



# Self-esteem mediates narcissism and aggression among women, but not men: A comparison of two theoretical models of narcissism among college students



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## ABSTRACT

Previous research has linked narcissism, self-esteem, and aggression. Two theoretical models have been advanced to explain these relationships: the psychodynamic mask model and the threatened egotism model, each with empirical support. Past research has found gender differences in narcissism, self-esteem, and aggression; however, little extant research into relationships between these variables has explored the role of gender. The purpose of this study was to investigate the mediating role of self-esteem between narcissism and aggression (physical aggression and verbal aggression) among U.S. college students and to explore whether these relationships varied between men and women. Results found support for the psychodynamic mask model, but only among women.

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## 1. Introduction

Many studies have linked narcissism, aggression, and self-ideology (Baumeister, Bushman, & Campbell, 2000; Donnellan, Trzesniewski, Robins, Moffitt, & Caspi, 2005; Heiserman & Cook, 1998; Perez, Vohs, & Joiner, 2005); however, previous research has yielded inconsistent results regarding the directionality of these relations. Two theoretical models of narcissism and aggression – the psychodynamic mask model and the threatened egotism model – have both received support in the literature. Additionally, although significant gender differences have been found on narcissism, self-esteem, and aggression (Buss & Perry, 1992; Heiserman & Cook, 1998; Sprecher, Brooks, & Avogo, 2013), little extant research has investigated interrelationships between these variables and gender. The purpose of this study was to explore the relationship between narcissism, self-esteem, and aggression among college men and women in order to test these theoretical models of narcissism and aggression.

## 2. Narcissism

Narcissism can be understood as a category – Narcissistic Personality Disorder in the *DSM-IV-TR* (American Psychiatric Association, 2000) – or as a dimensional trait. The current study conceptualizes narcissism as a

trait. Narcissism is associated with feelings of elevated self-worth and superiority, and narcissistic individuals tend to become overly tormented by threats to their self-image, and carry out maladaptive strategies to handle these threats (e.g., violence, aggression; Pincus et al., 2009).

## 3. Narcissism and aggression

Kernberg (1975) and Kohut (1966) proposed models of narcissism that influenced the establishment of the psychodynamic mask model, which states that narcissistic individuals use a grandiose sense of self as a mask to hide their low self-esteem (Zeigler-Hill & Besser, 2013). Previous studies have found that narcissistic individuals have fragile and vulnerable self-esteem (Baumeister et al., 2000; Cale & Lilienfeld, 2006; Heiserman & Cook, 1998; Zeigler-Hill & Besser, 2013). Myers and Zeigler-Hill (2012) found support for the psychodynamic mask model of narcissism by utilizing the bogus pipeline technique to reveal how narcissistic individuals have lower self-esteem than they overtly express. Donnellan et al. (2005) found that the relationship between low self-esteem and aggression is independent from narcissism.

Baumeister et al. (2000) present the threatened egotism model of aggression to explain how global self-esteem does not necessarily lead to physical and verbal aggression, but the threat to one's self-esteem is what causes aggression. Narcissistic individuals think highly of themselves, and expect others to share in this same view. Bushman et al. (2009) found that high self-esteem was linked with aggression, but the combination of high self-esteem and ego threats produced higher

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**Table 1**  
Bivariate correlations.

Measures	1	2	3
1. Narcissism			
2. Self-esteem	-.416**		
3. Physical aggression	.294**	-.219**	
4. Verbal aggression	.401**	-.243**	.609**

Note:  $N = 831$  ( $n = 238$  males;  $n = 593$  females).

\*\*  $p < .001$ .

rates of aggression; low self-esteem had no relationship with aggression. Baumeister et al. (2000) found that narcissistic individuals did not differ from their non-narcissistic counterparts in regard to aggression as long as there were no insulting threats made towards their ego, making narcissism more of a risk factor that can increase aggression to provocation than a direct causal link (Bushman & Baumeister, 1998).

The psychodynamic mask model and the threatened egotism model agree in the sense that narcissistic individuals possess unstable self-esteem; however, their differences in how self-esteem plays a causal role in the relationship between narcissism and aggression cause the relationship to remain ambiguous.

