

From the Scene to the Crime: The Effect of Alcohol and Social Context on Moral Judgment

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Forty men and women were given Kohlberg's Moral Judgment Interview (MJI) while drinking in a natural setting and were asked a series of questions about whether they should and would drive impaired. In a second testing in an academic context, these subjects were given an alternate form of the MJI and were asked whether they drove on the previous occasion. Forty additional men and women completed the MJI in an academic context and responded to the impaired driving questions hypothetically. Results revealed that Ss scored lower on moral maturity in the social drinking contexts than in the academic contexts, especially when highly intoxicated. Ss responding hypothetically attributed more moral integrity to themselves than to others, indicating they would not drive impaired. The self-righteousness of these attributions was apparent in the behavior of Ss who drove to the social drinking settings—all but 1 drove home, however impaired.

In a recent meta-analysis of research on the effects of alcohol, Steele and Southwick (1985) concluded that alcohol impairs people's ability to perceive and interpret internal and external inhibitory cues to inappropriate behavior. Other research (Hull, Levinson, Young, & Sher, 1983) shows that alcohol reduces self-awareness, which in turn reduces the availability of internal standards for appropriate behavior and renders people more susceptible to external influence (Duval & Wicklund, 1972; Prentice-Dunn & Rogers, 1983). It follows from these findings that alcohol should reduce the level of moral judgment. However, in the only study to examine the effect of alcohol on moral reasoning, Graham, Turnbull, and La Rocque (1979) failed to find a significant relationship.

The Graham et al. (1979) study was conducted in a psychological laboratory. In interpreting the absence of an effect, these investigators suggested "It may be that impairment of moral reasoning occurs only when the effects of alcohol interact with the social-drinking setting" (p. 444). Research on group dynamics is consistent with this suggestion. Investigators have

found that highly engaging social situations, especially those characterized by loud noise (Prentice-Dunn & Rogers, 1980), rock music (Rogers & Ketchen, 1979), excitement (Diener, 1979), and group intensity (Prentice-Dunn & Spivey, 1986), induce a "lessening of individual identity" (deindividuation), "concentration on the moment rather than the future" (Prentice-Dunn & Rogers, 1983, p. 161), a loss of public and private self-awareness (Diener, 1979), and an external orientation (Rogers & Prentice-Dunn, 1981). As documented by some investigators, such as Cavan (1966) and MacAndrew and Edgerton (1969), social drinking contexts are characterized by a low-level, hedonistic moral atmosphere (cf. Colby & Kohlberg, 1987a, p. 8).

The central purpose of this study was to examine the effect of alcohol on moral judgment in natural drinking contexts. We expected the deindividuating effects of alcohol and the social atmosphere to have a two-sided effect on moral judgment. On one side, we expected the combined influence of these factors to impair access to the types of standards that define individuals' level of moral competence on tests such as Kohlberg's Moral Judgment Interview (see Colby & Kohlberg, 1987a). On the other side, we expected alcohol and the social atmosphere to increase receptiveness to the types of hedonistic and individualistic external standards that define low stages on Kohlberg's scale, particularly Stage 2 standards that endorse "following rules only when it is to someone's immediate interest and needs and letting others do the same" (Colby & Kohlberg, 1987a, p. 18). Thus, we predicted that subjects would make more morally immature judgments in natural drinking settings than in academic settings and that this difference would be greatest for subjects who consumed relatively large quantities of alcohol.

A second purpose of this study was to examine the link between structures of moral judgment and attributions of moral

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obligation, that is, "should" judgments. In general, Kohlberg (1984) expects a monotonic increase in the strength of should judgments as his stage hierarchy is ascended—he expects the structures that define high stages to give rise to more certain and less qualified prescriptive choices than the structures that define lower stages. In Kohlberg's terms, high stages are more resistant than lower stages to quasi-obligations or excuses. For example, if a person argues that it is permissible to violate the law against impaired driving to keep a promise to drive a friend home, Kohlberg would view keeping the promise as a quasi-obligation—it is normally a *prima facie* obligation, but in this context it supplies an excuse for breaking the law (see Kohlberg & Candee, 1984, p. 532).

