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## Peer and Social Influence on Opinion Expression: *Combining the Theories of Planned Behavior and the Spiral of Silence*

*This study uses the theory of planned behavior and spiral of silence to explore the role of peer and social influence on communicative acts related to drinking behavior. Consistent with the theory of planned behavior, results of the study suggest that a person's own attitudes and sense of self-efficacy are important influences on willingness to communicate about drinking. Peer influence and, to a lesser extent, perceptions of majority attitudes were associated with willingness to voice an opinion. Only limited evidence of an association between media use and attention and beliefs about efficacy and majority opinion was found. Discussion centers on the possibility of incorporating concepts derived from the theory of planned behavior into the spiral of silence framework. Implications of these findings for future public service interventions also are discussed.*

**Keywords:** *spiral of silence; planned behavior; peer influence; social influence; social marketing; alcohol consumption*

Studies applying the theory of planned behavior (Ajzen, 1988, 1991) have demonstrated that when individuals are faced with risky situations, they consider the possible reactions of family, friends, and others before deciding on which behaviors to pursue. Similarly, research inspired by the spiral of silence, which focuses on normative influence, has shown that people tend to moderate their speech—a kind of behavior—to match their perceptions of majority opinion rather than risk being isolated for expressing unpopular views. Although both theories share common elements, in the main both

approaches consider different variables as important predictors of behavior when faced with risk. In an effort to gain a better understanding of people's reactions to social risks, the current study examined the role of peer and social influences on one's willingness to speak out against prevailing norms about drinking. In doing so, the current research represents the first empirical study combining these two theoretical approaches.

Imbibing alcohol to excess is associated with many risks: unsafe sex, traffic accidents, physical and sexual assaults, accidental injury, cognitive impairment, and problems with social adjustment (Hanson & Engs, 1992; Presley, Meilman, & Lyerla, 1993; Wechsler & Issac, 1992). Researchers have cited the influence of peers and wider social norms as factors that can contribute to excessive alcohol consumption (Jacobson & Mazur, 1995; Wechsler, Davenport, Dowdall, Moeykens, & Castillo, 1994; Wechsler & Kuo, 2000; Wechsler, Molnar, Davenport, & Baer, 1999). Peer influence is thought to operate through group membership (Borsari & Carey, 1999; Wechsler, Kuh, & Davenport, 1996), whereas social pressure is thought to stem from perceptions of social norms regulating behavior (Presley et al., 1993; Wechsler, et al., 1999; Werch et al., 2000). The current study focuses on the extent to which perceptions of peer opinion and the social norms surrounding alcohol consumption influence discourse about drinking behaviors.

### Peer Influence and the Theory of Planned Behavior (TPB)

We rely on key concepts derived from Ajzen's (1988, 1991) TPB to study the role of perceived norms and drinking behaviors. The theory has been tested across a wide range of activities, including responses to various health risks (e.g., Boyd & Wandersman, 1991; Fishbein & Middlestadt, 1989; Griffin, Neuwirth, & Dunwoody, 1995), and drinking (Conner, Warren, Close, & Sparks, 1999; Marcoux & Shope, 1997; Traeen & Nordlund, 1993).

TPB accounts for conduct by assuming that (a) actions are voluntary, (b) people use available information in their decision making, and (c) people consider the likely consequences of their actions (Ajzen, 1988, p. 117). The theory suggests that behavior is predicted by (a) behavioral intention and (b) perceived behavioral control. Behavioral intention itself is produced by three factors: attitude toward the behavior, subjective norms, and perceived behavioral control. Attitude toward the behavior is the person's global evaluation of performing the specific behavior, and subjective norm is the person's perception of whether relevant others believe he or she should perform the behavior (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). Perceived behavioral control (see Bandura, 1986) includes two sets of beliefs: one's ability to perform

an action (self-efficacy) and the extent to which performing the behavior is up to the actor (controllability; Ajzen, 2002a).

TPB also explains the precursors of attitude toward the behavior and subjective norms. Antecedent to attitude toward the behavior are behavioral beliefs consisting of (a) a set of six to eight salient behavioral beliefs about performing a specific behavior and (b) evaluations (e.g., how good or bad) of each belief outcome (Fishbein & Ajzen, 1975). A behavioral belief entails the likelihood that an outcome will be associated with the performance of the specific behavior (e.g., a person might believe that the behavior of “taking vitamins every day” will probably “keep me from getting sick”). Attitude toward the behavior can be measured directly, or researchers may multiply a behavioral belief by an evaluation to obtain a measure of indirect attitude (Ajzen, 1991).

Subjective norms have two components. Normative beliefs reflect the approval or disapproval of the behavior by salient referent groups or individuals. Motivation to comply is the extent to which the individuals feel compelled to behave in accordance with the wishes of a salient person or group. Subjective norms can be assessed directly or indirectly. Indirect assessment includes multiplying the strength of each normative belief by motivation to comply (Ajzen, 1991). Research findings from TPB-based studies appear to be quite robust. A meta-analysis of dozens of studies found generally strong correlations (averaging 0.66) between behavioral intention and attitude and subjective norm (Sheppard, Hartwick, & Warshaw, 1988) and the average correlation between behavioral intention and actual performance of 0.79 (Kim & Hunter, 1993).

The relationship between TPB and communication processes seemingly is straightforward. Communication activity has the potential to influence several components found in the model: beliefs about a behavior (e.g., “giving my opinion about drinking won’t matter”), evaluations (e.g., “getting drunk feels good, having a hangover is bad”), specific beliefs about the reactions of significant others (normative beliefs), and one’s ability to engage in or manage a behavior (controllability).

Less appreciated, however, is the possibility of considering communication as a form of behavior (Loken, 1983; Palmgreen & Rayburn, 1985; Warshaw & Davis, 1985). This feature becomes important when considering the wide range of communication activity that typically surrounds the act of drinking. This includes, for example, not only ordering a drink or turning down the suggestion of another drink but also offering to call a cab rather than have a friend drive while intoxicated. Thus, certain key communication behaviors, particularly those involving opinion expression that may go against prevailing norms, can be seen as essential in any attempt to mitigate

behaviors associated with drinking or to engage in alternative behaviors (e.g., ordering a soda when everyone else expects that someone will drink alcohol). Taking up the topic of communication behaviors about drinking as our object of study, we would expect that

*Hypothesis 1:* Attitudes toward drinking-related communication behaviors will be positively associated with behavioral intention.

*Hypothesis 2:* Perceived behavioral control over drinking-related communication behaviors will be positively associated with behavior intention.

*Hypothesis 3:* Subjective norms concerning drinking-related communication behaviors will be positively associated with behavioral intention.

As mentioned above, TPB usually incorporates all behavioral beliefs as a component of indirect attitude (i.e., Belief  $\times$  Evaluation interaction). The current study isolated and examined in greater detail the role of one key belief—response efficacy—a belief that a particular behavior will achieve a desired outcome (e.g., Janz & Becker, 1984; Neuwirth, Dunwoody, & Griffin, 2000; Rogers & Prentice-Dunn, 1997). The inclusion of response efficacy poses an alternative explanation to fear of isolation as a reason for falling silent (Neuwirth, 2000); people may decline to voice an opinion because they believe doing so would not matter. Or, stated positively, we would expect that

*Hypothesis 4:* Response efficacy will be positively associated with behavioral intention.

