TABLE 7

Multiple Regression Analyses Predicting Likelihood "To Smoke Marijuana" from Attitude, Degree of False Consensus (FCE), and Certainty

For High and Low Self-Monitors

Predictor variables	В	Beta	sr2	t
Attitude	.34(.41)	.49(.56)	.19(.30)	4.30**(4.52**)
FCE	.04(01)	.31(06)	.09(.00)	2.94**(46)
Certainty	.02(25)	.01(10)	.00(.01)	.08 (76)
Constant	3.80(5.12)			3.90**(4.61**)
				R2 = .41(.32) R2 (adjusted) = .38(.27) R = .64**(.56**)

Note. Low self-monitor scores are reported in parentheses.

(the low self-monitors scores are in parentheses). For both high and low self-monitors, the R value was significantly different from 0 for "legalization and government regulation of drugs," F(3,55) = 12.93, p < .001 and F(3,46) = 7.17, p < .001, respectively. For high self-monitors, attitude toward the legalization of drugs ($sr^2 = .19$) and degree of false consensus ($sr^2 = .09$) were found to be significantly related to people's likelihood to smoke marijuana, while attitudes ($sr^2 = .30$) were the only significant predictor for low self-monitors. All three predictors variables explained 41% (38% adjusted) of the variability in the reported willingness to smoke marijuana for high self-monitors and 31% (27% adjusted) for low self-monitors (see Table 7). The hypothesis regarding self-monitoring and the FCE was supported by these findings.

The trends that are present for this issue are generally consistent across issues. Notice that attitude and behavior are positively related for both high and low self-monitors and that the size of this correlation (.56 for high self-monitors and .54 for low self-monitors) is similar for both groups. This trend existed across all issues. The tendency for the FCE variable to independently predict behavioral intentions for high self-monitors but not for low self-monitors also generalized across issues. In each case, the semisquared partial correlation pertaining to the degree to which FCE independently predicted behavioral intentions was greater for high self-monitors than for low self-monitors. Furthermore, in most cases, FCE was not a significant predictor at all for low self-monitors.

DISCUSSION

In sum, as predicted by the theory of reasoned action, attitudes were consistently the best predictor of people's stated intentions to engage in controversial behav-

^{*}p < .05. **p < .01.

iors. However, the degree to which people displayed the FCE also independently predicted people's behavioral intentions. While the individual difference variables were not generally related to behavioral intentions, self-monitoring was found to be relevant. Specifically, high self-monitors were more likely to be influenced by their perceptions of their peers' behavior as measured by the FCE. This finding makes sense in light of high self-monitors' need to adapt their behavior to the situation.

These data indicate that degree of false consensus was a significant predictor for many important social issues; thus, people are basing their behavioral intentions on their largely inaccurate perceptions of their peers' beliefs. The effect was particularly strong for issues such as "legalization and government regulation of drugs" and "lowering the drinking age to 18"; topics which are particularly important for college students. If students incorrectly believe that a large percentage of their peers are buying beer for underaged friends or smoking marijuana and these perceptions are guiding their own behavioral intentions related to these activities, problems could (and do) ensue. Previous research has shown that people who overestimate the percentage of individuals who smoke are more likely to smoke themselves or begin smoking (Botvin et al., 1992; Chassin, Presson, Sherman, Corty, & Olshavsky, 1983). Other research has determined that behavioral intentions are reasonably good predictors of actual behaviors (Fishbein & Ajzen, 1975; van den Putte, 1991). Therefore, it follows that people's erroneous perceptions may be influencing their decision to engage in harmful behavior.

STUDY 2

Study 1 demonstrated that false consensus beliefs predict behavioral intentions related to current social issues. Previous research has already shown that norm misperceptions contribute to teenage smoking (Botvin et al. (1992), excessive college drinking (Prentice & Miller, 1993), and dangerous sexual practices (Chan & Fishbein, 1993; Morrison, Gillmore, & Baker, 1995; Tashakkori & Thompson, 1992; White, Terry, & Hogg, 1994). Consequently, it seems important to try to correct these misperceptions. Many researchers have suggested that intervention programs would be more successful if they focused on changing normative misperceptions (Kelly et al., 1991, 1992; Sherman et al., 1983). Therefore, Study 2 attempted to reduce the false consensus bias related to social norms. This reduction should correct some misperceptions about the prevalence of shared support for certain positions.