Attributions of moral obligation on Kohlberg's test are to hypothetical characters, but most moral decisions involve the self. Research on social cognition is replete with evidence of self-serving biases and excuses in attribution (see Fiske & Taylor, 1984; Nisbett & Ross, 1980; Synder, Higgins, & Stucky, 1983). In a recent study, Krebs et al. (1989) found that individuals attributed significantly more moral obligation to others to perform prosocial behaviors than they attributed to themselves. In the present study, self-attributions of moral obligation about impaired driving were compared with attributions about others. In addition, hypothetical self-attributions of moral obligation made in an academic context were compared with self-attributions made in natural social-drinking contexts. We predicted that subjects would attribute the most moral obligation to others, the next most to themselves hypothetically in the academic context, and the least to themselves in social drinking contexts uncondusive to prescriptions against impaired driving, especially for subjects who were highly intoxicated.

The third purpose of this study was to compare attributions of moral obligation with attributions of moral behavior, that is, "would" judgments. Krebs et al. (1989) supplied evidence that moral judgment is plagued by a *self-righteous attributional bias*, defined as a positive difference between should and would judgments for the self ("My behavior exceeds my moral obligation") and a negative difference for others ("Your behavior falls short of your moral standards"). In the present study, we compared hypothetical self-attributions about impaired driving to hypothetical attributions about others. In addition, we compared the consistency between should and would self-attributions in a hypothetical academic context and in a social drinking context. We predicted that subjects who actually faced the moral decision in question (driving while impaired) would be less self-righteous (admit they might drive impaired) than would subjects responding hypothetically. (The drinking subjects anticipated facing the temptation to engage in the prohibited behavior before the evening ended—it is relatively safe to be idealistic in the abstract.)

The final purpose of this study was to examine the relationship between structures of moral reasoning, should judgments, would judgments, and the natural decision to engage in a moral behavior—refraining from driving while impaired. Kohlberg and Candee (1984) suggested that structures (stages) of moral judgment give rise to moral decisions (should judgments) and that there is a monotonic increase with stage of moral development in sense of responsibility, or willingness to fulfill moral obligations. Thus, people at the highest stages of moral development should be the most certain they should not and would not

drive impaired, and they should be the most likely to behave in accordance with their convictions. In contrast, research on deindividuation (Prentice-Dunn & Rogers, 1983), the effect of alcohol on self-awareness (Hull et al., 1983), impaired driving (Calvert-Boyanowsky & Boyanowsky, 1981), self-serving attributional biases (Fiske & Taylor, 1984), and denial of responsibility (Piliavin, Dovidio, Gaetner, & Clark, 1981; Schwartz, 1977) suggests that individuals intoxicated in a social drinking context with behavioral cues favoring driving will drive impaired, whatever their stage of moral development.

Method

Subjects

Eighty subjects participated in this study: 10 men and 10 women in each of four groups (mean age = 25.5, *SD* = 5.1). Half the subjects were solicited from social drinking contexts frequented by university students, and half were recruited from the university and the community-at-large.

Procedure

Subjects solicited from social drinking contexts were assigned (or, more exactly, assigned themselves) to one of two groups, (a) low blood alcohol level (BAL) or (b) high BAL on the basis of their degree of intoxication. Subjects recruited from the university or surrounding community were assigned randomly to either a hypothetical self or hypothetical other group. Subjects in the first two groups were tested twice—once in a social drinking context and once in an academic context. Subjects in the second two groups were tested only once, in an academic context.

Low and high BAL groups. To obtain subjects in the first two groups, a female graduate student went to bars, pubs, nightclubs, and parties, waited until the atmosphere was loud and boisterous, approached a group of people who were drinking alcohol, and asked whether one of them would like to take part in a study on "the effects of alcohol on judgment." This approach always yielded at least one volunteer, often two. A commitment was obtained from volunteers to take part in two interviews—the first to be conducted immediately, in the social drinking context, and the second to be conducted within a week, in an academic setting. In addition, subjects were informed they would be required to take a breathalyzer test to determine their level of intoxication. To eliminate possible order effects, subjects approached in social drinking contexts who indicated an interest in taking part in the study but who could not be tested on the occasion in question because the interviewing slate was full were asked whether they were planning to go out drinking on any future occasion. Twelve subjects who gave an affirmative response were tested first in the academic setting and later in a social setting.¹ The mean age of subjects in the high- and low-BAL groups was 25.3 (*SD* = 5.7); 45% were students.

