

Exploring the Influence of Narcissism Subtypes on Attachment Styles: The Role of Age, Gender, and Parenting Styles

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Introduction

Previous studies have sought to examine the relationship between narcissism and attachment styles (Miller et al., 2010; Reis et al., 2021). However, these studies have reported inconsistent findings regarding the association between different subtypes of narcissism (i.e., grandiose narcissism and vulnerable narcissism) and attachment styles (i.e., attachment anxiety and attachment avoidance). These conflicting results could be due to the known age- and gender-related differences in narcissism (Weidmann et al., 2023) and attachment styles (Smolewska & Dion, 2005). However, previous studies have not accounted for age and gender differences when assessing the relationship between narcissism and attachment styles. Additionally, while attachment styles are also influenced by parenting styles (Millings et al., 2013), no study has explored the potential mediating role of parenting style on the link between narcissism and attachment style. As such, it is not clear how gender, age, and parenting styles play a role in the relationship between narcissism and attachment styles. The goal of the current study is to address these gaps in the existing literature. Doing so would provide a comprehensive understanding of how narcissism, attachment styles, and parenting styles intersect in shaping individuals' relational dynamics. Specifically, this study will investigate the link between narcissism and attachment style while also examining the moderating effects of age and gender on this link. Furthermore, this study will explore the mediating role of parenting style on the relationship between narcissism and attachment style to investigate the mechanisms underlying these complex associations.

Background Literature

Narcissism

The emergence of narcissism as a character trait was initially defined by Walder (1995) who portrayed individuals possessing the trait as those who have a sense of superiority, are condescending, fixated on the self, have a profound need for admiration, and lack empathy. He noted that these defining characteristics seemed notably pronounced in intimate contexts such that individuals with these traits tended to perceive relationships primarily as a way to gain physical gratification rather than to foster emotional bonds (Walder, 1995).

Presently, pathological narcissism is classified as a personality disorder. According to the DSM-V (American Psychiatric Association, 2013), in order to be diagnosed with Narcissistic Personality Disorder (NPD), an individual must exhibit significant self-function impairments by excessively relying on others to define their identity and self-direction, and having the need to view oneself as exceptional. Failure to do so would result in emotional dysregulation. Additionally, these individuals must display impairments in interpersonal functioning with difficulties in recognizing the feelings and needs of others. Moreover, these individuals perceive relationships as superficial and self-serving, and tend to believe that others' actions are deliberately aimed at impacting them personally. Antagonistic personality traits such as grandiose feelings of entitlement and attention-seeking behaviors are common for people diagnosed with NPD. Impairments in personality functioning and trait expression persist consistently across time and situations, are not attributable to normal development or cultural influences, nor solely caused by substance use or medical conditions (Schemeck et al., 2013).

However, scholars have indicated that relying solely on the criteria provided in the DSM-V to diagnose NPD is problematic (Cain et al., 2008). Pincus (2011) argued that the existing criteria for a NPD diagnosis is narrow as there is a strong focus on the presence of grandiose narcissistic traits including arrogance, entitlement, and attention-seeking. This overlooks the emotional distress that people with narcissistic traits experience as it is often overshadowed by extraversion and grandiose-presenting behaviors. Therefore, experts have argued that narcissism should be delineated into two different subtypes: grandiose narcissism and vulnerable narcissism (Gabbard, 1989).

The DSM-V criteria concentrates on the grandiose subtype of narcissism. Individuals scoring high on grandiose narcissism are described as overtly-presenting, lack insight into how their actions may impact others, and tend to boost their self-esteem through self-enhancement, denying weaknesses, demanding entitlement, and devaluing those who challenge them. These individuals tend to struggle to see the gap between their expectations and reality and often blame external factors in conflicts (Dickinson & Pincus, 2003). On the other hand, individuals scoring high on vulnerable narcissism exhibit traits such as hypersensitivity to criticism, inhibition, shame, and visible emotional distress (Cain et al., 2008). Vulnerable narcissism is known as "quietly grandiose" as it is connected to seeking external validation while being outwardly modest and avoidant of attention (Gabbard, 1989). Both subtypes of narcissism fluctuate between self-idealization and feelings of incompetence and differ on coping strategies and emotional displays (Russ et al., 2008).

Age and gender have been identified as significant factors associated with narcissism (Weidmann et al., 2023). Research indicates that narcissism tends to decrease over the lifespan, with the highest levels observed during early adulthood (18-26 years; Wetzel et al., 2020). However, ongoing debates persist regarding whether this decline is generational or developmental due to limited longitudinal and cohort studies (Wilson & Sibley, 2011). While men generally report higher levels of narcissism than women (Grijalva et al., 2015), it is important to note that women are underrepresented in narcissism research which raises concerns about the validity of existing findings (Green et al., 2020). In the same vein, a fairly sizable amount of narcissism research focuses on grandiose narcissism which obscures the study and importance of vulnerable narcissism, thereby limiting our understanding of trait manifestations between men and women. For example, women score higher on traits such as neuroticism (emotional instability) which is associated with vulnerable narcissism (Pincus et al., 2009). It is also important to consider that gender differences in narcissism could change over time in response to changing social roles, particularly for women (Grijalva et al., 2015). As societal norms shift and women increasingly adopt traditionally masculine traits, such as heightened self-focus, the dynamics of narcissism and its expression across genders may undergo significant changes (Twenge et al., 2008). Understanding these dynamics is crucial for gaining insights into how gender and age shape narcissistic behaviors.

Attachment Styles

Attachment style is the emotional bond that people form with their primary caregiver in early childhood which later translates into how individuals approach relationships in adulthood (Bowlby, 1979). There have been ongoing debates about the best method to understand differences in attachment styles among individuals. Specifically, these debates center around whether attachment styles should be represented as a categorical measure or a dimensional measure (Bao et al., 2022). Fraley et al. (2015) found that the two-dimensional model of attachment style—which measures attachment avoidance and attachment anxiety as continuous measures—appears to provide the most consistent measure of attachment style across a variety of contexts including general attachment and attachment in specific situations such as romantic attachment, peer attachment, and parental attachment. Brennan et al. (1998) described attachment anxiety as manifesting through high efforts to seek proximity and protection, and accompanying fears of abandonment due to inconsistent responsiveness by one's caregiver in early childhood. Attachment avoidance is characterized by the avoidance of intimacy and proximity due to insensitivity and rejection by one's caregiver in early childhood. Low levels of both attachment anxiety and attachment avoidance indicate a secure attachment, meaning that the indi-

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vidual's needs were effectively met by their caregivers in early childhood.