## Social Influence and the Spiral of Silence

Of course, TPB is not the only theoretical approach that attempts to explain particular behaviors using, at least in part, the idea of perceived norms as a form of social influence and control. We refer to Noelle-Neumann's theory of public opinion known as the spiral of silence (SOS). Public opinion, according to Noelle-Neumann, alludes to "opinions on controversial issues that one can express in public without isolating oneself" (Noelle-Neumann, 1984, pp. 62-63). Noelle-Neumann argued that "social conventions, customs and norms have always been included in the domain of public opinion. Public opinion imposes sanctions on individuals who offend against conventions" (Noelle-Neumann, 1973, p. 88). Briefly, the spiral of silence theory (Noelle-Neumann, 1974, 1984, 1991) holds that the mass media devise a narrow docket of concerns that functions to favor a selected set of proposals that enter public discourse while simultaneously excluding rival positions. Individuals immersed in such a limited yet pervasive and consonant climate of opinion are deluded

about the genuine state of public opinion and, prompted by a fear of isolation, are less likely to express their own viewpoint when they believe their opinions and ideas are in the minority. This fear is due, according to Noelle-Neumann, to a desire to elude negative social sanctions that tend to leave the person socially shunned. This fear also stimulates people to observe the media for cues about the majority's position on debatable issues of the day. Such an individual-based mechanism of social conformity has long-term repercussions; as the open expression of opinions declines, the rarity of these viewpoints shifts peoples' estimates of prevailing opinion, prompting others to refrain from divulging their opinions when given the chance, thus contributing to an ever-expanding spiraling process.

Some 30 years have passed since Noelle-Neumann first proposed the SOS as a formal theory (1974). Noelle-Neumann's critics have raised a number of objections to the theory. Without commenting on the merits of these criticisms, these include the following: ignoring positive motives for speaking out (Lasorsa, 1991; Salmon & Kline, 1985), deficient conceptualization of hardcore and avant garde groups (Glynn & McLeod, 1985), alternative explanations such as bandwagon and projection (Salmon & Kline, 1985), the consonance of media content and the operation of selectivity processes (Salmon & Kline, 1985), stressing normative at the expense of informational mechanisms (Price & Allen, 1990; Salmon & Kline, 1985). However, the accumulation of results during this interval suggests that the degree to which people's estimates of majority opinion does affect their rate of opinion expression and, although small in magnitude, is indeed a real phenomenon (Glynn, Hayes, & Shanahan, 1997). Hence, the prospect of drawing on TPB's conceptual richness and apparent greater empirical consistency to better inform SOS would seem appealing.

Conceptually, TPB and SOS emphasize different outcomes; SOS is focused on explaining the factors associated with not speaking out whereas TPB is directed at specifying factors associated with performing a behavior, in this case outspokenness. In addition, whereas TPB limits itself to individual-level explanations of behavior, SOS spans levels of analysis, positing that variations in opinion distributions and dynamics in a social system are driven by individual-level fear and perceptions of prevailing opinion. TPB tends to focus on peer and reference groups as the main social factors contributing to behavior, whereas SOS researchers center their theoretical attention on the role of majority opinion as the principal locus of social influence in explaining behavior. In comparing TPB and SOS (see Figure 1), it is apparent that SOS has no equivalent to perceived behavioral control nor the constituent factors of self-efficacy and controllability. Areas of potential overlap appear to include (a) attitude toward the behavior and a person's own opinion and (b)

	THEORY OF PLANNED BEHAVIOR	SPIRAL OF SILENCE
BELIEFS	<p>6-8 key beliefs about behavior, including:</p> <p>Response Efficacy</p> <p><i>E.g., My jogging for at least 30 minutes a day will lower my blood pressure.</i></p>	<p>Key beliefs about:</p> <p>1) Threat of isolation</p> <p>2) Issue having a strong emotional or moral component*</p> <p>Threat of isolation</p> <p><i>E.g., I would like to tell you about an incident which took place recently at a large public meeting on [topic]. There were two main speakers: One spoke in favor of [topic] and the other opposed it. Which one do you think was heard? The speaker supporting [topic] or the speaker opposing it?</i></p>
EVALUATION	<p>Outcome evaluation of each belief</p> <p><i>E.g., Lowering my blood pressure is extremely bad/extremely good</i></p>	<p>Outcome evaluations not assessed</p>
ATTITUDE	<p>Overall attitude toward behavior</p> <p><i>E.g., For me, jogging for at least 30 minutes a day in the next month is: Highly/beneficial/pleasant/important, good/bad, worthwhile/unwarrantable, enjoyable/unenjoyable.</i></p>	<p>Own opinion/attitude about topic.</p> <p><i>E.g., When it comes to the prospect of invading Iraq, do you favor, feel neutral or oppose such a course of action? And how strongly do you hold this view?</i></p>
CONTROL BELIEFS	<p>Self-efficacy</p> <p><i>E.g., If I wanted to I could jog for at least 30 minutes each day in the next month.</i></p> <p>Controllability</p> <p><i>E.g., How much control do you believe you have over jogging for at least 30 minutes each day in the next month?</i></p>	<p>Control beliefs typically not assessed.</p> <p>Self-efficacy</p> <p><i>E.g., There's little anybody like me can do to change things.*</i></p>
NORMATIVE BELIEFS ABOUT PEERS/SOCIETY	<p>Peers: Beliefs about peers and important others</p> <p><i>E.g., My friends think that I should/should not jog 30 minutes each day in the next month.</i></p>	<p>Societal: Estimated present and future majority opinion</p> <p><i>E.g., What about your impression of others' views? What percent favor and what percent oppose the U.S. invading Iraq in its own?</i></p> <p><i>And again, what percent of the public will favor and what percent will oppose the U.S. invading Iraq in its own?</i></p>

Figure 1. Comparison of Theory of Reasoned Action and Spiral of Silence

normative beliefs and perception of majority opinion. In the latter case, normative beliefs (from TPB) may be considered to parallel SOS's idea of perceptions of majority opinion, whereas TPB's motivation to comply appears to have SOS's fear of social isolation as a counterpart. The two approaches appear to have slightly different explanatory and predictive goals. TPB seeks to explain behavioral intention (and behavior) as a function of subjective

MOTIVE	Motivation to comply <i>E.g., Generally speaking, how much do you want to meet your friends' think you should do?</i>	Fear of isolation <sup>b</sup> <i>E.g., If your opinion about the passage of the U.S. invading Iraq on its own were to become widely known around the city, how concerned you be that people would avoid you or act differently toward you because?</i>
PEER/SOCIAL INFLUENCE	Subjective norm is the product of normative belief <sup>c</sup> and motivation to comply.	None. Default is estimated majority opinion.
BEHAVIORAL INTENTION	Intention to act <i>E.g., I intend to jog for 30 minutes a day in the upcoming month.</i>	Willingness to Express an opinion <i>E.g., Suppose you were at social gathering with people you didn't know very well and the topic of a possible invasion of Iraq comes up. You suspect that most of the people there disagree with your opinion. How likely is it that you would give your own view about the U.S. invading Iraq on its own?</i>
BEHAVIOR	Wave II self-report of behavior. <i>E.g., On how many days in the past month did you jog for at least 30 minutes.</i>	With exception, inferring behavior, usually not assessed by researchers.

**Figure 1 continued**

- a. Threat of isolation and the moral component of issues typically is assumed, not assessed, by researchers.
- b. Lasorsa (1991).
- c. Assessment of fear of isolation is not standardized among researchers.

norms, attitude toward the behavior, and perceived behavior control. Somewhat in contrast, SOS (at the individual level) seeks to account for differential rates of behavior (expressing an opinion or falling silent) as stemming from a contrast between own opinion (attitude toward the behavior in TPB's terms) and estimated majority opinion (a kind of normative belief from the TPB perspective).<sup>2</sup>

In general, researchers working within the SOS framework have explored broader macro issues (e.g., abortion, gun control) rather than more localized concerns (e.g., campus drinking) and have not typically assessed perceptions of opinion climates spanning several political units (e.g., national, state, local). For exceptions see Glynn and Park (1997), Salmon and Neuwirth (1990), and Salmon and Oshagan (1990). Nor have many researchers assessed, as TPB would suggest, the potential influence of important reference others. The exception would appear to be the work of Oshagan (1996), who conducted an experimental study suggesting that the influence of the perceptions of reference group opinion on opinion expression outweighs that of perceptions of majority opinion. Scholars (Scheufele & Moy, 2000; Scheufele, Shanahan, & Lee, 2001) have argued that researchers should assess the influence of peer and reference groups in studying opinion

expression. Thus, consistent with previous SOS and TPB research, we would expect that

*Hypothesis 5:* Perceptions of majority opinion (normative belief) will be positively associated with behavioral intention.

