

SOCIAL DRINKING, MORAL REASONING AND MORAL BEHAVIOR

by

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## ABSTRACT

It is widely accepted that alcohol impairs judgments such as perceptions of speed and distance. The research presented here investigates the effects of alcohol and social context on another kind of judgment--moral judgment. Twenty male and 20 female adults were given (1) two classical dilemmas from moral philosophy (from Kohlberg's 1987 test of moral judgment) and (2) a real-life dilemma about drinking and driving (a) while drinking in a social environment, and (b) at home or at University, in interview format. Degree of intoxication was determined by a breathalyzer. In addition to the "should" questions on the moral judgment interview, subjects were asked "would" questions about drinking and driving, including whether they would drive home that evening. Subjects were followed up and interviewed a second time, in an academic context, to determine (1) whether they drove home the night they were interviewed, (2) their customary drinking and driving behavior, and (3) their ideal level of moral reasoning. Two control groups, each consisting of 10 males and 10 females, were interviewed in a similar format. A within-subjects comparison revealed that people employ lower structures of reasoning while in drinking establishments, especially when they have had a lot to drink. This difference is attributed to the effects of alcohol and the social setting. In addition, what subjects in the social drinking setting said they should do in response to the drinking and driving dilemma bore little resemblance to what they said they would do and had done. In contrast, control subjects thought they would not drink and drive. These predictions, however, did not correspond well to subjects' self-reported drinking and driving behavior. Virtually all subjects believed they should

not drink and drive, but admitted they would, and do. Indeed, with only one exception, all intoxicated subjects in the study drove home, whatever their stage of moral development.

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CHAPTER I  
INTRODUCTION

Drinking and driving is a dangerous combination, a serious social problem and a crime.<sup>1</sup> This message has been widely broadcast; virtually no one questions it, at least while sober. Why, then, do so many people drive while intoxicated? This question is a specific aspect of a larger issue, concerning the relationship between judgment and behavior. Researchers have examined this issue from several theoretical perspectives, with the goal of improving their understanding of criminal behavior, but no attempt has yet been made to examine the relationship between people's judgments about drinking and driving and their tendency to drive while impaired. Impaired driving research, has, instead, focused on education and deterrence (Haight, 1985). Unfortunately, however, most of these efforts--which have been instrumental in effecting changes in the law and law enforcement--have failed to significantly reduce the incidence of drinking and driving in Canada (Ross, 1985). It seems, then, that before any further social policies are implemented, it is necessary to examine the drinking driver up close.

Do people choose to drive impaired? Do people make rational choices under the influence of alcohol? What role does the social setting play in people's choices? Intervention strategies have convinced sober people of the dangers of drinking and driving, but what about drunk people; do they think it is wrong to drive impaired? Knowing the answers to these questions is essential for an intervention program to be successful.

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1. Sections 234 and 236 of the Criminal Code of Canada prohibit driving while impaired by alcohol.

Clearly, with the high incidence of drinking and driving in Canada, something must be clouding people's judgment when drinking in social settings. Is it alcohol? The social setting? What about individual differences? Surely alcohol and social contexts do not affect everyone in the same way? Perhaps some people are more resilient to these influences than others. If so, researchers may gain important insights into preventing the offense by analyzing the differences between drinking drivers and people who do not drink and drive.

In a recent review of programs, campaigns, policies and changes in law enforcement directed at reducing the incidence of drinking and driving, Ross (1985) concluded that people were less likely to drive impaired when the certainty of punishment was high. When people think there is a good chance that they may be punished, they are less likely to drive impaired. Unfortunately, however, "in all instances where a deterrent effect was reported from these efforts, the effect was of short duration--generally a matter of a few months" (Ross, 1985, p. 122). Wilson and Herrnstein (1986) attribute this finding to people's (changing) perception of risk: "In the long run, there is a tendency for behavior to return to the pre-enforcement level, in part because the chances of being caught and punished while driving under the influence of alcohol are so small--one authority estimates it to be about four chances in ten thousand--that even very large increases in the chance of arrest (say, by tripling it) would still leave very high odds in favor of a drunk driver on any given trip" (p. 398). Given this probability estimate, it seems that efforts directed at preventing people from driving impaired based on external controls are destined to fail. Crack-downs in law enforcement will work only until people no longer perceive their chances of getting caught while driving

impaired as high (Cook, 1980). It only takes a few uninterrupted trips home (sober or impaired) to realize the police are not everywhere.

Perhaps, then, a better way to prevent drinking and driving is to cultivate internal standards that endure past the closing of counterattack campaigns. Ironically, counterattack programs may work against the cultivation of internal standards--instilling in people low level standards that define behavior in terms of the avoidance of punishment, thus permitting people to justify impaired driving when the probability of punishment is low. People who do not perceive drinking and driving as another rule of the road, which, like speeding, they obey only when they are at risk of being caught, may not need external controls to keep them from driving impaired. People with strong internal standards do not need penalties to give them a reason to exercise caution. Thus, their internal standards may carry them beyond holiday seasons when the risk of apprehension is increased.

The present study investigated the relationship between internal standards--moral judgments--and impaired driving from the perspective of moral development theory. Although virtually everyone, at all stages of moral development, may believe drinking and driving is wrong, people at different stages may base their beliefs on different reasons, and these reasons may be differentially amenable to rationalizations or excuses which justify violations. People at higher stages of moral development should be less susceptible to these kind of excuses, and, therefore, they should be more likely to do what they should do--refrain from driving impaired. However, decisions about drinking and driving usually are not made in contexts conducive to high level moral decision-making. Consequently, the interaction between alcohol and the social setting may override high level

moral reasoning, inducing people with normally high moral standards to base their decisions to drive on the types of external, low level reasons emphasized in counterattack campaigns.

The effect of alcohol on moral reasoning was tested by Graham et al. (1979) in a controlled experiment comparing subjects' moral reasoning when sober with their moral reasoning after consuming low and moderate amounts of alcohol. With Rest's Defining Issues Test of moral reasoning as the dependent measure, Graham et al. concluded the "there was no evidence that gross impairment of moral reasoning occurred with alcohol consumption" (1979, p. 444). Graham et al. attributed this finding to the artificiality of the environment in which it was conducted, suggesting that "it may be that impairment of moral reasoning occurs only when the effects of alcohol interact with the social-drinking setting" (1979, p. 444). Although the test Graham et al. (1979) employed (Rest's DIT) is a test of moral preference rather than moral reasoning, this conclusion seems plausible.

When people are out drinking, they may not think much about the morality of drinking and driving, reacting instead to the demands of the situation--it's time to go home. The idea that people do not consider the implications of their behavior in dynamic social settings is well documented in social psychological research (Prentice-Dunn & Rogers, 1983, Zimbardo, 1970). Highly engaging social situations may induce a loss of self-awareness and "deindividuation." As a result, people may lose contact with their own standards of behavior, and react to salient external cues. The role of alcohol may be indirect. Hull and Young (1984) have found that alcohol induces a reduction in self-awareness. According to Prentice-Dunn and Rogers (1983), when people lose self-awareness they respond to the most salient behavioral cues from their environment; they do whatever they see

others doing, including engaging in criminal behavior. Thus, if the salient behavioral cue is to drive home, people in deindividuated states will drive home. And, this, of course, usually is the case. There are always people driving home from social situations. The behavior of sober drivers may supply cues to deindividuated and intoxicated drivers to drive home.

The effects of alcohol and the social situation, then, may interfere with people's ability and/or inclination to make prudent judgments when faced with a decision about driving impaired. Or, it may interfere with their ability to follow through with their moral judgments--creating inconsistency between moral judgment and moral behavior.

The relationship between moral reasoning and behavior is complex. Early studies, such as Hartshorne and May (1928), that addressed the relationship suffered from methodological problems (see Burton, 1976; Kohlberg, 1984). Indeed, it was not until recently that a model linking moral reasoning to behavior was advanced (Kohlberg & Candee, 1984). Prior to this contribution, researchers testing the relationship had "only the vaguest guidelines for approaching the relations of cognition and action" (Blasi, 1980, p. 1); consequently, studies reported inconsistent results.

In a recent and influential review of studies that used acceptable measures of moral reasoning, Blasi (1980) found "considerable support for the hypothesis that moral reasoning and moral action are statistically related" (p. 37). Blasi concluded that the evidence "is strongest for the hypothesis that moral reasoning differs between delinquents and non-delinquents" (p. 37). As a group, delinquents score lower on tests of moral development than their non-offending counterparts. The problem is no one knows why (see Blasi, 1980). Perhaps this is because most studies that



have compared the moral reasoning of delinquent and non-delinquent samples have relied solely on standard tests of moral reasoning involving dilemmas that are unrepresentative of the kinds of conflicts delinquents--or anyone for that matter--face in their everyday lives. Reasoning about whether a hypothetical character named Heinz should steal an overpriced drug to save his dying wife is quite different from the kinds of criminal decisions most delinquents face. It would be more informative to know how juveniles resolve conflicts such as whether or not to steal a car stereo to obtain membership in a gang. As Blasi notes, "a practical way of decreasing the gap between general moral criteria and specific actions is to assess moral reasoning, as Damon (1977) [and Thornton and Reid (1982)] did, using the hypothetical situations that resemble the behavior to be studied" (1980, p. 10). With this advice in mind, the present study assessed subjects' moral reasoning about drinking and driving as well as their level of moral reasoning using Kohlberg's Moral Judgment Interview.

In Chapter II the theoretical foundation for the present study is discussed. This chapter (a) examines moral reasoning, what it is, how it is tested, and how it develops; (b) defines moral behavior; (c) outlines the relationship between moral reasoning and moral behavior; and, (d) introduces the present study. The next chapter, Chapter III, describes the research design, including how interviews were scored and how the data were analyzed. Chapter IV presents the results of the study. These results are discussed in Chapter V. Finally, Chapter VI discusses the implications of the study's findings for intervention.

