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What Men Want: The Role of Reflective Opposite-Sex Normative Preferences in Alcohol Use Among College Women

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Abstract

Misperceptions of peer drinking norms have been found to be strongly associated with individual drinking behavior, especially for proximal reference groups such as same-sex friends. Less studied are the effects of perceived preferences from the opposite sex on alcohol use; that is, the behaviors an individual believe the opposite sex prefers from them. Research suggests that these perceived “reflective” normative preferences may be particularly salient among college women, who may drink in pursuit of intimate relationships and positive attention from male peers. Heterosexual undergraduate students from two universities participated in this project. Females answered questions regarding the amount of alcohol they believe a typical male would like his female friends, dates, or romantic partners to drink. Males answered the same questions, stating their actual preferences. Results showed that females overestimate the amount of alcohol males want their female friends, dating partners, and sexual partners to drink, and that this misperception was associated with their drinking behavior, even after controlling for perceived same-sex norms. These results suggest that reflective normative feedback may offer a powerful new tool for female-targeted interventions.

Keywords

gender; college students; alcohol; social norms; personalized normative feedback

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Although traditionally men drink more than women, over the past 30 years women have steadily increased their consumption (Johnston, O'Malley, Bachman, & Schulenberg, 2007; O'Malley & Johnston, 2002). This increase has been particularly apparent in adolescents and college students. For example, in the 1950s only 6% of college women reported drinking once a week (Straus & Bacon, 1953), yet in 2001, nearly 17% reported consuming alcohol 10 or more times in the past month (Wechsler et al., 2002). Furthermore, longitudinal data suggest that women may be closing the gender gap. The prevalence of heavy episodic alcohol use (defined as four or more drinks for women, five or more for men) was 24% higher in men than women in 1986 and dropped to 16% in 1997 (O'Malley & Johnston, 2002).

This trend holds troublesome implications when considering the physiological differences that make women more vulnerable than men to the effects of alcohol. With less water in their bodies to dilute alcohol, and less of the stomach enzyme alcohol dehydrogenase to break it down, women achieve higher blood alcohol concentrations (BACs) in less time than men consuming the same amount of alcohol (NIAAA, 1999). This differential vulnerability may explain the greater risk of alcohol-related damage to the liver, heart, and brain displayed by female drinkers (NIAAA, 1999). Alcohol use has also been found to be a significant risk factor for sexual and other consequences. A woman's odds of experiencing sexual aggression are 3 to 9 times higher on days when she's consumed alcohol (Parks & Fals-Stewart, 2004), and more than 65% of the women involved in a sexual assault had been consuming alcohol at the time (Frintner & Rubinson, 1993). A nationwide study found that 35.8% of college women reported driving after drinking, 30.2% missing a class, 22.5% having unplanned sexual activity, and 19.8% experienced five or more problems due to alcohol use (Wechsler, Dowdall, Maenner, Gledhill-Hoyt, & Lee, 1998).

These points underscore the need to explore gender issues in alcohol use, especially the motivational factors driving women's drinking. Currently, work has been progressing on two particularly promising fronts: personal motivators from within, and social motivators from without.

External Motivators

In the highly social environment of college life, alcohol use has been strongly linked to the normative behaviors (or perceived behaviors) of others (Borsari & Carey, 2003; Perkins, 2002). Descriptive norms are used to describe how much individuals within a group *actually* drink (behavior), while injunctive norms refer to widespread beliefs as to how much an individual *ought to* drink (attitudes). These have been found to be the strongest correlate of alcohol consumption by college students when compared with other variables such as demographics (race, gender, year in school or fraternity/sorority membership), alcohol expectancies, or drinking motives (Neighbors, Lee, Lewis, Fossos, & Larimer, 2007; Perkins, Haines, & Rice, 2005). Perceived peer norms have also been found to have more influence on one's drinking decisions than parents or resident advisors (Perkins, 2002).

