive in others. It also rules out possible experimenter biases that might have favoured each author's preferred theory over competing theories. Here, the same results offered by the two competing groups were obtained in the same sample. Therefore, the observed differences must be due to the different operationalizations used by the two groups.

Most important are the results of partialing trait variance out of the social comparison index. This procedure undermined any predictive power of the social comparison index. As others have suspected (Colvin & Block, 1994), the request to compare yourself to others is merely an alternative way of measuring self-report trait variance. Hence it measures reality rather than distortion.

In sum, the evidence appears to favour discrepancy as the more valid of the two operationalizations of self-enhancement. It seems to capture the departure from reality that is essential to the distortion implications of the term self-enhancement. In contrast, the social comparison index appears to be dominated by valid trait variance.
Adaptive Value of Agentic and Communal Self-Enhancement

It is now becoming more clear that research on positive self-evaluations must acknowledge the distinction between agentic and communal domains (Hogan, 1983; Wiggins, 1959). Traits such as competence, creativity, and dominance show different patterns of relationships than do traits such as dutifulness and agreeableness in a wide variety of domains (Paulhus & John, 1998). A number of subsequent studies have exploited this simplification of the self-enhancement universe (e.g., Campbell et al., 2002; Kurman, 2001; Pauls & Stemmler, 2003). Therefore the question is no longer as simple as “Is self-enhancement adaptive?” The question must be posed separately for agentic and communal self-enhancement.

To address this distinction, the present study design included a separate yet comprehensive set of personality items on both the self- and peer-ratings. Self-enhancement discrepancies were then calculated for each item and summed separately into agentic and communal composites. The social comparison index also included a similar set of items to form separate agentic and communal self-enhancement composite.

This separation proved to be important in moderating some of the self-enhancement effects. Using the social comparison operationalization, agentic self-enhancers showed higher self-report interpersonal maladjustment but no peer-rated outcomes, whereas communal self-enhancement showed more consistent positive outcomes. When the trait variance for agency and communion was controlled, however, all these correlates vanished.

Using the (more credible) discrepancy operationalization, agentic self-enhancement showed two significant correlates – both negative (higher self-report
interpersonal maladjustment and peer-rated personal maladjustment). Communal self-enhancement was uniformly associated with negative peer outcomes.

Most previous evidence of the detrimental effects of self-enhancement did not separate the agentic and communal domains (Colvin et al., 1995; Robins & John, 1994). In the only study that made the separation (Paulhus, 1998), only the agentic results were reported. Hence the present research contributes to the self-enhancement literature by providing substantial evidence for the generality of the detrimental effects of self-enhancement. In short, a tendency toward self-enhancement in either agentic or communal domains is maladaptive.

Who Self-Enhances?

Current findings demonstrated that both narcissists and HSE individuals tended to self-enhance, even on the more rigorous operationalization, that is, discrepancy index. The association with narcissism has now been replicated several times (Gosling et al., 1998; John & Robins, 1994; Paulhus, 1998; Robins & Beer, 2001). The notion that narcissists exaggerate their positive features is central to the entire construct.

On the other hand, the notion that individuals with high self-esteem engage in self-enhancement has not been a central part of the construct. Many theorists have assumed that high self-esteem has its basis in reality, not in distortion (Jourard, 1959; Leary & Baumeister, 1995). The traditional notion of the "looking glass self" is that we gradually accumulate our sense of self-esteem by watching how others react to us. This reality assumption was one reason why many writers reacted against the Taylor-Brown claim that repeated self-enhancement led to adaptive outcomes, such as having high self-esteem (Colvin & Block, 1994). These critics assumed that only those claiming high
self-esteem for self-promotional reasons would also exaggerate their other positive features.

Nonetheless, this pattern has now been replicated using the more rigorous discrepancy operationalization of self-enhancement (Paulhus, 1998; Taylor et al., 2003). The same result was found with another concrete operationalization of self-enhancement, the over-claiming index\textsuperscript{25} (Paulhus et al., 2003). Apparently, those with HSE really do distort reality in a positive direction. Moreover, partial correlations showed that this effect occurred independently of the overlap between measures of self-esteem and narcissism. Whatever is motivating the HSE individuals to self-enhance, it is not their narcissism.

Recall that secure and insecure high self-esteem individuals did not differ in their tendencies to self-enhance. Even though narcissism is associated with self-enhancement as a main effect, it does not contribute an additional effect within the high self-esteem group. Both secure and insecure HSE individuals hold overly positive views of themselves.

It is curious that high self-esteem -- usually associated with positive outcomes -- is also related to a behavior (self-enhancement) that has negative consequences. Those with high self-esteem must have positive qualities that compensate for the negative consequences of self-enhancement. Further analysis of this issue is saved for the discussion of the mediation analyses below.

\textsuperscript{25} The overclaiming index measures self-enhancement by the tendency to claim familiarity with general knowledge of items that, in fact, do not exist.
Who Self-Enhances in Agentic vs. Communal Domains?

Present results support the importance of this distinction. For example, it was found that narcissism was associated with self-enhancement only on agentic traits, whereas high self-esteem was related to self-enhancement on both agentic and communal traits. This pattern exactly replicated the findings of Campbell and his colleagues (2002). Interestingly, his operationalization of self-enhancement used a social comparison index. The present study extended those findings by demonstrating the same effect using a self-peer discrepancy measure. This extension is important given the above critique of the validity of the social comparison index.

Current findings also showed that both agentic and communal self-enhancement have maladaptive outcomes. The fact that high self-esteem people engage in two forms of maladaptive behaviour (as opposed to only one for narcissists) does further damage to the traditional ‘realism’ view of high self-esteem. Yet high self-esteem individuals have positive interpersonal outcomes (please see mediation analyses below).

Could the two forms of self-enhancement somehow cancel each other out? This explanation requires some reflection on the motivations behind agentic and communal self-enhancement. As noted by Paulhus and John (1998), the two motives to self-enhance are founded on valuing the two dimensions as an ideal state. Although the trait levels have been partialed out to create the discrepancy self-enhancement scores, the values must have been operating to create the distortions.

Narcissists are known to adopt a self-presentational style focused on “getting ahead” rather than “getting along” (e.g., Raskin, Novacek, & Hogan, 1991a, b). Those with HSE strive to do both. For the latter, believing that one is better than others on
communal traits (e.g., agreeableness and conscientiousness) might encourage one not to engage in aversive interpersonal behaviours such as presenting an inflated self-image, or bragging about one’s positive traits even though one holds an overly positive view of the self. Taylor et al. (2003) made a similar argument and proposed that in cases where self-enhancement is manifested in interpersonal interactions in an aversive fashion, self-enhancers may be evaluated as being socially maladjusted.

In their work on the nature and impact of positive and boastful disclosures, Miller, Cooke, Tsang and Morgan (1992) suggested that having a self-aggrandizing style characterized by bragging might be good or bad depending on the one’s goals in social interaction (Read & Miller, 1989) and how one prefers to be perceived by others. They concluded that:

“If we would like to be perceived as competent and successful, boasting appears to be a relatively better strategy than disclosing negatively. On the other hand, if we wish to be perceived as socially sensitive, a negative disclosure would be more effective than a brag. Presumably, most of us wish to appear both “socially sensitive” and “successful”; the present findings suggest that to achieve this goal, the most effective self-disclosure is one that is positive but not boastful.” (p. 375)

The present findings indicate narcissists seem to employ a boastful strategy because they care about being socially dominant and not about being perceived socially sensitive, whereas high self-esteem individuals prefer a more balanced strategy of presenting a positive image that equally emphasizes agentic and communal orientations. In sum, the adaptive value of finding the right balance between the two fundamental human values of agency and communion is apparent even in the realm of self-enhancement.
Mediation Effects of Self-Enhancement

The breadth of measures included in this research allows more complex analyses of how they all fit together. Of special interest is the possibility that one form of positive self-evaluation, self-enhancement, might mediate the relations of other forms of positive self-evaluations with the outcomes. The results indicated that self-enhancement does play a mediator role in some of these associations\(^{26}\).

Recall that narcissists were perceived to be neutral or slightly maladjusted by their peers. Is their tendency to self-enhance -- clearly, a maladaptive behavior -- the source of their interpersonal problems? Current results indicate that this is the case to some extent. The mediation effect showed a significant change in the direction of narcissists being less personally maladaptive. It is not clear whether they are aware of the offensive impact that their self-enhancement has on others.

Even after controlling for self-enhancement, however, a substantial negative residual remains unexplained. Other negative characteristics of narcissistic individuals such as poor social skills, lack of communal concerns and derogation of others are likely responsible for the interpersonal maladjustment of narcissists (Leary et al., 1997). For example, previous research on the interpersonal consequences of narcissism showed that narcissistic people engage in grandiose self-presentations in situations that call for modesty (Emmons, 1989). This type of self-presentation is likely to lead others to challenge narcissists, who in turn are very likely to react aggressively. This line of reasoning is consistent with previous findings showing that narcissism was associated

\(^{26}\) It is assumed that trait variables such as self-esteem and narcissism temporally precede self-enhancement behavior.
with derogation of a better performing other (Morf & Rhodewalt, 1993) and derogation of, and hostility toward the person providing negative evaluative feedback (Smalley & Stake, 1996).

