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# The effects of role-taking and embarrassability on undergraduate drinking: Some unanticipated findings

Lizabeth A. Crawford, Katherine B. Novak

## *Abstract*

This paper focuses on the relationship between role-taking, affect, and alcohol use among college undergraduates. Role-taking is the process through which people anticipate the perspectives—expectations, evaluations, and behaviors—of others (Mead, 1934). Reflexive role-taking (i.e., viewing oneself through the eyes of others) was significantly related to four distinct types of embarrassment. However, in opposition to our hypotheses, embarrassment resulting from becoming the center of others' attentions was the only form of embarrassability significantly related to undergraduate drinking. Moreover, it was those students least susceptible to this type of embarrassment who were the most likely to be drinkers. While role-taking, in general, was unrelated to the amount of alcohol consumed, individuals who rarely engaged in empathic role-taking (i.e., rarely anticipated the feelings of others) were more likely to be drinkers and drank more heavily than other students.

Alcohol is involved in the majority of crimes and accidents that occur on college campuses (Asagba, 1996; Pezza & Bellotti, 1995). Even non-drinkers on campuses where alcohol use is prevalent are likely to experience damaged property and personal injury resulting from others' irresponsible drinking (Wechsler, Moeykens, Davenport, Castillo, & Hansen, 1995). Because of increasing concerns about these issues, and concerns about the negative impact of substance abuse on young adults in general, many colleges and universities are taking measures to discourage campus drinking (see for example, Baer, Kivlahan, & Mariatt, 1992; Haines & Spear, 1996). Despite these efforts, alcohol use continues to be a common part of many students' college experiences.

The first step in initiating strategies that reduce alcohol abuse on campus is identifying the factors that influence student drinking. Drawing on concepts central to symbolic interactionism, we suggest that student drinking is motivated in part by alcohol-induced deficits in role-taking and subsequent affect, and their impact on behavioral regulation. Working within this framework, we examine the relationship between students' self-concepts, styles of processing social information, and patterns of drinking.

## *Role-Taking, Affect, and Social Control*

Role-taking involves seeing the world through the eyes of others and anticipating their responses, both affective and behavioral, to social objects within their environment (Lauer & Boardman, 1971; Stryker, 1962; Turner, 1956). Through role-taking, we establish a sense of social expectations which enable us to regulate our own behavior (Mead, 1934). It is also through role-taking that we are able to share in the mental lives of others (Schwalbe, 1988).

Research suggests that individuals vary in their propensities for role-taking. Role-taking propensity refers to the readiness with which people use their role-taking skills in various social encounters (Schwalbe, 1988). A person with a propensity for role-taking tends to be highly attuned to the motivations and evaluations of other individuals across social settings.

Although role-taking propensity may be influenced by the costs and benefits associated with taking the perspectives of others in particular situations (Thomas, Franks, & Calonico, 1972), a baseline level of role-taking propensity, as the motivation for engaging in role-taking, is relatively stable across social settings (Schwalbe, 1991). Individuals who chronically focus on others' responses to themselves as social objects demonstrate a tendency for reflexive role-taking (Lauer & Boardman, 1971). On the other hand, people who frequently anticipate the needs and feelings of others exhibit a propensity for empathic role-taking (Miller, 1987).<sup>1</sup>

Using items from Davis' (1983) Interpersonal Reactivity Index (IRI), Schwalbe (1991) has constructed a measure of role-taking propensity that focuses on the readiness with which people empathize with others. Although there is not an established measure of reflexive role-taking propensity within the sociological literature, psychologists often assess this capacity using Fenigstein, Scheier, and Buss's (1975) public self-consciousness scale.

Public self-consciousness reflects a general concern about the impressions one conveys to others across social situations. People high in public self-consciousness see themselves as the focal point of others' attentions across a range of social interactions. As a result of this attributional tendency, they tend to be highly concerned with their appearance and behavior. This sensitivity to the reactions of others makes publicly self-conscious people especially susceptible to negative emotions such as embarrassment (Buss, 1980).

People feel embarrassed when they perceive that they have failed to meet the expectations of the individuals with whom they are interacting, brought into awareness through role-taking (Shott, 1979). Embarrassment is distinct from related emotions, such as shame and guilt, in that it rarely involves a serious moral transgression; in that the behavior underlying the affect is unintentional; and in its public nature (see Edelman, 1987 for a detailed description of the unique qualities of embarrassment.) As such, embarrassment is defined as the negative internal state an individual experiences in response to a perceived interpersonal failure (Shott, 1979).

Embarrassment can also become a collective, situational property. When an actor fails to adequately fulfill a role-performance within the presence of others, the interaction itself may become characterized by embarrassment, as the encounter becomes uncomfortable for members of the audience as well as the transgressor (Edelman, 1987; Goffman, 1956; 1967; Miller, 1992; Modigliani, 1966). Evidence of incompetence, an apparent social impropriety, or unintended

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<sup>1</sup> At this point, it is prudent to distinguish between role-taking and the related concept, empathy. Within the psychological literature, empathy has been defined as the ability to vicariously experience another person's emotions (e.g., Mehrabian & Epstein, 1971) and, more broadly, as the ability to view a situation from the perspective of another person (e.g., Hogan, 1969). Among sociologists, empathy is typically assigned the first of these definitions, while the term empathic role-taking is used to describe the latter process.

conspicuousness are situations frequently reported to elicit embarrassment on the part of both audience and actor (Buss 1980).

Women, in general, report a greater sensitivity than men to these types of embarrassing encounters (Miller, 1987). Although there are no observable gender differences in public self-consciousness among adults (Fenigstein et al., 1975), women do exhibit a greater propensity than men for empathic role taking (Davis, 1983).

Age is another personal characteristic that affects individuals' role-taking capacities. Viewing the world from the perspective of another person (empathic role-taking) requires a level of cognitive development which may not be acquired until late adolescence or early adulthood (Eisenberg, Carlo, Murphy, & Van Court, 1995). Relatedly, reflexive role-taking (public self-consciousness) peaks during adolescence. Not surprisingly then, adolescence, a period associated with rapid physical changes as well as an heightened awareness of social expectations, is frequently characterized by an increase in the experience of negative emotions such as embarrassment (Buss, 1980).

Situational factors may also influence the role-taking process. Environments in which there is frequent contact between superiors and subordinates may increase role-taking on the part of individuals who lack status and power (Kohn & Schooler, 1983; Schwalbe, 1986). Power is reflected in an individual's ability to control the distribution of rewards and punishments received by another (Kemper, 1973). Subordinates may maximize their potential for situational rewards by gaining an understanding of their superiors' goals and feelings through empathic role-taking (Thomas, Franks, & Calonico, 1972).