While social norms are strongly associated with drinking, it is ironic that inaccuracies in estimating these norms are so widespread. To date, more than 25 studies have revealed

misperceptions in peer drinking norms, with students consistently overestimating both the amount of drinking among their peers, and the extent that they approve of heavy drinking (Berkowitz, 2004; Perkins, 2002). A nationwide study of college students found that 71% overestimate the amount of alcohol used by peers (Perkins et al., 2005), and a meta-analysis of 23 college drinking studies revealed misperceptions in 91% of the measures investigated (Borsari & Carey, 2003). These misperceptions appear to be, in part, created when a heavy drinking minority exhibits highly memorable behaviors, while the more responsible behavior of the majority goes largely unnoticed (Berkowitz, 2004; Thombs, Ray-Tomasek, Osborn, & Olds, 2005).

A growing body of evidence suggests that proximity of the referent group is an important factor when evaluating peer influence on drinking behavior. Research has shown that closer and more salient groups have the greatest influence on drinking, and that the effect dissipates with social distance. For example, Korcuska and Thombs (2003) found that norms for close same-sex friends are more strongly associated with alcohol use than those of a “typical” same-sex student. Similarly, Thombs and colleagues (2005) found the norms of close same-sex friends were stronger predictors of drinking and frequency of drunkenness than close opposite-sex friends, while Lewis and Neighbors (2004) found that same-sex norms were predictive of alcohol-related problems, whereas gender-nonspecific and opposite-sex norms were not uniquely associated with drinking over and above same-sex norms. Of note, they also found that same-sex norms were more strongly associated with alcohol consumption for women than for men.

Proximity also appears to be important in the development of normative misperception. Several studies have shown that misperceptions increase with social distance (Borsari & Carey, 2003; Korcuska & Thombs, 2003; Lewis & Neighbors, 2004). In effect, this means that students believe their close friends drink more than they do, but that a “typical student” on their campus drinks even more. Additional evidence suggests that women may be more susceptible to normative misperception than men. Berkowitz and Perkins (1987) found that women are more likely to overestimate peer acceptance of “extremely liberal beliefs” about alcohol use, and Borsari and Carey (2003) found that women displayed significantly greater self-other discrepancies in both descriptive and injunctive norms than their male counterparts.

Internal Motivators

Eagly (1978) suggested that women in group settings may be more likely than men to yield to persuasion because they are more concerned with the interpersonal aspects of social situations. Gilligan (1982) elaborated that a greater interest in group harmony and cohesion may lead women to be more accommodating of others, more sensitive to perceived group norms, and less focused on asserting independence than men. Gleason (1994) discussed these points in the context of developing gender roles, stating that whereas males are taught to strive for independence and influence over others, females are encouraged to be passive, accommodating, and respectful of others feelings and opinions. In the formative years of college, alcohol is connected to this process at almost every level, from the alcohol present at social events, to the idea that a woman is more attractive if she is drinking, to the stress

relief that alcohol may provide when experiencing relationship problems (Garcia & Kushnier, 1987; Gleason, 1994; McIntosh, Smith, Bazzini, & Mills, 1999; Young, Morales, McCabe, Boyd, & D'Arcy, 2005). Thus, if misperceptions of alcohol-related norms are prevalent among women, these misperceptions may exert particular influence over women's drinking behavior.

Reflective Norms

While the subject of same-sex and opposite-sex peer influence has been well investigated, much less studied are the effects of perceived preferences of the opposite sex on alcohol use. Henceforth referred to as "reflective" norms, these are the behaviors an individual believes the opposite sex prefers them to do. Reflective norms warrant distinction from descriptive and injunctive norms in that they are a unique combination of the two. Going beyond an individual's opinion as to how much a referent group would *approve* of a behavior (injunctive norms), they add an assessment of exactly what *behaviors* (descriptive norms) that group would prefer one's own group engage in, thus the reflective referent. In one of the few studies to touch on this topic, Young et al. (2005) used focus groups to examine gender issues in binge drinking among undergraduate women. In these groups, the subject of what college women think men find attractive was a common theme. The authors stated that the topic "appeared to play a dominant role in shaping women's drinking behaviors," and while not every subject drank with the same frequency (or in the same quantities) as their male acquaintances, "they all felt the pressure to do so because of the impression they could make on their male peers" (p. 254). Participants repeatedly expressed that college men paid more attention, and found it more attractive, when a woman could match their drinking. In sum, subjects insisted that women who drink like men do not do so because they want to *be like* a man (in terms of male power), but rather because they want to *be liked* by men.