The story is more complex for self-esteem. Recall that high self-esteem individuals are better-adjusted than their low self-esteem counterparts on both self-reports and peer-ratings. That success occurs despite their demonstrable tendency to engage in the maladaptive behavior of self-enhancement. Significant mediation tests indicated that self-enhancement was detracting from their interpersonal success. The peers of high self-esteem individuals perceive them as well adjusted despite their self-enhancing tendencies. High self-esteem individuals must have positive qualities that compensate for the negative consequences of their overly positive self-views. Among the most obvious candidates for such beneficial qualities are their emotional stability, optimism, and positive attitude toward others (Baumeister et al., 2003).

In sum, self-enhancement has proved to be a partial mediator in evaluating the consequences of high self-esteem and narcissism. Although high self-esteem individuals and narcissistic individuals self-enhance at comparable levels, their personal and interpersonal outcomes are rather different. Perhaps their self-enhancement behavior interacts with some unmeasured variable. More likely is that other unmeasured mediators are responsible.

\[27\] The exception seems to be that they become derogatory toward others during ego threat, as demonstrated by this study and many others.
Self-Esteem as a Dependent Variable

It is clear that higher self-esteem is associated with higher trait levels of self-enhancement. But the association may legitimately be interpreted in the opposite causal direction. Rather than a predictor variable, self-esteem has been considered by some researchers to be a dependent variable in research on positive self-evaluations. Following Taylor and Brown (1988), self-esteem scores might have been used as an outcome variable along with the other self-report measures (personal and interpersonal maladjustment). Those researchers interpreted the association of self-enhancement with self-esteem used as evidence for the adaptiveness of self-enhancement: Their argument was that repeated self-enhancement will promote and maintain a positive self-evaluation.

Earlier in this thesis, however, it was suggested that using self-esteem as a dependent variable might be problematic for several reasons. First, self-report bias will be included in both the predictor and the outcome variable thereby inducing an artifactual positive correlation between self-enhancement and self-esteem. Note that this criticism applies to both the social comparison and the discrepancy operationalizations of self-enhancement. This contamination would be especially serious when, as is typically the case, the two sets of self-ratings are administered in the same self-report battery.

A second problem with using self-esteem as a criterion variable is that its heterogeneity is now well-established. There are (at least) two types of high self-esteem,

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28 Note that self-esteem is rarely measured by any mode other than self-report. Observer ratings or behavioral indicators are seldom attempted. To many writers, the concept of self-esteem is necessarily a matter of self-perception necessarily evaluated by the participant (Taylor & Armor, 1996).
one form being healthier than the other. Therefore it now seems inappropriate to make uniform predictions resting on the assumption that self-esteem is an adaptive outcome.

Another aspect of current findings seems to undermine the utility of self-esteem as an outcome. In the literature it is suggested that the insecure high self-esteem individuals, rather than their secure high self-esteem counterparts, are to be more likely to engage in self-enhancement (e.g., Horney, 1950; Raskin, Novacek, & Hogan, 1991; Swann et al., 2003). The present results, however, indicate that the both secure high self-esteem and insecure high self-esteem individuals self-enhance more than low self-esteem individuals. In other words, high self-esteem individuals tend to self-enhance more than their low self-esteem counterparts and their tendencies do not differ as a function of how narcissistic they are.

Finally, another reason that undermines using self-esteem as a dependent variable follows the same reasoning that was mentioned in the discussion of mediation findings. That is self-esteem is a trait variable as opposed to a behavior. Self-enhancement, on the other hand could be better understood as a process or behavior that involves an exaggeration of one’s positive features. Thus it is logical to assume that trait variables such as self-esteem and narcissism temporally precede self-enhancement.

**Ethnic Differences**

The preliminary analyses indicated that the levels of self-esteem and self-enhancement differed across the two major ethnic groups, namely European-heritage and Asian-heritage participants. The focus of the current study, however, was the patterns of relations among the self-esteem and self-enhancement measures and the outcomes. Present analyses did not reveal any substantial difference in the patterns of associations.
Hence the relations among various forms of self-evaluation seem to apply to both ethnic groups. Moreover, the adaptiveness of self-evaluation seems to follow the same pattern. Nevertheless, the mean differences in levels of self-esteem self-enhancement deserve comment here. European-heritage participants showed higher self-esteem and higher self-enhancement than their Asian-heritage counterparts. Note that these participants are all operating in English at the same university in a Western setting. Nonetheless, the pattern of differences is consistent with previous cross-cultural research on self-esteem and self-enhancement. For example, a broad program of research by Heine and colleagues demonstrated that individuals from Western cultures (e.g., European-heritage Canadians) score higher on self-esteem and self-enhancement measures when compared to individuals from Eastern cultures, for example, Japanese (Heine, 1997; Heine & Lehman, 1999; Heine, Lehman, Markus, & Kitayama, 1999).

The present data extended those findings via the administration of more differentiated measures. They revealed the degree to which the overall ethnic difference was uniform across measures and content domains. Compared to those of Asian heritage, European-heritage participants were more likely to report being above average on the agentic traits, which is reflected in the reality of their trait measures. That is, when the trait differences in agentic traits were partialed out, no difference remained in the social comparison index. European heritage participants also scored higher on self-peer discrepancy in the communal domain. The latter effect might seem at odds with the traditional idea that the communal domain is valued more in Eastern cultures. Participants of Asian-heritage may be demonstrating their modesty by being reluctant to brag about their desirable levels of communal traits.
The importance of separating agentic and communal self-enhancement has been demonstrated in other research on cultural differences. Kurman (2001), for example demonstrated that Israeli Jews (an individualistic ethnic group) and Israeli Druze and Singaporeans (collectivistic ethnic groups) did not differ in their self-enhancing tendencies on communal traits. But the individualistic group was more likely to self-enhance on agentic traits. Similarly, Yik, Bond and Paulhus (1998) found that North American participants self-enhanced more than the Hong Kong Chinese participants especially on communal traits. In contrast, the two groups did not differ in their agentic self-enhancement. Future research should further explore the diverging pattern of self-enhancement across the different measures and domains of self-enhancement for different ethnic groups.

Limitations and Directions for Future Research

Limitations have been noted throughout the thesis but the key ones are worth summarizing here. To help overcome these limitations in future research, some recommendations including some new directions of inquiry will also be offered.

Operationalizations. Some limitations in the choice of predictor and outcome measures must be noted. The trait operationalizations of self-esteem and narcissism with the Rosenberg Self-Esteem scale and Narcissistic Personality Inventory are standard procedure in this literature. They have become almost synonymous with their respective constructs. But the distinction between secure and insecure high self-esteem has been conceptualized in a number of different ways in the literature (e.g., Deci & Ryan, 1995; Kernis, 1993; Salmivalli et al., 1999). Apart from the interaction between self-esteem and narcissism, researchers have used the interaction between self-esteem and (a)
stability of self-esteem, (b) contingency of self-esteem, and (c) self-concept clarity. The discrepancy between implicit and explicit self-esteem is another promising approach (e.g., Jordan et al., 2003). Therefore current conclusions relating to secure and insecure high self-esteem should be limited to the operationalization used in the present study. Future research would benefit from systematically comparing other conceptualizations of secure and insecure high self-esteem.

Other possible outcome variables were noted in the Introduction. As noted above, the multiple definitions of adaptiveness create complexity from the outset. It may not be possible to include every operationalization in a single study. Of particular value in future research would be short-term as well as long-term task performance variables. Such variables are well studied as a function of self-esteem (e.g., Di Paula & Campbell, 2002) and, to a lesser extent, as a function of narcissism (e.g., Wallace & Baumeister, 2002). Paulhus (1998) showed that self-enhancers were rated positively in an initial meeting of strangers but were rated negatively after seven meetings. The two have even been used as joint predictors: For example, Robins and Beer (2001) studied such long-term outcomes as school grades and drop-out rates. Unfortunately, they did not analyze the interaction, which would have provided information about the secure-insecure HSE distinction. Nor has short-term performance been studied as an outcome of either secure-insecure self-esteem or self-enhancement.

Other operationalizations of self-enhancement have recently appeared in the literature: the over-claiming method (Paulhus et al., 2003), Kwan’s social relations method (Kwan et al., 2004), and Kruger’s idiosyncratic method (Kruger, 1998). All of
the latter were designed to overcome the deficits in the social comparison method and, therefore, should support the current findings with the discrepancy method.

**Methodology.** A number of difficult methodological choices were made for practical reasons and predictable limitations were the result. For example, the choice to separate the large questionnaire sample into two smaller samples for the peer-rating and laboratory studies was necessary because the subject pool rules prevented more than 2 hours per subject. Hence, no comparisons of laboratory reactions with discrepancy self-enhancement could be performed.

The fact that the laboratory study lacked a manipulation was discussed above. The ability to analyze the threat condition in detail outweighed the value of having the non-threat control group. This choice was also justified by the fact that a number of studies in the previous literature also only used the threat condition.

Another limitation relates to the methodology used in the laboratory component. Recall that the ego-threatening feedback did not lead to the expected defensive reactions among insecure high self-esteem participants. It was concluded that these two groups do not differ in their reactions to ego threat. Another possible reason (discussed earlier) is a weakness in the ego threat measurement. Participants had an easy alternative explanation for the negative feedback. Another reason might be the low degree of self-relevance of the feedback to the participants’ self-concept. Recall that all participants received a negative *interpersonal* feedback. It is possible that individuals with less communal concerns (e.g., narcissists) did not find this type of feedback self-relevant. For example, a competence related (i.e., agentic) negative feedback would be more likely to be ego-threatening for narcissists. Thus future studies would benefit from a pre-assessment of
contingencies of self-worth (Crocker et al., 2001) and a manipulation of the self-
relevance of the feedback accordingly (i.e., contingency related vs. not).