#### 4. Narcissism, aggression, and gender

Much of the existing literature explores the relationships between narcissism, self-esteem, and aggression. However, little extant research explores the role of gender in these relations. Since there are gender differences in self-esteem, aggression, and narcissism independently, it is important to consider the role of gender in interrelationships between these.

Overall, studies have shown support that women tend to have lower self-esteem than men (Sprecher et al., 2013). Consistent with these findings, narcissistic women tend to be more prone to experiencing shame while narcissistic men tend to be more likely to exert aggression (Heiserman & Cook, 1998; Lewis, 1976; Tangney, 1994). Considerable empirical evidence suggests that men tend to be more aggressive than women (Averill, 1982; Bailey & Ostrov, 2008; Heiserman & Cook, 1998). Men elicit more physical aggression, verbal aggression, and hostility than women; however, there is a larger disproportion between the sexes for physical aggression than any other type of aggression Buss and Perry (1992).

#### 5. The current study

This study investigated relationships between these variables within the theoretical frameworks of the psychodynamic mask model and the threatened egotism model in an effort to provide a clearer view of the relationship due to existing mixed and ambiguous empirical evidence. Consistent with the literature, it was hypothesized that (H1) narcissism would positively predict physical and verbal aggression; (H2) narcissism would predict self-esteem; (H3) self-esteem would predict physical and verbal aggression in a manner consistent with the psychodynamic mask model or the threatened egotism model (e.g., self-esteem negatively predicts physical and verbal aggression, or self-esteem positively predicts physical and verbal aggression); (H4) self-esteem would mediate the relationship between narcissism and both forms of aggression; and (H5) gender would moderate the relationship between narcissism, self-esteem, and aggression in that moderation would be found among men, but not women.

#### 6. Method

##### 6.1. Participants

Participants consisted of undergraduate students ( $N = 831$ ) from a large public university in the southern United States. Participants were

recruited through the department research website. Participants consisted of 593 females (71.2%), and 238 males (28.6%), whose ages ranged from 18 to 62 years ( $Mage = 21$ ;  $SD = 3.86$ ). The ethnic/racial composition was 53.5% White/Caucasian, 16.1% Black/African American, 19.3% Hispanic, 7.9% Asian/Pacific Islander, 0.2% Native American, and 2.9% "other."

##### 6.2. Measures

The *Pathological Narcissism Inventory* (PNI; Pincus et al., 2009) is a 52-item, self-report measure of narcissism. The PNI is multidimensional, assessing narcissistic grandiosity (characterized by entitlement rage, exploitativeness, grandiose fantasy, and self-sacrificing self-enhancement) and narcissistic vulnerability (characterized by contingent self-esteem, hiding the self, and devaluing). The PNI scales assess clinically relevant aspects of pathological narcissistic traits (e.g., "I often fantasize about being admired and respected," "It irritates me when people don't notice how good a person I am."). Participants rate their level of agreement with each statement on a 6-point Likert-type scale (1 = *not at all like me* to 6 = *very much like me*). Higher total PNI scores represent higher levels of narcissism. In this study, the PNI demonstrated high internal consistency (Cronbach's  $\alpha = .961$ ).

The *Buss–Perry Aggression Questionnaire–Short Form* (BPAQ-SF; Bryant & Smith, 2010) is a 12-item, self-report measure of aggression. This shortened version of the original 29 item Buss–Perry Scale (Buss & Perry, 1992) assesses physical aggression (e.g., "There are people who pushed me so far that we came to blows."), verbal aggression (e.g., "I can't help getting into arguments when people disagree with me."), anger (e.g., "I have trouble controlling my temper."), and hostility (e.g., "At times I feel I have gotten a raw deal out of life."). Participants respond to each item on a 5-point Likert scale (1 = *extremely uncharacteristic of me* to 5 = *extremely characteristic of me*). For the purposes of this study, only physical aggression and verbal aggression will be assessed. Higher scores indicate higher levels of physical and verbal aggression. In this study, the verbal aggression subscale demonstrated adequate internal consistency (Cronbach's  $\alpha = .684$ ).

The *Rosenberg Self-Esteem Scale* (RSES; Rosenberg, 1965) is a 10-item, self-report measure of overall feelings of self-worth (e.g., "I take a positive attitude towards myself."). Participants respond to each item on a 4-point scale (1 = *strongly agree* to 4 = *strongly disagree*). In this study, the RSES demonstrated high internal consistency (Cronbach's  $\alpha = .884$ ).