Given its centrality to the SOS, no other relationship has been as frequently tested as the association between estimated majority opinion and opinion expression. Numerous studies provide evidence of a negative relationship between a misalignment of one's own opinion with perceived majority opinion as a predictor of opinion expression (Glynn & McLeod, 1984; Jeffres, Neuendorf, & Atkin, 1999; Katz & Baldassare, 1992; Neuwirth, 2000; Salmon & Neuwirth, 1990; Salmon & Oshagan, 1990; Scheufele, 1999). In line with the general thrust of these findings we would expect that own opinion and perceived majority opinion (normative belief) will interact when predicting opinion expression as follows:

*Hypothesis 6:* Respondents whose own views align with estimated majority opinion will be most likely to express their opinion, whereas respondents whose own views do not align with estimated majority opinion will be least likely to express their opinion.

## Media influence on Beliefs

Communication researchers have long established connections, however weak in magnitude, between media exposure and affective, cognitive, and conative outcomes (see Chaffee, 1977). Empirical evidence generated by SOS researchers shows that media exposure is significantly related to majority opinion estimates. Stevenson and Gonzenbach (1990) established a positive relationship between newspaper exposure and television news exposure and attention, and perceived future trend of majority opinion. Working from the perspective of pluralistic ignorance, Rimmer and Howard (1990) found that greater newspaper use was associated with increased accuracy of perceived majority opinion. Salmon and Neuwirth (1990), using message discrimination as a surrogate measure of media use, established evidence of a positive relationship between message discrimination and the perception of community congruency. Glynn and McLeod (1984) uncovered significant relationships between newspaper and television use and respondents' estimates of support enjoyed by political candidates. In addition, Neuwirth (1995) found relationships between media use and estimates of majority opinion. Therefore, we expect that

*Hypothesis 7:* General media exposure will be associated with an increased perception of majority (normative belief) favoring risk reduction behaviors associated with drinking.

Although little research conducted from within the TPB tradition addresses the origins of self- and response efficacy (TPB terms here), a growing body of research in the areas of public opinion and risk communication (usually in the form of exposure to specific message content in an experimental setting) suggests a connection, based on modeling principles (Bandura, 1986) between more general measures of media exposure and response-efficacy (Neuwirth et al., 2000; Rimal & Real, 2003) and self-efficacy (Lasorsa, 1991; Nathanson, Eveland, Park, & Paul, 2002; Pinkleton & Weintraub, 2002; Renger, Steinfeld, & Lazarus, 2002; Rimal, 2001; Rimal & Real, 2003). Thus we expect the following:

*Hypothesis 8:* General media exposure will be associated with an increased sense of self- and response efficacy regarding risk reduction behaviors associated with drinking.

However, a number of observers have noted that exposure to sports programming and its attendant alcohol advertising functions to actively encourage drinking and related activities (e.g., Atkin, Hocking, & Block, 1984; Bloom, Hogan, & Blazing, 1997; Connolly, Casswell, Zhang, & Silva, 1994; Wyllie, Zhang, & Casswell, 1998; Yanovitzky & Stryker, 2001). As distinct from general measures of media exposure, we would expect that content-specific exposure to sports and attention to alcohol advertising would present greater opportunities to model drinking-related behaviors and otherwise tend to distort estimates of wider social norms and a diminished expectation for the prospects of social action, as reflected in efficacy. In particular, we anticipate the following:

*Hypothesis 9:* Greater exposure and attention to sports programming will be associated with a lowered perception of the majority (normative beliefs) favoring risk reduction behaviors associated with drinking.

*Hypothesis 10:* Greater exposure and attention to sports programming will be associated with a lowered sense of self- and response efficacy regarding risk reduction behaviors associated with drinking.

Although not a central focus of the current study, we would also have an interest in discerning the extent to which media exposure and attention might serve as potential antecedents to other components of TPB. Thus, we would ask

*Research Question 1:* To what extent are media exposure and attention associated with attitude (own opinion) and subjective norms?

## Method

An anonymous survey was administered to a cluster-based probability sample of the undergraduate student population at a private, urban, Midwest university during an 18-day period in the spring semester 1998. The campus has approximately 7,000 undergraduate students and 2,500 graduate students. The survey sample was obtained through the use of cluster sampling. Each undergraduate course listed on the university's fall class schedule equated to one student cluster. Twenty-seven undergraduate courses were chosen by randomly selecting a day of the week and a class period on that day from which to sample students. Such a sampling strategy meant that it was impossible for any individual to be included in the sample twice because no student could be registered for two classes at the same time.<sup>3</sup> Of the 27, 17 (62%) course instructors agreed to participate. The surveys were then administered in class. In total, 549 students were enrolled in the 27 courses in the sample. Of those enrolled, 397 students completed and returned the questionnaire for a response rate of 72%. Participation was voluntary; students who did not wish to participate in the study were offered an alternative exercise that they could do at that time. Only three students refused to participate. Of the sample, 55% were women, and class standing was as follows: 1st-year students 35.3%, sophomores 32.8%, juniors 18.6%, seniors 11.8%, and others 0.6%. A comparison with official university figures suggests that the sampling frame overrepresented 1st-year students and sophomores. At the time of the survey, the campus population was 53% women and 47% men. At the time, 29.4% were 1st-year students, 27.8% were sophomores, 22.3% juniors, 19.1% seniors, and the rest were classified as other.

## Measurement

Respondents were queried about their responses to three social settings involving some aspect of drinking activity: being sober and offering to drive the car of someone who has been drinking, asking someone who has been drinking and is loud and obnoxious to be quiet, and requesting that no alcohol be served at a graduation party. Questions also varied the actors involved in each situation: an acquaintance and a close same-sex friend.<sup>4</sup> Precise implementations within the context of TPB and the SOS are detailed below, starting with endogenous variables.

*Attitude toward behavior or own opinion.* Attitudes toward three relevant communication behaviors directed at two different kinds of actors were assessed by having respondents use 9-point scales to rate three adjective pairs consisting of the descriptors *bad-good*, *foolish-wise*, and *rewarding-punishing* (reversed). Six additive scales for each actor-situation combination were created. The question wording is as follows: “For me, asking [a close friend of the same sex, an acquaintance of mine that I don’t know well] to let me drive when he or she has been drinking is [adjective pairs].” “For me, asking [actor] to be quiet when he or she is being loud and obnoxious because he or she has been drinking is [adjective pairs].” “For me, expressing my opinion to [actor] that a party doesn’t need alcohol to be fun when he or she and I are planning a graduation party for someone and he or she says we should serve alcohol at the party and I don’t want to is [adjective pairs].”<sup>5</sup> Standardized alphas are as follows: discuss with acquaintance about driving,  $\alpha = .76$ ; discuss with acquaintance about loudness,  $\alpha = .78$ ; discuss with acquaintance about party,  $\alpha = .81$ ; discuss with friend about driving,  $\alpha = .73$ ; discuss with friend about loudness,  $\alpha = .76$ ; discuss with friend about party,  $\alpha = .85$ . These scales fulfilled a dual role as a measure representing own opinion within the SOS framework and attitude toward the behavior within the TPB approach when using observed variables in the subsequent analysis.