Finally, a comment about the peer-rating assessments is necessary. The results
seemed to be coherent, for the most part, but the weak correlations with narcissism were
disappointing. They conflict with previous studies showing substantial negative ratings
of narcissists (e.g., John & Robins, 1994; Paulhus, 1998). Of interest is the fact that those
other studies used objective raters, that is, randomly-assigned strangers formed into
discussion groups. In contrast, participants in the present study nominated their own
raters. It is possible that narcissists do have a close group of friends who appreciate
them. The use of objective raters is recommended in future studies.

Public vs. Private Self-Enhancement. As noted in the introduction, the line of
research falling under the term "self-enhancement" refers primarily to private not public
self-enhancement. If distortion occurs even in private, it cannot be a matter of impression
management, that is, falsified self-descriptions purposely tailored to impress an audience.
The narcissism literature has many examples showing that (1) self-enhancement occurs in
private and (2) the degree of this self-enhancement correlates with narcissism scores
(e.g., Paulhus & Williams, 2002; Robins & John, 1997a,b). Moreover, self-enhancement
is not diminished by public accountability for self-reports (Paulhus et al., 2003; Robins &
John, 1997). Thus the distortion must involve self-deceptive illusions, that is, distortions
in actual self-perceptions.

Research suggests that self-reports in student samples, except in high-demand
situations, are relatively free of conscious faking (Piedmont, McCrae, Riemann &
Angleitner, 2000). Hence it is more likely that the present data is not so contaminated.
Self-enhancement found under public conditions would be more difficult to interpret. First, as noted by Taylor and colleagues (2003), it would create “a need to discriminate two qualitatively different phenomena of private versus public self-enhancement” (p. 174). The public distortion would raise implications of dishonesty and manipulation. And habitual public self-enhancement would create other problems for the perpetrator: “If people judiciously kept their egotistical beliefs to themselves, hiding any hint that they viewed themselves positively, egotistical actions would have few interpersonal consequences, there would be little need to consider egotistical behaviours as a class of aversive interpersonal behaviours” (Leary, et al., p.117).

Recent research by Wallace and Baumeister (2002) showed that narcissists, in presence of others, respond to self-enhancement demands by working harder and performing better. What we do not know from that research is whether the narcissists would self-enhance more, that is, provide more exaggeratedly positive self-descriptions.

Researchers therefore, should pursue the public-private distinction in a more systematic fashion. A future study could compare public versus private self-enhancement by manipulating the demand and the domain where self-enhancement takes place. Private self-enhancement can be guaranteed by ensuring anonymous measurement of self-reports and then connecting the criterion measure via using birthdates. Possible predictors of differences between public and private self-enhancement include self-deception vs. impression management (Paulhus, 1991), public self-consciousness (Buss, 1980; Carver & Scheier, 1981, Fenigstein, Scheier, & Buss, 1975); fear of negative evaluation; and approval motivation (Jones & Tager, 1972; Leary, Barnes, & Griebel, 1986; Millham &
Kellogg, 1980; Watson & Friend, 1969). The relative predictive power of these factors may also contribute further to our understanding of self-enhancement.

**Conclusions**

"In common English language usage, a variety of terms denote favorable or high self-opinions: self-esteem, pride, confidence, assuredness, self-love, conceitedness, vanity, self-worth, egotism, narcissism, arrogance, and so on. Although these terms share a common denotation of a person possessing a favorable self-opinion, they vary markedly in their evaluative connotations" (Jordan, Spencer and Zanna, 2002, p.119).

It is clear that positive self-evaluation comes in many forms. Therefore, there is no single answer to the question "Is positive self-evaluation a good thing?" The overall message from this dissertation is that research on grand psychological constructs such as self-esteem, narcissism, and self-enhancement requires attention to the heterogeneity and multifaceted nature of these constructs. A clear distinction among these different forms of positive evaluations is essential to our understanding of each construct on its own. As voiced by Jordan, Spencer, and Zanna (2002) in the above quote.

The debates swirling around the adaptiveness of self-esteem and self-enhancement, for example, are partly attributable to the numerous possible definitions and interpretations of what these terms mean. As demonstrated here, very different conclusions could be drawn about the adaptiveness of these constructs depending on the choice of operationalization.
Nor can the fundamental question of adaptiveness be answered without specifying the type of outcomes (i.e., subjective vs. objective; short-term vs. long-term; intrapsychic vs. interpersonal). Each form of positive self-evaluation has some adaptive correlates. Researchers of positive self-evaluations should especially be cautious, given the popularity of these constructs among general public, when using different forms of self-evaluations interchangeably. For example, using narcissism in lieu of insecure high self-esteem or self-enhancement in lieu of high self-esteem and in turn drawing conclusions about the consequences of high self-esteem could be misleading. And most importantly, “Important psychological insights come from comparing diverse operational definitions purporting to represent the same or closely associated psychological constructs” (Colvin, Funder, & Block, 1996).
REFERENCES


### Table 1a.

**Descriptive Statistics of Self-report Variables**

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<thead>
<tr>
<th></th>
<th>Possible Range</th>
<th>M</th>
<th>SD</th>
<th>α</th>
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<tbody>
<tr>
<td>Self-Esteem (SE)</td>
<td>(1-5)</td>
<td>3.70</td>
<td>0.80</td>
<td>.80</td>
</tr>
<tr>
<td>Narcissism (NPI)</td>
<td>(0 – 40)</td>
<td>14.38</td>
<td>6.80</td>
<td>.84</td>
</tr>
<tr>
<td>Social Comparison Index of Self-Enhancement</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>(1-5)</td>
<td>3.31</td>
<td>0.39</td>
<td>.76</td>
</tr>
<tr>
<td>Agentic Traits</td>
<td>(1-5)</td>
<td>3.03</td>
<td>0.55</td>
<td>.71</td>
</tr>
<tr>
<td>Communal Traits</td>
<td>(1-5)</td>
<td>3.58</td>
<td>0.51</td>
<td>.67</td>
</tr>
<tr>
<td>Personal Maladjustment</td>
<td>(1-5)</td>
<td>2.81</td>
<td>0.67</td>
<td>.73</td>
</tr>
<tr>
<td>Interpersonal Maladjustment</td>
<td>(1-5)</td>
<td>2.78</td>
<td>0.75</td>
<td>.69</td>
</tr>
</tbody>
</table>

*Note.* N = 456

### Table 1b.

**Intercorrelations of Self-report Variables**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Self-Esteem (SE)</td>
<td>-</td>
<td>.25</td>
<td>.41</td>
<td>.33</td>
<td>.31</td>
<td>-.59</td>
<td>-.01</td>
</tr>
<tr>
<td>2. Narcissism (NPI)</td>
<td>-</td>
<td>.37</td>
<td>.52</td>
<td>.02</td>
<td>-.16</td>
<td>.35</td>
<td></td>
</tr>
<tr>
<td>3. Overall Social Comparison Index (SCI)</td>
<td>-</td>
<td>.81</td>
<td>.74</td>
<td>-.31</td>
<td>.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. SCI Agentic Traits</td>
<td>-</td>
<td>.21</td>
<td>-.28</td>
<td>.24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. SCI Communal Traits</td>
<td>-</td>
<td>-.18</td>
<td>-.18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Personal Maladjustment</td>
<td>-</td>
<td>.19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Interpersonal Maladjustment</td>
<td>-</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* N = 456. All correlations larger than .12 are significant at 0.01 level (two-tailed).
Table 2a.

*Descriptive Statistics of Trait Positivity Indexes and Resulting Discrepancy Index.*

<table>
<thead>
<tr>
<th></th>
<th>Number of Items</th>
<th>M</th>
<th>SD</th>
<th>α</th>
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<tbody>
<tr>
<td><strong>Self-Rated</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>19</td>
<td>3.56</td>
<td>.44</td>
<td>.71</td>
</tr>
<tr>
<td>Agentic Traits</td>
<td>9</td>
<td>3.36</td>
<td>.55</td>
<td>.60</td>
</tr>
<tr>
<td>Communal Traits</td>
<td>10</td>
<td>3.69</td>
<td>.42</td>
<td>.77</td>
</tr>
<tr>
<td><strong>Peer-Rated</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>19</td>
<td>3.58</td>
<td>.33</td>
<td>.67</td>
</tr>
<tr>
<td>Agentic Traits</td>
<td>9</td>
<td>3.46</td>
<td>.43</td>
<td>.60</td>
</tr>
<tr>
<td>Communal Traits</td>
<td>10</td>
<td>3.69</td>
<td>.42</td>
<td>.65</td>
</tr>
<tr>
<td><strong>Discrepancy Index</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>19</td>
<td>-.09</td>
<td>1.79</td>
<td>.66</td>
</tr>
<tr>
<td>Agentic traits</td>
<td>9</td>
<td>-.18</td>
<td>1.21</td>
<td>.58</td>
</tr>
<tr>
<td>Communal traits</td>
<td>10</td>
<td>0.10</td>
<td>1.79</td>
<td>.64</td>
</tr>
</tbody>
</table>

*Note.* N = 123. Possible range for all items is 1 – 5.
Table 2b.