Krueger and Clement (1994) conducted a recent set of experiments and concluded that the false consensus effect is an "ineradicable bias." In a series of studies designed to correct the bias, the researchers determined that people are generally unable to avoid making this egocentric error. In the first experiment, they provided people with two different types of information. In one condition, they described the false consensus bias before people made the peer estimates. Other participants received feedback information regarding the actual consensus for each item after they

made their judgments. Members of the final group read both types of information. Using several measures of false consensus, these researchers concluded that the effect is robust and immune to education or feedback about the bias.

In a second study, participants were given information about a hypothetical subject who either agreed or disagreed with their positions based on random assignment. They were also asked to estimate the percentage of consensus that this hypothetical person would give. Finally, they gave another estimate of consensus based on their own position. The researchers expected that possessing information about another person's position would eliminate the basic projection effect. However, this information had little impact on people's estimates (i.e., they did not incorporate this additional information into their judgments). In sum, the researchers stated conclusively that the false consensus bias was persistent even in the face of contradictory or illustrative statistical information.

While Krueger and Clement (1994) stated that the effect could not be eliminated, other researchers have found evidence that the effect can be modified by altering several features of the typical design to assess false consensus. In a meta-analysis of 115 tests of the false consensus effect studies, Mullen et al. (1985) found that several variables influenced this robust effect. While the nature of the comparison population did not affect the findings, the order of measurement and the number of estimates were found to influence the effect. Specifically, the effect size was larger when there were fewer items and when estimates for consensus were made before endorsements. Furthermore, the number of available options has been shown to reduce the false consensus effect (Marks & Duval, 1991). By presenting participants with different numbers of response alternatives, the authors were able to determine that false consensus is influenced by the availability heuristic (i.e., the tendency to base judgments on information that easily accessible in memory (Tversky & Kahneman, 1973). Making other positions salient to participants reduced the tendency to assume that most people shared their beliefs.

The degree to which the availability heuristic contributes to adolescent smoking was tested by Sherman et al. (1983). They found that adolescents who overestimated the prevalence of smoking among their peers were significantly more likely to smoke themselves. Additionally, the number of the participants' friends who smoked explained a substantial amount of the variance in peer estimates, suggesting that high school students were basing their judgments on a limited sample (i.e., their friends). Deutsch (1987) added additional support for this finding by stating that the FCE was strongest when people's judgments were similar to their friends'. Overall, these findings provide additional support for the idea that selective exposure which limits the information available to people ultimately leads to the false consensus bias.

Based on this research, it was hypothesized that the FCE would be reduced by exposing participants to information supporting both sides of controversial social issues. Exposing participants to information pertaining to all sides of the debate should correct for the availability heuristic by making both positions salient to the participants. In other words, it should reduce people's tendency to simply recall their friends' beliefs; when asked about their peers, they will have other informa-

tion on which to base their estimates. In their review article, Marks and Miller (1987) discussed the role of focus of attention and argued that "when one's focus shifts between two or more positions, estimates of consensus for any one may be diluted; that is, estimates may be more or less evenly distributed among the alternatives" (p. 73). Consequently, this experiment examined the potential influence of the availability heuristic by presenting students with information regarding two current social issues: the legalization and government regulation of drugs and animal testing for medical purposes. Additionally, the medium of presentation was varied to determine if written or visual information would be more effective in reducing the bias.

It was predicted that the effect would be most dramatically reduced in the video condition because this type of presentation should control for the influence of both cognitive and motivational explanations. Cognitive theories for FCE suggest that people display this bias because they lack the relevant information to make informed judgments. Krueger and Clement's (1994) article demonstrates that correcting this knowledge did not eliminate the FCE. Motivational explanations posit that people are unconsciously driven to find support for their beliefs (even if that process entails creating "false" consensus). The use of the availability heuristic should be eliminated in both the written and video conditions (because both sides of the issue will be made available in the presentation); however, the motivational need to believe that other relevant people share the same perspective will only be addressed by the video condition. Watching peers discuss the issues and argue for both sides should help reduce the tendency to overestimate support for the students' personal positions caused by a motivational drive to be similar to one's peers. The video condition also clearly addresses the availability heuristic by manipulating the relative ease with which participants can recall other individuals who do and do not share their beliefs (i.e., there were two people in the video who hold similar viewpoints and two who held contrasting opinions).