Research by Del Giudice (2008) explored gender differences in attachment, revealing that young boys tend to exhibit more attachment avoidance whereas girls tend to display more attachment anxiety with insecure attachment styles. However, contrasting studies (Bakermans-Kranenburg & Van Ijzendoorn, 2009) suggest that gender differences in attachment styles are not consistently observed across children or adults. Given these discrepancies, it is unclear how attachment styles differ across gender and further research is essential to clarify these patterns.

Moreover, Zhang and Labouvie-Vief (2004) identified a correlation between age and attachment styles, noting that secure attachment and attachment avoidance tend to increase with age, while attachment anxiety tends to decrease. They attribute these changes to the evolving priorities of interpersonal relationships as people age, which emphasizes a reduced need for validation and increased value placed on relationships. Additionally, fluctuations in coping strategies and overall well-being contribute significantly to changes in attachment style over time, with higher well-being associated with an increase in secure attachment (Zhang & Labouvie-Vief, 2004).

Narcissism and Attachment Styles in Relationships

Both subtypes of narcissism manifest in relationships. Miller et al. (2010) argued that specific attachment styles are associated with different subtypes of narcissism. High levels of vulnerable narcissism have been linked with high levels of attachment anxiety and attachment avoidance, indicating difficulties with intimacy and a high sensitivity to rejection (Reis et al., 2021). However, previous studies have reported inconsistent findings regarding the link between grandiose narcissism and attachment styles. Miller et al. (2010) reported no relationship between grandiose narcissism and attachment avoidance and anxiety. Rohmann et al. (2012) reported a negative relationship between grandiose narcissism and attachment avoidance, and no relationship between grandiose narcissism and attachment anxiety. Although inconsistent, both studies suggest a link between higher levels of grandiose narcissism and a more secure attachment style given that low attachment anxiety and low attachment avoidance suggest a secure attachment (Brennan et al., 1998). Dickinson & Pincus (2003) suggested that these findings could be explained by the grandiose tendency to say positive things about themselves, which might result in the denial of interpersonal distress rather than truly experiencing a secure attachment. Despite age- and gender-related differences on the link between narcissism and attachment, no studies have tested the moderating effects of age and gender on this link.

Parenting Styles

Research indicates that adult attachment styles are not solely influenced by initial interactions with primary caregivers but can change over time and are also influenced in part by parenting styles (Donita & Maria, 2015). These styles, as described by Baumrind (1991), consist of four categories that vary across levels of demandingness and responsiveness: Authoritative parenting involves high levels of demandingness, high levels of responsiveness to a child's needs, and employing supportive rather than punitive disciplinary measures. Authoritarian parenting is characterized by high levels of demandingness and directiveness, low levels of support or responsiveness, and emphasizing obedience without explanation through strict rules. Permissive parents offer high levels of support and responsiveness but lack demandingness and often avoid confrontation and disciplinary action. Neglectful parents, on the other hand, exhibit neither demandingness nor responsiveness, lack structure in parenting, and neglect their responsibilities toward their children.

Millings et al. (2012) reported an association between parenting styles and attachment. Their findings indicated that a secure attachment to a partner – along with responsive caregiving – was positively linked to authoritative parenting styles and negatively linked to authoritarian and permissive parenting styles. In their research, attachment avoidance and anxiety correlated with less responsive caregiving which led to lower levels of authoritative parenting and higher levels of authoritarian and permissive

parenting. Their analysis indicated that the level of responsiveness to a romantic partner acts as a mediator. This explains how secure attachment relates to an authoritative parenting style and suggests that higher levels of responsiveness mediate this association. When it comes to the relationship between parenting styles and narcissism, researchers have found a link found between grandiose narcissism and a permissive parenting style of the participants' caregivers, and between vulnerable narcissism and an authoritarian parenting style of the participants' caregivers. However, the causal mechanism(s) of this relationship has not been established (Ewing, 2020).

The Current Study

The current study has 4 major goals. The first goal was to examine the link between narcissism (vulnerable, grandiose) and attachment styles (attachment anxiety, attachment avoidance). Although previous studies have indicated a positive link between vulnerable narcissism and attachment anxiety and avoidance, previous studies have also reported inconclusive findings pertaining to the link between grandiose narcissism and attachment (Miller et al., 2010; Rohmann et al., 2012). As such, the link between narcissism and attachment styles were re-examined in the current study. It was hypothesized that there would be a positive relationship between vulnerable narcissism and attachment anxiety. Given the previous inconclusive results pertaining to grandiose narcissism and attachment, an exploratory approach was used to investigate the link between grandiose narcissism and attachment.

The second goal of this study was to assess whether age moderated the relationship between narcissism and attachment styles. Previous studies assessing the link between narcissism and attachment styles did not incorporate age as a potential moderator. As mentioned earlier, age is negatively associated with narcissism such that narcissism levels decrease as individuals get older (Wilson and Sibley, 2011). Age-related differences in narcissism could influence observed associations between narcissism and attachment styles. In other words, accounting for age allows for a more complete and accurate understanding of how narcissism interacts with attachment styles across different age groups. Given that narcissism levels are higher among younger (rather than older) individuals, it was hypothesized that age would moderate the relationship between vulnerable narcissism and attachment styles such that vulnerable narcissism would more strongly predict attachment anxiety and attachment avoidance among those who are younger but not for those who are older. Again, given the previous inconclusive results pertaining to grandiose narcissism and attachment, an exploratory approach was used to investigate the moderating role of age on the link between grandiose narcissism and attachment styles.