*Intercorrelations of Self- and Peer- Rated Trait Positivity Indexes and Discrepancy Index.*

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SR Index Overall</td>
<td></td>
<td>.74</td>
<td>.82</td>
<td>.25</td>
<td>.23</td>
<td>.16</td>
<td>.63</td>
<td>.40</td>
<td>.59</td>
</tr>
<tr>
<td>2. SR Agentic Traits</td>
<td></td>
<td></td>
<td></td>
<td>.22</td>
<td>.09</td>
<td>.23</td>
<td>-.09</td>
<td>.53</td>
<td>.64</td>
</tr>
<tr>
<td>3. SR Communal Traits</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.27</td>
<td>.12</td>
<td>.29</td>
</tr>
<tr>
<td>4. PR Index Overall</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.75</td>
<td>.80</td>
<td>-.57</td>
</tr>
<tr>
<td>5. PR Agentic Traits</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.19</td>
<td>-.40</td>
<td>-.60</td>
</tr>
<tr>
<td>6. PR Communal Traits</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.49</td>
<td>-.24</td>
</tr>
<tr>
<td>7. Overall Discrepancy Index (DI)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.76</td>
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<tr>
<td>8. DI Agentic Domain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. DI Communal Domain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* N = 123. SR = Self – rated, PR = Peer – rated. All correlations larger than .17 are significant at 0.05 level, all correlations larger than .23 are significant at 0.01 level (two-tailed).
Table 3.

*Descriptives and Intercorrelation of Peer-Rated Outcomes.*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Possible Range</th>
<th>M</th>
<th>SD</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Maladjustment</td>
<td>(1-5)</td>
<td>3.82</td>
<td>0.60</td>
<td>.82</td>
</tr>
<tr>
<td>Interpersonal Maladjustment</td>
<td>(1-5)</td>
<td>2.89</td>
<td>0.57</td>
<td>.81</td>
</tr>
</tbody>
</table>

*Note.* N = 123. The intercorrelation (r = .52) is significant at 0.01 level.
Table 4.

Correlations of Self-Esteem (SE) and Narcissism (NPI) with Outcomes

<table>
<thead>
<tr>
<th>Outcome</th>
<th>SE</th>
<th>NPI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self-report variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal Maladjustment</td>
<td>-.59**</td>
<td>-.16*</td>
</tr>
<tr>
<td>Interpersonal Maladjustment</td>
<td>-.02</td>
<td>+.36**</td>
</tr>
<tr>
<td><strong>Peer-rated variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal Maladjustment</td>
<td>-.32**</td>
<td>+.02</td>
</tr>
<tr>
<td>Interpersonal Maladjustment</td>
<td>-.30**</td>
<td>+.12</td>
</tr>
</tbody>
</table>

*Note. N = 456 for self-report variables, N = 123 for peer-rated variables. * p < .05, ** p < .01.*
Table 5.

*Hierarchical Regressions: Four Types of Outcomes Predicted by SE and NPI.*

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Predictor</th>
<th>$\beta$ alone</th>
<th>$\beta$</th>
<th>$t$</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR Personal Maladjustment</td>
<td>SE</td>
<td>-.59**</td>
<td>-.59**</td>
<td>-15.05</td>
</tr>
<tr>
<td></td>
<td>NPI</td>
<td>-.16**</td>
<td>-.01</td>
<td>-0.63</td>
</tr>
<tr>
<td></td>
<td>SE X NPI</td>
<td>.05 ms</td>
<td></td>
<td>1.29</td>
</tr>
<tr>
<td>Model $R^2 = .35$, $F(3, 451) = 82.14$, $p &lt; .01$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SR Interpersonal Maladjustment</td>
<td>SE</td>
<td>-.02</td>
<td>-.11*</td>
<td>-2.43</td>
</tr>
<tr>
<td></td>
<td>NPI</td>
<td>.35**</td>
<td>.37**</td>
<td>8.27</td>
</tr>
<tr>
<td></td>
<td>SE X NPI</td>
<td>.05 ms</td>
<td></td>
<td>1.24</td>
</tr>
<tr>
<td>Model $R^2 = .12$, $F(3, 451) = 23.40$, $p &lt; .01$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PR Personal Maladjustment</td>
<td>SE</td>
<td>-.31**</td>
<td>-.33**</td>
<td>-3.68</td>
</tr>
<tr>
<td></td>
<td>NPI</td>
<td>.03</td>
<td>.07</td>
<td>0.79</td>
</tr>
<tr>
<td></td>
<td>SE X NPI</td>
<td>.09</td>
<td></td>
<td>1.11</td>
</tr>
<tr>
<td>Model $R^2 = .12$, $F(3, 119) = 5.29$, $p &lt; .01$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PR Interpersonal Maladjustment</td>
<td>SE</td>
<td>-.27**</td>
<td>-.31**</td>
<td>-3.46</td>
</tr>
<tr>
<td></td>
<td>NPI</td>
<td>.08</td>
<td>.17 ms</td>
<td>1.82</td>
</tr>
<tr>
<td></td>
<td>SE X NPI</td>
<td>-.11 ms</td>
<td></td>
<td>-1.23</td>
</tr>
<tr>
<td>Model $R^2 = .10$, $F(3, 119) = 4.41$, $p &lt; .05$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Above are the final models. SR = Self-Report, PR = Peer – Rated. $N = 456$ for self-report variables, $N = 123$ for peer-rated variables. $ms$ marginally significant, $p < .12$, * $p < .05$, ** $p < .01$. The predicted tests were one-tailed.
Table 6.

**Correlations of Self-Esteem and Narcissism with Reactions to Ego-threat**

<table>
<thead>
<tr>
<th>Possible</th>
<th>Rosenberg Self-Esteem (SE)</th>
<th>Narcissim (NPI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defensiveness Composite</td>
<td>(1-7)</td>
<td>0.78</td>
</tr>
<tr>
<td>Composite of Net Positive Affect</td>
<td>(1-5)</td>
<td>3.58</td>
</tr>
</tbody>
</table>

*Note. N=94. \textsuperscript{**} p < 0.01; \textsuperscript{ms} marginally significant. The predicted tests were one-tailed.*
Table 7.

*Hierarchical Regressions Predicting Reactions to Ego-threat*

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Predictor</th>
<th>β</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defensiveness Composite</td>
<td>SE</td>
<td>.11</td>
<td>-0.94</td>
</tr>
<tr>
<td></td>
<td>NPI</td>
<td>.05</td>
<td>-0.39</td>
</tr>
<tr>
<td></td>
<td>SE x NPI</td>
<td>-.14</td>
<td>1.28</td>
</tr>
<tr>
<td>Model $R^2 = .05$, $F(3, 89) = 1.42$, $p = .24$</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Composite of Net Positive Affect  | SE        | .33  | 3.03* |
|                                   | NPI       | .17<sup>ms</sup> | 1.65 |
|                                   | SE x NPI  | -.11 | -1.07 |
| Model $R^2 = .21$, $F(3, 89) = 7.78$, $p < .01$ |

*Note.* Above are the final models. $N = 94$. * $p < .01$; <sup>ms</sup> marginally significant. The predicted tests were one-tailed.
### Table 8.

*Correlations of Two Self-Enhancement Measures with Outcome Variables*

<table>
<thead>
<tr>
<th>Self-Enhancement Index</th>
<th>Self-Reported Maladjustment</th>
<th>Peer-Rated Maladjustment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Personal</td>
<td>Interpersonal</td>
</tr>
<tr>
<td><strong>Before controlling for trait positivity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Comparison</td>
<td>-.17</td>
<td>.03</td>
</tr>
<tr>
<td>Discrepancy</td>
<td>-.22</td>
<td>.12</td>
</tr>
<tr>
<td><strong>After controlling for trait positivity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Comparison</td>
<td>.07</td>
<td>.01</td>
</tr>
<tr>
<td>Discrepancy</td>
<td>-.18</td>
<td>.11</td>
</tr>
</tbody>
</table>

*Note. N = 123. Correlations larger than .11 are marginally significant, all correlations larger than .17 are significant at 0.05 level. One-tailed tests were used for predicted values.*
Table 9.

Outcomes of Self-Enhancement in Agentic and Communal Domains

<table>
<thead>
<tr>
<th>Self-Enhancement Index</th>
<th>Self-Report Maladjustment</th>
<th>Peer-Rated Maladjustment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Personal</td>
<td>Interpersonal</td>
</tr>
<tr>
<td><strong>Agentic Domain</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Comparison</td>
<td>-.15</td>
<td>.25</td>
</tr>
<tr>
<td>Discrepancy</td>
<td>-.14</td>
<td>.20</td>
</tr>
<tr>
<td><strong>Communal Domain</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Comparison</td>
<td>-.10</td>
<td>-.24</td>
</tr>
<tr>
<td>Discrepancy</td>
<td>-.21</td>
<td>-.01</td>
</tr>
</tbody>
</table>

*Note.* N = 123. Correlations larger than .12 are marginally significant, all correlations larger than .17 are significant at 0.05 level. The predicted tests were one-tailed.
Table 10.