Last, the correlation between participants' attitudes and consensus estimates should be reduced if the technique is effective. If additional information is made 'available' to the students, their estimates should be based in part on this information, rather than entirely on their own attitudes. However, if this information is unavailable to students, they will rely on their attitudes and endorsements to make "other" estimates.

METHOD

Participants

Two hundred eighty students (101 males and 177 females) participated in this study in partial fulfillment of a course requirement. The participants ranged in age from 17 to 30 with an average age of 18.57 (SD=1.21). The majority of students were freshmen (82%) who were Caucasian (97%) and Catholic (57%). Additionally, 68% defined themselves as liberal, while 24% considered themselves conservative. Sixty four percent of the sample believed that they were "similar to their

peers" while 78% of the students believed that "most college students try to be similar to their peers."

Numerous participants' data were eliminated to reduce the amount of error in the experiment. Six participants mistakenly participated in the experiment twice. Ten participants' data were eliminated from the animal-testing analyses because answers represented by these data were illogical. Participants' data were excluded on this basis if the participants' endorsements and attitudinal positions were negatively correlated (e.g., they reported being in favor of animal testing while concurrently reporting that they were strongly against it). Additionally, data were eliminated if there was no relation between participants' endorsements and their estimates (e.g., they reported being against animal testing, but believed that 100% of their peers were in favor of this attitude). Data from eleven participants were removed from the analyses regarding the legalization of drugs for the same reasons.

Materials

This experiment was designed in part to eliminate the use of the availability heuristic. Therefore, packets of information were created to inform people about viewpoints for both positions. For the two 'written' experimental conditions, material was collected from books, journal articles, and reference sources (e.g., brochures and pamphlets) which supported both sides of the selected issues (animal testing for medical purposes and legalization of drugs). These issues were selected based on the size and consistency of the FCE in pilot studies. Two different combinations were created to control for the effects of order. Half of the folders presented the supporting information followed by the opposing information for each issue, while the remaining folders reversed the order.

A third experimental condition ('video') was also utilized. In this condition, participants watched a video of college students engaging in debates surrounding the selected issues. People volunteered to participate in this debate on the basis of their personal attitudes in order to ensure controversy and a full coverage of each issue. In this condition, participants watched the video clip rather than read relevant material. This medium of presentation was hypothesized to be more meaningful and therefore convincing to other college students. A control condition was also utilized. In this condition, participants did not read any information, but, rather, they filled out identical questionnaires. The inclusion of this control group was necessary to determine if the manipulations reduce the false consensus bias in experimental participants relative to participants who were given no information.

Knowledge quizzes for each condition, except the control, were also administered; they were designed to assess participants' comprehension of the material. This test served three important functions: to ensure that participants read the material carefully, to act as a manipulation check to eliminate participants who failed to process the information, and to reinforce the dual nature of these issues. For example, one item on the quiz asked participants to briefly summarize one benefit and one problem with

animal testing. For the experimental conditions, two different orders (Versions A and B) were again created to control for the effects of presentation.

Design

Participants in this experiment were approximately evenly divided between five conditions: written-animal (N = 57), written-drugs (N = 60), control (N = 56), video-animal (N = 48), and video-drugs (N = 59). Furthermore, the order of presentation of the material in the written conditions was fairly evenly split; pro material followed by anti (N = 57), anti material followed by pro (N = 60). Last, the order of the knowledge quiz was varied such that 107 participants completed version A, while 117 participants received version B.

Procedure

Participants were randomly assigned to one of the five conditions. For each condition, except the control group, participants were informed that they would take a brief quiz tapping their understanding of this material. They were then asked to read the packet of information or view the videotape. Participants were given fifteen minutes to read/view the information. After being presented with the material, they completed several personality measures, including social desirability, social self-esteem, and self-monitoring, which served as filler items. Upon completion of these scales, all participants were given the open-ended test. When all participants completed the quiz, they filled out the brief false consensus measure described in Study 1 (consisting only of the self endorsements and peer estimates), an attitudinal questionnaire, and demographic information. Participants in the control group were only given the questionnaire with no additional information. Last, participants were debriefed and thanked for their participation.