##### 6.3. Procedures

The study was approved by the university IRB. Participants completed the survey online and received course credit for participating.

**Table 2**  
Descriptive data.

	Gender		Total sample M (SD)
	Males M(SD)	Females M (SD)	
Continuous variables			
PNI	179.98 (36.95)	183.46 (41.08)	182.62 (40.11)
RSES	29.03 (5.72)	29.61 (5.79)	29.44 (5.77)
BPAQ-PA	7.51 (2.87)	6.52 (2.92)	6.80 (2.94)
BPAQ-VA	8.09 (2.67)	7.49 (2.77)	7.67 (2.75)

Note:  $N = 831$  ( $n = 238$  males;  $n = 593$  females). PNI: Pathological Narcissism Inventory (Pincus et al., 2009). RSES: Rosenberg Self-Esteem Scales (Rosenberg, 1965). BPAQ: Buss–Perry Aggression Questionnaire – Physical Aggression & Verbal Aggression subscales (Buss & Perry, 1992).

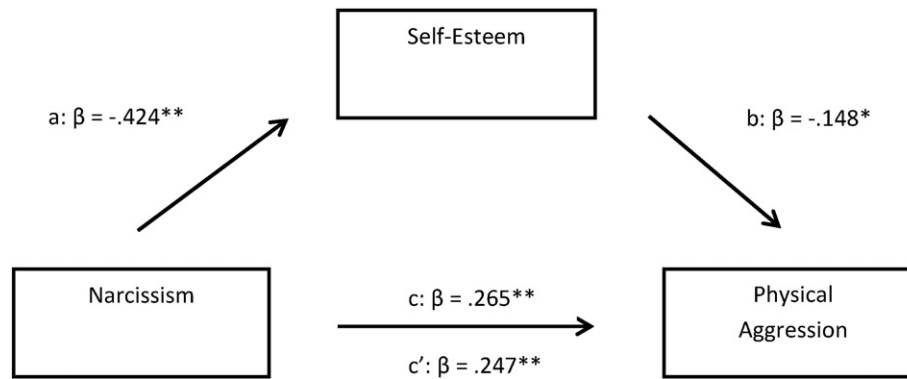


Fig. 1. Pathways between narcissism, self-esteem, and physical aggression among men. Sobel test:  $p = .549$ ,  $p < .001^{**}$ ,  $p < .05^*$ .

## 7. Results

Preliminary analyses were conducted to ensure no violation of assumptions. Correlations between all variables of interest are displayed in Table 1, and descriptive statistics are displayed in Table 2. A series of hierarchical multiple regression analyses were run to explore whether self-esteem mediated the relationship between pathological narcissism and physical aggression (Baron & Kenny, 1986).

### 7.1. Narcissism, self-esteem, and physical aggression

Narcissism was positively associated with physical aggression (path c:  $B = .021$ , 95% CI [.016, .026],  $\beta = .284$ ,  $p < .001$ ,  $sr^2 = .079$ ) and negatively associated with self-esteem (path a:  $B = -.060$ , 95% CI [−.069, −.051],  $\beta = -.414$ ,  $p < .001$ ,  $sr^2 = .170$ ), and self-esteem was negatively associated with physical aggression (path b:  $B = -.114$ , 95% CI [−.148, −.080],  $\beta = -.223$ ,  $p < .001$ ,  $sr^2 = .049$ ). Finally, when both narcissism and self-esteem were included, the model was significant,  $R = .307$ ,  $R^2 = .094$ , adjusted  $R^2 = .091$ ,  $F(2, 828) = 43.042$ ,  $p < .001$ , and the relation between narcissism and physical aggression was reduced (path c':  $B = .017$ , 95% CI [.012, .022],  $\beta = .229$ ,  $p < .001$ ,  $sr^2 = .043$ ). A confirmatory Sobel test indicated that the reduction was significant ( $p < .001$ ), supporting partial mediation.