The third goal of this study was to assess how gender moderated the relationship between narcissism and attachment styles. As mentioned earlier, women are underrepresented in narcissism research (Green et al., 2020). This not only contributes to the underdeveloped understanding of how narcissism is expressed between men and women (Green et al., 2020) but also brings into question the external validity of previous results. Moreover, because previous research relied predominantly on the Narcissistic Personality Inventory (NPI), which primarily assesses the grandiose subtype of narcissism, this may obscure full understanding of how narcissism is expressed across gender. This is an important limitation to address because it allows for a more inclusive examination of narcissism and its manifestations in more diverse populations. Existing literature suggests that men often exhibit higher levels of grandiose narcissism, whereas women may demonstrate a greater propensity towards vulnerability-related traits such as attachment anxiety (Grijalva et al., 2015; Pincus et al., 2009). However, these associations are subject to change over time in response to shifting social norms and gender roles (Twenge et al., 2008). As such I hypothesized that gender would moderate the relationship between grandiose and vulnerable narcissism and attachment anxiety and avoidance. Given the inconsistent findings regarding gender differences in attachment and narcissism and drawing on previous research (Del Giudice, 2008; Bakermans-Kranenburg & Van Ijzendoorn, 2009; Grijalva et al., 2015; Green et al., 2020), this study took, an exploratory approach into the directionality of gender's influence on the associations between narcissistic traits and attachment styles.

Last, the fourth goal of the current study was to examine the mediating role of parenting style on the link between narcissism and attachment. Although previous evidence suggests that attachment styles are also partially influenced by parenting styles (Millings et al., 2013), no study has examined the mediating role of parenting styles on the link between narcissism types and attachment style. Parenting styles could mediate this relationship due to the significant influence parents have on shaping their children's psychological development (Sanders & Turner, 2018). Previous studies have indicated a link between vulnerable narcissism and an authoritarian parenting style, as well as a link between grandiose narcissism and a permissive parenting style (Ewing, 2020).

The link between vulnerable narcissism and authoritarian parenting style suggests that individuals with vulnerable traits may seek structure and validation through strict rules and control (van Schie et al., 2020). Conversely, the association between grandiose narcissism and permissive parenting style indicates that individuals with grandiose traits may exploit indulgent parenting to satisfy their sense of entitlement and avoid accountability (van Schie et al., 2020). As such, it was hypothesized that parenting styles would mediate the relationship between narcissism and attachment styles, specifically parenting styles that are characterized by high levels of one dimension (e.g., demandingness) and low levels of the other dimension (e.g., responsiveness)—such as authoritarian and permissive parenting styles—as opposed to parenting styles that are characterized by high levels of both dimensions (i.e., authoritative) or low levels of both dimensions (i.e., neglectful). This assessment would identify the influence of both narcissism and parenting styles on adult attachment styles (Cramer, 2019).

Overall, examining these hypotheses can inform future research and contribute to the broader discourse on the intersection of gender, narcissism, and attachment within psychological contexts.

Method

Participants

140 participants were recruited through Amazon Mechanical Turk (MTurk) and received a compensation of \$0.30 for participation in the study. MTurk is a crowdsourcing website owned by Amazon where institutions and individuals can assign remote tasks to “crowd workers” for a small financial compensation (Aruguete et al., 2019). It is a beneficial tool for convenience sampling that is growing in popularity (Kees et al., 2017). 35.7% of the participants identified as women, and 64.3% identified as men. 78.6% of participants were White, 12.1% Asian, 2.9% American Indian or Alaskan Native, 1.4% Black or African American, 1.4% Hispanic, Latino or Spanish Origin, 1.4% Native Hawaiian or Other Pacific Islander, and 2.1% Other. The ages of the participants ranged from 22 to 69 ($M = 38.41$, $SD = 10.79$).

Procedure

Before participants signed up to participate in the study, they were informed that the study was examining personality traits, the parenting style of their primary caregivers, and their attachment style in romantic relationships. After providing informed consent, they completed a short survey assessing their narcissistic traits, the parenting style of their primary caregivers, their attachment style in romantic relationships, and reported their demographic information. Once participants finished the survey, they were debriefed and were compensated 3-7 days after completion. In order to ensure quality responses and prevent participants from engaging in “random clicking”, attention checks were included throughout the survey. As stated in the informed consent, participants who failed to accurately respond to all attention checks did not receive payment and their data were excluded from the study. The initial sample size was 217 participants. 77 participants were excluded from the study due to several factors including inaccurately responding to attention checks, providing insufficient responses to open-ended questions, such as one-word answers, or answers according to which parenting style could not be determined. Moreover, participants who left the parenting style question blank. The final sample consisted of 140 participants.

Materials

Participants completed the following measures:

Narcissistic Personality Inventory (NPI-16; Ruskin & Terry, 1988)

The NPI-16 is a short version of the 40-item Narcissistic Personality Inventory (NPI-40) and is the most used measure of narcissism in non-clinical settings (Ames et al., 2006). The NPI-16 was shown to be a valid measure of grandiose narcissism (Ames et al., 2006) and comprises of pairs of opposing statements. Respondents are prompted to select one statement from each pair that they identify with the most. The overall score, which ranges from 0 to 16, reflects the individual's level of narcissistic symptoms with higher scores indicating greater narcissistic tendencies.

Hypersensitive Narcissism Scale (HSNS; Hendin et al., 1997)

The HSNS is a 10-item scale assessing personality traits associated with vulnerable narcissism such as neuroticism, low self-esteem, and antagonism. It was created to address the limitations of existing narcissism scales which measure grandiose traits (Hendin et al., 1997). Respondents are asked to indicate the extent to which they agree with a set of statements on a 5-point Likert scale. Higher scores indicate higher levels of vulnerable narcissism.

Parenting Style

Participants were presented with descriptions of 4 parenting styles (authoritarian, authoritative, permissive, and neglecting; Baumrind, 1991) and were asked to select the description that best applied to their primary caregiver(s). Data from participants who indicated that none of the listed parenting styles applied to any of their primary caregivers were excluded from the study. Participants were given the opportunity to clarify their selection via open-response. Assessing parenting style in this manner was due to several reasons. First, existing measures of parenting style have several methodological limitations (Kuppens & Ceulemans, 2019). A concerning limitation pertains to the dimension of psychological control which has often been neglected in parenting research and may lead to incomplete or inaccurate characterizations of parenting styles (Kuppens & Ceulemans, 2019). Parenting styles involve behavioral control (Baumrind, 1991) and psychological control (Barber et al., 2005). Psychological control involves a more subtle influence through the manipulation of emotions and thoughts (Barber et al., 2005) than compared to behavioral control. As such, psychological control may go unrecognized by children, leading to underreporting in measures and potential validity biases. Neglecting to properly account for this critical dimension can oversimplify categorizations of parenting styles and affect accurate assessments. Second, considering parenting styles within the context of two parents with potentially differing approaches necessitates the exploration of joint parenting styles (Kuppens & Ceulemans, 2019). Third, previous investigations into survey response quality indicate that respondents tend to select random responses towards the end of surveys due to lapses in concentration weariness, and fatigue (Berry et al., 1992). Longer surveys are particularly susceptible to this which threatens the quality and validity of the data. Therefore, parenting style was measured in an abbreviated manner to avoid such effects as recommended by Fleischer et al (2015).