RESULTS

It was predicted that the false consensus effect would be reduced in the intervention conditions. All analyses were conducted separately for the two issues ("legalization and government regulation of drugs" and "animal testing for medical purposes"). First, to assess order effects, a 2 (endorsement: for or against) by 4 (condition: written – Order A; written – Order B; control, and video) analysis of variance was conducted on each issue. The results from this analysis showed that there were no significant differences between conditions on degree of FCE, F(3,140) = 1.64, ns for animal testing and F(3, 173) = 1.03, ns for drug legalization. However, both issues showed a significant effect for endorsement indicating that false consensus effect was still occurring, F(1,140) = 40.01, p < .001 for animal testing and F(1,173) = 26.32, p < .001 for drug legalization (see Table 8). Because the experimental groups were not significantly different and therefore order was not a significant factor, these groups were collapsed so that all comparisons will be made between the written, video, and control groups.

To assess the false consensus effect, t-tests were run for each condition to determine the extent of the false consensus bias. A Bonferroni correction to control for the number of analyses reduced the appropriate significance level to .008. For both animal testing and the legalization of drugs, the false consensus effect was smaller in the intervention conditions. In fact, it was completely eliminated in the video condition for the "animal testing" issue. Table 8 presents the results of the t-tests.

To determine the statistical effectiveness of the manipulation, effect sizes (d) were calculated based on each pairwise comparison (Cohen, 1988). As expected based on the hypothesis, the effect sizes reflected the effectiveness of the manipulation across groups. The differences between the groups (people who were for or against each issue) on degree of FCE were largest in the control condition and smallest in the video condition. For the animal testing condition, the effect size for the control group was 1.94, the written condition was 1.01 and the video group was .57. Similarly, the scores were 1.12, .67, and .57 respectively for the legalization of drugs issue.

The final analysis examined the correlation between participants' attitudes which were measured on an 11 point Likert scale ranging from -5 (strongly disagree) to +5 (strongly agree) and their consensus estimates. It was predicted that people's attitudes should be highly correlated with their consensus estimates if they are demonstrating FCE; however, if their estimates are based on information distinct from their personal attitudes, these relationships should be weaker. Subsequently, if the manipula-

TABLE 8
False Consensus Tests for Control, Written, and Video Conditions for "Animal Testing for Medical Purposes" and "Legalization of Drugs"

Condition			Anima	al Testing			
		For		A	Against		
	Mean	SD	N	Mean	SD	N	t
Control	65.30	(18.02)	[33]	28.33	(20.04)	[12]	5.91**
Written	65.14	(20.22)	[37]	44.09	(17.44)	[11]	3.12*
Video	56.05	(16.01)	[43]	46.00	(25.10)	[5]	1.25
			Legalizat	tion of Drugs			
		For			Against		
	Mean	SD	N	Mean	SD	N	t
Control	79.11	(13.81)	[28]	60.28	(18.47)	[28]	4.32**
Written	70.80	(20.13)	[30]	56.90	(20.59)	[29]	2.62*
Video	72.64	(13.31)	[34]	62.60	(21.75)	[25]	2.04*
	_						

^{*}p < .05. **p < .008.

tions are reducing the influence of the availability heuristic by giving people additional relevant information about the social issues, their estimates might be revised by this new information. This prediction was supported by an observation of the correlations between attitudes and estimates (see Table 9). The correlations between personal attitudes and consensus estimates were strongest in the control condition (for participants who were not exposed to both sides of the issues) and weakest in the video condition. This correlational trend was found for both animal testing and the legalization of drugs.

DISCUSSION

It was hypothesized that the false consensus effect would be reduced by using an intervention technique designed to eliminate the availability heuristic regarding information supporting participants' personal beliefs. This prediction was supported. In fact, the effect was eliminated using the video condition for the "animal testing" issue. While the sample size for the conditions was considerably smaller than in previous studies, it was proportional to the control condition to which the groups were compared; therefore, the results lend strong support to the hypothesis that the FCE can be reduced by eliminating the availability heuristic. Examination of the means suggested that the manipulation works by inducing both groups (people for and against each issue) to converge toward the average estimate as suggested by Marks and Miller (1987). Analysis of Cohen's d as a measure of the effect size provides further evidence that the manipulation was effective. Effect size analyses are independent of sample size; thus the results showed that the group differences were becoming smaller, as their estimates were converging regardless of the number of participants in the groups. For both topics, the effect size for the control

TABLE 9
Correlations Between Attitude and Estimates for each Condition for "Animal Testing for Medical Purposes" and "Legalization of Drugs"

	Issue					
	Animal tes	ting	Legalization of drugs			
Condition	r	N	r	N		
Control	.67**	45	.40**	56		
Written	.50**	48	.28*	58		
Video	.31*	48	.23	59		

^{*}p < .05. **p < .01.