Correlations of Self-Esteem (SE) and Narcissism (NPI) with the two Operationalizations of Self-Enhancement

<table>
<thead>
<tr>
<th>Self-Enhancement Index</th>
<th>SE</th>
<th>NPI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social Comparison</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>.35</td>
<td>.34</td>
</tr>
<tr>
<td>Agentic</td>
<td>.23</td>
<td>.48</td>
</tr>
<tr>
<td>Communal</td>
<td>.31</td>
<td>-.04</td>
</tr>
<tr>
<td><strong>Self-Peer Discrepancy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>.35</td>
<td>.21</td>
</tr>
<tr>
<td>Agentic</td>
<td>.28</td>
<td>.28</td>
</tr>
<tr>
<td>Communal</td>
<td>.28</td>
<td>.07</td>
</tr>
</tbody>
</table>

*Note. N = 123. All correlations larger than .20 are significant at 0.01 level (two-tailed).*
Table 11.

Descriptives and Intercorrelations of Self-Esteem, Narcissism and Self-Enhancement For European and Asian Heritage Participants

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>SE</th>
<th>NPI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EH</td>
<td>AH</td>
<td>EH</td>
<td>AH</td>
</tr>
<tr>
<td>SE a</td>
<td>3.97</td>
<td>3.52</td>
<td>0.77</td>
<td>0.76</td>
</tr>
<tr>
<td>NPI a</td>
<td>15.57</td>
<td>13.41</td>
<td>7.06</td>
<td>6.62</td>
</tr>
</tbody>
</table>

Social Comparison Index

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>SE</th>
<th>NPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total a</td>
<td>3.35</td>
<td>3.26</td>
<td>0.43</td>
<td>0.37</td>
</tr>
<tr>
<td>Agentic a</td>
<td>3.14</td>
<td>2.99</td>
<td>0.60</td>
<td>0.52</td>
</tr>
<tr>
<td>Communal a</td>
<td>3.56</td>
<td>3.53</td>
<td>0.49</td>
<td>0.44</td>
</tr>
</tbody>
</table>

Discrepancy Index

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>SE</th>
<th>NPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total b</td>
<td>0.06</td>
<td>-0.08</td>
<td>0.49</td>
<td>0.46</td>
</tr>
<tr>
<td>Agentic b</td>
<td>-0.14</td>
<td>-0.08</td>
<td>0.57</td>
<td>0.65</td>
</tr>
<tr>
<td>Communal b</td>
<td>0.20</td>
<td>-0.09</td>
<td>0.61</td>
<td>0.60</td>
</tr>
</tbody>
</table>

Note. SR = Self-Report, PR = Peer - Rated, EH = European Heritage, AH = Asian Heritage. SE = Rosenberg Self-Esteem Scale, NPI = Narcissistic Personality Inventory. a N_EH = 163 and N_AH = 241, b N_EH = 50 and N_AH = 62, * p < .05, ** p < .01. Mean differences are significant for SE, NPI, total social comparison index, social comparison index on agentic traits, and discrepancy index on communal traits, ps < .05.
Table 12.

*Correlations of Self-Esteem, Narcissism and Self-Enhancement With Outcome Variables For European- and Asian-Heritage Participants*

<table>
<thead>
<tr>
<th>Variables</th>
<th>SR Personal Maladjustment</th>
<th>SR Interpersonal Maladjustment</th>
<th>PR Personal Maladjustment</th>
<th>PR Interpersonal Maladjustment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EH</td>
<td>AH</td>
<td>EH</td>
<td>AH</td>
</tr>
<tr>
<td>SE (^a)</td>
<td>-.65**</td>
<td>-.48**</td>
<td>.05</td>
<td>-.01</td>
</tr>
<tr>
<td>NPI (^a)</td>
<td>-.15</td>
<td>-.08</td>
<td>.38**</td>
<td>.36**</td>
</tr>
</tbody>
</table>

Social Comparison Index of Self-Enhancement

| Total \(^a\)                             | -.29** | -.28** | .12 | .07 | .23 | .18 | -.04 | -.04 |
| Agentic \(^a\)                           | -.27** | -.23** | .23** | .31** | .10 | .11 | .05 | .04 |
| Communal \(^a\)                          | -.17* | -.19** | -.12 | -.25** | .23 | .16 | -.11 | -.11 |

Discrepancy Index of Self-Enhancement

| Total \(^b\)                             | -.22 | -.12 | .12 | .07 | -.26 | -.22 | .30* | .17 |
| Agentic \(^b\)                           | -.17 | -.11 | .28 | .13 | -.32** | -.24 | .24 | -.06 |
| Communal \(^b\)                          | -.20 | -.07 | -.05 | -.02 | -.12 | -.09 | .25 | .30* |

*Note.* SR = Self-Report, PR = Peer-Rated, EH = European Heritage, AC = Asian Heritage. SE = Rosenberg Self-Esteem Scale, NPI = Narcissistic Personality Inventory. \(^a\) \(N_{EH} = 163\) and \(N_{AH} = 241\), \(^b\) \(N_{EH} = 50\) and \(N_{AH} = 62\). * \(p < .05\), ** \(p < .01\)
Table 13.

Descriptives and Intercorrelations of Self-Esteem, Narcissism and Self-Enhancement For Male and Female Participants

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>SE</th>
<th>NPI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
<td>Females</td>
<td>Males</td>
<td>Females</td>
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<tr>
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<td>3.80</td>
<td>0.86</td>
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<td>NPI a</td>
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<td>7.08</td>
<td>6.70</td>
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Social Comparison Index

<table>
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<th>SD</th>
<th>SE</th>
<th>NPI</th>
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<tbody>
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<td>Females</td>
<td>Males</td>
<td>Females</td>
</tr>
<tr>
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<td>3.32</td>
<td>0.41</td>
<td>0.37</td>
</tr>
<tr>
<td>Agentic a</td>
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<td>0.55</td>
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<tr>
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Discrepancy Index

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<th>SD</th>
<th>SE</th>
<th>NPI</th>
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<td></td>
<td>Males</td>
<td>Females</td>
<td>Males</td>
<td>Females</td>
</tr>
<tr>
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<td>0.66</td>
<td>0.61</td>
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<tr>
<td>Communal b</td>
<td>-0.06</td>
<td>0.20</td>
<td>0.80</td>
<td>0.60</td>
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</tbody>
</table>

Note. SR = Self-Report, PR = Peer – Rated, SE = Rosenberg Self-Esteem Scale, NPI = Narcissistic Personality Inventory. \(^a\) N\textsubscript{males} = 122 and N\textsubscript{females} = 330, \(^b\) N\textsubscript{males} = 18 and N\textsubscript{females} = 105, * \(p < .05\), ** \(p < .01\). Mean differences are significant for SE and social comparison index on communal traits, \(ps < .05\).
Table 14.

Correlations of Self-Esteem, Narcissism and Self-Enhancement With Outcome Variables For Male and Female Participants

<table>
<thead>
<tr>
<th>Variables</th>
<th>SR Personal Maladjustment</th>
<th>SR Interpersonal Maladjustment</th>
<th>PR Personal Maladjustment</th>
<th>PR Interpersonal Maladjustment</th>
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<td></td>
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<td>Females</td>
<td>Males</td>
<td>Females</td>
</tr>
<tr>
<td>SE a</td>
<td>.05</td>
<td>.03</td>
<td>-.54**</td>
<td>-.60**</td>
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<tr>
<td>NPI a</td>
<td>.30**</td>
<td>.36**</td>
<td>-.14</td>
<td>-.18*</td>
</tr>
</tbody>
</table>

Social Comparison Index of Self-Enhancement

| Total a                    | .10   | .06     | -.30** | -.30**  | -.29  | -.23*   | .02   | -.12    |
| Agentic a                  | .19*  | .24**   | -.29** | -.30**  | -.03  | -.12    | .25   | -.04    |
| Communal a                 | -.05  | -.18**  | -.20*  | -.16**  | -.34  | -.25*   | -.22  | -.15    |

Discrepancy Index of Self-Enhancement

| Total b                    | -.13  | .16     | -.10   | -.24*   | -.29  | .28**   | .12   | .21*    |
| Agentic b                  | .23   | .19     | .23    | -.20*   | -.03  | .27**   | -.03  | .09     |
| Communal b                 | -.32  | .08     | -.27   | -.20*   | -.29  | .20*    | .15   | .25*    |

Note. SR = Self-Report, PR = Peer – Rated. a N_males = 122 and N_females = 330, b N_males = 18 and N_females = 105

* p < .05, ** p < .01
Figure 1. Self-report interpersonal maladjustment as a function of self-esteem and narcissism. LSE = low self-esteem; HSE = high self-esteem. Note: values shown are predicted scores calculated at ± 1 SD from the mean on self-esteem and narcissism.
Figure 2. Peer-rated personal maladjustment as a function of self-esteem and narcissism. LSE = low self-esteem; HSE = high self-esteem. Note: values shown are predicted scores calculated at ± 1 SD from the mean on self-esteem and narcissism.
Figure 3. Mediation between self-esteem and self-report personal maladjustment, and narcissism and self-report personal maladjustment. Note. All values are correlations; those in bold are partial correlations. All correlations larger than .12 are significant at $p < .05$. * next to the arrow indicates significant mediation effect at $p < .05$; predicted tests were one-tailed.
Figure 4. Mediation between self-esteem and self-report interpersonal maladjustment, and narcissism and self-report interpersonal maladjustment. Note. All values are correlations; those in bold are partial correlations. All correlations larger than .12 are significant at $p < .05$. 
Figure 5. Mediation between self-esteem and peer-rated personal maladjustment, and narcissism and peer-rated personal maladjustment. Note. All values are correlations; those in bold are partial correlations. All correlations larger than .02 are significant at $p < .05$. * next to the arrow indicates significant mediation effect at $p < .05$; predicted tests were one-tailed.
Figure 6. Mediation between self-esteem and peer-rated interpersonal maladjustment, and narcissism and peer-rated interpersonal maladjustment. Note. All values are correlations; those in bold are partial correlations. All correlations larger than .07 are significant at $p < .05$. * next to the arrow indicates significant mediation effect at $p < .05$; predicted tests were one-tailed.
Appendix I: Definitions of Self-Esteem and Self-Enhancement