## CHAPTER II

### MORAL REASONING, MORAL BEHAVIOR AND THE RELATIONSHIP BETWEEN REASONING AND BEHAVIOR

#### Moral Reasoning

When a person is asked to take a position on a moral issue, he or she must make a moral judgment: what is the right thing to do or what should be done. Moral reasoning is demonstrated in the justifications used to support such judgments. According to Kohlberg, moral reasoning develops [like other cognitive processes] in stages, with new forms of reasoning replacing old ones. Kohlberg identifies five stages of moral development, defined in terms of the structure of moral reasoning (see Table 1). Structure is a difficult construct to define, but it may be thought of as the lens through which moral conflicts are perceived and resolved. Structure of moral reasoning defines whose perspective to take, and how to operationalize difficult principles such as equity, equality, and reciprocity, when faced with moral conflicts. For example, a person with a Stage 2 structure of moral reasoning would perceive moral conflicts from an individualistic perspective and operationalize reciprocity as tit for tat--do unto others as they do unto you--, whereas a person operating from within a Stage 3 structure would perceive moral conflicts from the perspective of a "generalized other" and operationalize reciprocity in terms of the Golden Rule--do unto others as you would have them do unto you.

The Measurement of Moral Reasoning. The most popular and fully elaborated test of moral reasoning is Kohlberg's Moral Judgment Interview (MJI). Kohlberg's test consists of three forms of three hypothetical

Table 1  
Kohlberg's Five Stages of Moral Development

Stage	What is Right	Reasons for Doing Right	Social Perspective of Stage
1	To avoid breaking rules backed by punishment, obedience for its own sake, and avoiding physical damage to property.	Avoidance of punishment and the superior power of authorities.	Egocentric point of view. Doesn't consider the interests of others or recognize that they differ from the actor's. Actions are considered physically rather than in terms of psychological interests of others.
2	Following rules only when it is to someone's immediate interest; acting to meet one's own interests and needs and letting others do the same. Right is also an equal exchange, a deal, an agreement.	To serve one's own needs or interests in a world where you have to recognize that other people have their interests, too.	Concrete individualistic perspective. Aware that everybody has his/her own interest to pursue and these conflict, so that right is relative (in the concrete individualistic sense).
3	Living up to what is expected by people close to you or what people generally expect people in your role as son, daughter, brother, sister, etc. "Being good" is important and means having good motives, showing concern about others. It also means keeping mutual relationships, such as trust, loyalty, respect and gratitude.	The need to be a good person in your own eyes and those of others. Your caring for others. Belief in the Golden Rule. Desire to maintain rules and authority which support stereotypical good behavior.	Perspective of the individual in relationship with other individuals. Aware of shared feelings, agreements, and expectations which take primacy over individual interests. Relates points of view through the concrete Golden Rule, putting yourself in the other person's shoes. Does not yet consider generalized system perspective.
4	Fulfilling the actual duties to which you have agreed. Laws are to be upheld except in extreme cases where they conflict with other fixed social duties. Right is also contributing to society, the group, or institution.	To keep the institution going as a whole, to avoid the breakdown in the system "if everyone did it", or the imperative of conscience to meet one's defined obligations.	Differentiates societal point of view from interpersonal agreement or motives. Takes the point of view of the system that defines roles and rules. Considers individual relations in terms of place in the system.

Table 1 (Continued)

5	<p>Being aware that people hold a variety of values and opinions and that most values and rules are relative to your group. These relative rules should usually be upheld, however, in the interest of impartiality and because they are the social contract. Some nonrelative values and rights like life and liberty, however, must be upheld in any society and regardless of majority opinion.</p>	<p>A sense of obligation to law because of one's social contract to make and abide by laws for the welfare of all people's rights. A feeling of contractual commitment, freely entered upon, to family, friendship, trust, and work obligations. Concern that laws and duties be based on rational calculation of overall utility, "the greatest good for the greatest number."</p>	<p>Prior-to-society perspective. Perspective of a rational individual aware of values and rights prior to social attachments and contracts. Integrates perspectives by formal mechanisms of agreement, contract, objective impartiality, and due process. Considers moral and legal points of view; recognizes that they sometimes conflict and finds it difficult to integrate them.</p>
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Adapted from Colby, A. and Kohlberg, L. (1987). The measurement of moral judgment, Vol. 1: Theoretical foundations. Cambridge, MA: Cambridge University Press.

dilemmas which pit one moral value against another. For example, in Dilemma IV, the mercy killing dilemma, the preservation of life is pitted against the quality of life. Interview questions follow the dilemma, asking subjects to choose between conflicting issues, and to support their choices. As the interview progresses, qualifying questions invite subjects to make fine distinctions and to resolve logical inconsistencies between judgments. For example, if a subject favors performing the mercy killing, he or she eventually will be challenged by a question which asks "Is it important for people do everything they can to save another's life?". Interviews are scored for stage of moral development in accordance with the terms of a (1,200 page) scoring manual (Colby & Kohlberg, 1987). In Kohlberg's system, stage of moral development is determined entirely by the structure of the moral justifications used to support competing claims. The content of the claims, that is, the choices people make, are independent of stage. It is, therefore, possible to support any moral decision from any of Kohlberg's five stages of moral development.

The Consistency of Moral Reasoning. There is no question that individuals employ the hierarchically-ordered structures of moral reasoning described by Kohlberg in response to the dilemmas on his test (see Colby, Kohlberg, Gibbs & Lieberman, 1983), but it is unclear how representative these structures are of moral reasoning about different issues, in different psychological states, and in different contexts. On the one hand the structures of moral reasoning evoked by Kohlberg's test may be entirely representative of how people reason across issues, states, and contexts. On the other hand, the structures of moral reasoning evoked by the abstract philosophical dilemmas on Kohlberg's test may be no more representative of moral reasoning about other issues, in other states and in other contexts

than competence on an English exam is representative of how people compose letters to their friends, comprehend written instructions when intoxicated, or converse with members of their family. Pure moral reasoning, like perfect sentence structure and grammar, may be reserved for the academic arena.

Kohlberg's position on the consistency of moral reasoning is implicit in his theory of moral development. True to the Piagetian tradition, Kohlberg's stage theory of moral development maintains that the cognitive structures associated with stage of moral reasoning develop in an orderly (invariant) fashion: "a new form of reasoning emerges first in some areas of an individual's thinking and rather gradually generalizes across the moral domain" (Kohlberg & Colby, 1983, p. 123). "Accordingly, higher stages displace (or, rather, integrate) the structures found at lower stages" (Colby & Kohlberg, 1987, p. 7), creating consistency in moral reasoning across issues. It is important to note, however, that Kohlberg qualifies this "structure of the whole" notion of moral reasoning to allow for the influence of performance factors. According to Kohlberg, certain performance factors, such as the atmosphere of a group or institutional context, may constrain the level of moral competence people display on his test, thus, giving the impression of stage inconsistency (Colby & Kohlberg, 1983, p. 121).

In contrast to Kohlberg's assumption that moral reasoning is organized in one overriding structure, theorists such as Fischer (1980) and Damon (1977) believe that (a) although the development of conceptions within a domain proceed through structured stages in an orderly manner, different aspects of the domain develop relatively independently, and (b) the environment, context, or situation plays a significantly greater role in

determining whether "high" or "low" conceptions are used than that are acknowledged by Kohlberg. Levine (1979) challenges Kohlberg's assumption of stage-based consistency on another, potentially more theoretically challenging, basis. Levine questions Kohlberg's transformational-displacement model of stage change, advancing in its stead an "additive-inclusive" model based on the assumption that "higher stages include components of earlier stages but do not replace these stages" (p. 155). Levine argues that lower structures are retained and used in certain situations, and "that the stability or variability of moral reasoning should be understood as a case of 'best fit' between one of several equilibrated moral structures, person characteristics, and recurring patterns of environmental stimuli" (p. 156).

Given these opposing theoretical views of the organization of moral reasoning, it is not surprising that Kohlberg's critics predict inconsistency in moral reasoning between Kohlberg dilemmas and (a) actual real-life dilemmas (Baumrind, 1978), (b) dilemmas which involve issues other than justice (Gilligan, 1982), (c) dilemmas which involve the self as opposed to hypothetical characters (Gerson & Damon, 1978), (d) dilemmas in interpersonal contexts as opposed to traditional philosophical contexts (Haan, 1978), and (e) dilemmas from within different cultures and subcultures (Simpson, 1974). The following section reviews empirical evidence for the consistency of moral reasoning between Kohlberg dilemmas and (a) other hypothetical dilemmas, including hypothetical dilemmas involving the self, and (b) real-life dilemmas.

Empirical Evidence for the Consistency of Moral Reasoning Across Hypothetical Dilemmas. Seven studies have compared stage scores on Kohlberg's test with stage scores on other hypothetical dilemmas. All but

one (Lockwood, 1975) found a significant difference between scores on Kohlberg's dilemmas and scores on the other dilemma or dilemmas. In five of the studies, subjects tended to score lower on the non-Kohlberg than Kohlberg dilemmas. Gilligan, Kohlberg, Lerner, and Belenky (1971), found that 40% of a high school sample scored lower on dilemmas involving sexual issues, with 10% scoring higher. Linn (1984) found that 32% of a sample of daycare workers scored lower on a hypothetical dilemma about daycare, with 18% scoring higher. Kohlberg, Scharf, and Hickey (1972) found that prison inmates scored approximately one stage lower on hypothetical dilemmas patterned after those typically experienced in prison than on Kohlberg dilemmas. Higgins, Powers, and Kohlberg (1984) found that students from regular high schools scored an average of one-half stage lower on dilemmas about moral conflicts typically experienced in high school than on Kohlberg dilemmas (but students from "just community" schools scored at the same stage). Finally, Leming (1978) found that a sample of high school students scored significantly lower when deliberating about how they should deal with typical high school dilemmas than when making moral judgments about how the hypothetical characters on Kohlberg dilemmas should deal with them. Only one study (Haan, 1975) reported significantly higher scores on non-Kohlberg than Kohlberg dilemmas: 46% of a sample of Berkeley University students scored higher on a dilemma about free speech during the Berkeley Free Speech crisis in the 1960's, with 20% scoring lower.