In a pilot study assessing wording and order effects (c.f., Mullen, Driscoll, & Smith, 1989), participants (N = 145) clearly and significantly demonstrated the FCE for 14 of 17 important social issues. To test for order and wording effects, 17 2 (order) x 2 (wording) x 2 (position) between groups ANOVAs were conducted with the consensus estimates on each issue as the dependent measure. FCE's were unaffected by the manipulation of order and wording. Thus, for the studies presented in this paper, all participants were first asked to make self endorsements prior to estimating consensus. Further, all questions were worded such that "yes" responses indicated support for the position (e.g., Are you in favor of abortion?).

groups was very large, while the video conditions had medium effect sizes (as established by Cohen's (1988) effect size conventions).

Furthermore, these analyses provided evidence for the hypothesis that the video condition would be the most effective form of presentation. While it was not possible to determine if the increased effectiveness were attributable to changes in participants' motivational states, it might be a testable hypothesis for the future. If the video medium was most effective because it showed peers discussing the topics, perhaps a transcript of the debate emphasizing the nature of the participants would be equally effective. By designing a study in which two additional conditions were added, a written condition based on the transcript of a peer debate and a video condition presenting authority figures describing the various viewpoints, it might be possible to experimentally partial out the effects of medium of presentation and the effects of the reference group. This type of study would also enable researchers to determine if the false consensus effect were more affected by cognitive or motivational biases.

Overall, this experiment provided evidence and hope that intervention strategies can be effectively directed at students' misperceptions about social norms. By reducing the false consensus effect, participants are less likely to base their estimates of peers' beliefs on their own attitudes; rather they are using other available information to make this decision. Exposing college students to information that revises the normative influence might help eliminate problem behaviors on campus.

GENERAL DISCUSSION

Overall, these studies demonstrated that people make systematic errors in identifying social norms concerning social issues. Evidence suggests that people consistently exhibit the false consensus bias (Mullen et al., 1985; Ross, Greene, & House, 1977) in which they perceive that their positions are relatively more common. Study 1 demonstrated that this effect was also evident for attitudes regarding social issues. This finding might be due in part to people's lack of awareness about these topics or to selective exposure to a restricted homogenous sample. While various viewpoints were represented on all of the issues (i.e., there were people who were pro-choice and pro-life in the study), individuals who hold different beliefs may not be affiliating on campus as people tend to be friends with people who hold similar attitudes. Another explanation might be that people simply have a greater understanding of their personal viewpoints than of other viewpoints. Because attitudes are predominately internal traits, which may not be manifested in outward behavior, it is easy to see how people might have difficulty estimating the opinions of their peers. In fact, in Study 1, people were more likely to commit the FCE for attitudinal rather than behavioral items. Many of the false consensus studies have examined external characteristics, such as physical traits (e.g., eye color) or behavior (e.g., Ross et al., 1977; Marks & Miller, 1987). In these cases, when either physical or social reality is relatively clear, individuals have more information regarding others' beliefs and, subsequently, they may be less prone toward socialperceptual errors. However, when inferring others' less-objective attitudes, people's judgments may be based more on their own (more salient) beliefs.

Study 1 also examined if these biases are significantly predictive of people's behavioral intentions relevant to these beliefs. Using Fishbein and Ajzen's (1975) theory of reasoned action as a model, it was predicted that the degree to which people demonstrate false consensus would influence their behavioral intentions on each issue. This measure controlled for participants' personal positions on each item by asking people to rate their attitudes for each issue. It was demonstrated that the degree of FCE did account for additional variance in explaining behavioral intentions. Because people's perceptions of social norms do seem to influence their self-reported behavioral intentions (and presumably actual behavior related to each issue), it is important to correct these inaccurate beliefs. Therefore, Study 2 was designed to reduce the false consensus effect.