Social environments characterized by uncertainty may enhance reflexive role-taking in a similar fashion (Buss, 1980). The college campus exemplifies this type of setting. College provides young adults with a variety of new-found freedoms, as well as opportunities for the formation of new identities. Within this social context, students may be especially prone to self-evaluation. An increased awareness of the possibility for normative transgressions may in turn elicit feelings of embarrassment. Given the prevalence of alcohol use on most college campuses, drinking may be viewed as an easy and acceptable way to alleviate this negative affect.

### *Alcohol, Role-Taking, and Self-Regulation*

While intoxicated individuals frequently violate social norms by becoming aggressive (Boyatzis, 1974; Shuntich & Taylor, 1972), or engaging in excessive self-disclosure (Rohrberg & Sousa-Poza, 1976), they rarely experience the negative affect associated with these transgressions among sober people (Hull, 1987). We suggest that these alcohol-induced deficits in affect and behavioral regulation occur because alcohol inhibits people's propensities for role-taking.

In an experiment designed to test the effects of public self-consciousness (a form of reflexive role-taking) on drinking behavior, participants were asked to participate in a game that allowed for either cooperative or competitive play (Hull & Young, 1985). Prior to playing the game, participants were given a set of instructions that emphasized either a cooperative or competitive strategy. Consistent with the researchers' hypotheses, there was a positive correlation between

the amount of attention given then instructions and game behavior. Participants who gave the most attention to the cooperative instructions were the most likely to engage in a cooperative game-playing strategy, while participants who gave the most attention to the competitive instructions were the most likely to engage in the competitive game-playing strategy. However, these relationships existed only among sober individuals high in public self-consciousness. Attention to instruction and behavior were not significantly related among individuals low in public self-consciousness or among intoxicated participants high in public self-consciousness, suggesting that alcohol inhibits this reflexive aspect of the role-taking process.

A subsequent study (Sher & Walitzer, 1986) extends these findings by linking public self-consciousness to negative affect, as well as drinking. In this experiment, a measure of anxiety (i.e., heart rate in response to an experimental manipulation involving self-disclosure in the laboratory setting) was associated with public self-consciousness among sober, but not intoxicated, individuals. An additional measure of individuals' tendency to focus inward on internal motivations and feelings (private self-consciousness) was not associated with anxiety among either sober or intoxicated participants. This suggests that it is people high in public, but not private, self-consciousness who respond to anxiety when required to give a public performance, and that alcohol alleviates negative affect by reducing this form of awareness.

In this paper we further assess the relationship between reflexive role-taking and drinking among college undergraduates, focusing on the extent to which this process is mediated by the experience of embarrassment. We also examine the relationship between a propensity for empathic role-taking, embarrassability, and drinking. The college campus provides an excellent opportunity to study these issues. Not only do college undergraduates drink more heavily than other segments of the population (Gomberg, 1997), but the social context of the university itself (a setting characterized by uncertainty) may facilitate role-taking, the independent variable of primary interest in this study.

### *Hypotheses*

We hypothesize that a propensity for reflexive role-taking will be associated with a susceptibility to embarrassment. We also expect to find a link between empathic role-taking and embarrassment among our sample of college undergraduates. Presuming that alcohol can be used to relieve this negative affect, individuals who exhibit high levels of embarrassability should be more likely to use alcohol, and to drink heavily, than other students.

While early research suggested that undergraduate males drink more than undergraduate females, more recent studies indicate that the gender gap in drinking among college students is declining (White & Huselid, 1997). Despite this convergence, college men and women appear to drink for different reasons. Males seem to drink primarily to enhance arousal and justify deviant behavior (Brown, Goldman, & Anderson, 1980; Ratliff & Burkhart, 1984). Women are more likely to use alcohol to forget about perceived failures, others' problems, and negative emotions brought into awareness through role-taking (Chassin, Tetzloff, & Hershey, 1985; Olenick & Chalmers, 1991; Noel & Lisman, 1980; Reiskin & Wechsler, 1981; Wechsler & Roman, 1991). Given these differences, along with the fact that females appear to have greater capacities than males for

empathic role-taking, we anticipate that the link between role-taking, embarrassability, and drinking will be more applicable to women than to men.

### *Method*

#### *Participants*

Respondents in this analysis were 431 undergraduate students enrolled in introductory sociology and criminal justice courses at a large Midwestern university during the years 1995 and 1996. Given the typical composition of these classes, the sample over-represents females (68%) and less advanced students, with 81% being freshmen or sophomores.

While the results of this study may not be generalizable to the overall population of students at this university, or to undergraduates at other colleges and universities, the purpose of this study was somewhat exploratory. The concept of role-taking propensity has not been the subject of many empirical analyses (Schwalbe, 1991). Moreover, despite the connection between role-taking and behavioral regulation, there has been little attempt to integrate this literature into the research on the socially-based motivators of drinking.

#### *Measures*

**Role-Taking Propensity.** Respondents' propensities for empathic role-taking were measured using Schwalbe's (1991) role-taking-propensity scale. This index of role-taking propensity consists of six questions that assess the readiness with which individuals view situations from perspectives other than their own. Participants were asked to indicate how strongly they agreed (on a scale of 1 to 4) with each item, and role-taking propensity scores were computed by summing participants' scores on the six questions. Scores on this scale ranged from 8 to 24. An analysis of internal consistency showed this scale to have an adequate degree of reliability ( $\alpha = .67$ ).

Fenigstein et al.'s (1975) public self-consciousness scale was used to measure individuals' propensities for reflexive role-taking. The public self-consciousness scale consists of 7 items, scored using the same 4 response categories as the previous measure. Scores on the public self-consciousness scale range from 7 to 24. Consistent with the results of a number of studies testing the reliability of this instrument (Carver & Glass, 1976; Fenigstein et al., 1975; Scheier & Carver, 1977; Turner, Scheier, Carver, & Ickes, 1978; Vleeming & Engelse, 1981), the Alpha coefficient for the public self-consciousness scale was .65 among the undergraduate sample, indicating a reasonably high degree of internal consistency among scale items.

**Embarrassability.** Respondents' susceptibility to embarrassment was measured using a revised version of Modigliani's (1968) embarrassability scale (Edelmann, 1985). This measure consists of 22 items, which present hypothetical situations designed to elicit varying levels of embarrassment (e.g., "You trip and fall while entering a bus full of people."). Students were asked to rate each event on a scale of 0 (not the least embarrassing) to 9 (extremely embarrassing).