Considered as a whole, the available evidence suggests subjects tend to score lower on hypothetical dilemmas more representative of those with which they have had experience than on the more philosophical dilemmas on Kohlberg's test--evidence that seems more consistent with Levine's (1979) additive-inclusive model than with Kohlberg's transformational-displacement



model. But the data are far from conclusive. Some subjects score higher on non-Kohlberg dilemmas, and many score at the same stage.

Empirical Evidence for the Consistency of Moral Reasoning Across Hypothetical and Real-life Dilemmas. Four studies have compared subjects' moral reasoning about the hypothetical dilemmas on Kohlberg's test to their moral reasoning about conflicts they have faced (or are presently facing) in their lives. Two of these studies involve women confronting abortion. In the first real-life abortion study, Gilligan and Belenky (1980) interviewed 24 pregnant women about 1) the abortion they were considering, 2) a hypothetical abortion dilemma, and 3) hypothetical dilemmas from Form A of Kohlberg's test, and found that 15% of the women scored lower when reasoning about the real-life abortion dilemma than when reasoning about the hypothetical dilemmas on Kohlberg's test; 40% scored the same, and 45% scored higher. Unfortunately, Gilligan and Belenky (1980) did not report the results of the hypothetical abortion-Kohlberg comparison.

In the second study on abortion, Smetana (1982) compared the moral reasoning of 48 pregnant women considering abortion and 22 controls, about abortion with their moral reasoning about Kohlberg dilemmas. Smetana reports a correlation of .70 between the two types of dilemma for subjects who perceived abortion as a moral conflict, and a correlation of .27 for subjects who regarded abortion as a personal conflict. However, Smetana fails to report the group means, leaving the question of consistency across types of dilemma unanswered.

The only other studies comparing Kohlberg moral reasoning to moral reasoning about real-life moral conflicts were conducted by Linn (1987) and Walker, de Vries and Trevethan (in press). Linn (1987) compared the moral reasoning of 50 Israeli physicians about a bitter strike in which they were

involved with their moral reasoning on Kohlberg's test and found that the physicians tended to reason at Stage 4 on Kohlberg's test and at Stage 3 on questions pertaining to the physicians' strike. Such inconsistency was not, however, reported by the investigators of the fourth and most recent study of moral reasoning across real and hypothetical dilemmas (Walker et al., in press). In this study, Walker, de Vries and Trevethan (in press) found that 91% of their subjects (N = 240) scored at the same or adjacent stage when reasoning about Kohlberg dilemmas and real-life dilemmas they recently experienced.

The results of these four studies are inconclusive. Real-life moral dilemmas elicited higher structures of moral reasoning in one study, lower structures in another, similar structures in yet another, and in one case the differences were not reported. Obviously, more research is need to reach some closure on the consistency of moral reasoning across real and hypothetical dilemmas.

### Moral Behavior

Moral behavior is defined here as behavior which follows from (i.e., is consistent with) high level moral reasoning.

### The Relationship between Moral Reasoning and Moral Behavior

Although consistency in moral judgment is significant theoretically, it is of much less practical import than another kind of consistency--the consistency between moral judgment and moral behavior: "moral action, not thought, is society's ultimate criterion of moral wisdom as well as social science's test of a conceptualization's validity" (Haan, 1978, p. 290). Kohlberg and Candee (1984) outline a model linking moral judgment and moral behavior. In this model, structures of moral reasoning give rise to two types of judgment--(a) "deontic" decisions (for example, "the morally

correct course of action is to take a taxi home, rather than drive impaired") and (b) judgments of responsibility, connecting deontic decisions to the self--("if I drink and drive I am threatening the lives of others"). The connection between stage of moral development and deontic choice is variable; in some situations--making judgments about euthanasia, for example--there is little agreement among people at the same stage about what is right; in other situations--making judgments about stealing an overpriced drug to save a life, for example--there is a monotonic increase with stage of moral development in the tendency to make the "right" choice (in this case in favor of stealing the drug to save the life), with an almost perfect consensus at Stage 5 (Candee, 1976). The connection between moral stage and judgments of responsibility is more straightforward, with a monotonic increase in sense of responsibility with stage. Thus, although it is not always possible to predict in advance what people will decide they ought to do in a moral conflict, it is possible to predict whether they will do what they think they should. Judgments of responsibility link prescriptive (should) judgments to predictive (would) judgments--the higher the sense of responsibility, the closer the connection between should and would. Where there is a consensus about what is right, there should be a monotonic increase in the tendency of subjects to assume responsibility for carrying out the prescribed behavior with stage of moral development (Kohlberg & Candee, 1984).

The Kohlberg and Candee model is a long-awaited contribution to psychology. Through empirical testing, it should also contribute to a better understanding of the origins of social and anti-social behaviors. To date, no studies have directly tested the Kohlberg and Candee model. A few extant studies (e.g., McNamee, 1977; Haan, Smith, & Block, 1968) that

have been reanalysed in terms of the model, however, have revealed favorable results. The present study, then, as an empirical test of the Kohlberg and Candee model, has both theoretical and practical value.

### The Present Study

The purpose of the present study was three-fold: (1) to examine the ability of people drinking in social settings to reason about moral issues, (2) to evaluate the consistency of moral reasoning across types of dilemma, and (3) to test the Kohlberg and Candee model of the relationship between moral reasoning and moral behavior. Subjects in varying degrees of intoxication were interviewed at pubs and parties about three moral dilemmas: two hypothetical dilemmas from Kohlberg's test involving the philosophical moral conflicts of hypothetical characters and one real-life dilemma involving drinking and driving. The drinking and driving dilemma required subjects to reason about what they should and would do at the end of the evening if they were impaired, and why. Subjects were followed-up to determine what they actually did at the end of the evening, and, in some cases, to obtain a measure of their ideal (sober) moral reasoning. In addition, to supply a more general measure of behavior, in the follow-up interview subjects were asked about their past experiences with drinking and driving. The reasoning of impaired subjects was compared to (a) the reasoning of others who were not impaired, but who were in the same social setting (b) their own moral reasoning when sober in an academic setting, and (c) the reasoning of subjects in two control groups tested in a traditional academic context. The control groups supplied a basis for testing whether people reason in the same way about drinking and driving when facing a behavioral choice, when deciding about what they should do in a hypothetical situation, and when deciding about what a hypothetical

character should do in a hypothetical situation, and addressing the controversial theoretical issue of the consistency of moral reasoning across types of dilemma.

The social environment was an important aspect of the study, for several reasons. First, moral decisions are rarely made in a comfortable office setting devoid of time constraints. Second, the social setting provided a means to evaluate the effects of behavioral demands and consequences on subjects reasoning and behavior. Third, studies of social influence have found that people may behave quite differently in dynamic social contexts than they do in other situations, guided by external rather than internal standards of behavior (Prentice-Dunn & Rogers, 1983). Fourth, the naturalistic setting was free of constraints imposed on laboratory experiments involving alcohol--so subjects could become extremely drunk. Finally, as mentioned previously, a study by Graham et al. (1979) failed to find that the consumption of alcohol significantly affected moral reasoning, and attributed this outcome to the artificiality of the environment in which the study was conducted.

Guided by the expectations of Graham et al. (1979) and the results of research on the representativeness of moral reasoning and the relationship between reasoning and behavior, the following hypotheses were advanced: (1) people will use lower structures of moral reasoning in a social setting than in an academic setting, (2) especially after consuming large quantities of alcohol; (3) people in a social environment will use lower structures of moral reasoning when reasoning about drinking and driving than when reasoning about philosophical moral issues (due to the involvement of the self and the behavioral demands of the drinking and driving dilemma); (4) people's responses to "should" questions about

drinking and driving will not correspond to their responses to "would" questions; and (5) there will be a monotonic increase in the consistency of moral reasoning and moral behavior (both specific and general) with stage of moral development.

## CHAPTER III

### METHODS

#### Subjects

Eighty subjects participated in this study: 40 in the experimental group (20 male, 20 female, age 19 - 45,  $\underline{M} = 25.3$ ,  $\underline{SD} = 5.6$ ) and 20 in each of two control groups (10 male, 10 female, age 19 - 35,  $\underline{M} = 24.9$ ,  $\underline{SD} = 5.3$ ; and 10 male, 10 female, age 19 - 40,  $\underline{M} = 25.1$ ,  $\underline{SD} = 4.5$ , respectively). The mean number of years of post-secondary education for subjects in the experimental group was 3.1 and the mean number of years of post-secondary for subjects in the control groups was 3.15 (3.1 and 3.2, respectively). Every attempt was made to ensure that groups were similar in age and level of post secondary education; only subjects who matched the ages and years of post secondary education of experimental subjects were selected in the control groups. A post hoc comparison of subjects' drinking habits (i.e. the frequency and quantity of alcohol consumed per week) revealed that the groups were similar in this respect as well (on a 3 point scale, ranging from 1--one or two alcoholic drinks per week or less--to 3--more than 12 alcoholic drinks per week, the mean score obtained by subjects in the experimental group was 1.6,  $\underline{SD} = 0.7$ , and the mean scores obtained by subjects in the control groups were 1.5,  $\underline{SD} = 0.9$ , and 1.4,  $\underline{SD} = 0.6$ ). Subjects in the experimental group were solicited in social drinking settings (bars, nightclubs, the university pub, and parties) to take part in a study about the effects of alcohol on reasoning. Subjects in the control groups were volunteers recruited from the university and the community who agreed to take part in a study on how people reason about hypothetical dilemmas.