Interviews were conducted in a manner that resembled, as closely as possible, a natural conversation between two people. Although subjects sometimes were surrounded by other people, the interviewer ensured that the interviews were relatively private by conducting them at a separate table or positioning the subject in a way that discouraged interruption. The noise level was generally very high, rendering the conversations inaudible to other members of the group. After the initial excitement of a group member being interviewed, subjects and

¹ It is important to note that the experimenter made it clear to these subjects that she did not want them to arrange to drink for her benefit. The experimenter simply asked the subjects to give her a phone call if they decided to go out drinking, and to tell her when and where.

nonparticipating group members typically lost interest in one another. Subjects responded to (a) two dilemmas from Kohlberg's Moral Judgment Interview—either Dilemmas III and III' from Form A of Kohlberg's test or Dilemmas IV and IV' from Form B of Kohlberg's test,² (b) a series of seven questions about the morality of impaired driving in various circumstances (e.g., "Should you drive if you are impaired?" "Should you drive if you are impaired but don't feel drunk?" "Should you drive impaired if you make a point of driving more carefully than usual?" "Should you drive impaired if there are roadblocks set up?"), and (c) a matched set of questions about the probability of driving impaired in the various circumstances (e.g., "Would you drive if you were impaired?" "Would you drive if you were impaired but didn't feel drunk?").

After the interview, subjects provided a breath sample. The breathalyzer instrument, a portable, battery-operated, alcohol test computer made by Drivesafe, provided immediate results, which were reported to the subjects. Subjects who measured over 0.08 g of alcohol per deciliter of blood were assigned to the high-BAL condition, and subjects at or below this level were assigned to the low-BAL condition.³ The mean BAL for subjects in the high-BAL group was 0.14 ($SD = 0.01$), and the mean BAL for subjects in the low-BAL group was 0.05 ($SD = 0.03$).⁴ All subjects were told their BAL. This information was then interpreted for subjects in terms of (a) the legal limit, (b) the effects on motor behavior, and (c) the amount of time they would have to refrain from drinking before they would be legally unimpaired.

In the follow-up interview, which was conducted during the day in an office at the university (or occasionally at subjects' homes), subjects were interviewed on two matched dilemmas from the alternate form of Kohlberg's test. In addition, subjects were asked to indicate their (a) age, (b) years of education, (c) drinking habits (e.g., "How many days per week do you drink alcohol?" "How many drinks do you usually have on each of those days?"), (d) past experiences with drinking and driving (e.g., "Have you ever driven impaired?" "How often?"), and (e) method of getting home the night they were interviewed in the social drinking context (i.e., "Did you drive your car home the night I interviewed you or did you get home some other way?").⁵

Hypothetical self and hypothetical other groups. Subjects in the third and fourth groups were volunteers who responded to advertisements posted around the university community soliciting subjects to take part in a study on social judgment. They were interviewed once, in a traditional academic setting. Like subjects in the first 2 groups, they responded to (a) two moral dilemmas from Kohlberg's test, (b) the series of seven should questions about the morality of impaired driving in different circumstances, either from the perspective of the self (hypothetical self) or from the perspective of another (hypothetical other), (c) the matched set of questions about the probability they (or others) would drive impaired in the various circumstances described, and, (d) the questions about their drinking habits and experiences with impaired driving. The mean age of subjects in the two hypothetical groups was 25.6 ($SD = 4.5$); 55% were students, and the remaining 45% of subjects were university employees or friends of students who worked in the community.

The average time per interview was approximately 1 hr. Interviews in all four conditions were tape-recorded and transcribed for scoring.