Definitions of Self-Esteem

- Positive attitude (self-feelings; self-affect) (Brown, 1998)
- Positive self-worth; self-evaluation (Marsh, 1990)
- Self-acceptance (Rogers, 1961)

Measures of Self-Esteem

- Rosenberg Self-Esteem scale (Rosenberg, 1965).
- Texas Social Behavior Inventory (Helmreich, & Stapp, 1974)
- Marsh (1990)

Definitions of Self-Enhancement

- Augmenting the positivity of the self-concept (to achieve or maintain self-esteem).
- Enhancing the positivity of the self-concept and protecting the self from negative information (Sedikides, 1993).
- Paying attention to one’s positive assets (Swann, 1990).
- Self-advancement: improving one’s positive assets (Schwartz, 1992).

Operationalizations of Self-Enhancement

*Discrepancy with External Criterion:*

- overestimating one’s positivity relative to a credible criterion (e.g., Colvin, Block, & Funder, 1995; John & Robins, 1994);
- the tendency to describe oneself more positively than a normative criterion would predict (Krueger, 1998, p. 505)
- Unrealistically positive self-perceptions (Paulhus & John, 1998; Robins & Paulhus, 2001)
Social Comparison Definitions:

- To have unrealistically positive self-views/ self-perceptions (Taylor & Brown, 1988); overly positive self-conceptions (Taylor et al., 1989); self-aggrandizement (Taylor & Armor, 1996).

- To rate oneself more positively than others (Brown, 1998); the degree to which a people rate themselves higher than they rates others (Kenny, 1994).

Krueger’s measure

- Correlation between importance of various personal attributes and one’s self-rating on those attributes (Krueger, 1999).

Overclaiming index:

- Claiming to be familiar with items that don’t actually exist (Paulhus et al., 2003).

Kwan’s SRM measure

- Similar to discrepancy measure but removes both target and rater effects from the self-rating (Kwan et al., 2004).
Appendix II: Questionnaire Component Materials

SELF-DESCRIPTION INVENTORY

Instructions:
For each of the statements/traits located on the next 10 pages, please indicate your level of agreement or disagreement by circling one of the scale categories on the scantron sheet. Use the scale as shown on top of each page.

Please try and make use of all levels of the scale in your answers. Read each item carefully and circle the scale that best reflects your actual opinion about yourself. Please do not skip any items; note that the items are printed on the FRONT and BACK of each page.

We will be collecting the envelopes at the end of your next 2 classes. When you hand in your envelope we will give you a credit slip which you will use to enter your credits for participating in this study.

Age_____ Male_____ Female_____ 
Your birthplace (country only) 
Mother’s birthplace (country only) 
Father’s birthplace (country only) 
If not born in Canada, what year did you move here? ______ 
Your predominant ethnic background: (e.g. European, Chinese, African, Hispanic, Philippine, etc.) 
Is your ethnic background an important influence now on your beliefs, values, and behaviour? (Circle one number) 
Not at all 1 2 3 4 5  Very much 
Your first language (the language you were first fluent in) (e.g. English, French, Chinese, Japanese, Pharsi, etc.) 

The questionnaire will take about 30 minutes. Complete in a very quiet, private location only.
Using the scale below as a guide, circle in a number on the scantron sheet to indicate how true each statement is.

+ + + + +

1 2 3 4 5

not true somewhat very true

(Items 1 – 35: Contingencies of Self-Worth Scale, Crocker, Luhtanen, & Bouvrette, 2001).

1. When I think I look attractive, I feel good about myself.

2. My self-worth is based on God's love.

3. I feel worthwhile when I perform better than others on a task or skill.

4. My self-esteem is unrelated to how I feel about the way my body looks.

5. Doing something I know is wrong makes me lose my self-respect.

6. I don't care if other people have a negative opinion about me.

7. Knowing that my family members love me makes me feel good about myself.

8. I feel worthwhile when I have God's love.

9. I can't respect myself if others don't respect me.

10. My self-worth is not influenced by the quality of my relationships with my family members.

11. Whenever I follow my moral principles, my sense of self-respect gets a boost.

12. Knowing that I am better than others on a task raises my self-esteem.

13. My opinion about myself isn't tied to how well I do in school.

14. I couldn't respect myself if I didn't live up to a moral code.

15. I don't care what other people think of me.

16. When my family members are proud of me, my sense of self-worth increases.

17. My self-esteem is influenced by how attractive I think my face or facial features are.
18. My self-esteem would suffer if I didn't have God's love.


20. Doing better than others gives me a sense of self-respect.


22. I feel better about myself when I know I'm doing well academically.

23. What others think of me has no effect on what I think about myself.

24. When I don't feel loved by my family, my self-esteem goes down.

25. My self-worth is affected by how well I do when I am competing with others.

26. My self-esteem goes up when I feel that God loves me.

27. My self-esteem is influenced by my academic performance.

28. My self-esteem would suffer if I did something unethical.

29. It is important to my self-respect that I have a family that cares about me.

30. My self-esteem does not depend on whether or not I feel attractive.

31. When I think that I'm disobeying God, I feel bad about myself.

32. My self-worth is influenced by how well I do on competitive tasks.

33. I feel bad about myself whenever my academic performance is lacking.

34. My self-esteem depends on whether or not I follow my moral/ethical principles.

35. My self-esteem depends on the opinions others hold of me.

(Items 36 – 75: Balanced Inventory of Desirable Responding, Paulhus, 1988, 1998)

36. My first impressions of people usually turn out to be right.
37. It would be hard for me to break any of my bad habits.

38. I don't care to know what other people really think of me.

39. I have not always been honest with myself.

40. I always know why I like things.

41. When my emotions are aroused, it biases my thinking.

42. Once I've made up my mind, other people can seldom change my opinion.

43. I am not a safe driver when I exceed the speed limit.

44. I am fully in control of my own fate.

45. It's hard for me to shut off a disturbing thought.

46. I never regret my decisions.

47. I sometimes lose out on things because I can't make up my mind soon enough.

48. The reason I vote is because my vote can make a difference.

49. My parents were not always fair when they punished me.

50. I am a completely rational person.

51. I rarely appreciate criticism.

52. I am very confident of my judgments

53. I have sometimes doubted my ability as a lover.

54. It's all right with me if some people happen to dislike me.

55. I don't always know the reasons why I do the things I do.

56. I sometimes tell lies if I have to.

57. I never cover up my mistakes.
58. There have been occasions when I have taken advantage of someone.

59. I never swear.

60. I sometimes try to get even rather than forgive and forget.

61. I always obey laws, even if I'm unlikely to get caught.

62. I have said something bad about a friend behind his/her back.

63. When I hear people talking privately, I avoid listening.

64. I have received too much change from a salesperson without telling him or her.

65. I always declare everything at customs.

66. When I was young I sometimes stole things.

67. I have never dropped litter on the street.

68. I sometimes drive faster than the speed limit.

69. I never read sexy books or magazines.

70. I have done things that I don't tell other people about.

71. I never take things that don't belong to me.

72. I have taken sick-leave from work or school even though I wasn't really sick.

73. I have never damaged a library book or store merchandise without reporting it.

74. I have some pretty awful habits.

75. I don't gossip about other people's business.

(Items 76 – 87: Self-Concept Clarity Scale, Campbell et al., 1996)

76. My beliefs about myself often conflict with one another.
77. On one day I might have one opinion of myself and on another day I might have a different opinion.

78. If I were asked to describe my personality, my description might end up being different from one day to another day.

79. My beliefs about myself seem to change very frequently.

80. When I think about the kind of person I have been in the past, I'm not sure what I was really like

81. Sometimes I feel that I am not really the person that I appear to be

82. I seldom experience conflict between the different aspects of my personality

83. Sometimes I think I know other people better than I know myself.

84. I spend a lot of time wondering about what kind of person I really am

85. Even if I wanted to, I don’t think I could tell someone what I’m really like.

86. In general, I have a clear sense of who I am and what I am

87. It is often hard for me to make up my mind about things because I don’t really know what I want.

(Items 88 - 107: Self-Esteem Based in Romantic Partner, Campbell, 1999)

88. I do not base my self-worth on whether or not a man/woman/my partner is in love with me.

89. Being rejected by a man/woman/my partner makes me feel worthless.

90. When I am criticized by a man/woman/my partner, my self-esteem is deflated.

91. It is very important to my self-esteem to have a successful relationship with a man/woman/my partner.

92. I can’t view myself as a successful person unless a man/woman/my partner cares for me.
93. It is important to my self-worth to feel loved by a man/woman/my partner.