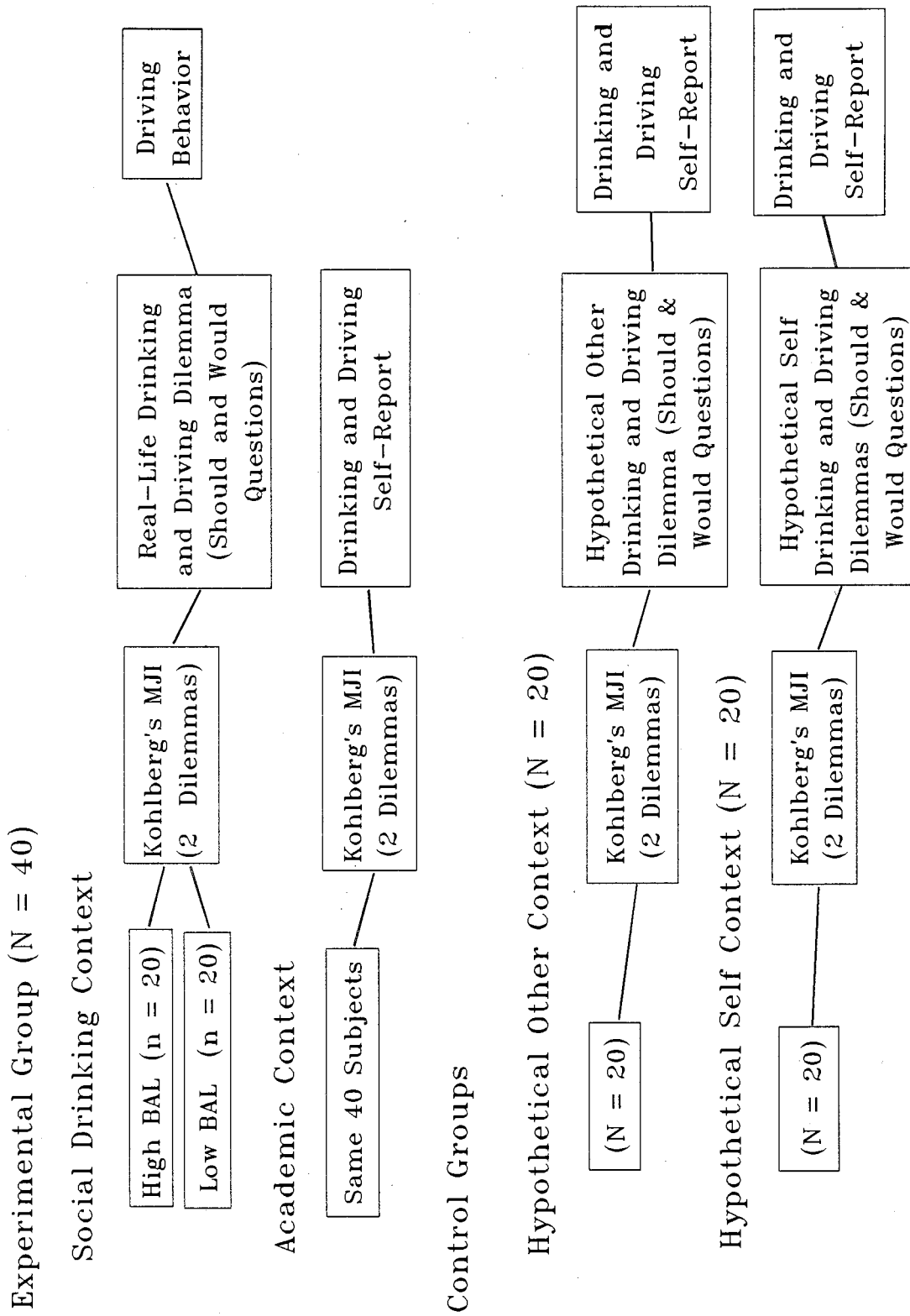
## Procedure

Control Group 1: Hypothetical Other. As shown in Figure 1, subjects in the first control group were interviewed in an office setting about three dilemmas: two from Kohlberg's Moral Judgment Interview (MJI) (either Dilemmas III and III' from Form A of Kohlberg's test (involving a character named Heinz who must steal a drug in order to save his wife's life and a police officer named Officer Brown who must decide whether or not to report Heinz for stealing) or Dilemmas IV and IV' from Form B of Kohlberg's test (involving mercy killing and capital punishment), and a dilemma about whether a hypothetical character named Jack should drive after he has been out drinking with his friends, and suspects he may be legally impaired (see Appendix A). The interviewer read a dilemma to the subject, and asked him or her questions designed to elicit prescriptive judgments (e.g., "Should Heinz steal the drug?"). After the subject responded fully to the first dilemma, he or she was given the second dilemma, then the third. After responding to the "should" questions on the drinking and driving dilemma (e.g., "Should Jack drive even though he may be legally impaired?"), subjects were asked to predict what the character actually would do given his situation (e.g., "Would Jack drive home?"). Predictive questions were not asked for the Kohlberg dilemmas. Finally, subjects were interviewed about their (self-reported) drinking and drinking and driving behavior (see Appendix B).

Control Group 2: Hypothetical Self. Subjects in the second control group were interviewed in the same format as subjects in the first control group (see Figure 1), except they were asked to imagine they, rather than a



Figure 1. The Experimental Design



hypothetical character named Jack, had been out drinking with their friends and suspected they were legally impaired when it came time to go home (see Appendix C).

The average time per interview for subjects in the control groups was approximately one hour.

Experimental Group. The researcher, a female university student aged 24, frequented local bars, nightclubs and parties in the evenings, joining groups of prospective subjects, and, after becoming acquainted, soliciting subjects to take part in a study on "the effects of alcohol on reasoning." This approach always yielded at least one volunteer. Those who volunteered were told the study required that they be interviewed twice: once the night they were approached, and once later in the week, in an academic setting. The subjects were also told they would be asked to take a breathalyzer test to determine their level of intoxication, and that they would be asked about their customary drinking and driving behavior. To examine possible order effects, some subjects were first tested during the day, in an academic setting, then, during the following week, in a social setting.<sup>1</sup>

In the social drinking setting, interviews were conducted in a manner which resembled a close conversation between two people. Though subjects were sometimes surrounded by other people, the interviews were private (often inaudible to other members of the group because of the noise level in the drinking establishment). Like the control subjects, subjects in the experimental group were interviewed about two hypothetical dilemmas from Kohlberg's MJI and a dilemma about drinking and driving (see Figure 1).

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1. Because of the difficulty of finding volunteers who would be willing to be interviewed in a non-drinking environment, then in a drinking environment, only twelve subjects were tested in this order.

The Kohlberg interviews were identical to those for the control groups, but the drinking and driving dilemma was given in a different format. Instead of imagining that they or a hypothetical character named Jack faced a dilemma about whether to drive home after an evening out with friends, experimental subjects were asked to make judgments about what they thought they should do if they were (still) legally impaired when it came time to drive home (see Appendix D).

After the interview, subjects were asked whether they intended to drive home and whether they thought they were impaired. They were then asked to provide a breath sample. The breathalyzer instrument, a battery operated, portable, alcohol test computer made by Drivesafe, provided immediate results, which were reported to the subjects. Subjects were asked again whether they intended to drive home; if they answered affirmatively, the researcher cautioned them about the effects of alcohol on reaction time. Legally impaired subjects were told they were above the legal standard for the operation of a motor vehicle and advised not to drive for several hours.

In the follow-up interview, which was conducted during the day in an office (or occasionally at subjects' homes), subjects were interviewed about two matched dilemmas from the alternate form of Kohlberg's test (i.e., if they were interviewed in the social environment about Dilemmas III and III' from Form A of Kohlberg's test, they were interviewed in the office setting using Dilemmas IV and IV' from Form B, and vice versa). In addition, they were asked about their past experiences with drinking and driving.

The average time per interview for experimental subjects was approximately one and one-half hours (45 minutes in each setting). All

interviews 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, 1987). The procedure for scoring involves selecting from Kohlberg's two volume scoring manual "criterion judgments" (defined by both content and structure and identified by issue, norm, element and stage) which match prescriptive "interview judgments" (subjects' responses to prescriptive questions). Matching interview judgments with criterion judgments entails evaluating the interview judgments as prescriptive and sincere, and then searching in the appropriate section of the manual for criterion judgments that match them. To qualify as a match, an interview judgment must have the same content and structure as a criterion judgment. So, for example, if a scorer were to search for a matched criterion judgment for the interview judgment "Heinz should steal the drug because if he doesn't his wife will die," he or she would have to look in the Life Issue section of Kohlberg's manual (because the judgment favors Heinz stealing the drug to save his wife's life), for a criterion judgment defined by the Life Norm (because life is valued), and Element 8, Good/Bad Individual Consequences (because if he doesn't steal the drug a bad consequence will follow), with a Stage 2 structure (because stealing is viewed as instrumentally necessary). The search would produce a match with the following criterion judgment "Heinz should steal the drug because his wife needs it or will die without it" (Colby & Kohlberg, 1987, p. 14). If this rigorous procedure fails to yield a match [despite an interview judgment's prescriptivity] there are guidelines in Kohlberg's manual for guessing criterion judgments.

Drinking and Driving Dilemmas. Kohlberg's scoring manual also was used to score the drinking and driving dilemmas. The difference in content was not as much of a problem as one might think. Rather than attending to the specific content of interview and criterion judgments, scorers identified the element used in the interview judgment and then searched for criterion judgment that used the same element and has the same structure as the interview judgment (see Table 2 for examples of drinking and driving judgments that match Kohlberg judgments). Guess scores were made for judgments which matched the stage structure of a criterion judgment but did not match the element, as all elements are not represented at all stages in Kohlberg's manual (even though they should, theoretically, be present at every stage; see Kohlberg & Colby, 1984).

Interview judgments were later combined to produce moral development scores--moral maturity scores--following the procedure outlined in Colby and Kohlberg (1987) for Kohlberg and drinking and driving dilemmas. The result was a Kohlberg moral maturity score (Kohlberg MMS) and a drinking and driving moral maturity score (Drinking and Driving MMS).

Prescriptive and Predictive Judgments. Responses to prescriptive "should" questions and predictive "would" questions about drinking and driving were scored using a four-point scale (0 = no, 1 = no, under most circumstances, 2 = yes, under most circumstances, 3 = yes).

### Data Analysis

All data analyses were conducted using revised BMDP statistical software programs (University of California Press, 1983). Group differences were assessed using a series of analyses of variance (ANOVA). Before any of these analyses were conducted, Levene tests were performed on all relevant variables to ensure that none of the assumptions for

homogeneity of variance were violated. The relationship between predictor and predicted variables was assessed using multiple regression analyses.