Scoring

Kohlberg dilemmas. Interviews were scored, blind, by a trained scorer following Kohlberg's 17-step scoring system (Colby & Kohlberg, 1987a, p. 159). The procedure for scoring involves following a series of guidelines for selecting from Colby and Kohlberg's 900-page scoring manual criterion judgments that match prescriptive interview judgments (subjects' responses to should questions).⁶ After stage scores were assigned to all scorable interview judgments, the scores were converted into weighted-average scores (WASs), also called *moral maturity scores*. Moral maturity scores are calculated by summing weighted

scores, dividing by the sum of the weights, and multiplying by 100 (see Colby and Kohlberg, 1987a, pp. 187–188). Moral maturity scores may range from 100 to 500; a moral maturity score of 200 corresponds to Stage 2, a score of 250 to Stage 2/3, a score of 300 to Stage 3, and so on. For some analyses, subjects were grouped according to whether they scored high (i.e., Stage 3 or higher) or low (i.e., below Stage 3) in moral maturity.

Interrater reliability. Twenty-five percent of the dilemmas from each group were randomly selected and scored for interrater reliability, unaware of other stage scores (in all, 40 dilemmas were rescored independently). There was 84% agreement—34 of 40 exact stage assignment on the basis of a 13-point scale, with 1/3 stage increments; i.e., Stage 1, Stage 1(2), Stage 2(1), Stage 2, and so on—between raters on the Kohlberg dilemmas. The correlation between the moral maturity scores of the two raters was $r(40) = .89$. There were no cases in which the discrepancy in moral maturity score was more than 1/3 stage. Disagreements were resolved by a third rater.

Attribution of moral obligation and attribution of moral behavior. Responses to questions about whether people should and would drive while impaired supplied measures of the attribution of moral obligation and the attribution of moral behavior. These responses were scored on a 4-point scale (0 = yes; 1 = yes, under most circumstances; 2 = no, under most circumstances; and 3 = no). High scores indicate that a subject believes he or she (or a hypothetical other) should not or would not drive impaired. An aggregated mean of the seven questions was used in most analyses (estimated internal consistency reliability equals .78 and .92, respectively, by the Spearman-Brown prophecy formula).

Results and Discussion

Results are presented in four sections, dealing with (a) the effect of alcohol and social context on the maturity of moral judgment, (b) the attribution of moral obligation, (c) the consistency between attributions of moral obligation and attributions of moral behavior, and (d) the connection between moral judgment and moral behavior. Preliminary analyses revealed no

² Dilemmas III and III' from Form A of Kohlberg's test involve a character named Heinz faced with a decision about stealing an overpriced drug to save his dying wife's life and a police officer named Officer Brown who must decide whether to report Heinz for stealing. Dilemmas IV and IV' from Form B involve mercy killing and capital punishment.

³ The experimenter was able to estimate the BAL of subjects quite accurately and attempted to assign 1 subject to each group on each testing occasion. In the end, the high-BAL group filled first, leaving 3 low-BAL subjects to be interviewed on the last testing occasion.

⁴ The ceiling of the breathalyzer instrument was 0.15. The average number of drinks consumed by subjects in the high-BAL group before the interview was 6.2.

⁵ Subjects tested first in the academic setting, then in the social drinking setting, were contacted a third time by phone to determine whether they drove home the night they were interviewed.

⁶ To qualify as a match, an interview judgment must have the same content (issue, norm, and element) and structure (stage) as a criterion judgment. For example, the chosen issue for the interview judgment, "Heinz should steal the drug because if he doesn't his wife will die" is life, because the subject advocates the choice that upholds life; the norm is also life, because life is being valued; the element is individual consequences; and the Stage is 2, because the subject has based his or her judgment on the instrumental value of stealing. The matching criterion judgment in the Colby and Kohlberg (1987b) manual is "[Heinz should steal the drug] because his wife needs it or will die without it" (p. 5).