Consistent with previous reports (Edelmann, 1985; 1987; Modigliani, 1966), the measure of embarrassment used in this study appeared to be multidimensional. A factor analysis of the scale

items indicated four distinct types of embarrassment: embarrassment due to a failed public performance, empathic or vicarious embarrassment, embarrassment resulting from becoming the center of attention, and embarrassment due to a “faux pas” or social blunder (committed by either oneself or an interactional partner). These four factors (see Appendix) explained over 63% of the variance in respondents’ scores on the included embarrassability items.<sup>2</sup> The following alpha values further showed each of the four subscales to be a reliable measure of a particular type of embarrassment: failed performance = .77, empathic = .81, center of attention = .61, and faux pas = .73. Although the factor structure of Modigliani's embarrassability scale varies across studies (Edelmann, 1987), the four sources of embarrassing situations that emerged in this analysis are consistent with the results obtained from other college-age samples (e.g., Edelmann & McCusker, 1986).

It is interesting to note that the focus of the embarrassing experience (self versus other) in this, as well as in prior studies, was not the primary characteristic that distinguished between the different forms of embarrassment. The embarrassability subscales *public failure* and *center of attention* both reflect respondents’ susceptibility to embarrassment resulting from their own behaviors, whereas the set of responses reflecting a tendency towards *empathic embarrassability* focus on others; perceived failures. Interestingly, the last embarrassability subscale (*faux pas*) is based on students’ responses to scenarios in which both self and others are targets of the embarrassing circumstances.

**Alcohol Use.** Students’ use of alcohol was measured using a series of three questions asking respondents to indicate the average number of drinks they consumed in a week, the average number of drinks they consumed at one sitting, and the number of times they had become intoxicated during the month prior to completing the survey. These three variables were standardized and then combined into a composite index of drinking behavior ( $\alpha = .86$ ). A dichotomous variable, reflecting whether or not students used alcohol, was also constructed such that respondents who answered 0 to each of the three drinking questions were classified as nondrinkers. Given our focus on problem drinking, we constructed a third dependent measure that reflected heavy drinking. Students who indicated that they drank, on average, five or more drinks per sitting (a value commonly used to define "hinge" drinking) were given a 1 on this variable. Students who indicated that they did not drink or typically drank fewer than five drinks per sitting received a score of 0 on this measure.

**Gender & Self-Esteem.** Given the potential effects of respondents’ sex on both role-taking and undergraduate drinking, we included a dummy variable for gender (0 = males, 1 = females) in all of our higher-level analyses. Because there is also a substantial literature linking perceived self-worth with some of our key variables, we included self-esteem as another control variable.

Self-esteem has been found to correlate negatively with both public self-consciousness and embarrassability (Buss, 1980). Self-esteem has also been associated with undergraduate drinking, although the nature of the relationship between these variables has been less than consistent. Some analyses have offered evidence of an inverse relationship between self-esteem and

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<sup>2</sup> Given our desire to focus on conceptually distinct forms of embarrassment, we excluded those indicators that had multiple factor loadings.

drinking (Corbin, McNair, & Carter, 1996; Pullen, 1994; Schaeffer, Schuckit, & Morrissey, 1977). On the other hand, others have found the highest levels of alcohol use among students with the most positive self-concepts (DeSimone, Murray, & Lester, 1994; Sharp & Getz, 1996) or no relationship at all between these variables (Moore, Laflin, & Weis, 1996; Crawford & Novak, 1998).

Self-esteem was measured in this analysis using the Rosenberg self-esteem scale (Rosenberg, 1965). The Rosenberg Self-Esteem Scale consists of ten items designed to assess individuals' overall sense of self worth. Scores on this measure range from 10 to 40. The Rosenberg self-esteem scale has been shown to be both a valid and reliable measure (Wylie, 1979). Reliability was equally high in this sample ( $\alpha = .72$ ).

**Additional Control Variables.** The measure of empathic role-taking used in this study focuses on the extent to which respondents are sensitive to the needs and perspectives of others. Respondents no doubt had a strong sense of the type of answers that would be viewed positively by others and may have either consciously or unconsciously responded in this fashion. Responses may have also been biased by respondents' desires to maintain positive self-conceptions. We controlled for these types of biases, as well as any tendency for students to respond to the drinking questions in a socially approved fashion, by using a revised version of Crowne and Marlowe's (1964) Social Desirability Scale.

The Crowne-Marlowe scale measures the extent to which respondents report engaging in socially desirable thought and behavior. Desirability scores were calculated by summing students' responses to the various scale questions. The Crowne-Marlowe scale has been found to be highly valid as well as reliable. More recent investigations have found a shortened (10 question) version of this measure to be equally high in both validity and reliability (Schuessler, 1982). Seven of the 10 questions from the brief version of the Crowne-Marlowe scale that relate specifically to participants' past social behaviors (versus feelings and actions not directed towards others) were used to control for the effects of social desirability in this analysis. This modified version of the Crowne-Marlowe scale is comparable on reliability to the 10-item scale ( $\alpha = .63$ ). Scores on this measure range from 7 to 28.

Year in school and socioeconomic background were also included in all analyses as statistical controls. School years—freshman, sophomore, junior, senior—often mark unique stages in a student's cognitive and social development (Pascarella & Terenzini, 1991). For this reason, we used a series of dummy variables, rather than a continuous class standing or age variable, to represent each cohort of students (with seniors serving as the reference category).

Because college students may be more able to accurately report their parents' educational background than their job status or income, we included a measure of parental education as a proxy for students' socioeconomic background. Respondents were asked to report both their father's and mother's levels of education (less than high school, high school graduate, some college, college graduate, or professional degree). Values on the parental education variable were assigned by averaging parents' levels of education. In cases where father's education was missing, parental education was computed based upon only the mother's educational



background. When data for the mother was missing, parental education reflected only the father's level of educational attainment.

Two additional dummy variables were included to control for possible differences in the composition of the classes from which the data were collected. Students from one class, a freshmen honors seminar, received a score of 1 on the first dummy variable. Students in a statistics course received a score of 1 on the second dummy variable. The remaining undergraduates in our sample (students from a large introductory sociology course) served as the reference category.

### *Results*

Means and standard deviations on key variables are presented in Table 1. When students' scores on the two measures of role-taking (role-taking propensity and public self-consciousness) were adjusted to reflect a 20 point scale, it became evident that the undergraduates in our sample exhibited approximately equal propensities for empathic and reflexive role-taking.

There was somewhat greater variability in students' sensitivities to the various forms of embarrassability. The undergraduates surveyed indicated that they were most likely to experience embarrassment in response to their own failed performances. They were least likely to anticipate embarrassment in response to others' failures (empathic embarrassment) or as the result of becoming the center of others' attentions.

Overall, just under 70% of the undergraduates surveyed were drinkers, and 37% (over half of the students who used alcohol) indicated that they engaged in heavy or "binge" drinking.