*Perception of majority opinion or normative beliefs.* The same measurement scheme was used to have respondents estimate the attitudes of the majority of other students concerning the appropriateness of employing each communication strategy. Wording template: “For most students, expressing my opinion to [actor] that [situation] is [adjective pairs].” The scales serve a dual role of representing normative belief (TPB) and perceived majority opinion (SOS). Standardized alphas: Discuss with acquaintance about driving,  $\alpha = .78$ ; discuss with acquaintance about loudness,  $\alpha = .80$ ; discuss with acquaintance about party,  $\alpha = .84$ ; discuss with friend about driving,  $\alpha = .77$ ; discuss with friend about loudness,  $\alpha = .78$ ; discuss with friend about party,  $\alpha = .86$ .

*Subjective norms.* Normative beliefs about drinking were measured by asking respondents to indicate the extent to which they believed others (acquaintance and close friend) would want them to voice their opinion in each of three situations, with responses ranging from 1 (*should speak up*) to 9 (*should not speak up*). Scales were reverse coded in subsequent analysis. Typical question wording: “When I’m riding with someone who has been drinking

and I am sober and want to ask him or her to let me drive [actor] thinks that I should/should not speak up.”

Motivation to comply was measured by asking respondents to rate their general willingness to conform to others' expectations on a scale ranging from 1 (*same as*) to 9 (*opposite of*) and worded as follows: “In general, I very much want to do same as/opposite of [actor] would like me to do.” Following scaling procedures recommended by Ajzen (1991, p. 195), normative belief and motivation to comply measures first were reverse coded. The normative belief scales also were recoded to form a bipolar scale (–4 to + 4 range), reflecting the idea that a larger value indicates a positive normative expectation. The normative belief and motivation to comply scales were then multiplied to form a measure of subjective norm.

*Perceived behavioral control.* A global measure of self-efficacy was used to assess perceived behavioral control. Self-efficacy was appraised by asking respondents to use 9-point scales varying from 1 (*not very confident*) to 9 (*very confident*) when rating their ability to deal with the three social settings outlined above. Sample wording: “If you were in a situation where [actor] had been drinking and you were sober, how confident are you in your ability to ask him or her to let you drive?”

*Response efficacy.* The key belief of response efficacy was gauged by asking respondents, using 9-point scales ranging from 1 (*not very effective*) to 9 (*very effective*), to rate the effectiveness of each communication strategy employed. Typical wording: “Do you believe asking someone who has been drinking to let you drive is an effective way to prevent a drunk from driving?”

*Dependent variable: Behavioral intention.* Respondent intentions to engage in the three communication behaviors were measured by asking respondents to rate their likelihood of performing each action, ranging from 1 (*likely*) to 9 (*unlikely*). The scale values were reversed in subsequent analysis. Questions were worded as follows:

- I would definitely ask [actor] to let me drive the next time I am out with him or her and he or she has been drinking and I am sober.
- I will definitely ask [actor] to be quiet the next time I am out with him or her and he or she has been drinking and is loud and obnoxious.
- I will definitely express my opinion that a party doesn't need alcohol to be fun the next time I am in a situation in which [actor] and I are planning a graduation party for someone and he or she says we should serve alcohol and I disagree.

*Media exposure and attention.* Media exposure was indexed by eight measures of media exposure. Factor analysis revealed a three-factor solution, with the factors labeled Print News (magazine and newspaper), Television Exposure, and content-specific Sports Exposure (magazine and television). Reliabilities were as follows: Print News,  $\alpha = .49$ ; Television Exposure,  $\alpha = .82$ ; and Sports Exposure,  $\alpha = .74$ . Attention to alcohol advertising was assessed by factor analyzing questions assessing the degree to attention, ranging from 1 (*little attention*) to 9 (*close attention*), given alcoholic beverage ads on television, radio, and in newspaper and magazines. A single factor emerged, and factor scores were used in subsequent analysis,  $\alpha = .90$ .

*Exogenous control variables.* Variables considered relevant to drinking and drinking-related communication served as statistical controls for past or concurrent behavior (Ajzen, 2002b). These include the following: respondent gender (Korcuska & Thombs, 2003), age of respondent in years, and present level of drinking behavior, as indexed (a) by the number of times the respondent drank in the past 2 weeks and (b) the number of drinks consumed on the days the respondent did drink ( $\alpha = .70$ ).

## Results

Before addressing our research hypotheses, an examination of student drinking activities provides instructive context. Seven percent of students reported being involved in a drinking-related arrest, and 25% were of legal drinking age. Yet 80% of the respondents reported drinking alcohol within the past 2 weeks (number of occasions,  $M = 3.26$ ,  $SD = 3.03$ ), with 20% reporting drinking on five or more occasions. In addition, 46% of students reported having five or more drinks—the standard definition of binge drinking—as their average rate of consumption on occasions when they do drink (average number of drinks,  $M = 4.74$ ,  $SD = 2.35$ ), with 21% reporting their normal consumption at eight or more drinks. In addition, consistent with previous studies, students on average were more likely to overestimate the rate of consumption (i.e., average number of drinks per occasion) of their peers ( $M = 7.03$ ,  $SD = 2.73$ ).

We expected that attitude toward communication behaviors, perceived behavioral control (self-efficacy), response efficacy, subjective norms, and beliefs concerning majority opinion would be positively associated with behavioral intention to communicate. The data were analyzed using hierarchical regression analysis, which allows the simultaneous assessment of the relative importance of the predictor variables of interest and thereby permits an assessment of each theory's complimentary strengths.<sup>6</sup>

*Hypothesis Tests*

The role of beliefs and attitudes as predictors of speaking out is addressed in Table 1. The regression models were set up as follows: Demographic control variables were entered as a first block, followed by a block of media variables with the five SOS/TPB variables entered simultaneously as a final block. Zero-order correlations demonstrate robust (100%) support for the first five hypotheses. The application of simultaneous controls using regression represents a more conservative test of the hypotheses. Results varied somewhat depending upon the specific dependent variable under scrutiny.

*Hypothesis 1.* The relationship between attitude toward each communication behavior (own opinion) and behavioral intention was positive and significant across five of six situations, the exception being offering to drive an acquaintance's car.

*Hypothesis 2.* The same general robust positive pattern of significant coefficients was found for self-efficacy, a component of perceived behavioral control, across all six models.

*Hypothesis 3.* Subjective norms demonstrated a robust pattern of expected positive coefficients across the six models.

*Hypothesis 4.* Response efficacy—the belief that voicing one's opinion is an effective strategy—was a significant predictor of speaking out across five of six instances of discussion with acquaintances and friends.