Adult Attachment Scale (AAS; Collins and Read, 1990)

The AAS is an 18-item inventory based on the original measurement of adult attachment style by Hazen and Shaver (1987) and measures participant levels of attachment anxiety (negative model of self) and attachment avoidance (negative model of others). Attachment anxiety consists of traits such as feelings of unpreparedness and providing less care and responsiveness in a relationship (Morse et al., 2012) and attachment avoidance consists of traits such as difficulty providing care to a partner, and the individual themselves scoring low on overall emotional well-being (Morse et al., 2012). The participants indicated the extent to which they related to the presented items on a 5-point Likert scale. Two scores—attachment anxiety and attachment avoidance—were produced for each participant by averaging the answers of each subscale. Higher scores on the anx-

xiety subscale indicate higher attachment anxiety, and higher scores on the avoidance subscale indicate higher attachment avoidance in relationships.

Results

Descriptive Statistics and Zero-Order Correlations

Participant responses on the NPI-16 were summed to yield a grandiose narcissism score for each participant. Participant responses on the HSNS and AAS were averaged to yield a vulnerable narcissism score and attachment score, respectively, for each participant. Descriptive statistics and zero-order correlations of all measures are reported in Table 1. Attachment anxiety and avoidance were significantly correlated with vulnerable and grandiose narcissism such that higher levels of attachment anxiety and avoidance were both related to higher levels of vulnerable and grandiose narcissism. Age negatively correlated with attachment anxiety and was not correlated with attachment avoidance, vulnerable narcissism, or grandiose narcissism. There were no significant correlations between gender and other variables. 37.14% of participants reported experiencing authoritative parenting, 32.86% authoritarian parenting, 25.71% permissive parenting, and 4.29% neglectful parenting from their primary caregivers.

	Mean	SD	1	2	3	4	5	6	N
1. Attachment Anxiety	3.70	0.91	1						140
2. Attachment Avoidance	3.81	0.71	0.86***	1					140
3. Vulnerable Narcissism	37.29	8.01	0.70***	0.70***	1				140
4. Grandiose Narcissism	8.05	3.21	0.40***	0.39***	0.32	1			140
5. Age	38.35	10.79	-0.15*	-0.13	-0.06	-0.11	1		140
6. Gender	0.36	0.48	-0.05	-0.10	-0.05	-0.06	0.12	1	140
7. Parenting Style	1.97	0.90	-0.17*	-0.19*	-0.21*	-0.20*	-0.03	-0.00	140

Note. Gender: 0 = man, 1 = woman; Parenting style: 1 = authoritative, 2 = authoritarian, 3 = permissive, 4 = neglectful

Table 1. Descriptive Statistics and Zero-Order Correlations Among Variables

Multiple Regression

A series of multiple regression models were run to test the relationship between both subtypes of narcissism and attachment avoidance and anxiety, and the moderating effect of age and gender on these relationships. Interactions in moderated multiple regression analyses typically require more power to detect than main effects. As such, the moderating effect of age and gender on the relationship between narcissism and attachment styles were conducted in separate multiple regression models given the limitations of the sample size (Shieh, 2009). The results of the multiple regression models predicting attachment avoidance will be reported first followed by the results of the multiple regression models predicting attachment anxiety.

Attachment Avoidance

Age as Moderator. A multiple regression model was conducted to determine if vulnerable narcissism, grandiose narcissism, age, gender, and the interaction between narcissism and age significantly predicted attachment avoidance (See Figure 1). The overall model was significant, $F(6, 133) = 24.86, p < .001$. Adjusted $R^2 = 0.51$, indicating that the four predictors accounted for a significant proportion of the variance in attachment avoidance. Vulnerable narcissism significantly positively predicted attachment avoidance ($\beta = 0.64, t = 10.01, p < .001$), such that higher vulnerable narcissism scores predicted higher attachment avoidance scores. Grandiose narcissism also significantly positively predicted attachment avoidance ($\beta = 0.17, t = 2.52, p = 0.01$) such that higher grandiose narcissism scores predicted higher attachment avoidance scores. Age ($\beta = -0.07, t = -1.10, p = 0.23$) and gender ($\beta = -0.05, t = -0.79, p = 0.43$) did not significantly predict attachment avoidance. No significant interaction was ob-

served between vulnerable narcissism and age ($\beta = 0.07, t = 0.10, p = 0.33$) or between grandiose narcissism and age ($\beta = -0.03, t = -0.46, p = 0.65$).