These figures, though slightly below the national average for college students (Wechsler, 1996), indicate that alcohol use on this campus is relatively common. Among the drinkers who completed the undergraduate survey, students reported consuming, on average, 9 drinks per week and an average of 5 drinks per sitting. They also indicated that they had become intoxicated an average of 4 times during the past month, suggesting that much of their heavy drinking may have occurred on weekends (Table 1).

As shown in Table 2, the males in our sample consumed significantly more drinks per week than the females. Males were also significantly more likely than females to drink heavily. These findings are consistent with previous research findings that, overall, men drink more than women (Berkowitz & Perkins, 1987; Engs & Hanson, 1990; Fillmore et al., 1997). Given gender differences in body weight and composition, five alcoholic beverages would typically have less of an effect on a man than on a woman. As shown in Table 2, a substantial proportion of the undergraduate women (over 30%) indicated that they drank five or more drinks per sitting. This, combined with the lack of a significant gender difference in whether or not students drink alcohol and the number of times students reported becoming intoxicated during the past month, is also consistent with prior research which suggests that, while men drink greater quantities of alcohol than women, heavy drinking on college campuses is relatively common among both genders (White & Huselid, 1997).

**Table 1.** Descriptive Statistics for Key Variables (*n* = 431)

	M	SD	Range
<b>Role Taking</b>			
Reflexive Role-Taking (Fenigstein et al.'s Public Self-Consciousness Scale)	20.89	(3.13)	10 - 28
Empathic Role-Taking (Schwalbe's Role-Taking Propensity Scale)	17.51	(2.39)	8 - 24
<b>Embarrassability</b>			
Failed Performance	18.71	(5.51)	0 - 27
Empathic/Vicarious Center of Attention	7.04	(6.39)	0 - 27
Faux Pas	11.13	(6.88)	0 - 36
	16.16	(6.16)	0 - 27
<b>Dromloms</b>			
Drinks Alcohol	.67	(.47)	0 - 1
Heavy Drinker (5+ drinks per sitting)	.37	(.48)	0 - 1
<b>Among Drinkers (<i>n</i> = 289)</b>			
Average # of Drinks/Week	9.13	(8.73)	1 - 55
Average # of Drinks/Sitting	5.26	(2.82)	1 - 16
Times Intoxicated in Past Month	4.61	(4.19)	0 - 30
Standardized Drinking Score	1.09	(2.53)	-2.26 - 11.26

**Table 2.** Alcohol Use by Gender

	Male	Female	Difference
Drinks Alcohol	72.9%	64.3%	8.6%
Drinks Heavily (5+ Drinks/Sitting)	49.3%	30.9%	18.4%***
<i>n</i>	140	291	
<b>Among Drinkers</b>			
Average Number of Drinks/Week	12.8	7.1	5.7***
Average Number Drinks/Sitting	6.4	4.7	1.7***
Times Intoxicated in Past Month	5.2	4.3	.9
Standardized Drinking Scale	2.0	.6	1.4***
<i>n</i>	102	187	

\*  $p < .05$ \*\*  $p < .01$ \*\*\*  $p < .001$

A series of hierarchical regressions was used to assess the relationship between our key variables (role-taking, embarrassability and drinking), controlling for gender, self-esteem, year in school, and parental education. In the first block of OLS regressions, presented in Table 3, the two measures of role-taking (role-taking propensity and public self-consciousness) and self-esteem were regressed on gender and the other background characteristics. In a second block of OLS regressions (Table 4), the four embarrassability subscales were regressed on students' background characteristics, self-esteem, and role-taking. In the third block of analyses (Table 5), we used logistic regression to examine the effects of both empathic and reflexive role-taking and the different forms of embarrassability on students' likelihoods of being drinkers, controlling for self-esteem, gender, and other demographic/background factors. The latter block of analyses was replicated with the dichotomous indicator of heavy drinking serving as the dependent variable. A final series of OLS regressions, restricted to only those student who were drinkers, assessed the relationship between role-taking, embarrassability and students' scores on the composite drinking scale (Table 6).

As we expected based on the results of prior studies, the undergraduate women in our sample demonstrated greater propensities than the men for empathic role-taking (Table 3). Although there were no gender differences in respondents' scores on the public self-consciousness scale (our measure of reflexive role-taking) the women surveyed were significantly more likely than the men to exhibit a sensitivity to their own perceived public failures, a type of reflexive embarrassability (Table 4).

As shown in Table 3, the women in the undergraduate sample also had significantly lower levels of self-esteem than their male counterparts. This may have been due, at least in part, to the age composition of the sample. While gender differences in self-esteem among adults are virtually nonexistent (Wylie, 1979), adolescent females typically have more negative self-images than adolescent males (Chubb, Fertman, & Ross, 1997; Eskilson & Wiley, 1987; Simmons & Rosenberg, 1975). Consistent with prior research, this gender gap in self-esteem indicates that the self-concepts of college students surveyed may be more similar to those of adolescents than mature adults (Loevinger, 1985).

As shown in Table 4, public self-consciousness was significantly related to each of the four embarrassability subscales. While one would expect reflexive role-taking to result in a heightened sensitivity to one's own public failures, as well as to situations in which one becomes the center of others' attentions, the positive relationship between public self-consciousness and the measure of empathic/vicarious embarrassability was somewhat surprising. That is, one would not intuitively expect high levels of public self-consciousness, (a chronic awareness on the part of an individual that he or she is the potential target of others' evaluations) to increase individuals' propensities for embarrassment in response to *other people's* embarrassing encounters. The fact that low self-esteem was associated with a sensitivity to empathic, as well as embarrassment resulting from becoming the center of others' attentions (attention-induced embarrassability), but unrelated to the more performance based embarrassability subscales (*failed performance* and *faux pas*) was another unexpected finding. In further opposition to our hypotheses, as shown in Table 4, the role-taking propensity scale did not significantly affect empathic, or any of the other three forms of, embarrassability.