*Hypothesis 5.* The analysis also allowed us to address the question of whether perceptions of majority opinion (estimates of the majority's attitude) had any influence on behavioral intentions to communicate one's views controlling for the effects of peer influences as reflected in the measures of subjective norms. The data indicate that perception of majority attitudes was positively associated with offering to drive a car when an acquaintance ( $\beta = .15, p < .05$ ) and a friend ( $\beta = .17, p < .05$ ) has been drinking. Thus, when multiple controls are applied, Hypothesis 5 received positive support in two of six instances.<sup>7</sup>

*Hypothesis 6.* The data also permit an examination of one other aspect of opinion expression taking the SOS framework as a starting point. As mentioned above, TPB views behavioral intention (in this case, expressing an opinion) as a function of subjective norms, perceived behavioral control, and

Table 1  
*Hierarchical Regression: Predictors of Behavioral Intention (N = 397)*

Predictors	Voice Own Opinion With Friend About					
	Driving Car		Being Quiet		Nonalcohol Party	
	$\beta$	Zero-Order Correlation	$\beta$	Zero-Order Correlation	$\beta$	Zero-Order Correlation
<b>Controls</b>						
Gender (Female = Hi)	.02	.12*	.09*	.16*	-.04	.16*
Drinking behavior	-.09*	-.10*	-.09*	-.23*	-.15*	-.39*
Age	-.01	-.04	.00	-.01	-.01	-.01
$R^2$ for block (%)		2.0*		6.4*		16.0*
<b>Media</b>						
Sports exposure	-.08	-.16*	.01	-.12*	-.03	-.17*
Print news exposure	.08	.03	.02	.02	-.01	.04
General television exposure	.03	-.03	.03	.01	.06	-.02
Attention to alcohol ads	-.01	-.12*	-.04	-.16*	.00	-.27*
$R^2$ for block (%)		2.6*		1.4		3.0*
<b>Key beliefs and attitudes</b>						
Attitude	.12*	.35*	.31*	.56*	.25*	.62*
Subjective norm	.19*	.38*	.24*	.50*	.29*	.63*
Self-efficacy	.30*	.45*	.28*	.50*	.29*	.64*
Response efficacy	.07	.21*	.12*	.33*	.12*	.47*
Perceived majority opinion	.17*	.34*	.00	.36*	.02	.40*
$R^2$ for block (%)		30.5*		43.4*		45.7*
Total $R^2$ (%)		35.1*		64.7*		63.6*
Adjusted $R^2$ (%)		33.0*		49.6*		

(continued)

Table 1 (continued)

Predictors	Voice Own Opinion With Acquaintance About					
	Driving Car		Being Quiet		Nonalcohol Party	
	$\beta$	Zero-Order Correlation	$\beta$	Zero-Order Correlation	$\beta$	Zero-Order Correlation
<b>Controls</b>						
Gender (Female = Hi)	-.06	-.01	-.03	-.06	-.03	.06
Drinking behavior	-.13*	-.09*	-.13*	-.13*	-.13*	-.30*
Age	-.06	-.05	-.02	.00	-.01	.04
$R^2$ for block (%)		1.2		2.9*		9.2*
<b>Media</b>						
Sports exposure	-.07	-.09*	.02	.05	-.01	-.09*
Print news exposure	.07	.03	.05	.05	-.06	-.01
General television exposure	.06	-.05	.05	-.01	.05	-.04
Attention to alcohol ads	.01	-.11*	-.01	-.10*	-.01	-.22
$R^2$ for block (%)		2.1		.7		1.3
<b>Key beliefs and attitudes</b>						
Attitude	.08	.43*	.15*	.42*	.15*	.53
Subjective norm	.13*	.31*	.29*	.50*	.24*	.55*
Self-efficacy	.47*	.60*	.37*	.54*	.43*	.67*
Response efficacy	.15*	.26*	.10*	.33*	.11*	.43*
Perceived majority opinion	.15*	.35*	.03	.27*	.04	.33*
$R^2$ for block (%)		43.2*		43.8*		49.2*
Total $R^2$ (%)		46.5*		47.4*		59.7*
Adjusted $R^2$ (%)		44.9*		45.9*		58.5*

Note: Unless otherwise noted, table entries are standardized beta coefficients.

\* $p < .05$ .

attitude toward the behavior. Somewhat in contrast, Noelle-Neumann (1984) saw differential rates of opinion expression as stemming from an alignment of one's own opinion and perception of majority opinion, in which case opinion expression is enhanced. A discrepancy between own and perceived majority opinion is expected to attenuate opinion expression as the self-perception of others gap widens. This proposition was tested with observed variables using hierarchical regression. Control and all TPB and SOS variables were entered into the analysis as main effects prior to the inclusion of an Own Attitude  $\times$  Estimated Majority Attitude interaction term (Aiken & West, 1991). No significant interaction terms were found (data not shown), and thus we conclude that Hypothesis 6 received no support.

Table 1 also reveals that a greater rate of alcohol consumption is negatively related to voicing an opinion in all six circumstances, whereas age has no relationship to speaking out. Women are more likely to encourage a drunk friend to be quiet ( $\beta = -.08, p < .05$ ), and greater attention to alcohol advertisements is negatively associated ( $\beta = -.09, p < .05$ ) with opinion expression. These results suggest that in the main, gender, age, media exposure, and attention do not appear to play a large role in willingness to voice an opinion about behaviors associated with drinking.<sup>8</sup>

To summarize, own attitude (Hypothesis 1), self-efficacy (Hypothesis 2), peer influence (Hypothesis 3), and response efficacy (Hypothesis 4) emerged as consistent predictors of opinion expression. Evidence for the role of majority opinion (normative belief) was more limited (Hypothesis 5) and appears to be confined to discussions about driving an acquaintance and friend's car. No evidence was found that own and majority opinions interacted (Hypothesis 6) when predicting opinion expression about drinking-related activities.

### *Antecedents of Beliefs and Attitudes*

*Hypothesis 7.* One of Noelle-Neumann's (1984) key assertions is that the mass media are important sources of information about majority opinion (normative belief). Results from the current analysis (data not shown) reveal no link between media exposure and estimates of majority opinion. Thus, Hypothesis 7 is rejected.

*Hypothesis 8.* We also hypothesized that media exposure would be associated with respondent's having a greater sense of self-efficacy and response efficacy. Higher levels of general television exposure are related to a lowered sense of self-efficacy about an ability to speak to an acquaintance concerning driving a car ( $\beta = -.11, p < .05$ ) and being quiet ( $\beta = -.11, p < .05$ ) Print news exposure was positively linked to one's ability to voice one's view to a friend

( $\beta = .18, p < .05$ ) and acquaintance ( $\beta = .13, p < .05$ ) about serving nonalcohol drinks. Results for response efficacy were more limited (data not shown), with print news exposure demonstrating a positive relationship ( $\beta = .15, p < .05$ ) with respondents believing that voicing one's opinion would be an effective strategy of securing the provision of nonalcohol beverages at a party.

*Hypothesis 9.* The analysis also revealed (data not shown) only partial support for the proposition that sports exposure and attention would result in the perception of lower majority opinion support (normative expectation) for risk reduction behaviors. Only attention to alcohol advertisements was negatively associated ( $\beta = -.14, p < .05$ ) with perceptions of the majority's view of speaking to a friend about serving nonalcohol beverages at a party.

*Hypothesis 10.* Table 2 also reveals that greater attention to alcohol advertisements is associated with a lowered sense of self-efficacy across all six drinking scenarios. However, contrary to expectation, no relationship was found for exposure to sports content. Overall, these results point to the possibility that the media likely play a role in promoting beliefs about efficacy; however, it is attention—a predominantly conscious top-down act of information processing, not exposure to sports programming per se—that is associated with a lower sense of self-efficacy.

*Research Question 1.* Regression was used to assess possible links between media and attitude (own opinion) and peer subjective norms. Results (data not shown) suggest that greater exposure to sports programming is linked to perception that friends would not endorse offering to drive an inebriated friend home ( $\beta = -.20, p < .05$ ), and greater exposure to television is associated ( $\beta = -.10, p < .05$ ) with the belief that peers would not be inclined to offer a ride to an acquaintance. Three links between media and attitude (own opinion) about speaking out also were found (data not shown). Exposure to print news was positively related ( $\beta = .12, p < .05$ ) whereas attention to news about alcohol was negatively associated ( $\beta = -.15, p < .05$ ) to a respondent's own attitude about speaking to a friend about serving nonalcohol drinks at a party. In addition, greater exposure to sports content ( $\beta = -.17, p < .05$ ) is associated with a diminished inclination to speak to a drunk acquaintance about driving a car.