94. I feel inadequate when a man/woman/my partner doesn’t want to spend time with me.

95. If a man/woman/my partner is attracted to my best friend, I think there’s something wrong with me.

96. My self-esteem does not depend on whether or not a man/woman/my partner is paying a lot of attention to me.

97. When I am alone, I often feel that it is because a man/woman/my partner does not want to be with me.

98. I am dependent on the affection of a man/woman/my partner for feeling good about myself.

99. My self-esteem is not related to having the approval of a man/woman/my partner.

100. I need to have a man/woman/my partner show me unconditional love in order to feel satisfied about myself.

101. When I see my friends being more successful than I in romantic relationships, I am inclined to think that I am a failure.

102. Having a positive attitude toward myself does not depend on the love of a man/woman/my partner.

103. I feel more worthwhile when I receive acknowledgment from a man/woman/my partner.

104. I feel complete when I’m in a romantic relationship

105. I don’t feel whole unless I’m with a man/woman/my partner

106. My sense of self-worth suffers when a man/woman/my partner criticizes my appearance

107. When a man/woman/my partner doesn’t want to be as close as I do, I feel bad about myself
(Items 108 – 119: Rosenberg Self-Esteem Scale, 1965)

108. I feel that I'm a person of worth, at least on an equal basis with others

109. I feel that I have a number of good qualities

110. All in all, I am inclined to feel that I am a failure

111. I am able to do things as well as most other people

112. I feel I do not have much to be proud of

113. I take a positive attitude toward myself

114. On the whole, I am satisfied with myself

115. I wish I could have more respect for myself

116. I certainly feel useless at times

117. At times I think I’m no good at all


118. I am not a worrier

119. I often feel inferior to others

(Items 120 – 134: Contingent Self-Esteem Scale, Kernis & Paradise, 1999)

120. An important measure of my worth is how competently I perform.

121. Even in the face of failure, my feelings of self-worth remain unaffected.

122. A big determinant of how much I like myself is how well I perform up to the standards that
   I have set for myself.

123. My overall feelings about myself are heavily influenced by how much other people like
    and accept me.
124. If I get along well with somebody, I feel better about myself overall.

125. My overall feelings about myself are heavily influenced by what I believe other people are saying or thinking about me.

126. If I am told that I look good, I feel better about myself in general.

127. My feelings of self-worth are basically unaffected when other people treat me badly.

128. An important measure of my worth is how well I perform up to the standards that other people have set for me.

129. If I know that someone likes me, I do not let it affect how I feel about myself.

130. When my actions do not live up to my expectations, it makes me feel dissatisfied with myself.

131. Even on a day when I don't look my best, my feelings of self-worth remain unaffected.

132. My overall feelings about myself are heavily influenced by how good I look.

133. Even in the face of rejection, my feelings of self-worth remain unaffected.

(Items 134 – 146: Aggression Scale, Buss, & Perry, 1992)

134. I tell my friends openly when I disagree with them.

135. I flare up quickly but get over it quickly.

136. I often find myself disagreeing with people.

137. At times I feel I have gotten a raw deal out of life.

138. When people annoy me, I may tell them what I think of them.

139. Other people always seem to get the breaks.

140. I can't help getting into arguments when people disagree with me.
I wonder why sometimes I feel so bitter about things.

I know that “friends” talk about me behind my back.

My friends say that I am somewhat argumentative.

I am suspicious of overly friendly strangers.

I sometimes feel that people are laughing at me behind my back.

When people are especially nice, I wonder what they want.

(Items 148 – 187: Narcissistic Personality Inventory, Raskin & Hall, 1979)

In each of the following pairs of attitudes, choose the one that you most agree with. Mark your answer by circling in either A or B on the scantron sheet. Only mark one answer for each attitude pair, and please do not skip any items.

148 A I have a natural talent for influencing people.
     B I am not good at influencing people.

149 A Modesty doesn’t become me.
     B I am essentially a modest person.

150 A I would do almost anything on a dare.
     B I tend to be a fairly cautious person.

151 A When people compliment me I sometimes get embarrassed.
     B I know that I am good because everybody keeps telling me so.

152 A The thought of ruling the world frightens the hell out of me.
     B If I ruled the world it would be a much better place.

153 A I can usually talk my way out of anything.
     B I try to accept the consequences of my behavior.

154 A I prefer to blend in with the crowd.
     B I like to be the center of attention.

155 A I will be a success.
     B I am not too concerned about success.

156 A I am no better or no worse than most people.
     B I think I am a special person.
157 A I am not sure if I would make a good leader.
   B I see myself as a good leader.

158 A I am assertive.
   B I wish I were more assertive.

159 A I like to have authority over other people.
   B I don’t mind following orders.

160 A I find it easy to manipulate people.
   B I don’t like it when I find myself manipulating people.

161 A I insist upon getting the respect that is due me.
   B I usually get the respect that I deserve.

162 A I don’t particularly like to show off my body.
   B I like to display my body.

163 A I can read people like a book.
   B People are sometimes hard to understand.

164 A If I feel competent I am willing to take responsibility for making
   B decisions.
   I like to take responsibility for making decisions.

165 A I just want to be reasonably happy.
   B I want to amount to something in the eyes of the world.

166 A My body is nothing special.
   B I like to look at my body.

167 A I try not to be a show off.
   B I am apt to show off if I get the chance.

168 A I always know what I am doing.
   B Sometimes I am not sure of what I am doing.

169 A I sometimes depend on people to get things done.
   B I rarely depend on anyone else to get things done.

170 A Sometimes I tell good stories.
   B Everybody likes to hear my stories.

171 A I expect a great deal from other people.
   B I like to do things for other people.

172 A I will never be satisfied until I get all that I deserve.
B I take satisfactions as they come.

173 A Compliments embarrass me.
B I like to be complimented.

174 A I have a strong will to power.
B Power for its own sake doesn’t interest me.

175 A I don’t care about new fads and fashions.
B I like to start new fads and fashions.

176 A I like to look at myself in the mirror.
B I am not particularly interested in looking at myself in the mirror.

177 A I really like to be the center of attention.
B It makes me uncomfortable to be the center of attention.

178 A I can live my life in any way I want to.
B People can’t always live their lives in terms of what they want.

179 A Being an authority doesn’t mean that much to me.
B People always seem to recognize my authority.

180 A It makes little difference to me whether I am a leader or not.
B I would prefer to be a leader.

181 A I am going to be a great person.
B I hope I am going to be successful.

182 A People sometimes believe what I tell them.
B I can make anybody believe anything I want them to.

183 A I am a born leader.
B Leadership is a quality that takes a long time to develop.

184 A I wish somebody would someday write my biography.
B I don’t like people to pry into my life for any reason.

185 A I get upset when people don’t notice how I look when I go out in public.
B I don’t mind blending into the crowd when I go out in public.

186 A I am more capable than other people.
B There is a lot that I can learn from other people.

187 A I am much like everybody else.
B I am an extraordinary person.
Please use this list of common human traits to describe yourself as accurately as possible by circling in a number on the scantron sheet indicating how accurately that trait describes you, using the following rating scale.

```
+________+________+________+________+
1       2       3       4       5
```

not accurate somewhat very accurate

(Items 188 – 210 Mini Markers, Saucier, 1994 and agentic and communal traits)

188. talkative 189. warm 190. careless 191. philosophical
192. moody 193. dominant 194. bashful 195. sympathetic
196. sloppy 197. intellectual 198. temperamental 199. reliable
200. withdrawn 201. harsh 202. organized 203. imaginative
204. unenvious 205. fault-finding 206. extroverted 207. rude
208. efficient 209. uncreative 210. touchy

For the below traits, please circle in a number indicating how you rate yourself relative to other college students of your own age by using the following scale

```
1 = much less than the average college student
2 = less than the average college student
3 = about the same as the average college student
4 = more than the average college student
5 = much more than the average college student
```


211. intellectual/academic ability 212. social skills/social competence
213. artistic and/or musical ability 214. athletic ability
215. physical attractiveness 216. bold
217. kind 218. unorganized 219. deep
1 = much less than the average college student
2 = less than the average college student
3 = about the same as the average college student
4 = more than the average college student
5 = much more than the average college student

| 220. relaxed | 221. shy | 222. unsympathetic |
| 223. dutiful | 224. unintellectual | 225. jealous |
| 226. energetic | 227. cold | 228. systematic |
| 229. creative | 230. envious | 231. quiet |
| 232. cooperative | 233. inefficient | 234. fretful |
| 235. assertive | 236. dependable | 237. passive |
Appendix III: Peer-Ratings Component Materials

Dear participant,

Your friend ____________ has given his/her consent that we contact you for a brief questionnaire and he/she agreed that he/she would inform you about our study. The purpose of this investigation is to achieve a better understanding of the ways in which culture affects self-concept. Below we are asking you to respond to brief questionnaire about the personality of your friend.

By responding to the questionnaire you are assumed to be giving your consent to participate in the study. All information collected in this study will be kept strictly confidential, and your name will never be associated with your responses. Your responses will be kept strictly confidential and your friend will not have access to your responses by any means.

Your participation in this study is completely voluntary. You are free to withdraw at any time without prejudice to your friend's standing within the University of British Columbia or his/her class.

Please complete and email back the questionnaire. Your cooperation is much appreciated. Thank you for your time.