While a substantial number of researchers have suggested that selective exposure resulting in an availability bias leads to a false consensus bias, few studies to date have attempted to reduce false consensus by changing the limited information as well as the motivational demands that lead to FCE. The second study in this paper addressed these concerns. It was proposed that exposing participants to both sides of the issue would make the alternative position salient, thereby reducing false consensus for both the written and video groups. However, it was argued that motivational explanations might better explain the discrepancies, in which case the manipulation would be less effective in the written condition, which presented only statistical information from experts in the field. The findings suggested that both methods effectively reduced the bias. However, the video presentation had a greater impact, which implies that both cognitive and motivational biases seem to play a role in false consensus. Future research will need to be conducted to more definitively understand the underlying causes of the FCE.

IMPLICATIONS

This type of research has important implications. Intervention programs aimed at correcting social problems should include a technique used to reduce misperceptions. Previous research has found that correcting misperceptions can lead to changes in behavior (see Kelly et al., 1991, 1992; Trafimow, 1994). If people can be made aware of the false consensus bias, it might cause them to rethink their opinions and more carefully consider the sources of their behavior.

Norman and Tedeschi (1989) argued that for intervention techniques to be successful, they must focus on normative thinking as well as on individual attitudes. These researchers designed an intervention plan to combat teen smoking, which included a medical component that addressed the negative health effects of cigarettes and a social identity component that emphasized the negative image associated with smokers. While their intervention was not successful, the research did suggest that the normative component is equally important as the cognitive component in trying to change adolescents' perceptions of smoking; simply knowing "the

facts" is not sufficient to deter adolescents from adopting a habit that they perceive will make them more socially acceptable.

This advice is particularly relevant given the differential impact of various groups on establishing normative behaviors. Because of the powerful impact of the media, commercials directed at adolescents can leave very lasting impressions, especially if they are portraying behaviors as desirable and leading to increased acceptance. Advertisements for beer and cigarettes aimed at teenagers are especially dangerous because they are capitalizing on the peer model; they repeatedly show young, attractive, healthy individuals engaging in fun activities. On the other hand, public service commercials rarely use this approach; instead they rely heavily on scientific and medical evidence to make their point. If they could effectively change the image associated with the behaviors using relevant peer groups, they would have a greater impact on teenagers. Recent appeals do seem to be addressing this concern. An anti-smoking commercial shows a young women whose life has been ruined by cigarettes; she has emphysema, had a lung-removed, and must take medicine which has caused physical deformities. While the facts regarding detrimental effects of smoking alone would probably not alter teens' behavior, the young woman in this commercial mentions that she began smoking to look older and concludes that "it worked." As she is making this statement, the commercial shows a picture of a young attractive girl who looks nothing like the woman speaking; presumably, this photograph is of her before she became sick. Hopefully, this commercial will decrease the image-promoting appeal of cigarettes. Similarly, announcements which use popular television stars might serve a similar purpose by creating a desirable social image associated with safer behaviors (e.g., abstinence).

CONCLUSION

The social influence literature provides compelling evidence that people do in fact base their behavior and attitudes on social norms (e.g., Asch, 1955; Festinger, 1954; Newcomb, 1943; Sherif, 1936). However, consistent with previous research (e.g., Ross et al., 1977), the current studies found that people make systematic biases in their estimation of normative beliefs, namely they overestimate support for their personal position (i.e., demonstrate the FCE). Finally, based on the present work, these misperceptions do influence people's behavioral intentions. Consistent with Fishbein and Ajzen's (1975) theory of reasoned action, the findings suggest that the degree to which people overestimate support for their position relative to people who hold an opposing view does impact their likelihood to engage in certain acts. Thus, people are not reporting that they will behave solely according to their attitudes, but rather their misperceptions are also shaping their intended actions. Consequently, people's interpretations of social norms clearly bias their responses. Therefore, it is especially important to develop techniques to correct this bias, an accomplishment that was successfully demonstrated by the manipulation utilized in the second study. Understanding the sources of misconstrued social norms in addition to methods for reducing such errors in social perception should, ultimately, have tremendous social value.

NOTES

Accepted for publication: December 11, 2000.