Table 2  
Examples of Drinking and Driving Judgments that Match the Criterion  
Judgments in Kohlberg's Scoring Manual

Drinking and Driving Judgment	Matched Kohlberg Criterion Judgment
[I shouldn't drink and drive] because I might kill my friends.	[Heinz should steal the drug] because his wife needs it or will die without it (CJ 3, Form A, Life, Stage 2).
[I shouldn't drink and drive] because it's too great a risk, I don't want to get in trouble and lose my license.	[Heinz should not steal the drug for a stranger] because he would be taking too great a risk (CJ 8, Form A, Law, Stage 2).
[I shouldn't drink and drive] because it's just not a safe thing to do, you could kill someone.	[Lawbreakers should be punished] in order to make things safer for people (CJ 11, Form A, Punishment, Stage 2/3).
[I shouldn't drink and drive] because if I killed someone I would feel guilty.	[The doctor should not give the woman the drug] because otherwise how could he live with himself, knowing that he had killed someone (CJ 15, Form B, Law, Stage 3).
[I should not drink and drive] because I might kill someone and human life is precious.	[Heinz should steal the drug even if he doesn't love his wife or even for a stranger] because she is still a human being (CJ 9, Form A, Life, Stage 3).
[I should drive my mother to the hospital in an emergency even if I'm impaired] because saving her life is more important than breaking the law of impaired driving.	[Heinz should steal the drug] because a person's life is more important than the druggist's greed, money or obeying the law (CJ 19, Form A, Life, Stage 3/4).
[I should not drive impaired] because I am endangering society.	[The judge should be lenient] because the effect of jailing a good citizen like Heinz can only be detrimental to society (CJ 27, Form A, Conscience, Stage 4).

## CHAPTER IV

### RESULTS

Results are presented in six sections. Findings relevant to consistency of moral reasoning are presented in the first two sections, findings relevant to prescriptive (should) judgments and predictive (would) judgments are presented in sections three through five; and, the final section is devoted to the relationship between judgment and (self-reported) behavior. Preliminary analyses revealed no significant effects for the order in which subjects in the experimental group were tested, and no main effects or interactions for sex of subject.

#### Consistency in Moral Reasoning across Kohlberg Dilemmas

Subjects in the study took Kohlberg's test in four conditions: (a) in a pub or at a party (Social Drinking Context), (b) in an academic context, either before or after taking the test in a social context (Academic Context), (c) in the context of an investigation of hypothetical drinking and driving judgments about others (Hypothetical Other), and (d) in the context of an investigation of hypothetical drinking and driving judgments about the self (Hypothetical Self). The first two conditions involved the same subjects, who took Form A of Kohlberg's test in one context and Form B in the other, whereas the second two conditions involved different subjects. Reliability in scoring Kohlberg's test was high (84% were within 33 MMS points, based on a randomly-selected sample of 25% of the dilemmas from each group (for a total of 20) scored, blind, for reliability by an independent scorer).

Recall that in the version of Kohlberg's test employed in the present study, subjects responded to two moral dilemmas. According to Kohlberg,



subjects' scores on the two dilemmas from his test should be approximately the same. As shown in Table 3, the MMSs obtained by subjects on the two dilemmas of his test in each of the four conditions were highly correlated, and the mean MMSs for each group were similar.

A series of 2 (Sex) x 2 (Kohlberg Dilemma: Life/Law vs. Conscience/Punishment) analyses of variance (ANOVAs), with repeated measures on the last variable and MMS as the dependent variable, were conducted to determine whether any of the (small) differences in MMSs between the two Kohlberg dilemmas were statistically significant, as main effects or in interaction with other variables. The results of these analyses failed to reveal any statistically significant effects for the Academic Context, Hypothetical Other, and Hypothetical Self groups. However, the ANOVA on the Social Drinking group produced a main effect for Dilemma ( $F(1, 37) = 11.00, p = .002$ ). Subjects performed significantly poorer on the first Kohlberg dilemma (involving Life and Law) ( $M = 280.5$ ) than on the second Kohlberg dilemma (involving Conscience and Punishment) ( $M = 294$ ). Although statistically significant, the difference in MMS (13 MMS points) is not large enough to qualify as a difference in Stage because it does not exceed 33 moral maturity points (the equivalent of a minor stage, or 1/3 of stage). Therefore, the MMSs from the two Kohlberg dilemmas in each of the four conditions were combined to produce mean "Kohlberg MMSs."

#### Kohlberg Moral Maturity in Academic and Social Drinking Contexts

A 2 (Sex) x 2 (Context: Social Drinking vs. Academic) ANOVA, with repeated measures on the last variable and Kohlberg MMS as the dependent variable was conducted to compare the effect of Academic vs. Social

Table 3  
Mean Moral Maturity Scores and Correlation Coefficients  
for Pairs of Kohlberg Dilemmas

Setting	MMS Life/Law Dilemma	MMS Conscience/ Punishment Dilemma	Correlation Coefficient	Combined MMS
Social	293	280	.80	287
Academic	310	312	.65	311
Hypothetical Other	315	308	.75	312
Hypothetical Self	306	302	.85	304

Drinking Context on moral reasoning. This analysis produced a significant main effect for Context ( $F(1, 37) = 22.13, p < .00001$ ) in the expected direction--Social Drinking MMS was significantly lower than Academic MMS ( $M$ 's = 287 and 310, respectively, see Figure 2). This effect was not moderated by Sex.

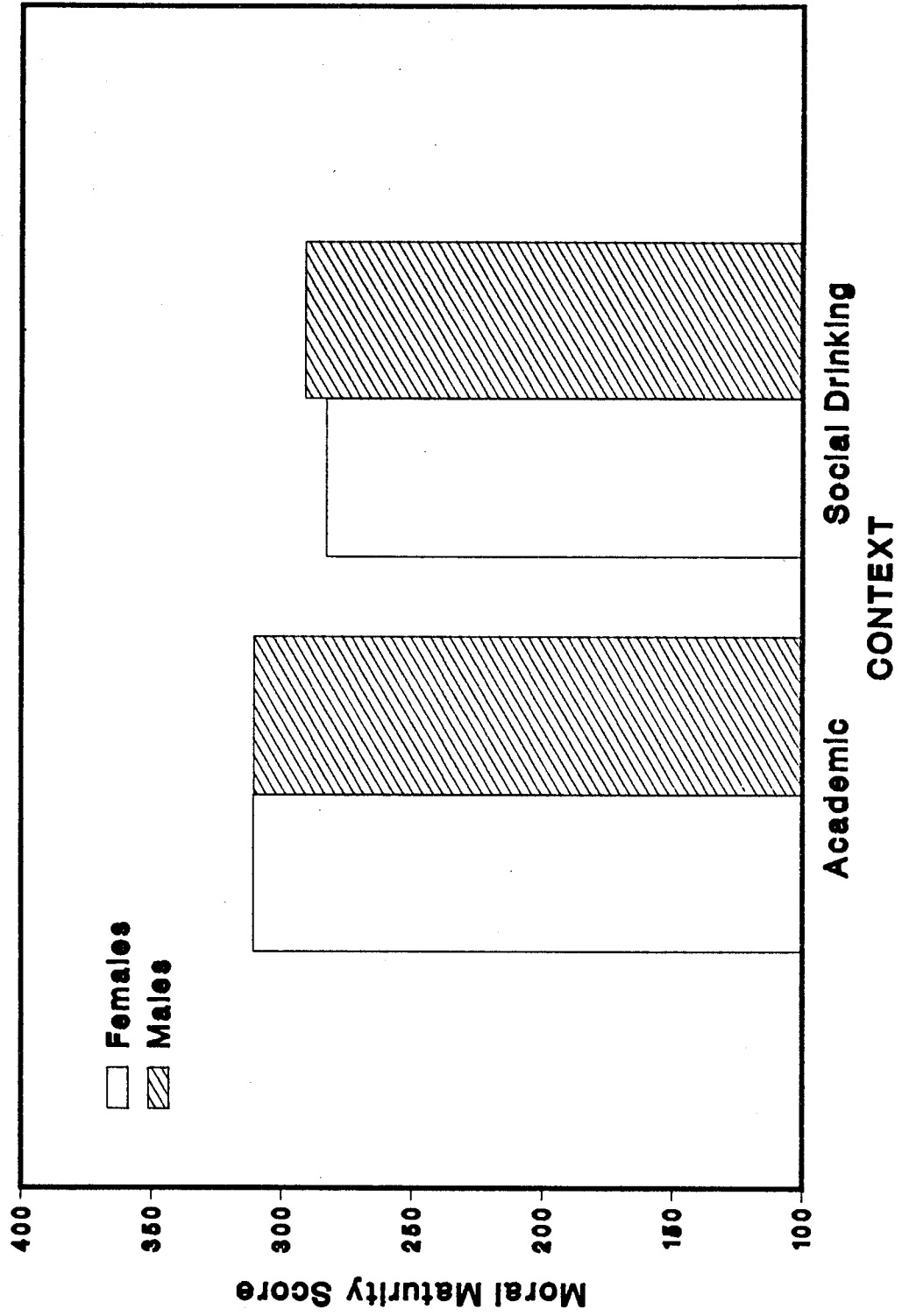
To test whether the difference in moral reasoning observed across contexts was different for subjects at high and low levels of alcohol intoxication (Bal),<sup>1</sup> a one-way ANOVA with BAL (High/Low) as the independent variable and moral maturity difference score (i.e. Academic MMS - Social Drinking MMS) as the dependent variable was conducted. As expected, there was a main effect for BAL ( $F(1, 37) = 4.06, p = .05$ )--subjects with High BALs performed significantly poorer on Kohlberg's test in the Social Drinking context relative to their ability demonstrated in the Academic context than subjects with Low BALs (see Figure 3). Two post hoc one-way ANOVAs, one for subjects with Low BALS and one for subjects with High BALS, revealed that the difference between Kohlberg MMSs in the Academic and Social Drinking contexts was highly statistically significant for subjects with High BALS ( $F(1, 18) = 31.13, p < .00001$ ) but only marginally significant for subjects with Low BALS ( $F(1, 18) = 2.84, p = .10$ ).