Campbell Lab

Psychology Department

University of British Columbia
Please use this list of common human traits to describe **YOUR FRIEND** as accurately as possible. Before each trait, please write a number indicating how accurately that trait describes your friend, using the following rating scale.

![Rating Scale](image)

<table>
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<tr>
<th>Trait</th>
<th>Accuracy</th>
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<tr>
<td>1 talkative</td>
<td>9 warm</td>
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<tr>
<td>2 philosophical</td>
<td>10 moody</td>
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<td>3 bashful</td>
<td>11 sympathetic</td>
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<td>4 intellectual</td>
<td>12 temperamental</td>
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<td>5 withdrawn</td>
<td>13 harsh</td>
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<td>6 imaginative</td>
<td>14 unenvious</td>
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<tr>
<td>7 extroverted</td>
<td>15 rude</td>
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<tr>
<td>8 uncreative</td>
<td>16 touchy</td>
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</table>
Using the scale below, write a number beside each statement to indicate how true it is of your friend.

+ + + + +
1 2 3 4 5
not accurate somewhat very accurate

24. Can't take criticism. 32. Always wants to be the center of attention.
26. Overestimates abilities. 34. Is well adjusted.
27. Gets hostile when challenged. 35. Thinks too much of himself/herself.
28. Is mentally healthy. 36. Doesn’t like to talk about his/her failures.
29. Tends to brag too much. 37. Is secure about himself/herself.
30. Has warm and trusting relationships. 38. Is in peace with himself/herself.
Appendix IV: Laboratory Component Materials

REACTIONS QUESTIONNAIRE

Instructions:
For each of the statements located on the next 3 pages, please indicate your level of agreement or disagreement by circling one of the scale categories.

Please do not skip any items; note that the items are printed on the FRONT and BACK of each page.

Age _____ Male _____ Female _____

Your predominant ethnic background:
(e.g. European, Chinese, African, Hispanic, Philippine, etc.)

Is your ethnic background an important influence now on your beliefs, values, and behaviour? (Circle one number) (Circle one number)

Not at all 1 2 3 4 5
Very much

Your first language (the language you were first fluent in)
(e.g. English, French, Chinese, Japanese, Pharsi, etc.)

__________________________
Reactions Questionnaire

1. How accurate do you think this impression of you was?

1 2 3 4 5 6 7
extremely inaccurate extremely accurate

2. How much could a stranger learn about you from reading this impression of you?

1 2 3 4 5 6 7
nothing at all a great deal

3. How much did you agree with this impression of you?

1 2 3 4 5 6 7
strongly disagreed strongly agreed

4. How much do you think people’s nonverbal behavior generally reveals to others about their personalities?

1 2 3 4 5 6 7
nothing at all a great deal

5. Generally how much do you think any observer can learn about another person just by watching (not hearing) that person give a speech?

1 2 3 4 5 6 7
nothing at all a great deal

6. How well thought out do you think this impression of you was?

1 2 3 4 5 6 7
not well extremely well thought out thought out
7. How much did this evaluator learn about you by watching you give the speech?

1 2 3 4 5 6 7
nothing at all a great deal

Please rate what you think the person who wrote the impression of you would fall on the followings. Before each trait, please write a number indicating how able the person was, using the following rating scale.

1 2 3 4 5 6 7
extremely unable extremely able

8. judging other people's personalities
9. forming accurate first impressions of others
10. reading other people
11. understanding what others are thinking and feeling
12. How much do you think you would like the person who wrote this impression of you?

1 2 3 4 5 6 7
would not would like
like this person this person
at all a great deal

13. Describe your general reaction to the person who wrote this impression of you.

1 2 3 4 5 6 7
extremely negative extremely positive

14. To what extent do you think the impression formed of you today was a result of the behavior you displayed giving the speech?

1 2 3 4 5 6 7
not at all a totally a result
a result of my of my behavior
my behavior
15. To what extent do you think the impression formed of you was not as a result of your behavior, but as a result of the evaluator’s way of judging others?

1  2  3  4  5  6  7
not at all a result of his/her judging others
totally a result of his/her way of judging others

Please rate the extent to which the following words reflect how you are feeling at the moment. Use the following scale to record your answers:

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Please feel free to write any additional comments that might help the evaluation committee with their decision. Thank you for your cooperation.
Appendix V: Rater Reliabilities

The rater reliabilities were not reported for each rating variable in this research. There are several inter-connected reasons.

To begin with, there were no single-item rating variables in this research: All were multi-item composites (e.g., 7 items for peer-rated defensiveness, and 11 for peer-rated personal maladjustment). The ratings were combined across raters before each item was calculated and, therefore, any rater unreliability would be reflected in poor performance of the item. If raters did not agree, then an item created from the sum of those ratings would not correlate with other items or with criterion variables. In short, the alphas for the multi-item composites reflect item unreliability as well as rater unreliability. There is no need to report them separately. Contributing to unreliability is the fact that not all targets were rated by three raters.

The item composites could have been calculated in the other order: For the defensiveness composite, for example, the 9 items could be summed to form a sub-composite for each rater. Then the reliability for Defensiveness could have been calculated as the alpha (or intra-class correlation) across raters. The results would have been the same: There is only one value for the reliability of each composite.

Choice of the second sequence does yield values for rater reliabilities but for items rather than composites. A serious problem with choosing the second sequence lies in the increased complexity of calculation. Recall that only 27 targets had all 3 raters; 55 had 2 raters and 41 had just one rater. The overall rater reliability would have to be some weighted composite of those subsamples. As an example, this sequence was attempted for the Defensiveness composite of nine items. Alpha calculated for the first subsample was .66; Alpha for the second sample was .44. The alpha for the third subsample, however, cannot be calculated because only one rater was available.
That alpha can be estimated indirectly by calculating the item-based alphas in the samples of one, two, and three raters.

- Example: Measure - PR Personal Maladjustment
  - $\alpha = .82$ (based on the average score across peers for each item)
  - 3 raters: $\alpha = .89$
  - 2 raters: $\alpha = .83$
  - 1 rater: $\alpha = .71$

The size of the alphas across subsamples understandably drops off as the number of raters drops from three to one. When the Spearman-Brown correction formula is used to predict what the alphas in the 1-rater and 2-rater samples would have been with 3 raters, the estimates are both .88. Given how close the latter is to the actual value achieved with 3-raters, we can infer that the individual raters in the three subgroups were equally reliable.

Finally, the discussion above assumes that alpha is the appropriate formula for calculating rater reliabilities. In fact, alpha is one of three types of intra-class correlations (Shrout & Fleiss, 1979). It is the most lenient of the three, suggesting that the above alphas may be slight overestimates. Of course, that fact works in favor of the hypotheses tested in this research: The true values of correlations are always underestimates because they have to be disattenuated by dividing by the square roots of the reliabilities of the two variables involved. If the reliability were even lower than reported, then the obtained correlations were even more strongly underestimated.
### Appendix VI. Intercorrelations of All Study Variables

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<td>18. PR Interpersonal Maladjustment</td>
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<tr>
<td><strong>Laboratory Phase</strong> (N = 94)</td>
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<td>19. Defensiveness Composite</td>
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<td>20. Composite of Net Positive Affect</td>
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Note. *p < .01, **p < .001. N = 12 for the intercorrelations of Peer-Ratings with Laboratory Phase variables; SE = Rosenberg Self-Esteem Scale, NPI = Narcissistic Personality Inventory, SR = Self-Report, PR = Peer-Rated SCI = Social Comparison Index.
Appendix VII. Descriptives and Effect Sizes of Self-Esteem, Narcissism and Self-Enhancement for European and Asian Heritage Participants

<table>
<thead>
<tr>
<th>Variables</th>
<th>Males</th>
<th>Females</th>
<th>Effect Size</th>
</tr>
</thead>
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<tr>
<td></td>
<td>EH</td>
<td>AH</td>
<td>EH</td>
</tr>
<tr>
<td></td>
<td>(n=37)</td>
<td>(n=74)</td>
<td>(n=125)</td>
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<tr>
<td>SE</td>
<td>39.60</td>
<td>32.36</td>
<td>39.29</td>
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<tr>
<td>NPI</td>
<td>17.81</td>
<td>13.86</td>
<td>14.93</td>
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</tbody>
</table>

Social Comparison Index.

| Total                      | 62.73 | 57.56   | 59.64       | 59.30       | .09    | .38       |
| Agentic                    | 29.95 | 27.31   | 27.75       | 26.79       | .27    | .36       |
| Communal                   | 32.78 | 30.25   | 31.89       | 32.52       | -.17   | .23       |

<table>
<thead>
<tr>
<th>Males</th>
<th>Females</th>
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<tbody>
<tr>
<td></td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>EH</td>
</tr>
<tr>
<td></td>
<td>(n=6)</td>
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<tr>
<td>Discrepancy Index</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>6.43</td>
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<tr>
<td>Agentic</td>
<td>.67</td>
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<tr>
<td>Communal</td>
<td>5.76</td>
</tr>
</tbody>
</table>

*Note. EH = European Heritage, AH = Asian Heritage. SE = Rosenberg Self-Esteem Scale, NPI = Narcissistic Personality Inventory. The values in parentheses are sample sizes. The effect size for gender was calculated in the direction of mean for males minus mean for females; the effect size for ethnicity was calculated in the direction of mean for European Heritage minus mean for Asian Heritage participants.*