**Table 3.** Effects of Student Background Characteristics on Self-Esteem and Role-Taking ( $n = 431$ )

Variable	<u>Self-Esteem</u>		<u>Role-Taking Propensity</u>		<u>Public Self-Consciousness</u>	
	b	Beta	b	Beta	b	Beta
Female	-1.64**	-.17	.72**	.14	.47	.07
Parental Education	.12	.03	.08	.03	-.06	-.02
Freshman	-.23	-.02	-.73	-.15	1.01	.16
Sophomore	-.50	-.05	-.43	-.08	.62	.09
Junior	.55	.04	-.20	-.03	.50	.05
Honors Seminar	-.96*	-.10	.25	.05	.65	.10
Statistics Class	.69	.05	-.11	-.02	.66	.07
Social Desirability	.49***	.26	.38***	.40	-.07	-.06
Constant	22.51***		10.37***		20.96***	
R <sup>2</sup>	.19***		.19***		.02	

\*  $p < .05$ \*\*  $p < .01$ \*\*\*  $p < .001$ **Table 4.** Effects of Student Background Characteristics, Self-Esteem, and Role-Taking on Embarrassability ( $n = 431$ )

	<u>Failed Performance</u>		<u>Empathic/Vicarious</u>		<u>Center of Attention</u>		<u>Faux Pas</u>	
	b	Beta	b	Beta	b	Beta	b	Beta
Female	3.18***	.27	.99	.07	-1.08	-.07	.65	.05
Parental Education	.08	.02	.33	.05	-.99***	-.14	.53	.09
Freshman	-.26	-.02	2.08	.16	1.36	.10	1.99	.16
Sophomore	-.26	-.02	2.00	.14	.24	.02	1.41	.10
Junior	1.33	.08	-1.04	-.05	1.63	.08	-.71	-.04
Honors Seminar	.32	.03	-.22	-.02	.55	.04	.04	.00
Statistics Class	.07	.00	2.27	.12	-.15	-.01	4.09**	.23
Social Desirability	-.18	-.08	-.10	-.04	-.31	-.11	-.27*	-.11
Self-Esteem	-.06	-.06	-.14*	-.10	-.40***	-.27	-.05	-.04
Role-Taking Propensity	-.18	-.08	-.04	-.02	-.05	-.02	.09	.03
Public Self-Consciousness	.52***	.29	.34**	.17	.41***	.19	.30**	.15
Constant	13.78***		3.35		23.99***		10.52**	
R <sup>2</sup>	.18***		.07**		.12***		.07**	

\*  $p < .05$ \*\*  $p < .01$ \*\*\*  $p < .001$

**Table 5.** Effects of Self-Esteem, Role-Taking, and Embarrassability on Drinking Behavior ( $n = 431$ )

	Drinker (no/yes)		Heavy Drinker (no/yes)	
	B	exp(B)	B	exp(B)
Female	-.29	.75	-.73**	.48
Parental Education	.27*	1.31	.14	1.15
Freshman	-.22	.80	1.34*	3.82
Sophomore	-.04	.97	1.75**	5.77
Junior	.24	1.27	1.18*	3.24
Honors Seminar	.34	1.41	.38	1.46
Statistics Class	.24	1.27	.70	2.01
Social Desirability	-.09	.92	-.08	.93
Self-Esteem	.01	1.01	.03	1.03
Role-Taking Propensity	-.13*	.88	-.12*	.88
Public Self-Consciousness	.04	1.04	-.00	1.00
EMB—Failed Performance	.01	1.01	.01	1.01
EMB—Empathic/Various	.02	1.02	.02	1.02
EMB—Center of Attention	-.06**	.95	-.03	.97
EMB—Faux Pas	.01	1.01	.01	1.01
Constant	3.05		.41	
R <sup>2</sup>	.08		.10	

\*  $p < .05$ \*\*  $p < .01$ \*\*\*  $p < .001$ 

The logit coefficients presented in columns 1 and 3 of Table 5 represent the additive effects of a unit change in each of the independent variables, net of all other variables in the model, on a student's logodds of being a drinker (column 1) and of drinking heavily (column 3). These coefficients can be interpreted in two ways, in terms of odds or in terms of probabilities. The effect of a change in a particular variable on a student's odds of being an alcohol user (or a heavy drinker) holding constant all other independent variables in the model has an interpretation analogous to the slope coefficient in an OLS regression. There is, however, no comparable measure of the effect of a particular variable on a student's probability of being a drinker (see e.g., Demaris, 1992). Thus, at this point, we focus on the effects of our independent variables on the change in a student's odds, rather than probability, of using alcohol and of being a heavy drinker. Column 2 of Table 5 shows the change in a student's odds of using alcohol associated with a one-unit increase in a given independent variable. Column 4 of Table 5 shows the change in a student's odds of being a binge drinker, associated with a unit increase in a given predictor, holding all other independent variables in the model constant.

As these coefficients indicate, it was students who scored low, rather than high, on the measure of attention-induced embarrassability who were the most likely to use alcohol, the opposite of the effect we predicted. None of the other three embarrassability subscales (*failed performance*, *empathic/vicarious*, or *faux pas*) significantly affected the dependent drinking variable.

**Table 6.** Predictors of Composite Drinking Scores Among Undergraduates Who Use Alcohol ( $n = 289$ )

	b	Beta
Female	-1.45***	-.27
Parental Education	.12	.05
Freshman	1.59*	.31
Sophomore	1.81*	.32
Junior	.28	.04
Honors Seminar	.31	.06
Statistics Class	.61	.09
Social Desirability	-.14*	-.13
Self-Esteem	.05	.09
Role-Taking Propensity	-.05	-.04
Public Self-Consciousness	-.03	-.03
EMB—Failed Performance	.04	.09
EMB—Empathic/Vicarious	-.01	-.00
EMB—Center of Attention	-.01	-.03
EMB—Faux Pas	-.03	-.07
Constant	2.27	
R <sup>2</sup>	.13***	

\*  $p < .05$ \*\*  $p < .01$ \*\*\*  $p < .001$ 

The effects of empathic role-taking on drinking were equally surprising in that a propensity for empathic role-taking decreased, rather than increased, students odds' of using alcohol or binge drinking. Although the less advanced students (freshmen and sophomores), and males, drank significantly more than other students, empathic role-taking did not significantly affect students' scores on the composite drinking scale when we restricted our analyses to only the drinkers (Table 6). Evidently, a propensity for empathic role-taking is a more important determinant of whether a student chooses to drink, or to drink heavily, than of the actual amount of alcohol consumed. In opposition to our initial predictions, there was no evidence that the effects of role-taking on embarrassability, or the effects of role-taking and embarrassability on drinking behavior, varied across gender.

The path model representing the additive effects of the model variables on students' odds of being alcohol users and of engaging in binge drinking are presented in Figures 1 and 2, respectively. For comparative purposes, we chose to report the change in odds associated with a standard deviation increase in a given predictor when all other variables in the model are held constant. For every standard deviation increase in role-taking propensity, a student's odds of being a drinker decrease by a factor of .73 and his/her odds of engaging in binge drinking decreased by a factor of .75.

While reflexive role-taking was (indirectly) related to undergraduate drinking, it was having a low, rather than high, level of public self-consciousness that predisposed students to use alcohol via its effects on attention-induced embarrassability. Having highly educated parents also

increased students' odds of drinking indirectly, by reducing their susceptibilities to attention-induced embarrassability. This latter relationship, combined with the direct positive effect of parental education on undergraduate drinking, suggests that socioeconomic background may be an important determinant of students' drinking statuses.