To explore more fully the effect of BAL on moral reasoning across settings, the number of subjects who experienced significant stage changes across testing settings was counted. This count revealed that 40% ( $N = 16$ ) of the subjects scored one minor stage lower or more in the Social Drinking setting than in the Academic setting (see Figure 4). And, of those who

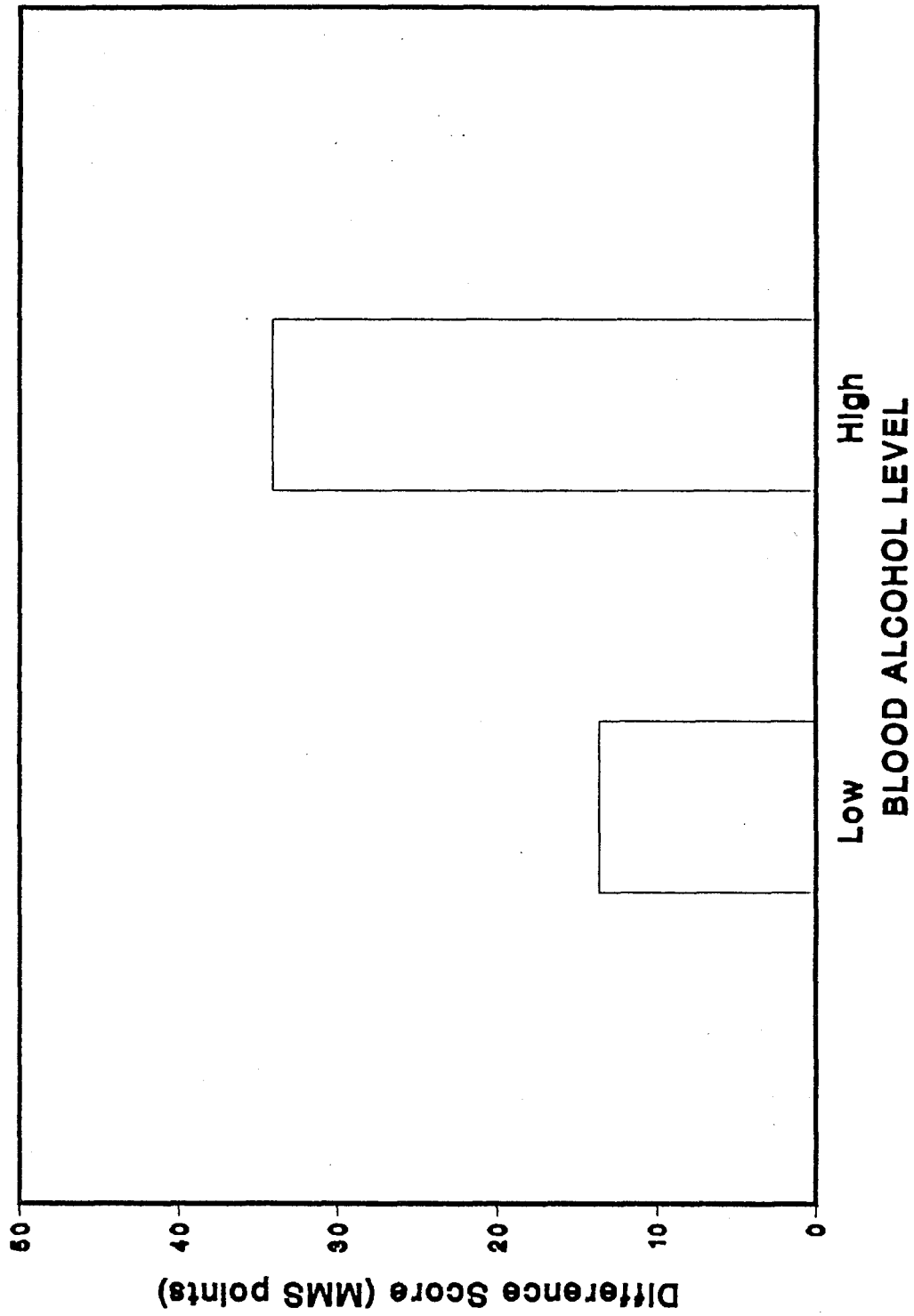
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1. The legal limit, .08, was the cutoff point (see Criminal Code of Canada, s. 236); people above this point were classified as having High BALs and subject at or below .08 were classified as having Low BALs.

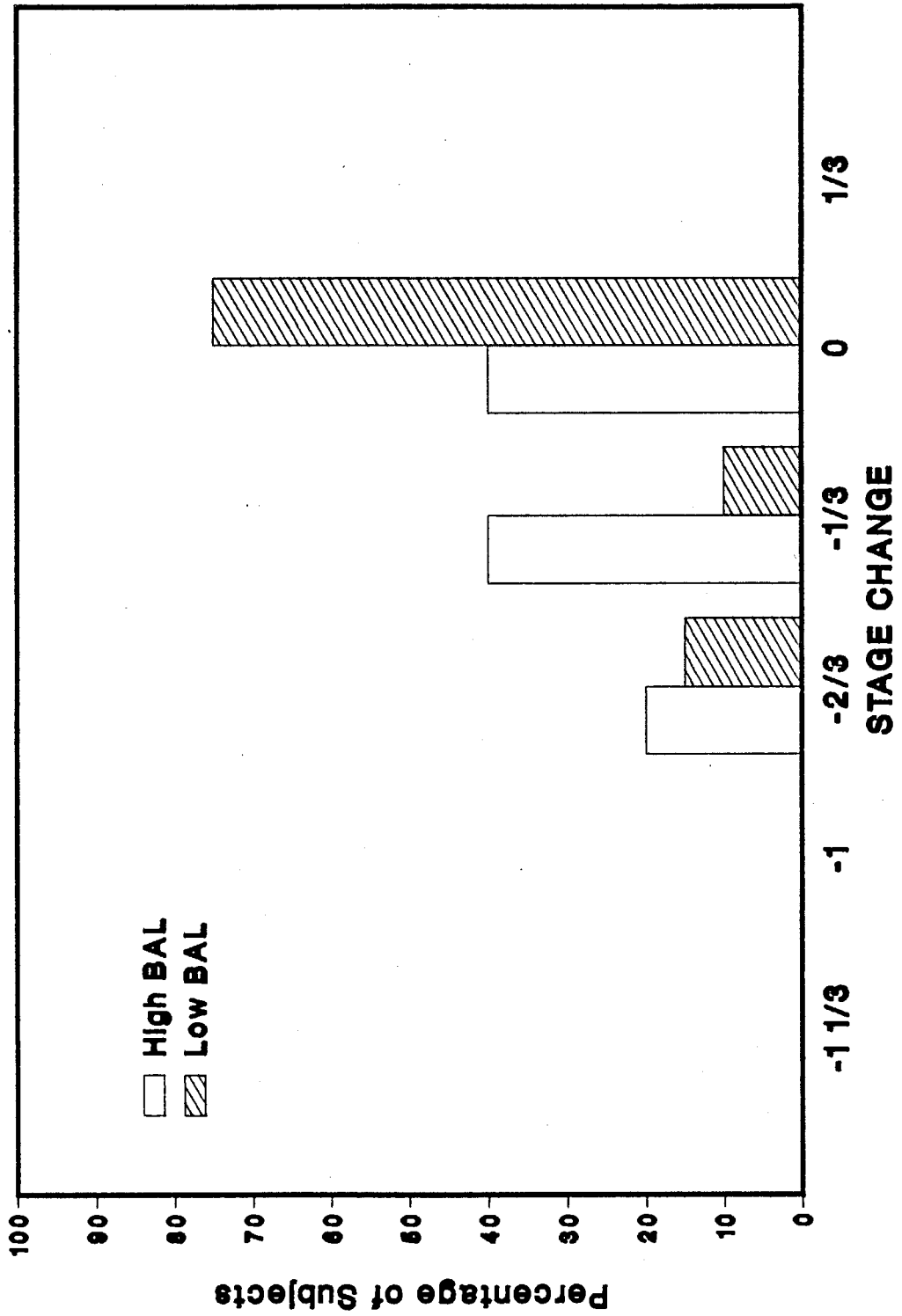
**Figure 2.**  
**Kohlberg Moral Maturity Scores Across Contexts**



**Figure 3.**  
**Moral Maturity Difference Scores**  
**for Subjects at High and Low BALs**



**Figure 4.**  
**Percentage of Subjects Experiencing Stage Change**



experienced at least a Minor Stage reduction, 75% (N = 12, 6 males and 6 females) had High BALs.

### Consistency in Moral Reasoning Across Kohlberg and Drinking and Driving Dilemmas

Moral maturity scores on the Drinking and Driving Dilemma were highly reliable (80% were within 33 MMS points, based on a sample of 25% of the dilemmas from each context; N = 20). In the following sections, moral reasoning about drinking and driving is compared to moral reasoning about the philosophical dilemmas on Kohlberg's test, first for subjects in the Social Drinking context, then for subjects making hypothetical judgments about themselves, then for subjects making hypothetical judgments about others.

Kohlberg vs. Drinking and Driving: Social Context. The mean MMS obtained on the Drinking and Driving Dilemma in the social drinking setting was 241; the mean MMS obtained on the Kohlberg dilemmas in the same setting was 287, for a difference of 46 MMS points (see Figure 5). A 2 (Sex) x 2 (BAL) x 2 (Type of Dilemma: Kohlberg vs. Drinking and Driving) ANOVA, with repeated measures on the last measure and MMS as the dependent variable produced a highly significant  $F(1, 36)$  of 66.19 for Type of Dilemma ( $p < .00001$ ). Neither Sex ( $F(1, 36) = 1.35$ ) nor BAL ( $F(1, 36) = 0.63$ ) moderated this main effect.