Therefore, in light of the increases in alcohol consumption among college females, their greater physiological risk relative to males, and the suggestion that they may be more influenced by social norms, the current study focused on the opposite-sex reflective drinking norms of female students. Although sexual orientations among college students vary, we chose to focus on the more common heterosexual dynamic (Jasinski & Ford, 2007). Thus, norms were assessed by asking heterosexual women to state their perception of males' expectations of women's drinking, and their accuracy was assessed by comparing these expectations to heterosexual males' actual preferences. In addition, we were interested in evaluating the extent to which reflective norms are associated with women's drinking. We hypothesized that female college students would overestimate the amount of alcohol that male students want them to drink, and that these expectations would be associated with their drinking behavior over and above their perceptions of other women's drinking (i.e., perceived same-sex norms).

Method

Participants

A random sample of 7,000 students stratified across class year and equally portioned from two universities (a private mid-size university and a large public university on the west

coast) was invited to complete a Web-based survey during the fall semester of 2007. Of these, 3,753 students completed the survey, yielding a recruitment rate of 53.6%. This recruitment rate is comparable to other large-scale studies among this population (e.g. Marlatt et al., 1998; McCabe et al., 2002; Neighbors et al., 2007). For the purpose of the study, only heterosexual students (96.3%, $N = 3616$) were included in the final sample. These participants ranged in age from 18 to 25 years ($M = 19.87$, $SD = 1.35$), and the majority was female (62.0%). Racial/ethnic distribution of participants included 55.1% White/Caucasian, 18.4% Asian, 12.7% Hispanic/Latino, 3.0% Black/African American, 1.6% Native Hawaiian/Pacific Islander, 0.4% American Indian/Alaskan Native, 6.6% multiracial, and 2.2% other. The sample consisted of 21.0% of participants who belong to a Greek-affiliated fraternity or sorority. Class standing was 19.0% freshman, 24.8% sophomore, 27.1% junior, and 29.1% senior.

Procedure

Local institutional review boards at each site approved the current study, which was part of a larger social norms study. Participants were informed that their responses were confidential and would not be connected to their name or e-mail address. Prior to answering questions related to drinking behavior, a standard drink was defined as a drink containing one-half ounce of ethyl alcohol—one 12 oz. beer, one 4 oz. glass of wine, or one 1.25 oz. shot of 80 Proof liquor. Pictures of standard drinks accompanied these descriptions. Participants received \$20 compensation for completing the survey.

Measures

Females' reflective perceptions of males' opposite-sex normative drinking preferences—Female participants responded to two sets of questions assessing perceptions of opposite sex (male) drinking preferences. The first set assessed more traditional normative alcohol use variables utilizing open-ended question format, while the second set assessed the perceived level of drinking valued by typical college males for various types of relationships found in the college environment. Participants began by answering two open-ended questions to assess their perceptions about the amount males prefer their female friends to drink: “How many drinks (on average) do you think a typical college male would like his female friends to consume during a typical drinking occasion?” and “What is the maximum amount of drinks (on average) that a typical college male would like his female friends to consume during one drinking occasion?”

They were then asked to answer three questions referring to perceived preferences of college males regarding drinking behavior of a female friend, sexual partner, and dating partner: “Which of these do you think college men would most likely want to be friends with?”; “Which of these do you think college men find the most attractive sexually?; Which of these do you think college men would most likely want to date? Response options for all three questions were as follows: 0 (*A woman who never drinks any alcohol*), 1 (*A woman who drinks 1 or 2 drinks when she drinks*), 2 (*A woman who drinks 3 or 4 drinks when she drinks*), 3 (*A woman who drinks 5 to 8 drinks when she drinks*), and 4 (*A woman who drinks 9 or more drinks when she drinks*).

Males' actual opposite-sex normative drinking preferences—To assess males' actual preferences, male participants answered questions indicating the amount they actually prefer their female friends to drink. They were asked the open-ended: "How many drinks (on average) would you like your female friends to consume during a typical drinking occasion?" and "What is the maximum amount of drinks (on average) that you would like your female friends to consume during one drinking occasion?" They were also asked about their preferences for drinking behavior of a female friend, sexual partner, and dating partner: "Which of these would you most likely want to be friends with?"; "Which of these do you find the most attractive sexually?"; "Which of these would you be most likely want to date?" Response options were identical to the options for female participants.