Although there was no direct effect of gender on students' odds of being drinkers, gender did affect whether or not students chose to use alcohol indirectly, operating through empathic role-taking, self-esteem and attention-induced embarrassability. The females in the undergraduate sample had significantly lower levels of self-esteem than the males. Low self-esteem was, in turn, related to high levels of attention-induced embarrassability and a subsequent decline in the students' odds of being drinkers. Women also exhibited significantly higher propensities for empathic role-taking than males, which further reduced their odds of being drinkers (Figure 1).

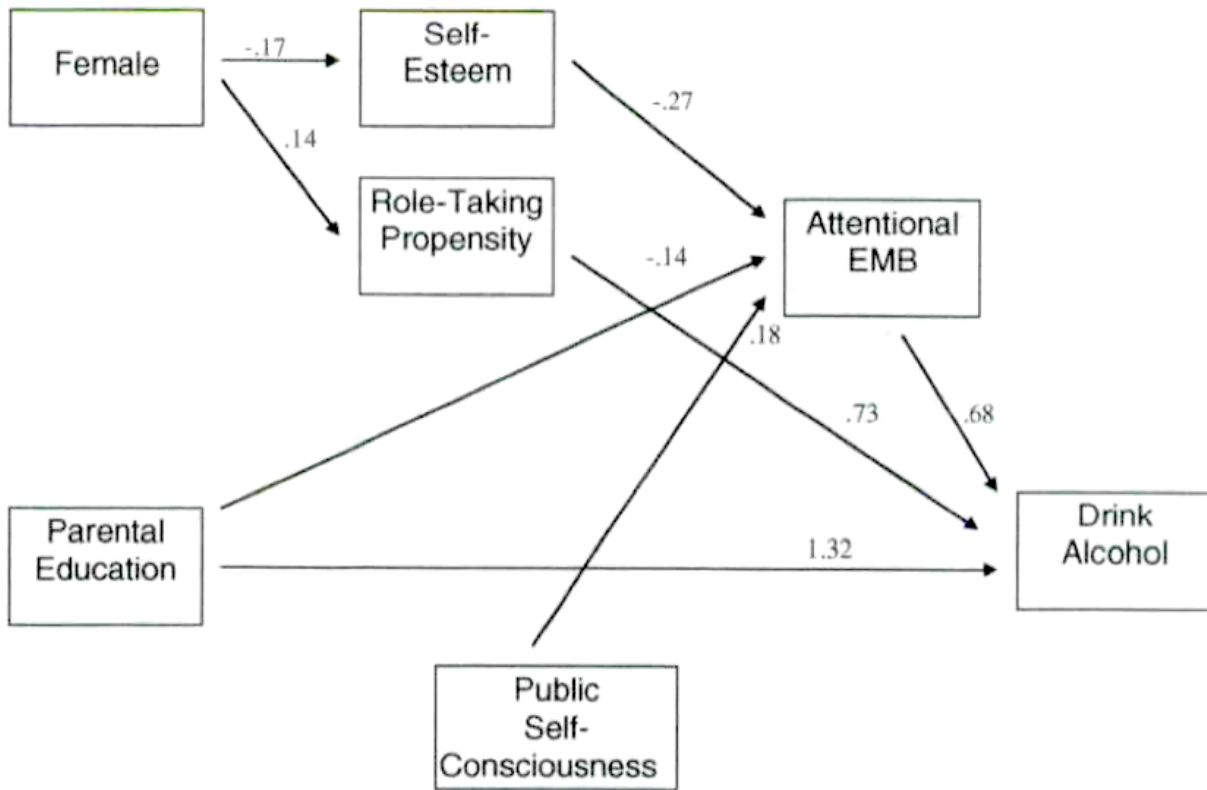
The set of variables that predicted which students engaged in heavy drinking are shown in Figure 2. Once again, empathic role-taking had a strong negative effect on students' drinking behaviors. There was also a direct effect of gender on the dichotomous heavy drinking variable. As shown in Figure 2, being male, versus female, increased a student's odds of being a binge drinker by a factor of almost one and a half. Being a freshman, versus a senior, also increased a student's odds of being a heavy drinker. This is consistent with our earlier finding that, among students who drank, it was the younger students (freshmen and sophomores) who consumed the most alcohol (Table 6). Neither parental education nor attention-induced embarrassability had a significant effect on whether or not students drank heavily. Self-esteem was also unrelated to binge drinking, offering further support for the notion that the "common sense" link between low self-esteem and alcohol abuse among college students may be unfounded (Moore, Laflin, & Weis, 1996).

Unlike the change in odds associated with a set increase in an independent variable, holding all other predictors constant, the effects of a given variable on students' probabilities of being drinkers are not necessarily linear and can change across levels of other independent variables (see e.g., Hanushek & Jackson, 1977 for a detailed discussion of logistic regression and nonlinear probabilities). Figure 3 displays the predicted effects of changes in empathic role-taking on students' probabilities of being drinkers across levels of a second determinant of drinking, parental education. These values were computed using the equation from column 1 of Table 5. Values on the measure of empathic role-taking were set at one standard deviation below the mean (low), at the mean (medium), and one standard deviation above the sample mean (high) (see Table 1). Parental education, another important determinant of student drinking, was also set at either a standard deviation below (low) or above (high) the sample mean. All other predictor variables were held constant at their sample mean.<sup>3</sup>

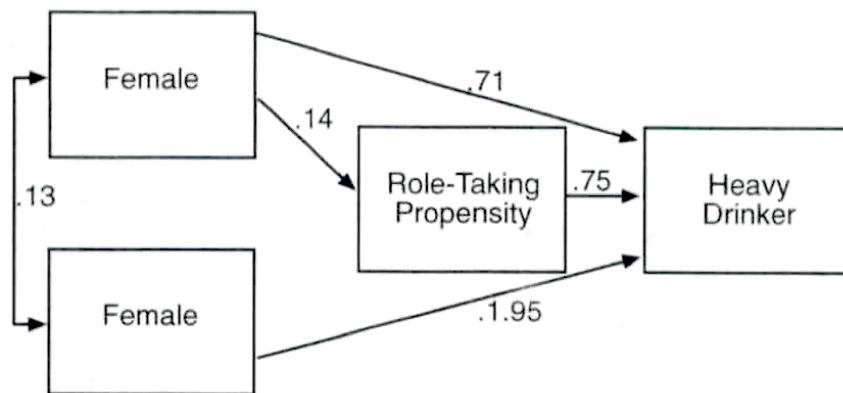
As shown in Figure 3, increasing students' propensities for empathic role-taking was associated with a substantial reduction in the percentage of students who drank alcohol. Although the effect

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<sup>3</sup> Sample means and standard deviations for control variables (not included in Table 1) are as follows: female = .68 (.47), parental education = 3.45 (1.01), freshman = .54 (.50), sophomore = .27 (.45), junior = .13 (.33), honors seminar = .32 (.47), statistics class = .13 (.34), social desirability = 18.09 (2.50), and self-esteem = 30.20 (4.64).