Normal P-P Plot of Regression Standardized Residual: Model 1

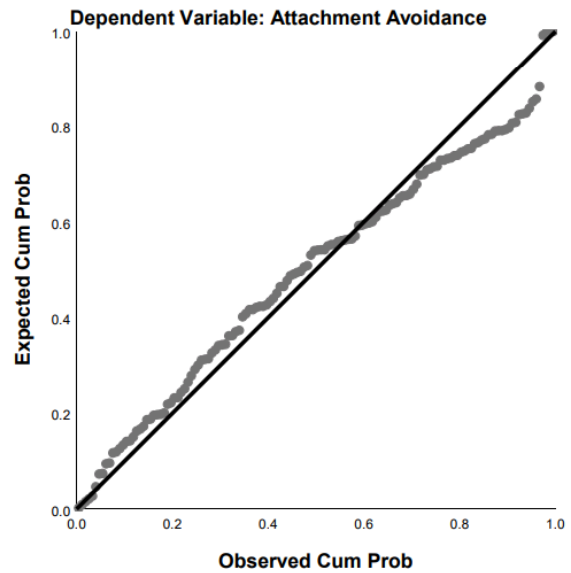


Figure 1: Multiple linear regression model 1

Gender as Moderator. The next multiple regression model tested if vulnerable narcissism, grandiose narcissism, age, gender, and the interaction between narcissism and gender significantly predicted attachment avoidance (See Figure 2). The overall model was significant, $F(6, 133) = 30.90, p < .001$. Adjusted $R^2 = 0.56$, indicating that the four predictors accounted for a significant proportion of the variance in attachment avoidance. Vulnerable narcissism significantly positively predicted attachment avoidance ($\beta = 0.78, t = 11.18, p < .001$), such that higher vulnerable narcissism scores predicted higher attachment avoidance scores. Grandiose narcissism did not significantly predict attachment avoidance ($\beta = 0.03, t = 0.42, p = 0.67$). Age ($\beta = -0.06, t = -1.04, p = 0.30$) and gender ($\beta = -0.05, t = -0.94, p = 0.35$) did not significantly predict attachment avoidance. A significant interaction was observed between vulnerable narcissism and gender ($\beta = -0.25, t = -3.71, p < 0.001$), such that higher vulnerable narcissism scores predicted higher attachment avoidance in men, but higher vulnerable narcissism scores predicted lower attachment avoidance in women. A significant interaction was also observed between grandiose narcissism and gender ($\beta = 0.23, t = 3.06, p = 0.00$), such that the positive predictive effect of grandiose narcissism on attachment avoidance was stronger for women than men.

Normal P-P Plot of Regression Standardized Residual: Model 2

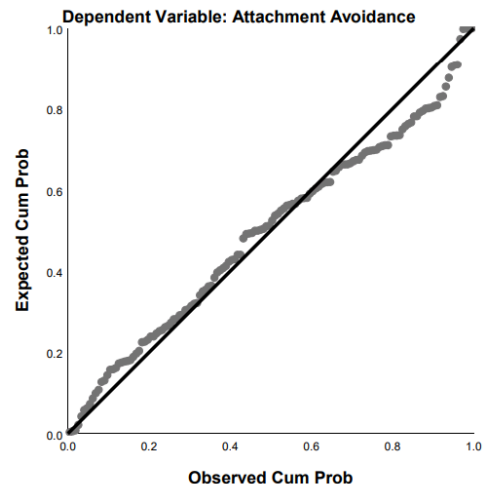


Figure 2: Multiple linear regression model 2

Attachment Anxiety

Age as Moderator. A multiple regression model was conducted to determine if vulnerable narcissism, grandiose narcissism, age, gender, and the interaction between narcissism and age significantly predicted attachment anxiety (See Figure 3). The overall model was significant, $F(6, 133) = 26.54$, $p < .001$. Adjusted $R^2 = 0.52$, indicating that the four predictors accounted for a significant proportion of the variance in attachment anxiety. Vulnerable narcissism significantly positively predicted attachment anxiety ($\beta = 0.66$, $t = 10.41$, $p < .001$), such that higher vulnerable narcissism scores predicted higher attachment anxiety scores. Grandiose narcissism also significantly predicted attachment anxiety ($\beta = 0.17$, $t = 2.54$, $p = 0.01$) such that higher grandiose narcissism scores predicted higher attachment anxiety scores. Age ($\beta = -0.11$, $t = -1.75$, $p = 0.08$) and gender ($\beta = 0.00$, $t = 0.05$, $p = 0.96$) did not significantly predict attachment anxiety. No significant interaction was observed between vulnerable narcissism and age ($\beta = 0.10$, $t = 1.44$, $p = 0.15$) or between grandiose narcissism and age ($\beta = -0.06$, $t = -0.88$, $p = 0.38$).

Normal P-P Plot of Regression Standardized Residual: Model 3

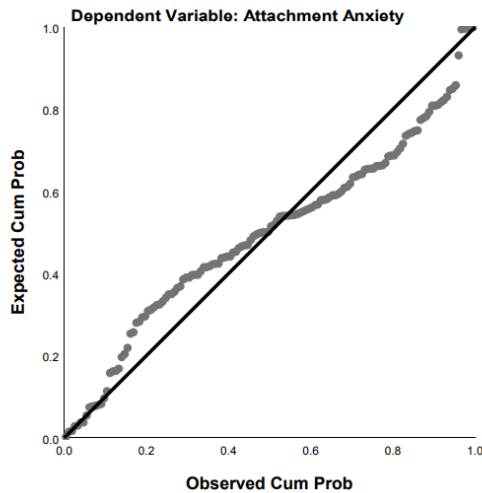


Figure 3: Multiple linear regression model 3

Gender as Moderator. The next multiple regression model tested if vulnerable narcissism, grandiose narcissism, age, gender, and the interaction between narcissism and gender significantly predicted attachment anxiety (See Figure 4). The overall model was significant, $F(6, 133) = 29.72$, $p < .001$. Adjusted $R^2 = 0.55$, indicating that the four predictors accounted for a significant proportion of the variance in attachment anxiety. Vulnerable narcissism significantly positively predicted attachment anxiety ($\beta = 0.75$, $t = 10.77$, $p < .001$), such that higher vulnerable narcissism scores predicted higher attachment anxiety scores. Grandiose narcissism did not significantly predict attachment anxiety ($\beta = 0.08$, $t = 0.10$, $p = 0.32$). Age ($\beta = -0.09$, $t = -1.55$, $p = 0.12$) and gender ($\beta = -0.00$, $t = -0.05$, $p = 0.96$) did not significantly predict attachment anxiety. A significant interaction was observed between vulnerable narcissism and gender ($\beta = -0.21$, $t = -3.02$, $p = 0.00$), such that higher vulnerable narcissism scores predicted higher attachment anxiety in men, but higher vulnerable narcissism scores predicted lower attachment anxiety in women. A significant interaction was also observed between grandiose narcissism and gender ($\beta = 0.23$, $t = 3.06$, $p = 0.00$), such that the positive predictive effect of grandiose narcissism on attachment anxiety was stronger for women than men.