Table 1
Effects of Alcohol and Social Context on Moral Maturity Scores and Percentage of Stage 2 Judgments

Group	Academic context	Social-drinking context	Academic-social-drinking difference score
Moral maturity scores			
Low BAL	303.5	289.9	13.6
High BAL	318.2	284.1	34.1
Percentage of Stage 2 judgments			
Low BAL	5	15.5	-10.5
High BAL	6.5	13.5	-7

Note. BAL = blood alcohol level.

significant effects for the order in which subjects in low-BAL and high-BAL groups were tested, the form of Kohlberg's test, or gender.⁷

The Effects of Social Context and Degree of Intoxication on the Maturity of Moral Judgment

A 2×2 (BAL \times Context) analysis of variance (ANOVA) on moral maturity, with repeated measures on the last variable, produced a highly significant main effect for context, $F(1, 38) = 22.89$, $p < .001$. Subjects obtained significantly lower moral maturity scores when interviewed in a social drinking context (combined $M_s = 286$) than when interviewed in an academic context (combined $M_s = 308$; see Table 1). This effect was qualified by a significant BAL \times Context interaction, $F(1, 38) = 4.20$, $p < .05$. Subjects in the high-BAL group displayed more than twice as much of a reduction in moral maturity across contexts (34 WAS points) than did subjects in the low-BAL group (14 WAS points; see Table 1). Tests for simple effects, using the Bonferroni adjustment for multiple comparison, revealed that the difference in moral maturity across the two contexts was highly significant for subjects in the high-BAL group, $t(19) = 5.67$, $p < .001$, but failed to reach an acceptable level of significance for subjects in the low-BAL group, $t(19) = 1.72$. The moral maturity scores for subjects in the high-BAL group were somewhat higher than the scores for subjects in the low-BAL group in the academic context; this difference was not statistically significant, $t(38) = 1.29$. The possibility that subjects in the high-BAL group who were tested first in the drinking context were motivated to present themselves in a better light when tested later in the academic context was not supported by the data. Their scores did not differ from those of subjects in the high-BAL group tested first in the academic context. Their scores matched the population norms for subjects their age (see Colby & Kohlberg, 1987a, p. 107), and when assessed properly in a standard interview, moral maturity cannot be inflated by impression management (see Arbutnot & Gordon, 1986, p. 211; Colby & Kohlberg, 1987a, p. 5).

These results establish that the moral judgments of subjects who consumed relatively large quantities of alcohol in a social drinking context were scored as less morally mature than the judgments they made while sober in an academic context. How far can we generalize these findings, and how can the observed differences be explained?

Because subjects were not randomly assigned to BAL groups, it is possible the observed effect pertained only to the type of person who consumes relatively large quantities of alcohol in parties and bars. To examine this possibility, the high- and low-BAL groups were compared on characteristics that should distinguish heavy trait drinkers from light drinkers. The results of relevant analyses failed to reveal any significant differences between the subjects in the high-BAL and low-BAL groups on age, $t(38) < 1$, years of education, $t(38) < 1$, amount of alcohol consumed per week, $t(38) = 1.35$, or average number of times per month subjects went out drinking, $t(38) < 1$. The sample did not contain any individuals who would be considered alcoholic. Although it is possible some unassessed correlate of level of alcohol consumption would force a qualification, the present findings suggest the effect is a relatively general one, at least for the population sampled here.

Two possible interpretations of the findings suggest themselves. First, the observed differences were due to an artifact of scoring. Second, alcohol and the social drinking context may lower moral maturity through the process of deindividuation. We consider each interpretation in turn.

Perhaps the scorers were able to detect signs of drunkenness in the transcribed protocols of subjects in the high-BAL group and assigned them lower moral maturity scores on that basis. Although this type of artifact is unlikely in Kohlberg's highly specified criterion-matching scoring system, especially when used by trained, reliable scorers unaware of subjects' experimental group, the possibility that scorers could detect the experimental condition of subjects (and thus their degree of inebriation) was explored by having a rater completely naive to the purpose of the study or to Kohlberg's theory rate the transcribed protocols for evidence of drunkenness. The rater was unable to classify subjects correctly above a chance level.⁸ Thus, the evidence does not favor the artifact of scoring interpretation.

⁷ A $2 \times 2 \times 2$ (Order \times BAL \times Context) analysis of variance (ANOVA) with repeated measures on the last variable and moral maturity as the dependent variable failed to reveal any significant effects for order, $F_s(1, 36)$, ranging from 0.01 to 1.11. Two additional ANOVAs, with form and gender substituted as the first variable, also failed to produce any significant effects, $F_s(1, 36)$ ranging from 0.01 to 3.15. For the other two dependent measures in this study—the aggregated should and would scores—two 2×4 (Gender \times Group) ANOVAs failed to reveal any significant effects for gender, $F_s(1, 78) < 1$.