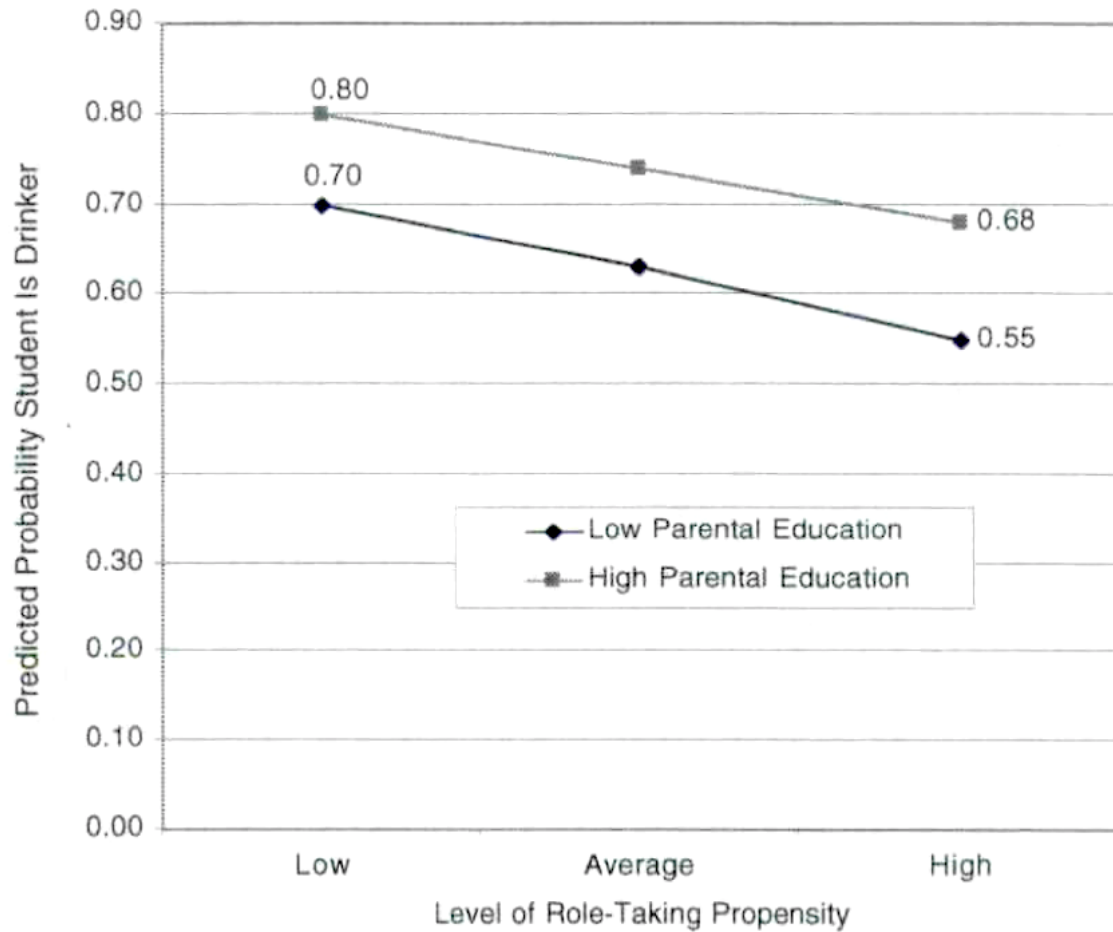


**Figure 1.** Standardized Effects of Parental Education, Role-Taking, and Embarrassability on Undergraduate Drinking ( $n = 431$ )