### 7.2. Narcissism, self-esteem, and verbal aggression

Narcissism was positively associated with verbal aggression (path c:  $B = .027$ , 95% CI [.023, .032],  $\beta = .394$ ,  $p < .001$ ,  $sr^2 = .155$ ) and negatively associated with self-esteem (path a:  $B = -.060$ , 95% CI [−.069, −.051];  $\beta = -.414$ ,  $p < .001$ ,  $sr^2 = .170$ ), and self-esteem was negatively associated with verbal aggression (path b:  $B = -.118$ , 95% CI [−.149, −.086],  $\beta = -.246$ ,  $p < .001$ ,  $sr^2 = .060$ ). Finally, when both narcissism

and self-esteem were included, the model was significant,  $R = .405$ ,  $R^2 = .164$ , adjusted  $R^2 = .162$ ,  $F(2, 828) = 81.136$ ,  $p < .001$ , and the relationship between narcissism and physical aggression was reduced (path c':  $B = .024$ , 95% CI [.020, .029],  $\beta = .352$ ,  $p < .001$ ,  $sr^2 = .103$ ). A confirmatory Sobel test indicated that the reduction was significant ( $p = .006$ ), supporting partial mediation.

### 7.3. Gender: narcissism, self-esteem, and physical aggression

To see whether gender would moderate this relationship (Baron & Kenny, 1986), further regressions assessing the relationship between narcissism, self-esteem, and both forms of aggression were conducted with gender as a split file. The split file allowed for the comparison of these relationships among men and women separately.

Narcissism was positively associated with physical aggression in both males (path c:  $B = .019$ , 95% CI [.011, .030],  $\beta = .265$ ,  $p < .001$ ,  $sr^2 = .070$ ) and females (path c:  $B = .022$ , 95% CI [.011, .023],  $\beta = .304$ ,  $p < .001$ ,  $sr^2 = .092$ ), as well as negatively associated with self-esteem among males (path a:  $B = -.066$ , 95% CI [−.084, −.048],  $\beta = -.424$ ,  $p < .001$ ,  $sr^2 = .179$ ) and females (path a:  $B = -.059$ , 95% CI [−.069, −.048],  $\beta = -.415$ ,  $p < .001$ ,  $sr^2 = .172$ ). Self-esteem was negatively associated with physical aggression among both males (path b:  $B = -.074$ , 95% CI [−.138, −.010],  $\beta = -.148$ ,  $p = .023$ ,  $sr^2 = .021$ ) and females (path b:  $B = -.125$ , 95% CI [−.164, −.085],  $\beta = -.247$ ,  $p < .001$ ,  $sr^2 = .061$ ). When all three variables were included, the model was significant among women,  $R = .332$ ,  $R^2 = .110$ , adjusted  $R^2 = .107$ ,  $F(2, 590) = 36.502$ ,  $p < .001$ , and the relation between narcissism and physical aggression was reduced (path c':  $B = .017$ , 95% CI [.011, .023],  $\beta = .243$ ,  $p < .001$ ,  $sr^2 = .048$ ). A confirmatory Sobel test indicated that the reduction was significant ( $p < .001$ ), supporting partial mediation. Conversely, once all three variables were included, the model remained significant among men,  $R = .268$ ,  $R^2 = .072$ , adjusted

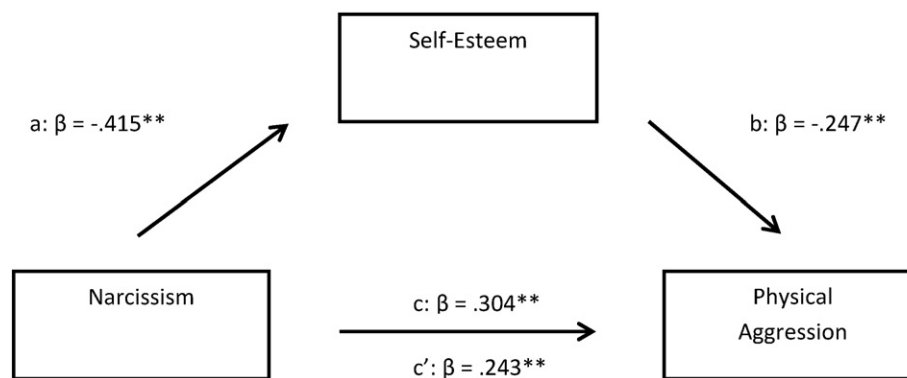


Fig. 2. Pathways between narcissism, self-esteem, and physical aggression among women. Sobel test:  $p < .001$ ,  $p < .001^{**}$ ,  $p < .05^*$ .