Kohlberg vs. Drinking and Driving: Hypothetical Self. In the social drinking setting subjects reasoned about the morality of drinking and driving from the perspective of someone actually facing the dilemma. In the Hypothetical Self context subjects were asked to imagine they were in such a situation. To determine whether the behavioral demands of the experimental situation or the involvement of the self in moral reasoning

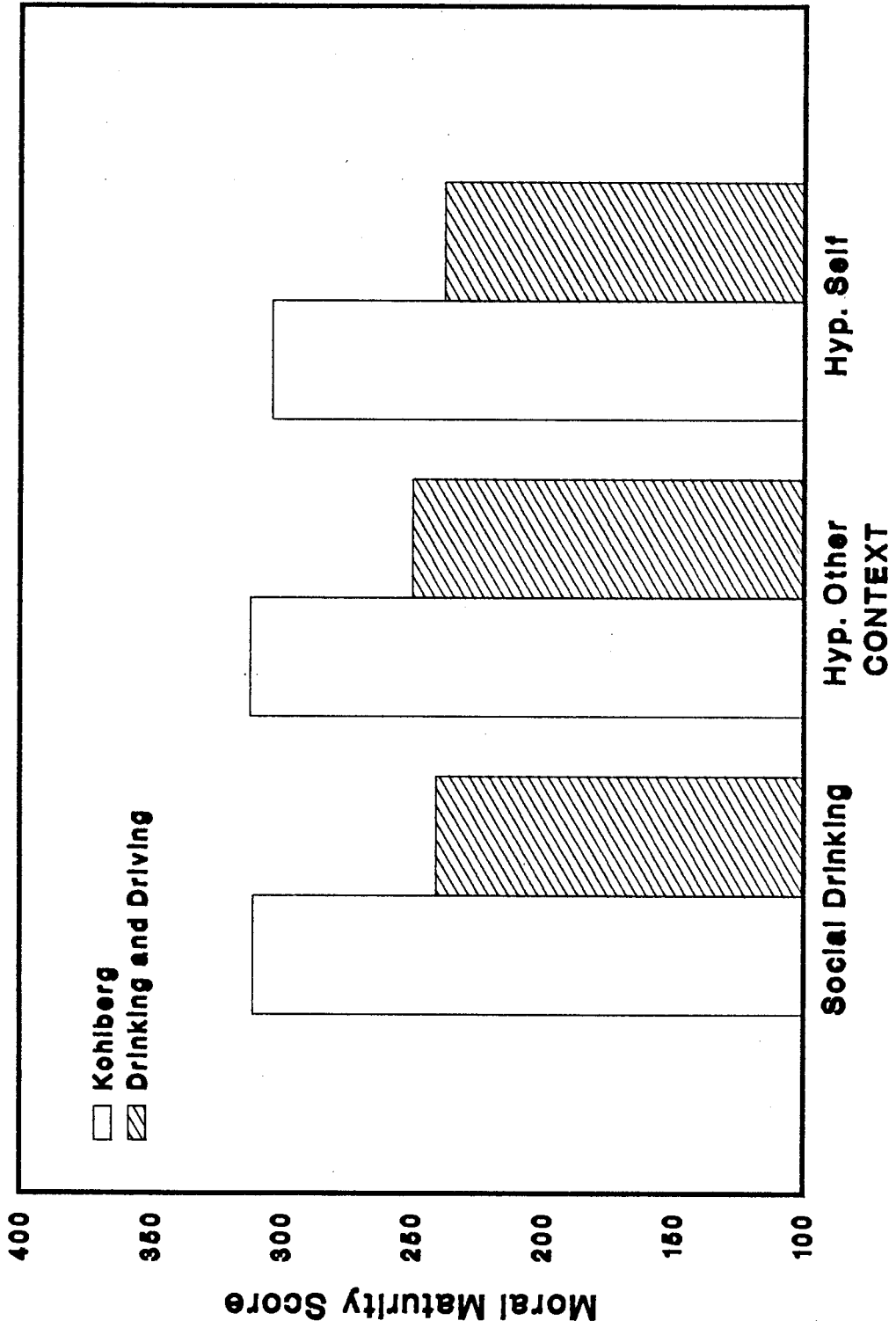
produced the effects observed in the Social Drinking context, a 2 (Sex) x 2 (Type of Dilemma: Kohlberg vs. Drinking and Driving) ANOVA, with repeated measures on Type of Dilemma and MMS as the dependent variable was conducted for subjects in the Hypothetical Self context. This analysis produced a significant main effect for Type of Dilemma ( $F(1, 18) = 46.51, p < .00001$ ) which was consistent across Sex. The direction of this effect was the same as the one observed for subjects in the social setting--the Drinking and Driving Dilemma elicited significantly lower moral reasoning ( $M = 238$  MMS points) than the Kohlberg dilemmas ( $M = 304$  MMS points; see Figure 5).

Kohlberg vs. Drinking and Driving: Hypothetical Other. Because the difference between Kohlberg MMS and Drinking and Driving MMS was significant for subjects in both the Social Drinking and Hypothetical Self contexts, the observed difference may have been due to the fact that the drinking and driving dilemmas involved the self and the Kohlberg dilemmas involved hypothetical others. To test this possibility, a 2 (Sex) x 2 (Type of Dilemma) ANOVA, with repeated measures on Type of Dilemma was conducted on the MMSs of subjects in the Hypothetical Other group. This analysis produced a significant main effect for Type of Dilemma ( $F(1, 18) = 48.87, p < .00001$ ). Once again, as shown in Figure 5, subjects scored higher on the Kohlberg dilemma ( $M = 312$ ) than the Drinking and Driving dilemma ( $M = 250$ ).

Kohlberg vs. Drinking and Driving: Across Groups. To determine whether the differences in moral reasoning observed across the two types of dilemma varied significantly across the three groups, a 3 (Group: Experimental, Hypothetical Other, Hypothetical Self) x 2 (Type of Dilemma) ANOVA, with repeated measures on the last variable was conducted. This analysis failed to produce a main effect for Group ( $F(2, 77) = 1.58$ );



**Figure 5.**  
**Kohlberg vs. Drinking and Driving Across Contexts**



however, a marginally significant Group x Dilemma interaction was produced ( $F(2, 77) = 2.14, p = .12$ ) based on the tendency for the differences in moral maturity to be greater in the two hypothetical contexts ( $M = 64$ ) than in the Social Drinking context ( $M = 46$ ; see Figure 5).

#### Prescriptive Judgments: Should People Drink and Drive?

The primary moral decision ("deontic choice") in the Drinking and Driving Dilemma related to whether the subject (or a hypothetical character named Jack in the Hypothetical Other group) should drive home after consuming enough alcohol to be legally impaired. The mean prescriptive ("should drink and drive") score for subjects in the Social Drinking context was 0.2--nearly every subject said he or she definitely should not drive home impaired. Nearly perfect agreement in opposition to drinking and driving was also reported by subjects who were asked to imagine a hypothetical drinking and driving dilemma involving themselves ( $M = 0.15, SD = 0.6$ ) and others ( $M = 0.10, SD = 0.4$ ).

#### Differences Among Prescriptive Questions

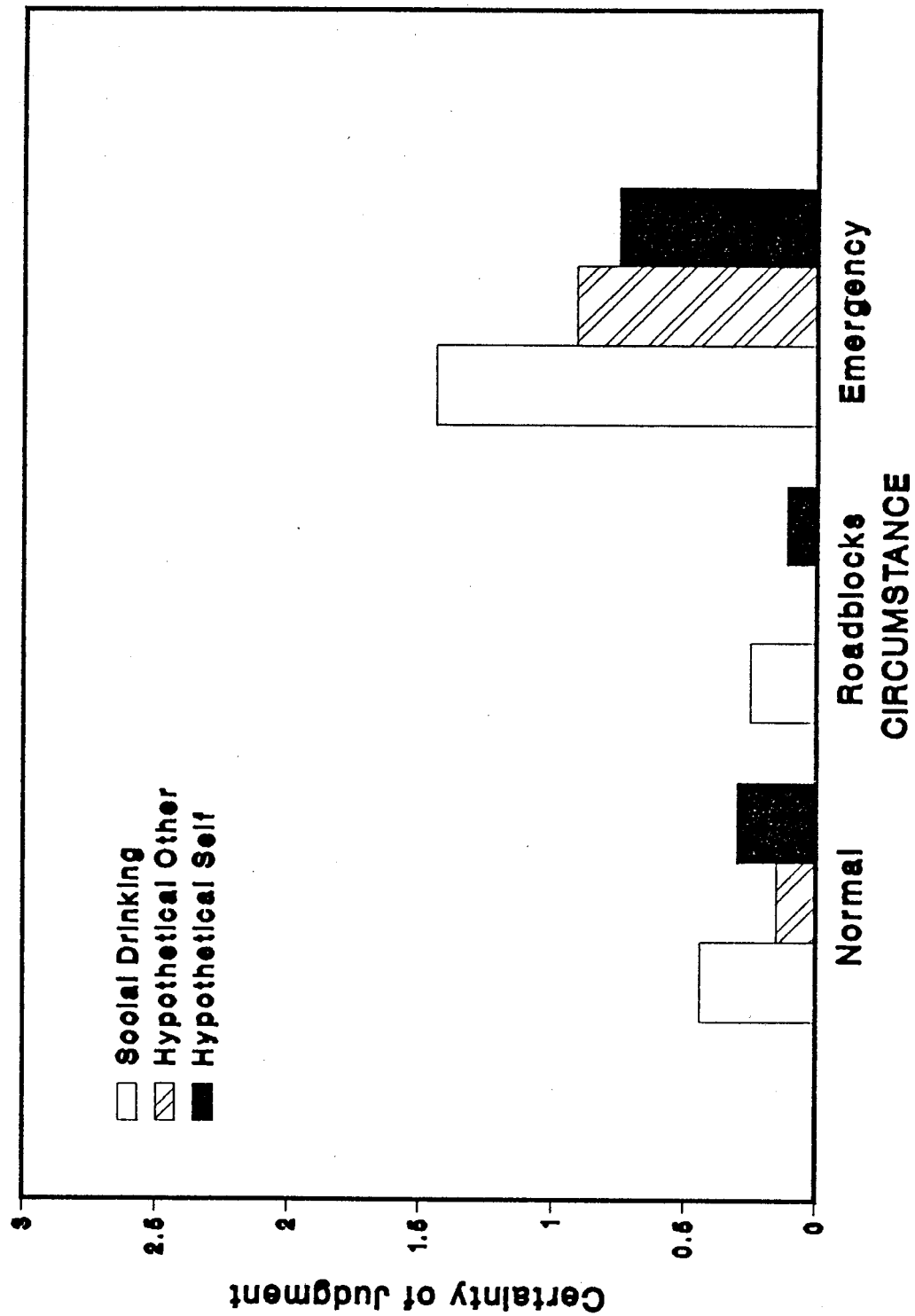
In addition to the primary question, subjects were asked seven qualifying questions (e.g., Should you drive if you've had enough to be legally impaired but don't feel drunk?). These questions were combined into three sets of conceptually distinct moral decisions: (1) should you (or Jack) drive under normal circumstances, (2) should you (or Jack) drive if there are roadblocks, and (3) should you (or Jack) drive in the event of a medical emergency. Only one of these three aggregate questions needs clarification--the one involving normal circumstances. Normal circumstances were defined by the absence of unusual external pressures on decision making. The questions which were combined to produce this prescriptive measure were: (1) the primary question ("Should you (or Jack)