Normal P-P Plot of Regression Standardized Residual: Model 4

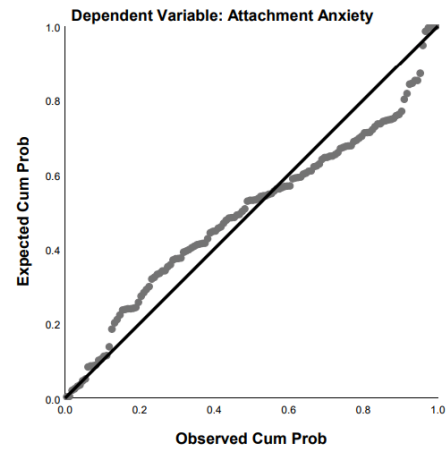


Figure 4: Multiple linear regression model 4

Mediation Analyses

A series of mediation models were conducted using SPSS Process (Abu-Barder & Jones, 2021) to test hypotheses whether parenting style mediates the relationship between narcissism and attachment style. Specifically, four mediation models were conducted to examine whether parenting styles mediated the relationship between (1) grandiose narcissism and attachment anxiety, (2) grandiose narcissism and attachment avoidance, (3) vulnerable narcissism and attachment anxiety, and (4) vulnerable narcissism and attachment avoidance. For each mediation model, the direct effect, the indirect effect, and the total effect were reported (Table 2). The direct effect refers to the relationship between the independent and dependent variable without the effect of any outside variable. The indirect effect refers to when the relationship between the dependent and independent variable is influenced by an outside variable, and that is when mediation is present (Abu-Barder & Jones, 2021). The total effect refers to the combination of the direct and indirect effects (Abu-Barder & Jones, 2021).

Model 1: Grandiose Narcissism → Parenting Style → Attachment Anxiety. The outcome variable was attachment anxiety, the predictor variable was grandiose narcissism, and the mediator was the parenting style of the participant's caregivers. Parenting style did not mediate the link between grandiose narcissism and attachment anxiety, meaning that the parenting styles did not explain this relationship.

Model 2: Grandiose Narcissism → Parenting Style → Attachment Avoidance. The outcome variable was attachment avoidance, the predictor variable was grandiose narcissism, and the mediator was the parenting style of the participant's caregivers. Parenting style did not mediate the link between grandiose narcissism and attachment avoidance, meaning that parenting style did not explain this relationship.

Model 3: Vulnerable Narcissism → Parenting Style → Attachment Anxiety. The outcome variable was attachment anxiety, the predictor variable was vulnerable narcissism, and the mediator was the parenting style of the participant's caregivers. Parenting style did not mediate the link between vulnerable narcissism and attachment anxiety, meaning that parenting style did not explain this relationship.

Model 4: Vulnerable Narcissism → Parenting Style → Attachment Avoidance. The outcome variable was attachment avoidance, the predictor variable was vulnerable narcissism, and the mediator was the parenting style of the participant's caregivers. Parenting style did not mediate the link between vulnerable narcissism and attachment avoidance, meaning that parenting style did not explain this relationship.

Model 1: Grandiose Narcissism → Parenting Style → Attachment Anxiety		
	Effect (SE)	95% CI
Total effect	0.11(0.02)	[0.07, 0.16]
Direct effect	0.11(0.02)	[0.06, 0.15]
Indirect effect	0.01(0.01)	[-0.00, 0.02]
Model 2: Grandiose Narcissism → Parenting Style → Attachment Avoidance		
	Effect (SE)	95% CI
Total effect	0.09(0.02)	[0.05, 0.12]
Direct effect	0.08(0.02)	[0.05, 0.12]
Indirect effect	0.01(0.00)	[-0.00, 0.02]
Model 3: Vulnerable Narcissism → Parenting Style → Attachment Anxiety		
	Effect (SE)	95% CI
Total effect	0.08(0.01)	[0.07, 0.09]
Direct effect	0.08(0.01)	[0.07, 0.09]
Indirect effect	0.00(0.00)	[-0.00, 0.00]
Model 4: Vulnerable Narcissism → Parenting Style → Attachment Avoidance		
	Effect (SE)	95% CI
Total effect	0.06(0.01)	[0.05, 0.07]
Direct effect	0.06(0.01)	[0.05, 0.07]
Indirect effect	0.00(0.00)	[-0.00, 0.00]

Table 2. Mediation Results

Discussion

This study addresses gaps in understanding the link between narcissism, attachment styles, and parenting styles. Specifically, vulnerable, and grandiose narcissism were examined to determine if they were related to attachment anxiety and avoidance, as well as if these relationships were moderated by age and gender. The study also explored whether parenting styles—authoritative, authoritarian, permissive, and neglectful—mediated these relationships.

Vulnerable narcissism predicted higher attachment anxiety and avoidance across all multiple regression models, consistent with the past literature (Reis et al., 2021). Apart from the main effect of vulnerable narcissism, gender emerged as a moderator such that higher vulnerable narcissism scores predicted higher attachment avoidance and attachment anxiety in men, but higher vulnerable narcissism scores predicted lower attachment avoidance and attachment anxiety in women. Past research indicates that shame influences the relationship between maladaptive attachment styles and vulnerable narcissism (van Schie et al., 2021). The experience of shame might alter the sense of self and be the reason behind the struggle to get close to others, leading to an insecure attachment style (van Schie et al., 2021). Smolewska and Dion (2005) propose that due to the fear of rejection, and perceived inferiority in vulnerable narcissists, these overwhelming feelings could be the reason behind attachment anxiety. They further suggest that attachment avoidance may serve as an additional protective mechanism against perceived rejection (Smolewska & Dion, 2005). Another plausible explanation for this pattern can arise from the positive association between insecure attachment styles and heightened gender role conflict among men, which arises from encountering adverse outcomes due to societal expectations regarding gender roles (Schwartz et al., 2004). It has been linked to various interpersonal difficulties such as personal restrictions, and devaluation of oneself or others (Schwartz et al., 2004). Moreover, certain traits associated with vulnerable narcissism, such as feelings of shame and challenges with self-esteem, align with the traits surrounding gender conflict in men (Cole et al., 2019). Future studies are required to determine whether self-perception and gender role conflict play a role in shaping the relationship between attachment styles and vulnerable narcissism in men. Based on the finding that vulnerable narcissism predicted lower attachment anxiety, which is inconsistent with previous research suggesting that vulnerable narcissistic traits in women would lead to attachment anxiety (Pincus et al., 2009), it is evident that further investigation is necessary to clarify the relationship between vulnerable narcissism and attachment anxiety, particularly in the context of gender differences.

Grandiose narcissism did not consistently emerge as a significant main effect of attachment. Grandiose narcissism was a significant predictor of attachment avoidance and attachment anxiety in the multiple regression models that included the interaction with age but not in models that includ-

ed the interaction with gender. This is in line with previous studies reporting conflicting results regarding the relationship between grandiose narcissism and attachment (Cramer, 2019; Ewing 2020; Smolewska & Dion, 2005). Gender moderated the link between grandiose narcissism and both attachment anxiety and avoidance such that these links were significantly stronger for women than men.