⁸ The rater was given a set of 40 typed transcripts of responses to Kohlberg's test—20 from the low-BAL group and 20 from the high-BAL group, equally divided between those obtained in the academic and social drinking contexts. The rater was told that some of the protocols were from subjects tested while drinking at parties and bars and that others were from subjects tested in academic contexts, and the rater was asked to classify them as drinking or not drinking. Then, after this division had been made, the rater was further asked to classify protocols she had placed in the drinking category as having consumed large or small amounts of alcohol. With a 50% hit rate expected by chance in the drinking-not drinking classification, the rater classified only 60% correctly—55% (11/20) as drinking and 65% (13/20) as not drinking. Of the 11 subjects correctly classified as drinking, the rater was unable to distinguish better than chance (6/11) which protocols belonged to subjects in the high- and low-BAL groups. Finally,

The second interpretation attributes the decrements in performance to the deindividuating effects of alcohol and social context. As previously noted, deindividuation may lower moral maturity in two complementary ways—by inducing an orientation to low-level external standards and by impeding access to higher level internal standards. We looked at each in turn.

First, we examined the number of Stage 2 judgments made by each subject as a proportion of the total judgments across contexts and BALs. A 2×2 ANOVA produced a highly significant effect for context, $F(1, 38) = 11.88, p < .001$. Subjects made proportionately more Stage 2 judgments in the drinking context (14.5%) than in the academic context (5.8%; see Table 1). The main effect for and interaction with BAL were not significant, $F_s(1, 38) < 1$. As expected, subjects made more low-level judgments in the drinking context than in the academic context, but contrary to expectation, highly intoxicated subjects did not make more low-level judgments than relatively sober subjects. Apparently, people need not be intoxicated in drinking contexts to increase the proportion of low-level moral judgments—the deindividuating atmosphere or the salience of external, Stage 2 standards in such contexts may be sufficient.

How, then, can the relatively greater reduction in moral maturity of the high-BAL group be explained? One obvious possibility is that highly intoxicated subjects had greater difficulty than relatively sober subjects had in invoking the types of internal standards that defined their level of moral reasoning competence in the academic context. To examine this possibility, we inspected the pattern of change in moral maturity across contexts for subjects in the two groups.

Inspection of the change scores in Table 1 reveals that subjects in the high-BAL group dropped, on average, less than a half stage in the drinking context. A more detailed frequency count revealed that a full 70% of the subjects in the high-BAL group dropped a half stage or less, compared with only 30% in the low-BAL group. (As might be expected from the Stage 2 analysis, a minority of subjects from the two groups of approximately the same size dropped more than a half stage, 20% vs. 15%, respectively; the modal pattern of change for subjects in the low-BAL group, 55% vs. 10% for the high-BAL group, was to score at the same stage or slightly higher.) These findings suggest that the primary effect of alcohol in natural, social drinking contexts is to impede people's access to the internal moral standards that define their individual level of moral competence, rather than to reduce everybody to a uniformly low level.

Engaging in a moral judgment interview is an intrinsically individuating experience—individuals are, in effect, asked to turn their attention away from the external context, and focus inwardly on their own moral standards. Thus, if deindividuation mediated the observed effects, we might expect the moral judgments of subjects interviewed at parties and bars to increase in moral maturity as the moral judgment interview progressed. To examine this possibility, we added a third variable, dilemma, to the 2×2 (BAL \times Context) ANOVA reported earlier. This $2 \times 2 \times 2$ ANOVA produced a significant effect for dilemma, $F(1, 38) = 3.86, p < .05$, qualified by a significant Context \times Dilemma interaction, $F(1, 38) = 4.94, p < .03$. As ex-

pected, subjects scored significantly lower on the first than on the second dilemma in the drinking context (mean difference = 13 WAS points) but not in the academic context (mean difference = 2 WAS points). These findings are consistent with the plausible expectation that subjects became increasingly individuated as the interview progressed and thus were increasingly able to perform at their level of moral competence.