Address correspondence to: Glenn Geher, Department of Psychology, State University of New York at New Paltz, New Paltz, NY 12561. E-mail: geherg@newpaltz.edu

1. In a pilot study assessing wording and order effects (c.f., Mullen, Driscoll, & Smith, 1989), participants (N = 145) clearly and significantly demonstrated the FCE for 14 of 17 important social issues. To test for order and wording effects, 17 2 (order) x 2 (wording) x 2 (position) between groups ANOVAs were conducted with the consensus estimates on each issue as the dependent measure. FCE's were unaffected by the manipulation of order and wording. Thus, for the studies presented in this paper, all participants were first asked to make self endorsements prior to estimating consensus. Further, all questions were worded such that "yes" responses indicated support for the position (e.g., Are you in favor of abortion?).

REFERENCES

- Asch, S.E. (1955). Opinions and social pressure. Scientific American, 193, 31-35.
- Ajzen, I. (1988). Attitudes, personality, and behavior. Chicago, IL: Dorsey Press.
- Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behavior. Englewood Cliffs, NJ: Prentice Hall.
- Botvin, G.J., Botvin, E.M., Baker, E., Dusenbury, L., & Goldberg, C.J. (1992). The false consensus effect: Predicting adolescents' tobacco use from normative expectations. *Psychological Reports*, 70, 171-178.
- Chan, D.K., & Fishbein, M. (1993). Determinants of college women's intentions to tell their partners to use condoms. *Journal of Applied Social Psychology*, 23, 1455-1470.
- Chassin, L., Presson, C.C., Sherman, S.J., Corty, E., & Olshavsky, R.W. (1984). Predicting the onset of cigarette smoking in adolescents: A longitudinal study. *Journal of Applied Social Psychology*, 14, 224-243.
- Cohen, J. (1988). Statistical power analysis for the behavioral sciences. Hillsdale, NJ: Erlbaum. Crowne, D.P. & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. Journal of Consulting Psychology, 24, 349-354.
- Deutsch, F. (1987). When friends lead us astray: Evidence for the selective exposure hypothesis. Journal of Social Psychology, 128 (2), 271-273.
- Dielman, T.E., Campanelli, P.C., Shope, J.T., & Butchart, A.T. (1987). Susceptibility to peer pressure, self-esteem, and health locus of control as correlates of adolescent substance abuse. *Health Education Quarterly*, 14, 207-221.
- Festinger, L. (1954). A theory of social comparison. Human Relations, 7, 117-140.
- Fishbein, M. (1979). A theory of reasoned action: Some applications and implications. In H. Howe and M. Page (Eds.), Nebraska Symposium on Motivation. Lincoln, NE: University of New Hampshire Press.
- Fishbein, M., & Ajzen, I. (1975). Belief, attitude, intention, and behavior: An introduction to theory and research. Reading, MA: Addison-Wesley.
- Funder, D.C. (1987). Errors and mistakes: Evaluating the accuracy of social judgment. *Psychological Bulletin*, 101, 75-90.
- Helmreich, R., & Stapp, J. (1974). Short forms of the Texas Social Behavior Inventory (TSBI):

 An objective measure of self-esteem. Bulletin of the Psychonomic Society, 4, 473-475.
- Holmes, D.S. (1968). Dimensions of projection. Psychological Bulletin, 69, 248-268.
- Kelly, J.A., Lawrence, J.S., Diaz, Y.E., Stevenson, L.Y., Hauth, A.C., Brasfield, T.L., Kalichman, S.C., Smith, J.E., & Andrew, M.E. (1991). HIV risk behavior reduction following intervention with key opinion leaders of population: An experimental analysis. American Journal of Public Health, 81, 168-171.
- Kelly, J.A., Lawrence, J.S., Stevenson, L.Y., Hauth, A.C., Kalichman, S.C., Diaz, Y.E., Brasfield, T.L., Koob, J.J., & Morgan, M.G. (1992). Community AIDS/HIV risk reduction: The ef-