In sum, no evidence was found that media exposure was associated with estimates of majority opinion (Hypothesis 7), limited evidence was found suggesting a link between media exposure and self- and response efficacy (Hypothesis 8). Limited evidence also was found for a negative relationship (Hypothesis 9) between sports exposure and attention and perceptions of majority opinion. Attention to alcohol advertisements but not exposure to

Table 2  
*Hierarchical Regression: Predictors of Self-Efficacy (N = 397)*

Predictors	Ability to Speak to Friend About								
	Driving Car			Being Quiet			Nonalcohol Party		
	$\beta$	Zero-Order Correlation		$\beta$	Zero-Order Correlation		$\beta$	Zero-Order Correlation	
Controls									
Gender (Female = Hi)	.03	.06		.08	.09*		.10	.13*	
Drinking behavior	.12*	.01		-.02	-.09*		-.17	-.25*	
Age	-.03	-.02		-.02	-.01		-.04	-.01	
$R^2$ for block (%)		0.5			1.3*			6.7*	
Media									
Sports exposure	-.06	-.08		-.03	-.07		.00	-.09*	
Print news exposure	-.04	-.05		.06	.03		.18*	.13*	
General television exposure	-.02	-.03		.05	.02		.01	-.03	
Attention to alcohol ads	-.20*	-.16*		-.15*	-.16*		-.19*	-.26*	
$R^2$ for block (%)		3.8*			2.4*			6.2*	
Total $R^2$ (%)		4.3*			3.7*			12.0*	
Adjusted $R^2$ (%)		2.6*			2.0*			11.3*	

(continued)

Table 2 (continued)

Predictors	Ability to Speak to Acquaintance About					
	Driving Car		Being Quiet		Nonalcohol Party	
	$\beta$	Zero-Order Correlation	$\beta$	Zero-Order Correlation	$\beta$	Zero-Order Correlation
Controls						
Gender (Female=Hi)	-.08	-.04	-.15*	-.14*	-.03	.02
Drinking behavior	.04	-.02	.01	-.02	-.14*	-.18*
Age	.00	.01	.04	.05	.01	.04
$R^2$ for block (%)		0.2		2.4*		3.6*
Media						
Sports exposure	-.07	-.05	.02	.06	-.04	-.07
Print news exposure	.00	.00	-.01	.02	.13*	.11*
General television exposure	-.11*	-.11*	-.11*	-.09*	-.05	-.08
Attention to alcohol ads	-.11*	-.10*	-.11	-.11*	-.13*	-.19*
$R^2$ for block (%)		2.7*		2.2*		3.6*
Total $R^2$ (%)		2.9*		4.6*		7.2*
Adjusted $R^2$ (%)		1.2*		2.9*		5.5*

Note: Unless otherwise noted, table entries are standardized beta coefficients.

\* $p < .05$ .

sports programming was associated with (self-) efficacy, providing partial confirmation of Hypothesis 10, and there is limited evidence of the media's being associated with attitudes about speaking out.

## Discussion

The purpose of the current study was to examine the dual roles of peer and social influence on drinking-related communication behaviors utilizing concepts derived from TPB and the SOS. Overall, the results suggest that perceptions of peer opinion and prevailing social norms do have an impact on discourse surrounding drinking activities. The findings confirm propositions about peer influence derived from TPB, whereas more limited support was found for propositions about the sway of social norms derived from the SOS.

Based on these findings, one might be tempted to conclude that peer influence is more important or somehow overrides social influence in most instances. Indeed, this may be the case; however, we would argue that such a conclusion would be premature, based on the argument that our measurement of perception of majority attitude or opinion (a normative belief) did not include an assessment of a person's motivation to comply, whereas measures of peer influence did factor in this motive. In some sense, then, the measure of perception of majority opinion was at a relative disadvantage vis-à-vis measures of peer influence reflected in subjective norms of friends and dating partners. Moreover, the three issues explored in the context of a campus community are those not usually studied or even as seen as necessarily appropriate by SOS researchers. Thus, one could argue that finding any results at all in such "difficult" circumstances is all the more uncommon.

However, even if one does not accept these arguments, the findings at the very least suggest that social influence may, at times, impinge on discussions held with friends and acquaintances. In particular, the finding of a positive relationship between estimated majority opinion and opinion expression is consistent with the well-known campaign theme of "Friends don't let friends drive drunk," which apparently extends to people who are not as well known to the respondent. Contrasted with the pattern of null findings for requesting quiet and discussing a nonalcohol party, this general pattern of results suggests that the sparser showing for majority opinion may stem, at least in part, from the possibility that these activities may not have been viewed as morally loaded by many students but rather may have been seen more as culturally embedded lifestyle choices. Assessing the extent to which each situation was value laden certainly recommends itself in future research.

The failure of Hypothesis 6, which predicted that own and majority opinion would interact, merits comment as well. The best explanation for these

null findings, in our view, turns on the relatively high level that own attitude and majority attitude exhibited in the data. Although own attitude had higher mean values than majority opinion in all six situations, the overall levels were above the scale midpoint. This suggests that, even when there were discrepancies between own and majority opinion, the overall thrust was in a positive direction. This further implies that respondents may not have believed that their own opinions were all that far out of line with majority sentiment and thus felt no large constraint about voicing their views. However, we also admit the possibility that, when it comes to the topic of drinking, many respondents may have been *hardcores*—a term used by Noelle-Neumann to describe persons who voice an opinion despite perceiving themselves to be in the minority.

Another possible reason that Hypothesis 6 failed turns on our measurement of own and majority opinion. Unlike other SOS studies, which obtain direct estimates of own and majority opinion, the current research used semantic differential scales that paralleled the measurement of attitude common to TPB studies. Such a measurement strategy has the obvious advantage of permitting reliability estimates, a feature usually lacking in SOS research. However, we cannot exclude the possibility that this difference in measurement may be connected to the null findings. Future studies incorporating both kinds of measures can settle this issue.

In addition, the study found only limited evidence that the media served as conduits of perceived social influence. Three possible explanations come to mind for these findings. First, the lower reliabilities of the media exposure measures means that actual relationships may not have been detected. Second, given that all drinking behavior is local in the sense that it occurs in specific situations—in this case the campus area—the measures of media exposure used likely did not adequately cover possible sources and pathways of social influence in the campus microclimate of opinion. In addition, the current study did not assess the influence of interpersonal discussion, and future studies should include a broader array of measures of this kind.<sup>9</sup>

Overall, the findings concerning subjective norms and perceived behavioral control are entirely consistent with the TPB. And results pertaining to attitude or own opinion also strengthen previous TPB and SOS research. Response efficacy, a variable new to SOS but common to TPB research, demonstrated results consistent with earlier research. Only partial support was found for the SOS-generated expectation that perceived majority opinion would predict outspokenness. However, it is important to note that the simultaneous controls inherent in regression analysis produces conservative results. As mentioned above, significant results were found for the situation (driving a car while drunk) that had the greatest negative potential outcome

(death) and presumed moral component, a finding consistent with previous SOS research. The finding that own opinion (attitude) and perceived majority opinion did not significantly interact is the finding least consonant with earlier SOS research. We believe that this finding can be best explained by realizing that the situations presented to respondents involved conformity to an established social norm rather than a dispute over a contested issue and, in this regard, is different from previous SOS research. Thus, although the results would appear to weaken the overall body of evidence concerning this aspect of the SOS, a certain degree of caution regarding this facet of the results would seem warranted. Finally, the limited findings involving an expected nexus between media exposure and perceived majority opinion serve to weaken the broader body of SOS literature in this respect.