The Effect of Moral Maturity, Context, and Alcohol on Attributions of Moral Obligation

People who scored high in moral maturity (Stage 3 or higher in the academic context) were significantly stronger in their conviction that people should not drive impaired ($M = 2.59, SD = 0.50$) than were people who scored low in moral maturity ($M = 2.23, SD = 0.76$); $F(1, 78) = 5.98, p < .02$. This finding is consistent with Kohlberg's (1984) claim that high-stage structures are more resilient to quasi-obligations than are low-stage structures.

There were significant group differences in attribution of moral obligation, $F(3, 76) = 2.63, p < .05$. As expected, subjects in the high-BAL group—those who faced an imminent decision about driving impaired—displayed the weakest convictions about the wrongfulness of impaired driving, followed by the low-BAL, hypothetical self, and hypothetical other groups, respectively (see Figure 1). However, Newman-Keuls tests of pairwise comparisons revealed that the only significant differences in group means were between the high-BAL group and the two hypothetical groups ($ps < .05$).

The Effects of Context and Alcohol on the Consistency Between Attributions of Moral Obligation and Attributions of Moral Behavior

A $2 \times 4 \times 2$ (Moral Maturity \times Group \times Type of Judgment) ANOVA, with repeated measures on the last variable and strength of judgment as the dependent variable, revealed a highly significant main effect for type of judgment, $F(1, 72) = 89.22, p < .001$. People were more certain that they and others should not drive impaired (combined $M = 2.40$) than that they and others would not drive impaired (combined $M = 1.49$). This effect was not qualified by moral maturity, $F(1, 72) = 1.72, ns$, but it was qualified by a highly significant Type of Judgment \times Group interaction, $F(1, 72) = 9.32, p < .001$. As shown in Figure 1 and as predicted, Newman-Keuls tests of pairwise comparisons on the should-would difference scores revealed that subjects in the hypothetical self group made significantly more consistent should and would judgments than did subjects in the other three groups ($ps < .05$). Also as predicted, the should and would judgments of subjects in the hypothetical other group were the least consistent (Newman-Keuls tests on the difference scores comparing hypothetical other with low-BAL and high-BAL groups produced results significant at the .01 level). If moral integrity is defined in terms of consistency between what one believes one should do and what one believes one would do, the strongest attributions of moral integrity were made by subjects who made hypothetical judgments about themselves, and the weakest attributions were made by subjects making hypothetical judgments about others (see Figure 1). Although the mean should judgments of subjects in the hypotheti-

there was no difference between the moral maturity scores of the 11 subjects correctly classified as drinking and the 9 who were incorrectly classified, $t(19) = 1.37$.

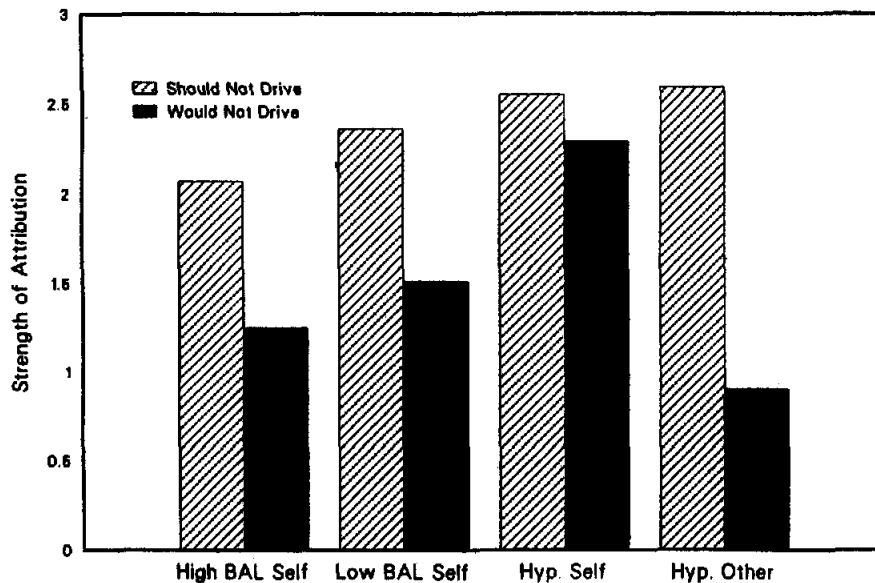


Figure 1. The consistency between attributions of moral obligation ("should" judgments) and attributions of moral behavior ("would" judgments). (BAL = blood alcohol level; Hyp. = hypothetical.)

cal self group were significantly different from their mean would judgments, $t(19) = 2.47, p < .05$, subjects in this group were the only ones whose mean would scores fell on the "would not drive" half of the scale (i.e., above 1.5). That these judgments were self-righteous became apparent when they were compared with measures of actual behavior.