**Figure 2.** Standardized Effects of Year in School and Empathic Role-Taking on Heavy Drinking ( $n = 431$ )



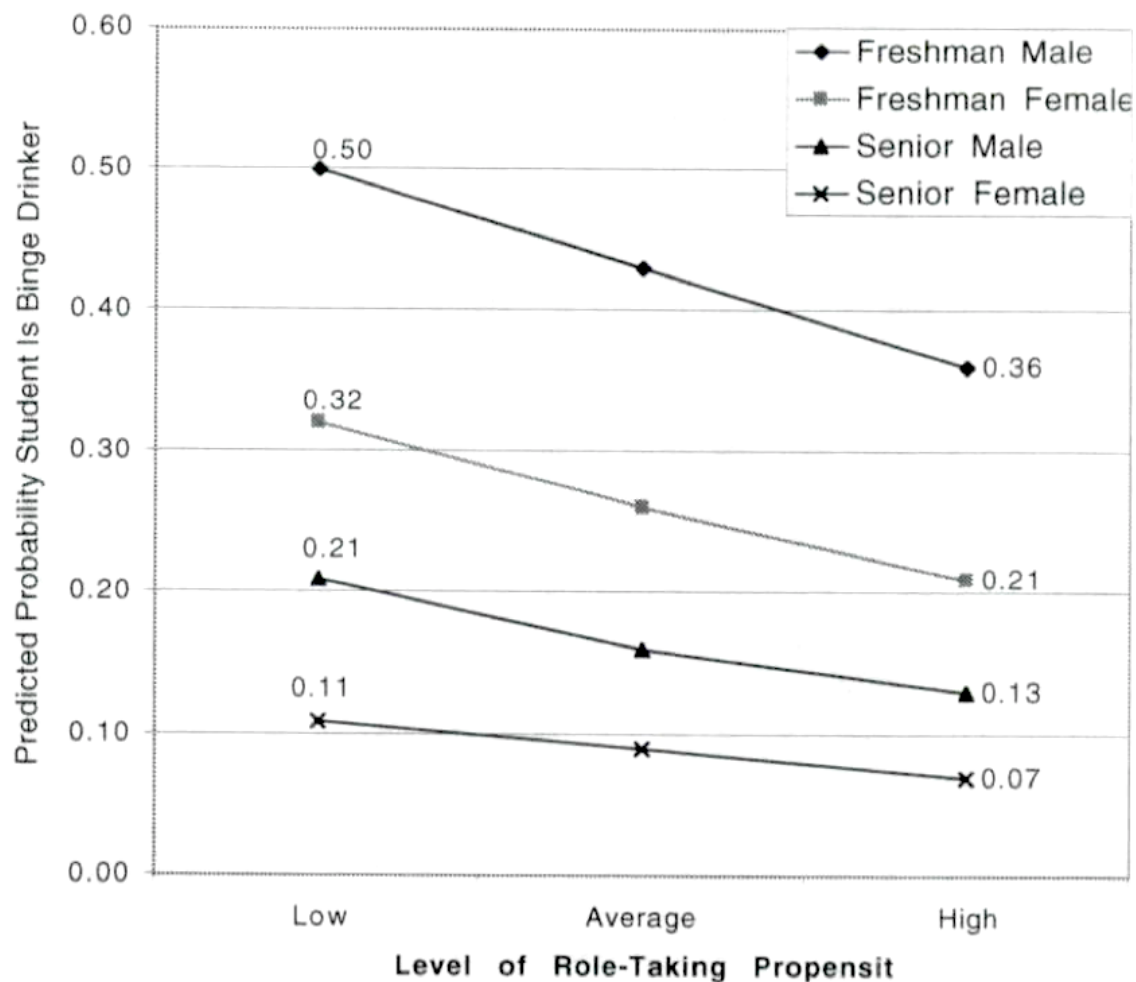


**Figure 3.** Effects of Empathic Role-Taking on Undergraduate Drinking by Parental Education ( $n = 431$ )

of empathic role-taking on an individual's probability of being a drinker was slightly larger among students whose parents had low, versus high, levels of education, increasing role-taking propensity was associated with a substantial decline in predicted drinking probabilities among both groups of students.

There was also a significant relationship between reflexive role-taking and alcohol use (Table 5). However, because public self-consciousness only affected drinking indirectly, by increasing attention-induced embarrassability, students would have had to experience unreasonably large increases in public self-consciousness for there to be any notable reduction in the prevalence of undergraduate drinking.

The effects of empathic role-taking on students' probabilities of being binge drinkers (computed using the procedure described earlier) are displayed in Figure 4. In this case, we varied gender and year in school (freshman versus senior), as well as students' levels of empathic role-taking (from 1 standard deviation below to 1 standard deviation above the sample mean).



**Figure 4.** Effects of Empathic Role-Taking on Heavy Drinking by Gender and Year in School ( $n = 431$ )

As shown in Figure 4, increasing students' propensities for empathic role-taking by two standard deviations (from 15.1 to 19.9 on a scale of 1 to 28) would have the greatest impact on the heavy drinking behaviors of freshmen males, reducing the number of predicted binge drinkers within this group by about 14% (versus a 4% decrease among senior females). This finding is especially notable since it was freshmen males who had the highest predicted probability of binge drinking ( $p = .43$ ) when other variables in the model were held constant at their sample mean.

### Discussion

The findings suggest that role-taking and embarrassability may be important determinants of undergraduate drinking. Consistent with prior studies, the males in our sample exhibited the lowest propensities for empathic role-taking. They also tended to have high self-esteem, which rendered them less sensitive than the women in the sample to embarrassment associated with becoming the center of attention. This in turn increased their odds of drinking. Undergraduates

with highly educated parents were also more likely to use alcohol than other students due, at least in part, to their relative insensitivity to situations that elicit center of attention-induced embarrassment.

Some recent studies have found the lowest levels of campus drinking to be among students from low-income families (Crawford, 1995; Winslow & Gay, 1993). It may be that students from lower-income families are more likely to view drinking as problematic (Mills, Sirgo, & Hartjes, 1993). Although our data did not include a measure of parental income, the fact that the inverse relationship between parental education and student drinking was mediated by attention-induced embarrassment suggests that the match between students' past experiences and current environments may also influence their drinking habits. Students whose parents are not highly educated may have had less experience with the college culture. They may feel more ill at ease on campus than their peers, rendering them more sensitive to potentially embarrassing situations. Insofar as alcohol use can lead to the violation of social norms and subsequent conspicuous behavior, these individuals may avoid alcohol altogether in an attempt to minimize the possibility that they will become the center of attention. While our data support this interpretation, the fact that parental education affected alcohol use even when attention-induced embarrassability was held constant indicates that socioeconomic background has an additional impact on campus drinking that goes beyond the scope of this analysis.

Albeit inconsistent with our initial hypotheses, the observed relationship between role-taking and undergraduate drinking is more readily explained within our theoretical framework.

Students who exhibited tendencies towards empathic role-taking may have avoided alcohol in an attempt to reduce their chances of losing behavioral control and harming those around them. The role-taking propensity scale used in this study measures the extent to which people are sensitive to the perspectives of others. Students who fail to engage in empathic role-taking would be expected to be less concerned than other people with the effects of their behaviors on others. Although individuals with low propensities for empathic role-taking are more likely than other people to tailor their behavior to the demands of the immediate social encounter, they appear to be motivated more by anticipated rewards than by the consequences of their behaviors for others (Schwalbe, 1991). Becoming intoxicated may give these individuals an excuse for engaging in socially inappropriate behavior, without the subsequent sanctions imposed upon sober people. The fact that empathic role-taking influenced whether or not students drank, but not the amount of alcohol consumed, supports this contention. Merely the fact that a student is drinking may be enough to justify deviant behavior on campuses where this activity is common. Consistent with this interpretation, students low in empathic role-taking were also the most likely to report episodes of binge drinking.

Prior research suggests that individuals' expectations concerning the effects of alcohol on affect and behavior can influence the ways in which they respond to the substance (Kline, 1990; Marlatt, 1986). Focusing on an escape from responsibility as a motivator for binge drinking among students with low propensities for empathic role-taking highlights the way in which situational expectations may influence the amount of alcohol consumed and its consequences. In most situations, intoxicated adults who violate social norms are not looked upon favorably. On college campuses, on the other hand, alcohol-related deviance may be an expected or even

desired consequence of drinking. Within this social context, alcohol use, and subsequent behavioral disinhibition, may be an integral part of students' strategies for conveying positive impressions to others with whom they are interacting (Sharp & Getz, 1996). Despite this, research suggests that heavy drinkers tend to overestimate the acceptability of their behavior (Agostineili, Brown, & Miller, 1995). This may be one reason for the success of programs designed to change heavy drinkers' perceptions of campus drinking norms in reducing alcohol use among these students (see e.g., Barnett, Farr, & Mauss, 1996; Haines & Spear, 1996).

While the non-experimental design of this study makes conclusions about the nature of the causal relationships speculative, the results of our analyses suggest that increasing students' capacities for role-taking may be another way to reduce campus drinking. Manipulations to the physical environment, such as the addition of video equipment, have been used to increase conformity among experimental participants by enhancing reflexive role-taking (Buss, 1980). Increasing empathic role-taking has also been used to facilitate pro-social behavior within controlled contexts (Eisenberg & Miller, 1987). Although our results indicate an indirect, and thus relatively minimal, relationship between reflexive role-taking and alcohol use, they suggest that enhancing empathic awareness among college undergraduates may be one way to reduce the use and abuse of alcohol on campus. Interestingly, it was young males, the most likely binge drinkers, who showed the greatest potential benefits from this type of intervention.

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