Contrasting the two theoretical approaches, one finds that there are several areas that have the potential for exploration in future studies. In the case of TPB, the findings suggest that researchers may wish to incorporate the element of social influence, as indexed by perceptions of majority opinion when assessing subjective norms. As alluded to above, researchers using TPB typically view subjective norms as applying to a person's interpersonal contacts. However, this appears to stem more from customary practice rather than any inherent theoretical restriction; nothing in the theory precludes exploring the potential influence of estimated majority opinion, and one could well imagine incorporating normative beliefs about majority opinion and motivation to comply with majority opinion in the study of public opinion dynamics or more private communication activity as a matter of course. In addition, one may reasonably argue that TPB focuses more on individual factors impinging on behavioral enactments at the expense of providing a more complete account of wider social influence. However, the SOS, with its emphasis on the mass media's influencing the perceptions of norms, holds out the promise of informing TPB research by allowing researchers to more readily incorporate consideration of these broader social processes when conducting studies.

Several suggestions can be proffered concerning the SOS as well. First, given that willingness to express an opinion is a central SOS variable, researchers would do well to consider incorporating elements from TPB in future studies. This is particularly true when considering aspects of perceived behavioral control such as self-efficacy and a key belief such as response efficacy, if for no other reason than to strengthen their own findings by eliminating the possibility of excluding from analysis key variables (i.e., specification error) now known to potentially influence opinion expression. Second, explicitly considering key beliefs such as response efficacy may allow the appraisal of alternative mechanisms leading to silence or speaking out and, in addition, may lead researchers to consider the possibility that

respondents may have different goals when confronted with the opportunity to voice an opinion. Third, in a related vein, TPB's emphasis on discovering key beliefs and peoples' evaluation of these beliefs has the potential to broaden the range factors that SOS researchers consider when attempting to explain speaking out and falling silent. In addition, these results suggest that researchers working within the SOS framework can readily incorporate the notion of subjective norms as applied to primary and reference groups as well as majority opinion. And last, the relationship of motivation to comply with fear of isolation suggests itself as an area of fruitful inquiry. It seems apparent that as fear of isolation increases, motivation to comply with majority opinion should increase as well.

The findings suggest new avenues for designing message strategies for campaigns. Although it would still be valuable for campaigners to craft messages that present consumption norms, messages could also be developed that would present students describing how binge-drinking behaviors on campus have affected their lives. The goal of those messages would be to change students' misperceptions of the norms and also could provide a context conducive to greater conformity to more widely held social norms found in the larger society.

If correcting students' perceptions of other students' attitudes about some of the broader components of social drinking situations can encourage students to be more willing to express their opinions, campaign managers using the social marketing approach may have an entirely new avenue to pursue. The results suggest that it may be possible to correct misperceptions about the negative secondary effects of binge drinking on campus thereby leading to greater willingness of students who have been victims of such problems to express their dissatisfaction with the behavior of their binge-drinking peers (e.g., Presley et al., 1993). It is possible that campaigners could use students' speaking out against the negative effects of binge drinking on campus to effect a change in campus culture that would ultimately create an environment that would discourage excessive drinking.

There are several limitations inherent to the current study that cause us to issue cautionary notes. First, although the findings concerning overestimation of others' drinking levels found in the current study replicated the work of other researchers, and although the student sample itself is entirely appropriate to the problem of binge drinking on college campuses, the nature of the sample places limitations on the current study's potential generalizability to noncollege populations. However, given the current study's focus on examining important theoretical relationships among psychological variables rather than on estimating population parameters, we believe that the current study does contribute to our theoretical and practical understanding

of underlying processes involved in opinion expression about a significant social problem. Second, it is important to note that the current study examined self-reports of behavioral intentions in response to hypothetical situations put to survey respondents. Future studies should include measuring actual behaviors. Third, although we asked respondents about the likelihood of voicing their opinion, there is the possibility that respondents may employ other articulation strategies when speaking out. At a minimum, this could include refusing to speak out, providing neutral comments, and even lying; these questions should be posed in future studies. In addition, it would be useful to learn in greater detail the extent to which estimates of majority opinion have their origins in interpersonal and mediated communication.

Finally, the cross-sectional nature of the current study hampers an examination of the dynamics that theoretical approaches such as social marketing and the SOS would appear to imply. There is a clear need for panel designs that will let researchers examine how shifts in beliefs about majority opinion produce changes in open discussion, in the public and private spheres, about drinking and responses to drinking, or for that matter, any topic and any communication behavior.

### *Appendix*

#### *Measurement Appendix*

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Own Opinion/Attitude Perceived Majority Opinion/Normative Belief (1-9 scale)

For me, asking a close friend of the same sex to let me drive when he or she has been drinking is . . .

Good-Bad (reversed)  
Wise-Foolish  
Punishing-Rewarding (reversed)

For me, asking a close friend of the same sex to be quiet when he or she is being loud and obnoxious because he or she has been drinking is . . .

For me, expressing my opinion to a close friend of the same sex that a party doesn't need alcohol to be fun when he or she and I are planning a graduation party for someone and he or she says we should serve alcohol and I don't want to . . .

For me, asking an acquaintance of mine that I don't know well to let me drive when he or she has been drinking is . . .

For me, asking an acquaintance of mine that I don't know well to be quiet when he or she is being loud and obnoxious because he or she has been drinking is . . .

For me, expressing my opinion to an acquaintance of mine that I don't know well that a party doesn't need alcohol to be fun when he or she and I are planning a gradua-

COMMUNICATION RESEARCH • December 2004

tion party for someone and he or she says we should serve alcohol and I don't want to is . . .

Perceived Majority Opinion/Normative Belief

Next, we want to know what you think the overall attitudes of other students would be to the following courses of action that can occur in a social setting involving drinking. Please respond by circling the number that corresponds most closely to what you think their attitudes would be.

For most students, asking a close friend of the same sex to let them drive when he or she has been drinking is . . .

- Good-Bad (reversed)
- Wise-Foolish
- Punishing-Rewarding (reversed)

For most students, asking a close friend of the same sex to be quiet when he or she is being loud and obnoxious because he or she has been drinking is . . .

For most students, expressing an opinion to a close friend of the same sex that a party doesn't need alcohol to be fun when they are planning a graduation party for someone and the students prefer not to serve alcohol but their friends do is . . .

For most students, asking an acquaintance that they don't know well to let them drive when he or she has been drinking is . . .

For most students, asking an acquaintance that they don't know well to be quiet when he or she is being loud and obnoxious because he or she has been drinking is . . .

For most students, expressing an opinion to an acquaintance that they don't know well that a party doesn't need alcohol to be fun when they are planning a graduation party for someone and the acquaintance wants to serve alcohol and the students don't is . . .

Subjective Norm

Normative Beliefs (1-9 scale, *should speak up to should not speak up*, reversed)

In the next section, we would like you to estimate how people would expect you to behave in the social situations described. We would also like to know how you think you should behave. Please respond to each by circling the number on the scale given. A 1 means the person in question thinks that you should follow a particular course of action. A 9 means the person thinks you should not follow a particular course of action.

When I'm riding with someone who has been drinking and I am sober and want to ask him or her to let me drive . . .

- My closest friend of the same sex thinks that I \_\_\_\_
- Students that I'm acquainted with but don't know well think that I \_\_\_\_
- When I'm with someone who has been drinking and is being loud and obnoxious, my closest friend of the same sex thinks that I \_\_\_\_
- Students that I'm acquainted with but don't know well think that I \_\_\_\_

## Neuwirth, Frederick • Peer and Social Influence

When I'm planning a graduation party for someone and the person who is helping me wants to serve alcohol and I prefer not to serve alcohol . . .