Females' individual alcohol use—Quantity of alcohol consumption was assessed using the Daily Drinking Questionnaire (DDQ) (Collins, Parks, & Marlatt, 1985). Female participants were asked, "Consider a typical week in the last month. How much alcohol, on average (measured in number of drinks), do you drink on each day of a typical week?" Participants responded by reporting the typical number of drinks consumed on each day of the week. Weekly drinking was calculated by summing participants' responses for each day of the week. The DDQ has been used in previous studies of college student drinking and has demonstrated good validity (Larimer et al., 2001; Marlatt et al., 1998).

Females' perceived same-sex norms—The perceived norms for weekly quantity of alcohol consumption was assessed using the Drinking Norms Rating Form (DNRF) (Baer, Stacy, & Larimer, 1991), modeled directly after the DDQ. The perceived quantity norm was assessed by asking participants, "How much alcohol, on average (measured in number of drinks), does a typical female student at your university drink on each day of a typical week?" The perceived norm was again scored by summing the estimated number of drinks consumed by the typical student for each day of the week.

Results

Analytic overview—A two-part analytic approach was undertaken. First, we assessed mean differences between females' perceived reflective normative preferences and males' actual normative preferences, for amount of drinking (drinks per occasion and maximum drinks) and interpersonal relationships (friends, sexual partners, and dating partners). Next, hierarchical regression analyses assessed the contribution of females' perceived reflective normative preferences on their own alcohol use while controlling for demographic characteristics and perceived same-sex norms. Given the sample size, a conservative probability level of .001 was employed for significance testing.

Differences between female and male normative preferences—Independent samples *t*-tests reveal that females' perceived reflective normative preferences were significantly higher than males' actual normative preferences, for drinks per occasion and maximum drinks in the past week, $ps < .001$ (Table 1). A similar pattern of findings emerged for type of interpersonal relationship, as females overestimated the amount of alcohol males prefer their female friends, sexual partners, and dating partners to consume, $ps < .001$. Cohen's *d* ranged from .31 to .67. Closer inspection with paired samples *t*-tests

revealed that maximum drinks was significantly higher than drinks per occasion, in the female as well as male sample, $ps < .001$. An omnibus repeated measures analysis of variance (ANOVA) found that the three interpersonal relationship items were statistically significant, for the female, $F(2, 4344) = 457.89, p < .001$, and male participants, $F(2, 2664) = 73.15, p < .001$. Decomposition of these overall results with paired samples t -tests indicates that every possible mean comparison involving these three interpersonal relationship items was significantly different, within the female as well as male sample, $ps < .001$. The percentage of females who overestimated males' actual preference mean score for each item was as follows: drinks per occasion (70.8%), maximum drinks (73.5%), friends (69.7%), sexual partners (65.5%), and dating partners (43.1%).

Females' perceived reflective normative preferences and their drinking—

Correlations among the five reflective norms items, as well as same-sex norms and drinking variables for females, are contained in Table 2. Correlations among the men's variables (five reflective norm measures and drinks per week) were all highly significant ($ps < .001$, with r 's ranging from .49 to .86). Using the female sample only, the contribution of females' perceived reflective normative preferences for amount of drinking and interpersonal relationships to individual drinking were separately estimated via two hierarchical multiple regression models. Individual drinking behavior served as the outcome. In Step 1 of both models, race/ethnicity, Greek status, class standing, and perceived same-sex norms served as the covariates. In Step 2, perceived reflective normative preferences for drinks per occasion and maximum drinks were entered into the first model; perceived reflective normative preferences for friends, sexual partners, and dating partners were entered into second model.

In both regression models (Table 3), the perceived reflective normative preferences step explained a statistically significant proportion of the variance in drinking, over and above the effects associated with demographics and perceived same-sex norms. Specifically, the first model shows that females' alcohol use was significantly predicted by membership in a Greek sorority, perceived same-sex norms, and additionally, females' perceived reflective normative preference for drinks per occasion and maximum drinks, both $ps < .001$. In the second model, alcohol use was predicted by membership in a Greek sorority, perceived same-sex norms, in addition to females' perceived reflective normative preferences for friends and dating partners, both $ps < .001$, but not sexual partners.