Moral Attribution and Moral Behavior

Although people believe they are less likely than others to drive impaired, the evidence gathered in this study suggests this belief is unfounded: Every subject but 1 who had driven to a bar or party drove home, however impaired.⁹ This finding was surprising because these subjects had just been interviewed about the values of life and law and the wrongfulness of impaired driving, had been given the results of a breathalyzer test, and had been cautioned about the effects of driving while impaired. The BALs of subjects who drove to (and, in most cases, from) the social drinking setting ($M = 0.09, SD = 0.05$) did not differ significantly from the BALs of those who did not ($M = 0.11, SD = 0.05$)—at least at time of testing, $t(38) = 1.02$. Other studies have reported similar findings—people drive home from bars impaired even after they have been given the results of a breathalyzer test establishing they are intoxicated and a researcher cautions them not to drive for several hours (see Calvert-Boyanowsky & Boyanowsky, 1981; Meier, Brigham, & Handel, 1984).

Using another measure of impaired driving—one with greater generality and more variance—we conducted a multiple regression on the frequency of self-reported drinking and driving. Only one variable predicted this outcome: the frequency with which subjects reported driving to social occasions. This variable alone accounted for 52% of the variance for the subjects in the social drinking groups ($R = .72, p < .01$) and 75% of the variance for subjects in the hypothetical groups ($R = .86, p < .01$).

Summary and Implications

Graham et al. (1979) failed to find a relation between alcohol consumption and level of moral maturity in a laboratory context; however, consistent with their intuition, alcohol helped reduce moral maturity in natural drinking settings. Although the present study was not equipped to establish the mediating causes of this effect, we were able to dismiss the possibility that it was due to scoring artifacts and to build a consistent case for another explanation—deindividuation. Future research could evaluate this explanation by assigning subjects randomly to conditions, exposing them to a wider array of social contexts (differing in how dynamic they are and in the salience of low-level external standards), and varying the amount of alcohol subjects consume (for example, at experimenter-thrown parties). Level of self-awareness also could be manipulated by, for example, videotaping subjects as they leave parties or exposing them to mirrors while they are interviewed. Particularly challenging would be a design permitting the independent variation of contextual variables expected to affect the external salience of low-level standards and factors such as alcohol expected to affect the availability of high-level internal standards. Additional behavioral cues and options also could be arranged to create more variance in the behavioral measure (e.g., staying overnight or until sober, having a friend drive, and calling a cab). The ethical problems in such research, however, are daunting.

When sober, people believe it is wrong to drive impaired. They acknowledge that others succumb to the temptation but believe they would not. But this all changes when they are out drinking. In social drinking contexts, under the influence of

⁹ Twenty-seven of the 40 subjects interviewed in the social context drove their cars to the pub or party. Twenty-six reported driving home, 12 of whom were legally impaired at the time of testing. There were no sex differences.

alcohol, people moderate both their moral convictions against driving while impaired and their judgments about engaging in this behavior. The self-righteousness intrinsic in the pattern of attributions made by sober people (and, to a lesser extent, by those who were drunk) replicates the findings of Krebs et al. (1989) on prosocial behavior and is consistent with research on self-other biases in attribution (see Nisbett & Ross, 1980; Snyder et al., 1983).

For those who seek to lower the incidence of impaired driving, the results of this study suggest that high-level moral appeals made to people when they are sober will not constrain their behavior when they are drunk. In typical social drinking contexts, moral judgment appears to be a poor match for habit, convenience, and external behavioral cues that favor driving (the sight of one's car; other people getting into their cars). This study suggests that, to be effective, moral appeals directed toward sober people should encourage them to take precautions ahead of time, before they become intoxicated.

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