My closest friend of the same sex thinks that I \_\_\_\_

Students that I'm acquainted with but don't know well think that I \_\_\_\_

Motivation to Comply (1-9 scale, *same as to opposite of*, reverse scaled -4 to + 4)

Consider the following social situations. We would like to know how much you want to do what people expect you to do in those situations. Please respond to each by circling the number on the scale given. A 9 means you want to do the opposite of what a person recommends. A 1 means you want to do the same as what a person recommends.

In general, I very much want to do the . . . [Same as/Opposite of] . . . what my closest friend of the same sex would like me to do.

In general, I very much want to do what . . . [Same as/Opposite of] . . . fellow students that I'm acquainted with but don't know well would like me to do.

### Perceived Behavioral Control

Self-Efficacy (1-9 scale, *not very confident to very confident*)

In this section, we would like to ask you several questions on how confident you feel you are to deal with situations you might encounter in a social setting involving drinking. Please respond on a scale of 1 to 9 where 1 means not very confident and 9 means very confident.

If you were in a situation where a close friend of yours of the same sex had been drinking and you were sober, how confident are you in your ability to ask him or her to let you drive?

If you were in a situation where a close friend of yours of the same sex had been drinking and was loud and obnoxious, how confident are you in your ability to ask him or her to stop?

If you were in a situation where a close friend of the same sex as you says alcohol should be served at a graduation party that the two of you are planning for someone and you disagree, how confident are you in your ability to speak up and say a party doesn't need alcohol to be fun?

If you were in a situation where an acquaintance of yours that you didn't know well had been drinking and you were sober, how confident are you in your ability to ask him or her to let you drive?

If you were in a situation where an acquaintance of yours that you didn't know well had been drinking and was loud and obnoxious, how confident are you in your ability to ask him or her to stop?

If you were in a situation where an acquaintance of yours that you don't know well says alcohol should be served at a graduation party that the two of you are planning for someone and you disagree, how confident are you in your ability to speak up and say a party doesn't need alcohol to be fun?

COMMUNICATION RESEARCH • December 2004

Response Efficacy (1-9 Scale, *not very effective to very effective*)

Do you believe asking someone who has been drinking to let you drive is an effective way to prevent a drunk from driving?

Do you believe that asking a person who is loud and obnoxious to stop being loud and obnoxious is an effective way to get him or her to be quiet?

Do you believe that expressing the opinion that a party doesn't need alcohol to be fun is an effective way to convince another person to comply with your wishes to hold a party without alcohol?

Behavioral Intention (1-9 scale, *likely to unlikely*, reversed)

I will definitely ask my close friend of the same sex to let me drive the next time I am out with him or her and he or she has been drinking and I am sober.

I will definitely ask my close friend of the same sex to be quiet the next time I am out with him or her and he or she has been drinking and is loud and obnoxious.

I will definitely express my opinion that a party doesn't need alcohol to be fun the next time I am in a situation in which my close friend of the same sex and I are planning a graduation party for someone and he or she says we should serve alcohol and I disagree.

I will definitely ask an acquaintance of mine that I don't know well to let me drive the next time I am out with him or her and he or she has been drinking and I am sober.

I will definitely ask an acquaintance of mine that I don't know well to be quiet the next time I am out with him or her and he or she has been drinking and is loud and obnoxious.

I will definitely express my opinion that a party doesn't need alcohol to be fun the next time I am in a situation in which I and an acquaintance of mine that I don't know well are planning a graduation party for someone and he or she says we should serve alcohol and I disagree.

Media Exposure

Now we would like to ask you some questions about your use of the mass media.

Print News

In the last 7 days, how many days did you read a newspaper?

On the average day when you read the newspaper, about how much time do you spend reading it?

In the last 7 days, how many times did you read a news magazine (such as *Time*, *Newsweek*, etc.)?

Sports Exposure

In the last 7 days, how many times did you read sports magazines (such as *Sports Illustrated*, *Tennis Magazine*, etc.)?

## Neuwirth, Frederick • Peer and Social Influence

During the last 7 days, on how many days did you watch sports programs on television before 7 p.m.?

During the last 7 days, on how many days did you watch sports programs on television after 7 p.m.?

### Television Exposure

During the last 7 days, on how many days did you watch nonsports programs on television before 7 p.m.?

During the last 7 days, on how many days did you watch nonsports programs on television after 7 p.m.?

### Attention to Ads (1-9 scale, *little attention to close attention*)

Please respond to the following questions on a scale of 1 to 9, where 1 means little attention and 9 means close attention.

When you see an advertisement for an alcoholic beverage on television, about how much attention do you pay?

When you hear an advertisement for an alcoholic beverage on the radio, about how much attention do you pay?

When you see an advertisement for an alcoholic beverage in a newspaper, about how much attention do you pay?

When you see an advertisement for an alcoholic beverage in a magazine, about how much attention do you pay?

### Control Variables

Gender (1-2 scale, Male, Female)

What is your sex?

### Drinking Behavior

Now we would like to ask you some questions about your drinking and socializing. When we say *a drink* we mean one cocktail, or one glass of wine or beer.

During the last 2 weeks, on how many days did you drink?

How many drinks do you have on the average occasion when you drink?

Age

What year were you born?

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## Notes

1. We would like thank Dr. Joyce Wolburg, Marquette University, for her assistance in conducting the study, and Dr. Robert Griffin, Marquette University, and the anonymous reviewers for their helpful comments. Please address all correspondence concerning this article to Kurt Neuwirth, Associate Professor, Center for Health and Environmental Communication Studies, Department of Communication, 620 Teacher's

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2. In passing, we note that theory of planned behavior (TPB) enjoys widespread consensus regarding agreed-on methods of measurement. In contrast, researchers working within the spiral of silence (SOS) framework exhibit much wider variation in questions and methods used.

3. Using classrooms as our primary cluster sampling point clearly facilitated gathering the data. Following Sudman (1983), we recognize that this sampling method is less efficient than random sampling and may lead to potential bias when estimating population parameters. However, rather than generalize to broader populations, the main focus herein is testing hypothesized relationships among variables (Shapiro, 2002).

4. The choice of using distinct actors was dictated by two considerations: (a) a desire to provide respondents with a wider range of stimulus material and (b) the suggestion derived from TPB that motivation to comply and subjective norms do show variations across actors.

5. One reviewer expressed concerns that the wording of this question had the potential to confuse respondents. We believe that this is unlikely for two reasons: First, unlike telephone interviews, respondents using paper-and-pencil questionnaires had the option of rereading any question they did not understand. Second, pretesting did not reveal any problems, nor did students in classroom sessions report any problems to the survey administrators.

6. Structural equation modeling (SEM) with LISREL 7.51 (Jöreskog, Sörbom, du Toit, & du Toit, 2001) was also used to analyze the data. The substantive conclusions were identical with results from regression analysis. Given the need to parsimoniously present six distinct models, results from the regression analysis became the most succinct form of reporting results in the current report.

7. Extended analysis (data not shown) revealed that perceived majority opinion remained significant as a predictor when all other variables were included in the model—except when own opinion and attitude was included. Thus controlling for own opinion and attitude was decisive in eliminating the statistical significance of perceived majority opinion, suggesting that for situations involving noise and nonalcohol parties—prevailing social norms were not seen as important as own opinion or attitude by respondents.

8. We do note that the zero-order relationship between sports exposure and opinion expression is significantly correlated in five of six instances; however, the significant relationship disappears in the full regression model. The data show that men are significantly more likely ( $r = -.57, p < .001$ ) to watch sports; controlling for gender truncates the relationship between sports exposure and speaking out.

9. We caution researchers that posing questions involving direct contrasts between interpersonal and mediated sources likely is a flawed strategy (Chaffee, 1982) because such an approach ignores the media's indirect effect through interpersonal channels.

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Neuwirth, Frederick • Peer and Social Influence

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