- fects of endorsements by popular people in three cities. American Journal of Public Health, 82, 1483-1489.
- Kraus, S.J. (1995). Attitudes and the prediction of behavior: A meta-analysis of the empirical literature. *Personality and Social Psychology Bulletin*, 21, 58-75.
- Krueger, J., & Clement, R.W. (1994). The truly false consensus effect: An ineradicable and egocentric bias in social perception. *Journal of Personality and Social Psychology*, 67, 596-610.
- Krueger, J., & Zeiger, J.S. (1993). Social categorization and the truly false consensus effect. Journal of Personality and Social Psychology, 65(4), 670-680.
- Laflin, M.T., Moore-Hirschl, S. Weis, D.L, & Hayes, B.E. (1994). Use of the theory of reasoned action to predict drug and alcohol use. The International Journal of the Addictions, 29(7), 927-940.
- Marks, G., & Duval, S. (1991). Availability of alternative positions and estimates of consensus. British Journal of Social Psychology, 30, 179-183.
- Marks, G., & Miller, N. (1987). Ten years of research on the false-consensus effect: An empirical and theoretical review. *Psychological Bulletin*, 102(1), 72-90.
- Miller, N., & Marks, G. (1982). Assumed similarity between self and other: Effect of expectation of future interaction with that other. Social Psychology Quarterly, 45, 100-105.
- Morrison, D.M., Gillmore, M.R., & Baker, S.A. (1995). Determinants of condom use among high-risk heterosexual adults: A test of the theory of reasoned action. *Journal of Applied Social Psychology*, 25, 651-676.
- Mullen, B., Atkins, J.L., Champion, D.S., Edwards, C., Hardy, D., Story, J.E., & Vanderklok, M. (1985). The false consensus effect: A meta-analysis of 115 hypothesis tests. *Journal of Experimental Social Psychology*, 21, 262-283.
- Newcomb, T.M. (1943). Personality and social change. New York: Dryden.
- Norman, N.M., & Tedeschi, J.T. (1989). Self-presentation, reasoned action, and adolescents' decisions to smoke cigarettes. *Journal of Applied Social Psychology*, 19(7), 543-558.
- Prentice, D.A., & Miller, D.T. (1993). Pluralistic ignorance and alcohol use on campus: Some consequences of misperceiving the social norm. *Journal of Personality and Social Psychology*, 64(2), 243-256.
- Prislin, R., & Kovrlija, N. (1992). Predicting behavior of high and low self-monitors: An application of the theory of planned behavior. Psychological Reports, 70, 1131-1138.
- Ross, L., Greene, D., & House, P. (1977). The "false consensus effect": An egocentric bias in social perception and attribution processes. *Journal of Experimental Social Psychology*, 13, 279-301.
- Ross, M.W., & McLaws, M.L. (1992). Subjective norms about condoms are better predictors of use and intention to use than attitudes. *Health Education Research*, 7(3), 335-339.
- Sharp, M.J., & Getz, J.G. (1996). Substance use as impression management. Personality and Social Psychology Bulletin, 22(1), 60-67.
- Sherif, M. (1936). The psychology of social norms. New York: Harper & Row.
- Sherman, S.J., Presson, C.C., Chassin, L., Corty, E., & Olshavsky, R. (1983). The false consensus effect in estimates of smoking prevalence: Underlying mechanisms. *Personality and Social Psychology Bulletin*, 9, 197-207.
- Snyder, M. (1974). Self-monitoring of expressive behavior. Journal of Personality and Social Psychology, 30, 351.
- Suls, J., & Wills, T. (Eds.). (1991). Social comparison: Contemporary theory and research. Hillsdale, NJ: Erlbaum.
- Tashakkori, A., & Thompson, V. D. (1992). Predictors of intention to take precautions against AIDS among black college students. *Journal of Applied Social Psychology*, 22, 736-753.
- Trafimow, D. (1994). Predicting intentions to use a condom from perceptions of normative pressure and confidence in those perceptions. Journal of Applied Social Psychology, 24, 2151–2163.
- Tversky, A., & Kahneman, D. (1973). Availability: A heuristic for judging frequency and probability. Cognitive Psychology, 5, 207-232.
- van den Putte, B. (1991). Twenty years of the theory of reasoned action of Fishbein and Ajzen: A meta-analysis. Unpublished manuscript, University of Amsterdam, The Netherlands.
- White, K.M., Terry, D.J., & Hogg, M.A. (1994). Safer sex behavior: The role of attitudes, norms, and control factors. *Journal of Applied Social Psychology*, 24, 2164–2192.