It is possible that higher-than-average grandiose narcissism scores among women contributed to these unexpected findings. Dickinson and Pincus (2003) identified an association between grandiose narcissism and secure and dismissive attachment styles. They proposed that this link could be influenced by individuals' tendency to present themselves positively, potentially masking genuine relationship issues. Additionally, they suggested that grandiose narcissists, lacking empathy, might overlook relationship problems by dismissing their partner's feelings. In the current study, the mean grandiose narcissism score for women in the current study was 0.49 (SD = 0.50). A cut-off score of 0.44 signifies high levels of grandiose narcissism (Bhachech, 2021). High levels of grandiose narcissism among a considerable portion of women in the study could have contributed to the stronger link between grandiose narcissism and attachment avoidance and anxiety among women compared to men. Previous studies have shown that women tend to exhibit higher vulnerability, which is associated with increased attachment anxiety (Grijalva et al., 2015; Pincus et al., 2009). However, these associations may evolve over time due to shifting gender-role expectations, where women are increasingly adopting behaviors traditionally considered masculine (Twenge et al., 2008). These conflicting findings indicate possible gender-related variations in the expression of grandiose traits, highlighting the need for additional investigation.

Why did grandiose narcissism emerge as a significant predictor of attachment avoidance and attachment anxiety in the multiple regression models that included the interaction with age but not in models that included the interaction with gender? There are at least two ways to interpret these patterns of results. Firstly, it is possible that the combined influence of grandiose narcissism and gender (the grandiose x gender interaction) exerted a stronger predictive impact on attachment avoidance and anxiety scores compared to the sole effect of grandiose narcissism. This assertion is supported by the observation that the main effect of grandiose narcissism is no longer significant when the interaction is introduced into the model. Conversely, the combined effect of vulnerable narcissism and gender (the vulnerable x gender interaction) does not exhibit a superior predictive influence on attachment avoidance and anxiety scores compared to the sole effect of vulnerable narcissism. The main effect of vulnerable narcissism remains significant even in the presence of the interaction term. Put differently, while the impact of grandiose narcissism on attachment avoidance and anxiety is contingent upon gender, the influence of vulnerable narcissism on these outcomes is also dependent on gender but to a lesser extent than grandiose narcissism. These results align with previous studies that suggest that vulnerable narcissism is a stronger predictor for attachment styles than grandiose narcissism (Rohmann et al., 2012). Secondly, the interpretation of the main effects may not be warranted in the presence of a significant interaction (Franzese & Kam, 2009). For instance, the significant interaction between grandiose narcissism and gender indicates that the relationship between grandiose narcissism and attachment avoidance and attachment anxiety depend on gender. As such, assessing the main effect of grandiose narcissism would be misleading and would provide incomplete information.

It is important to note that there was a significant positive correlation between attachment anxiety and attachment avoidance (Table 1). This finding indicates that individuals with higher levels of attachment anxiety also tend to exhibit higher levels of attachment avoidance, and vice versa. This observation is intriguing, particularly within the context of the two-dimensional attachment model used in this study. According to Bartholomew's (1990) two-dimensional, four-category model, individuals scoring high on both attachment avoidance and anxiety are categorized as having a fearful attachment style, characterized by negative beliefs about oneself and others.

Follmer et al. (2017) have previously discussed differences between the MTurk population and the general population, highlighting varia-

tions in their characteristics. Considering these differences, it is plausible that other traits such as attachment style or personality characteristics may also vary between MTurk workers and the general population. Future investigations should explore these potential distinctions further.

Age did not moderate the link between vulnerable narcissism and attachment anxiety. Previous studies have found a negative relationship between narcissism and age, with young adults (18-26) scoring the highest on both vulnerable and grandiose narcissism (Weidmann et al., 2023). Although the study sample had a wide age range (18-69), only 10% of the sample fell into the young adult category, while 60% of the sample consisted of participants aged 30-40. While this middle-aged group was shown to have significantly lower levels of narcissism compared to young adults (Wetzel et al., 2020), the lack of significance for age in this study raises the possibility that the decline in narcissism could plateau or stabilize beyond a certain age. Furthermore, the disparities in demographic characteristics between the general public and MTurk workers (Follmer et al., 2017) suggest that the characteristics of MTurk workers may not be fully representative of their respective age groups. This variation in participant profiles across studies could contribute to discrepancies in age-related findings related to narcissism and attachment anxiety. Future studies should address these possible differences in characteristics, as well as investigate the potential pattern in narcissistic traits across age groups to deepen our understanding of how narcissism evolves across different stages of life.

None of the mediation models were significant, suggesting that parenting style does not mediate the relationship between narcissism and attachment style. This could be attributed to several factors. Firstly, the design of the parenting style measurement scale utilized in the current study—which consisted of a condensed 4-item scale—might have influenced the results. While the intention behind this approach was to streamline the survey process and minimize respondent fatigue, it is plausible that the brief descriptions provided for each parenting style lacked the depth needed to capture the individual experiences of the participants accurately. Secondly, existing measures of parenting style—of which the measure of parenting style in the current study was based on—have their own methodological limitations in previous studies (Kuppens & Ceulemans, 2019). Specifically, the dimension of psychological control has often been neglected in parenting research which may lead to incomplete or inaccurate characterizations of parenting styles (Kuppens & Ceulemans, 2019). Parenting styles traditionally focus on behavioral control, yet the concept of psychological control involves a more subtle influence through the manipulation of emotions and thoughts (Barber et al., 2005). This form of control may go unrecognized by children, leading to underreporting in measures and potential validity biases. Neglecting these critical dimensions can oversimplify categorizations of parenting styles and affect accurate assessments. Additionally, considering parenting styles within the context of two parents with potentially differing approaches necessitates the exploration of joint parenting styles (Kuppens & Ceulemans, 2019). Analyzing joint styles requires advanced techniques like cluster analysis to uncover underlying patterns. Moving forward, research should prioritize comprehensive measures that incorporate all relevant dimensions of parenting, such as joint styles, and potential emotional manipulation, to improve accuracy and applicability in studying parent-child relationships.

Implications

The findings of this study contribute to the understanding of attachment theory and narcissism research. Specifically, the results highlight the associations between vulnerable and grandiose narcissism and attachment anxiety and avoidance with gender as a moderator of these associations.