Discussion

The current study found that heterosexual college women overestimate the amount of alcohol male peers want a typical college woman to drink. They further overestimate how much males want their female friends, dates, and sexual partners to drink. In addition, these misperceptions were significantly associated with a woman's actual drinking over and above demographic factors and perceived same-sex norms. These findings contrast those of Lewis and Neighbors (2004), who found that gender nonspecific and opposite-sex norms did not account for drinking when controlling for same-sex norms. That females' perceptions of what men desire women to drink account for their drinking, while controlling for same-sex norms, highlights the role of reflective norms in understanding college women's drinking. In the context of the well-established normative influence of same-sex peers, this finding offers

unique insight into college women's motivations for drinking. Although the exact mechanism of this social effect is still unclear, the literature suggests that it may relate to both a greater concern with the development and maintenance of social relationships (Eagly, 1978; Gilligan, 1982; Gleason, 1994), as well as the widespread belief that men find it attractive and sexually appealing when a woman can drink as much as a man does (Young et al., 2005). The current study lends empirical support to Young and colleagues' assertion that women's drinking is based, at least in part, on their perceptions of men's expectations and specifically because they believe that men prefer heavier drinking.

The current article is unique in that it compared the drinking women believe men want, with the drinking men actually prefer, within the context of different interpersonal relationships. Analyses of male preferences showed that college men prefer their female friends and sexual partners to drink more than the women they are dating. Although the reasons for these preferences are unclear, one possibility is that men may be more interested in having their friends and sexual partners join them at public events such as bars, games and parties, which frequently involve alcohol. Their dates on the other hand, may consist of more one-on-one activities such as movies or dining out, that are less likely to involve heavy drinking. Another possibility is that men may be aware of the disinhibitory effects of alcohol, and perceive drinking as a sexual facilitator in general, increasing the frequency with their established sexual partners, or easing the transition from friendship to sexual partner. Awareness of these effects may contrarily encourage males to prefer lighter drinking in their dating partners, out of fear of possible infidelity.

Furthermore, analyses of female perceptions showed that a large percentage of women mistakenly believe that males want them to drink to risky levels. This is particularly the case within the friendship and sexual contexts, where additional analyses showed that 26.1% of women stated that men would most likely want to be friends with a woman who drinks 5 or more drinks, and 16.7% stated that men would be the most sexually attracted to the same. Both estimates are nearly double men's actual preferences for that behavior. If it is the case that women's drinking is related to the development of social relationships, then these misperceptions may be encouraging women to drink to risky levels.

The validation of these misperceptions suggests an avenue for new reflective normative feedback interventions targeted to women. Providing feedback that corrects the errors in the perceived preferences of opposite-sex peers may induce change in relational and social drinking dynamics. Interestingly, these feedback interventions may be found to be especially impactful among women. According to Neighbors, Larimer, and Lewis (2004), the basic assumption underlying normative feedback interventions is that students care about how they compare with their peers. Those who drink for social reasons are likely to be those that care the most about how they compare with their peers, and thus the most affected by any information that suggests that their drinking does not match the norm. In the case of reflective norms, if women are drinking to gain the esteem of men, then it is possible that they would be most affected by the knowledge that men actually prefer lighter drinking among women. Similar arguments have been proposed in the area of body image, where females have been found to overestimate males' preferences for large breasts (Thompson & Tantleff, 1992) and thinness (Bergstrom & Neighbors, 2006; Bergstrom, Neighbors, &

Lewis, 2004; Fallon & Rozin, 1985). That these misperceptions have been associated with eating disorder symptomology, particularly for women whose self-worth is most dependent on appearance (Bergstrom et al., 2004), suggests that reflective normative feedback may hold potential within this area as well.

Limitations of the current findings must be taken into consideration. Although this study includes a large representative sample of students from two diverse universities, self-report data remains an issue of concern. However, studies reveal that self-report survey data (Babor, Steinberg, Anton, & Del Boca, 2000; Midanik, 1988) and self-reported drinking (Johnston & O'Malley, 1985) are generally reliable and valid, particularly when participants are repeatedly assured of confidentiality. It should also be noted that questions pertaining to perceived and actual normative preferences were generated by the researchers. The questions assumed that men have a stated preference for how much women drink and that women are aware of this preference. Future research should work towards establishing a standardized assessment with psychometric evaluation regarding construct validity, by including response options that are more sensitive towards whether a preference exists. In addition, other important personal factors were not specified that could potentially alter measurement characteristics, such as blood alcohol content. This too should also be considered in future work. Finally, the current study focused on college women's reflective normative perceptions. Given the degree to which females in the current study overestimated actual normative preferences and prior research documenting misperceptions of opposite-sex drinking norms by both genders (Thombs et al., 2005), future research should investigate the extent to which college men also hold and are influenced by reflective misperceptions of the normative preferences of college women.