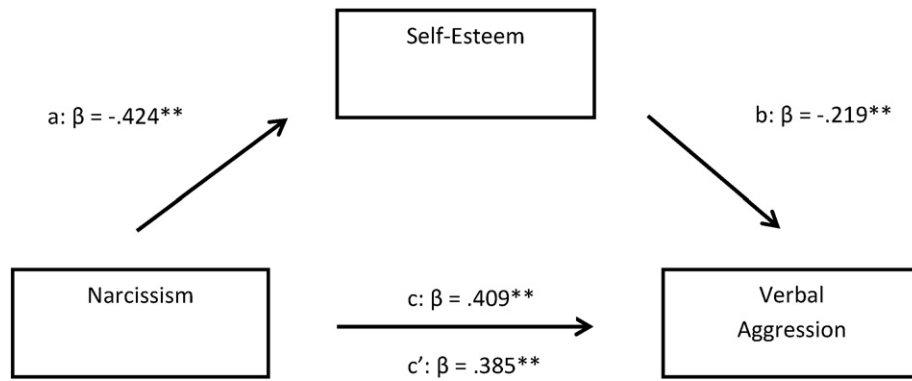


Fig. 3. Pathways between narcissism, self-esteem, and verbal aggression among men. Sobel test:  $p = .404, p < .001^{**}, p < .05^*$ .

$R^2 = .064, F(2, 235) = 9.105, p < .001$ , and the relation between narcissism and physical aggression was reduced (path c':  $B = .019, 95\% \text{ CI } [.009, .030], \beta = .247, p < .001, sr^2 = .050$ ); however, a confirmatory Sobel test indicated that the reduction was not significant ( $p = .549$ ), showing no evidence for mediation. Pathways are displayed in Figs. 1 and 2.

#### 7.4. Gender: narcissism, self-esteem, and verbal aggression

Narcissism was positively associated with verbal aggression among both males (path c:  $B = .030, 95\% \text{ CI } [.021, .038], \beta = .409, p < .001, sr^2 = .167$ ) and females (path c:  $B = .027, 95\% \text{ CI } [.022, .032], \beta = .398, p < .001, sr^2 = .158$ ), as well as negatively associated with self-esteem among males (path a:  $B = -.066, 95\% \text{ CI } [-.084, -.048], \beta = -.424, p < .001, sr^2 = .179$ ) and females (path a:  $B = -.059, 95\% \text{ CI } [-.069, -.048], \beta = -.415, p < .001, sr^2 = .172$ ). Self-esteem continued to be negatively associated with verbal aggression among both males (path b:  $B = -.102, 95\% \text{ CI } [-.161, -.044], \beta = -.219, p < .001, sr^2 = .047$ ) and females (path b:  $B = -.121, 95\% \text{ CI } [-.158, -.083], \beta = -.252, p < .001, sr^2 = .063$ ). When all three variables were included, the model was significant among women,  $R = .409, R^2 = .167$ , adjusted  $R^2 = .165, F(2, 590) = 59.320, p < .001$ , and the relation between narcissism and verbal aggression was reduced (path c':  $B = .024, 95\% \text{ CI } [.018, .029], \beta = .354, p < .001, sr^2 = .103$ ). A confirmatory Sobel test indicated that the reduction was significant ( $p = .012$ ), supporting partial mediation. Conversely, once all three variables were included, the model remained significant among men,  $R = .412, R^2 = .170$ , adjusted  $R^2 = .163, F(2, 235) = 24.066, p < .001$ , and the relation between narcissism and verbal aggression was reduced (path c':  $B = .028, 95\% \text{ CI } [.019, .037], \beta = .385, p < .001, sr^2 = .121$ ); however, a confirmatory Sobel test indicated that the reduction was not significant

( $p = .404$ ), showing no evidence for mediation. Pathways are displayed in Figs. 3 and 4.