From a theoretical perspective, the study underscores the importance of accounting for individual differences when assessing the association between narcissism and attachment styles. The finding that vulnerable narcissism was a significant predictor of higher attachment anxiety and avoidance aligns with previous literature emphasizing the role of shame and self-esteem in shaping insecure attachment patterns (van Schie et al., 2021). Shame and self-esteem play crucial roles in understanding attachment patterns and their association with narcissism

(Reis et al., 2021). Shame involves feelings of inadequacy and self-blame, often stemming from internalized negative beliefs about oneself (Leeming & Boyle, 2004). When individuals experience shame, they may struggle with forming secure attachments due to fears of rejection and unworthiness in relationships, which can lead to heightened attachment anxiety and avoidance as individuals seek to protect themselves from perceived threats to their self-worth (Reis et al., 2021). Self-esteem refers to the sense of self-worth and value. Passanisi et al. (2015) found an association between low self-esteem, shame, and insecure attachment, which is characterized by high attachment anxiety, and/or high attachment avoidance. Low self-esteem can contribute to difficulties in trusting others and seeking comfort and support from relationships, which are essential aspects of secure attachment (Passanisi et al., 2015). In the context of narcissism, individuals with vulnerable narcissistic traits often experience deep-seated feelings of shame, which might damage self-esteem, ultimately resulting in insecure attachment, by withdrawing from the relationship or displaying high anxiety as a protective measure (Smolewska & Dion, 2005). Therefore, understanding the roles of shame and self-esteem is vital in elucidating the mechanisms underlying attachment styles influenced by narcissism. By exploring these psychological factors more deeply, researchers can gain insights into how individuals' self-perceptions and emotional experiences shape their attachment behaviors and relationships.

Additionally, the interaction between vulnerable narcissism and gender in predicting attachment avoidance and anxiety in men suggests the influence of gender role conflict and masculine identity concerns on attachment processes (Schwartz et al., 2004). Gender identity influences attachment processes, particularly in how individuals navigate relationships based on societal norms and expectations associated with masculinity or femininity (Alonso-Arbiol et al., 2002). For men, societal pressures emphasizing independence and emotional stoicism may contribute to attachment avoidance (Ciocca et al., 2020). These feelings could be elevated for men with vulnerable narcissistic traits who perceive dependency as a threat to their masculine identity (Smolewska & Dion, 2005). Similarly, women may experience attachment anxiety due to concerns about self-worth and validation within relationships, shaped by societal expectations around nurturing and relationality (Ciocca et al., 2020). Understanding the impact of gender identity on attachment styles is crucial for contextualizing individual differences and informing interventions to promote healthier relational patterns and well-being.

Moreover, the discrepancy in findings pertaining to grandiose narcissism points to the need for a clearer and more nuanced understanding of narcissism subtypes and their differential effects on attachment outcomes. Earlier empirical research on narcissism has predominantly focused on grandiose narcissism, which remains the most extensively studied characteristic and is central to the formal diagnosis of NPD (Skodol et al., 2014). However, this singular focus may limit the diagnostic validity and understanding of narcissism, as it overlooks other subtypes such as vulnerable narcissism (Cain et al., 2008). The inconsistency in findings related to grandiose narcissism may stem from individuals' tendencies to avoid acknowledging problems to maintain their self-image (Dickinson & Pincus, 2003). Future research should investigate a new approach to studying narcissism subtypes to enhance diagnostic validity and develop targeted interventions addressing attachment issues associated with distinct narcissistic traits. For example, when treating individuals with heightened levels of vulnerable narcissism characterized by insecurity and hypersensitivity to criticism, interventions focusing on building self-esteem, fostering empathy, and addressing underlying shame may be beneficial (Kaufman et al., 2020). In contrast, for individuals exhibiting high levels of grandiose narcissism marked by arrogance and a need for admiration, therapeutic approaches emphasizing accountability, challenging distorted self-perceptions, and promoting authentic interpersonal connections may be more effective (Kaufman et al., 2020).

Strengths, Limitations, and Future Directions

This study had a number of strengths. This study is the first to examine gender and age as moderators of the relationship between narcissism and attachment style, and the mediating effect of parenting

styles on the relationship between narcissism and attachment styles. Investigating narcissism across specific subtypes separately rather than collapsing narcissism into a single construct enabled a more explicit and clear-cut examination and understanding of how specific manifestations of narcissism interact with gender to influence attachment styles. Similarly, the use of the two-dimensional model to measure attachment style aligns with established research suggesting that this approach yields the most consistent and reliable results across various contexts (Fraley et al. 2015). Using shorter versions of scales to measure narcissism, and parenting style also helped mitigate participant fatigue and reduced the likelihood of participants selecting random responses, thereby improving the overall quality of data collected (Berry et al., 1992). Additionally, the inclusion of attention-check questions in the survey ensured that only responses from attentive participants were included in the study.

This study also had a number of limitations. Although previous studies have argued that MTurk is a quick, and reliable source of data (Kees et al., 2017), some concerns come with using the MTurk population for data collection (Follmer et al., 2017). Firstly, the demographic composition of MTurk workers deviates from traditional samples with notable differences including lower levels of extraversion, higher education levels, higher likability of being unemployed, and a more liberal political ideology (Goodman et al., 2013). These variations pose challenges in extrapolating findings to broader populations, particularly when studying phenomena that are influenced by demographic factors. Moreover, the various motivations driving individuals to serve as MTurk samples could pose another limitation. Paolacci and Chandler (2014) suggest that MTurk samples tend to choose surveys that they find more interesting as well as ones that offer more financial compensation. Due to the participants' potential interest in and familiarity with the survey topics, their responses may be biased. Additionally, there might be concerns regarding MTurk's demographic diversity (Follmer et al., 2017). Specifically, in this study, the majority of participants were in their 30s which could potentially contribute to the absence of age as a moderator. Future research should consider using diverse and representative samples that more accurately reflect the broader population. This can involve incorporating multiple data sources beyond MTurk to capture a wider range of demographic profiles and perspectives. Another limitation of the study was the measure of parenting style, which may not have been sensitive enough to appropriately capture the differences in parenting styles the participants experienced. Future research should employ more nuanced measures of parenting style that are sensitive to variations in parental behaviors and interactions could enhance the accuracy and validity of findings

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