In conclusion, the current study is the first to quantify the difference between the amount heterosexual women believe men want them to drink, and the drinking behaviors that heterosexual men actually prefer. It was found that these college women overestimate the amount of alcohol men prefer them to consume. That these misperceptions are associated with a woman's drinking, over and above same-sex peer norms, suggests that they may be a new important explanatory factor for college women's alcohol use that needs further exploration and understanding. Furthermore, reflective normative feedback may provide a new avenue for future interventions.

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Table 1

Mean Differences Between Females' Perceived Reflective Normative Preferences and Males' Actual Normative Preferences

Variable	Females ^a		Males ^b		t-test	Cohen's <i>d</i>
	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)		
Amount of drinking						
Drinks per occasion	4.75	(2.34)	3.18	(2.41)	19.11*	0.67
Maximum drinks	6.26	(3.00)	4.69	(3.29)	14.53*	0.51
Interpersonal relationships						
Friends	1.97	(0.88)	1.40	(1.00)	17.32*	0.60
Sexual partners	1.82	(0.78)	1.34	(0.91)	16.57*	0.58
Dating partners	1.45	(0.66)	1.21	(0.88)	8.97*	0.31

Note. Drinks per occasion and maximum drinks are on an open-ended scale. Friends, sexual partners, and dating partners are on a five-point Likert-type scale: 0 = never drinks, 1 = 1 or 2 drinks, 2 = 3 or 4 drinks, 3 = 5 to 8 drinks, and 4 = 9 or more drinks.

^aFemales' perceived reflective normative preferences (females on what they perceive males prefer in females).

^bMales' actual normative preferences (males on what they actually prefer in females).

Table 2

Correlation of Variables for Females

Variable	1	2	3	4	5	6	7
1 Individual alcohol use	—						
2 Perceived same-sex norms	.24*	—					
3 Drinks per occasion ^a	.29*	.45*	—				
4 Maximum drinks ^a	.29*	.36*	.63*	—			
5 Friends ^a	.28*	.26*	.34*	.36*	—		
6 Sexual partners ^a	.17*	.22*	.35*	.38*	.43*	—	
7 Dating partners ^a	.24*	.24*	.31*	.31*	.42*	.54*	—

^aFemales' perceived reflective normative preferences (females on what they perceive males prefer in females).

* $p < .001$.

Table 3

Hierarchical Regression Models of Females' Perceived Reflective Normative Preferences Predicting Individual Alcohol Use, Controlling For Demographics, and Perceived Same-Sex Norms Preferences Predicting Individual Alcohol Use, Controlling for Demographics and Perceived Same-Sex Norms

Predictor	R ² change	Final B	Final β
Model 1: Amount of drinking			
Step 1	.16*		
Race/ethnicity		1.25	.10*
Greek status		3.86	.27*
Class standing		0.12	.02
Perceived same-sex norms		0.11	.12*
Step 2	.04*		
Drinks per occasion ^a		0.26	.10*
Maximum drinks ^a		0.31	.16*
Final model: $F(6, 2129) = 89.58^*$, $R^2 = .20$			
Model 2: Interpersonal relationships			
Step 1	.16*		
Race/ethnicity		1.34	.11*
Greek status		3.78	.26*
Class standing		-0.02	-.01
Perceived same-sex norms		0.14	.15*
Step 2	.05*		
Friends ^a		1.17	.17*
Sexual partners ^a		-0.21	-.03
Dating partners ^a		1.12	.12*
Final model: $F(7, 2132) = 80.10^*$, $R^2 = .21$			

Note. For race/ethnicity: 0 = all other racial groups, 1 = White/Caucasian. For Greek status: 0 = non-Greek, 1 = Greek. For class standing: 1 = freshman, 2 = sophomore, 3 = junior, 4 = senior.

^aFemales' perceived reflective normative preferences (females on what they perceive males prefer in females).

* $p < .001$.