## 8. Discussion

Results demonstrated support for (H1) in that narcissism was positively associated with physical and verbal aggression. Results also supported (H2) showing narcissism was negatively associated with self-esteem. In regard to (H3), self-esteem was negatively associated with physical and verbal aggression, consistent with the psychodynamic mask model. Result then demonstrated support for (H4), showing a mediation of self-esteem between narcissism and both forms of aggression, true to the psychodynamic mask model. Finally, results partially contradicted (H5) in that gender did moderate the relationship; however, the relationship was only significant among women, not men.

A growing body of work within the literature continues to reveal mixed results supporting the psychodynamic mask model or the threatened egotism model (Baumeister et al., 2000; Bushman et al., 2009; Donnellan et al., 2005; Perez et al., 2005; Zeigler-Hill & Besser, 2013). The current study adds to this literature by yielding results supporting the psychodynamic mask model, but only among women. This means that among men, high rates of narcissism are not associated with lower self-esteem that relates to high rates of physical and verbal aggression (see Fig. 1); however, among women, narcissism appears to act as a mask for their low self-esteem, which is related to higher rates of using physical and verbal aggression (see Figs. 2 & 4). These findings are inconsistent with Baumeister et al. (2000), showing a relationship between low global self-esteem, narcissism, and both forms of aggression. However, these findings do support previous literature findings that narcissistic individuals have fragile and vulnerable self-esteem (Baumeister et al., 2000; Cale & Lilienfeld, 2006; Heiserman & Cook, 1998; Zeigler-Hill & Besser, 2013). In conjunction with this discovery,

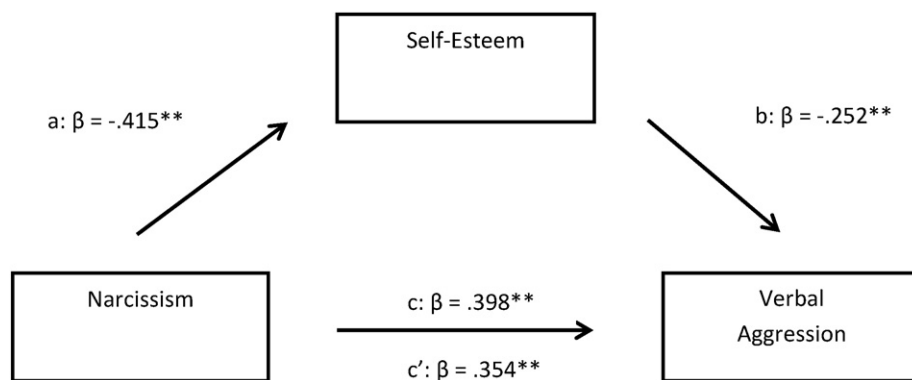


Fig. 4. Pathways between narcissism, self-esteem, and verbal aggression among women. Sobel test:  $p = .012, p < .001^{**}, p < .05^*$ .



these results support theories of Kernberg (1975) and Kohut (1966) about narcissistic individuals using a grandiose sense of self as a mask to hide their low self-esteem (Zeigler-Hill & Besser, 2013). Sprecher et al. (2013) establish that low self-esteem is more common among women, which is confirmed in this study by gender acting as a moderating variable. By looking at each direct effect between narcissism, self-esteem, and physical aggression, these results support Donnellan et al. (2005) work, showing that a relationship between low self-esteem and aggression can be independent from narcissism. Thus, our results suggest that low self-esteem is associated with physical and verbal aggression, overall; however, among narcissistic individuals, low self-esteem is associated with high rates of physical and verbal aggression only among women.

It should be recognized that this study was limited in several ways. The study was administered through online self-report questionnaires, which limits the data to the participant's own self-views. Another limitation to the study was that it utilized cross-sectional data. Even though a growing body of literature supports the directionality of this relationship (Donnellan et al., 2005; Zeigler-Hill & Besser, 2013), using cross-sectional data makes it difficult to accurately determine causal directionality of these relationships. Future research could use experimental methods to clarify questions of causality and directionality while also allowing for more objective measures of these variables rather than relying solely on self-report. Additionally, this study conceptualized narcissism as a single dimension; however, future studies could explore the predictive pathways of different dimensions of narcissism (e.g., narcissistic grandiosity, narcissistic vulnerability) to self-esteem and both forms of aggression. Despite these limitations, this study provides additional insight into the relationship between narcissism, self-esteem, and aggression. The results highlight the importance for future investigations into this topic to explore the moderating role of gender.

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