drive home...?"), (2) a qualification involving a subjective assessment of drunkenness ("What if you (or Jack) don't feel drunk..?"), (3) a qualification concerning taking extra care when driving ("What if you (or Jack) drive with the intention of driving more carefully than usual?"), and (4) a question involving abiding by a contract to drive friends home ("What if you (or Jack) had promised your friends a ride home...?").

To test whether people in the Social Drinking setting prescribed different courses of action under different circumstances and at various levels of intoxication, a 2 (BAL) x 2 (Sex) x 3 (Question: Normal Conditions, Roadblocks, Medical Emergency) ANOVA, with repeated measures on Question and certainty of judgment as the dependent variable, was conducted. This analysis produced only one significant effect, a main effect for Question ( $F(2, 72) = 22.20, p < .00001$ ). As shown in Figure 6 subjects judged that drinking and driving was morally permissible only in the event of a medical emergency, and, even then, they qualified their responses. This effect was not moderated by any interactions. Similar effects to those reported above were produced by 2 (Sex) x 3 (Question) ANOVAs, with repeated measures on Question and certainty of judgment as the dependent variable on the Hypothetical Self group ( $F(2, 36) = 3.64, p = .03$ ), and the Hypothetical Other group ( $F(2, 36) = 13.54, p = .0005$ ).

As shown in Figure 6, subjects in the Social Drinking setting were somewhat more inclined than subjects in the two Hypothetical control groups to prescribe driving while impaired in the event of a medical emergency. This difference, however, was only marginally significant. A 3 (Group) x 3 (Question) ANOVA with repeated measures on Question produced an  $F(2, 76)$  of 2.55,  $p = .08$ .

**Figure 6.  
Prescriptive (Should) Judgments**



## Moral Maturity and Prescriptive Judgments

Since virtually everyone was opposed to drinking and driving in response to two of the aggregate questions (i.e., under normal circumstances and when roadblocks are set up), moral maturity does not appear to influence these prescriptive judgments. For the question about driving while impaired in the event of an emergency, however, there was sufficient variance to test whether subjects at different levels of moral maturity prescribe different courses of action for themselves (or Jack) in the event of a medical emergency. A 3 (Group) x 2 (Kohlberg MMS: High/Low) ANOVA, with certainty of prescriptive judgment on this question as the dependent variable, however, failed to produce a significant main effect for Kohlberg score ( $F(1, 73) = 1.47$ ). Subjects at low and high levels of moral maturity were equally likely to permit drinking and driving in the event of a medical emergency.

### Predictive Judgments: Would People Drink and Drive?

Each of the eight prescriptive questions discussed in the previous section had a matched predictive question (see Appendices A, C and D). Consider the predictive judgments of subjects in the three groups to the primary question ("Would you (or Jack) drive home even though you (he) may be legally impaired?"). Subjects in the Social Drinking setting obtained a mean predictive score of 1.45 (corresponding to a qualified "no, I would not drive home"). However, there was a full range of responses: 43% (N = 17) of subjects in the Social Drinking setting responded to this question positively and without qualification--they would definitely drive home--, 15% (N = 6) thought they would drive, but qualified their response, and 40% (N = 16) predicted they would not drive. In comparison, the mean predictive score on the primary question for subjects in the Hypothetical

Self group was 0.3--85% (N = 17) of subjects in this group predicted they would not drive. Interestingly, subjects in the Hypothetical Other group had the highest mean predictive score for the primary question ( $\underline{M} = 2.2$ ). Most people predicted that Jack would drive home without qualification (55%, N = 11), a minority of subjects thought he would drive under some circumstances (30%, N = 6) and only 3 subjects (15%) thought Jack would refrain from driving impaired.

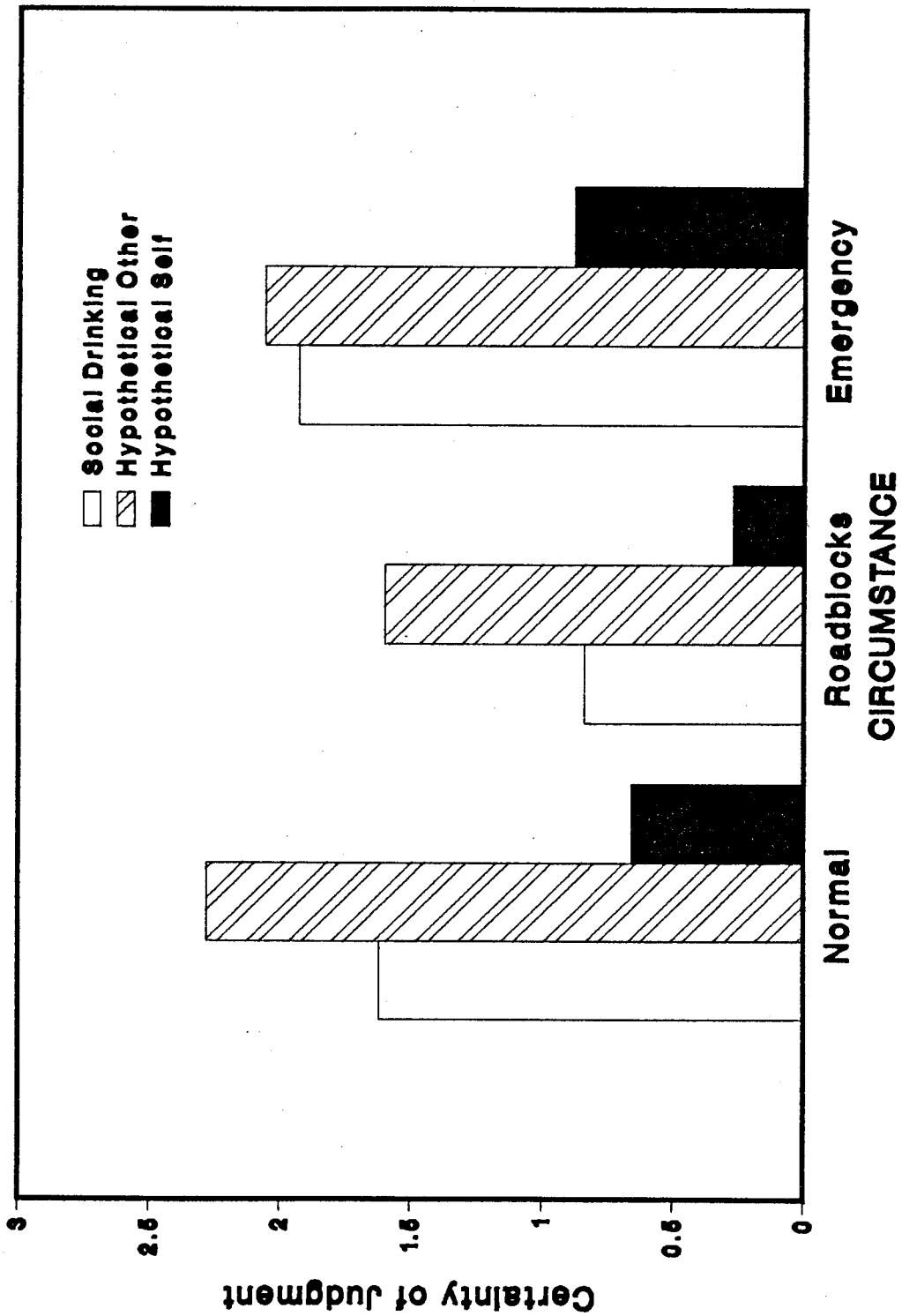
#### Differences Among Predictive Questions

Predictive questions were combined in the same way as prescriptive questions to produce three sets of conceptually distinct questions. Answers to predictive questions followed a similar pattern across groups (see Figure 7). Subjects were more certain they (or Jack) would drive impaired in the event of a medical emergency and under normal conditions than when roadblocks were set up. A 3 (Group) x 3 (Question) ANOVA, with repeated measures on Question, and certainty of judgment as the dependent variable revealed significant main effects for Question ( $\underline{F} (2, 148) = 15.55, p = .00001$ ) and Group ( $\underline{F} (1, 74) = 11.34, p = .0001$ ). As shown in Figure 7, the main effect for Question was most pronounced in the Social Drinking group ( $\underline{F} (2, 70) = 17.80, p < .00001$ )--although the effect was also significant for subjects reasoning hypothetically about themselves ( $\underline{F} (2, 36) = 3.47, p .04$ ) and others ( $\underline{F} (2, 36) = 3.19, p = .05$ ). Note, these effects were not moderated by Sex or BAL.

#### Moral Maturity and Predictive Judgments

A series of 3 (Group) x 2 (Kohlberg MMS: High/Low) ANOVAs, with certainty of judgment as the dependent variable, produced no significant main effects for Kohlberg MMS--subjects at High and Low MMSs were equally

**Figure 7.  
Predictive (Would) Judgments**



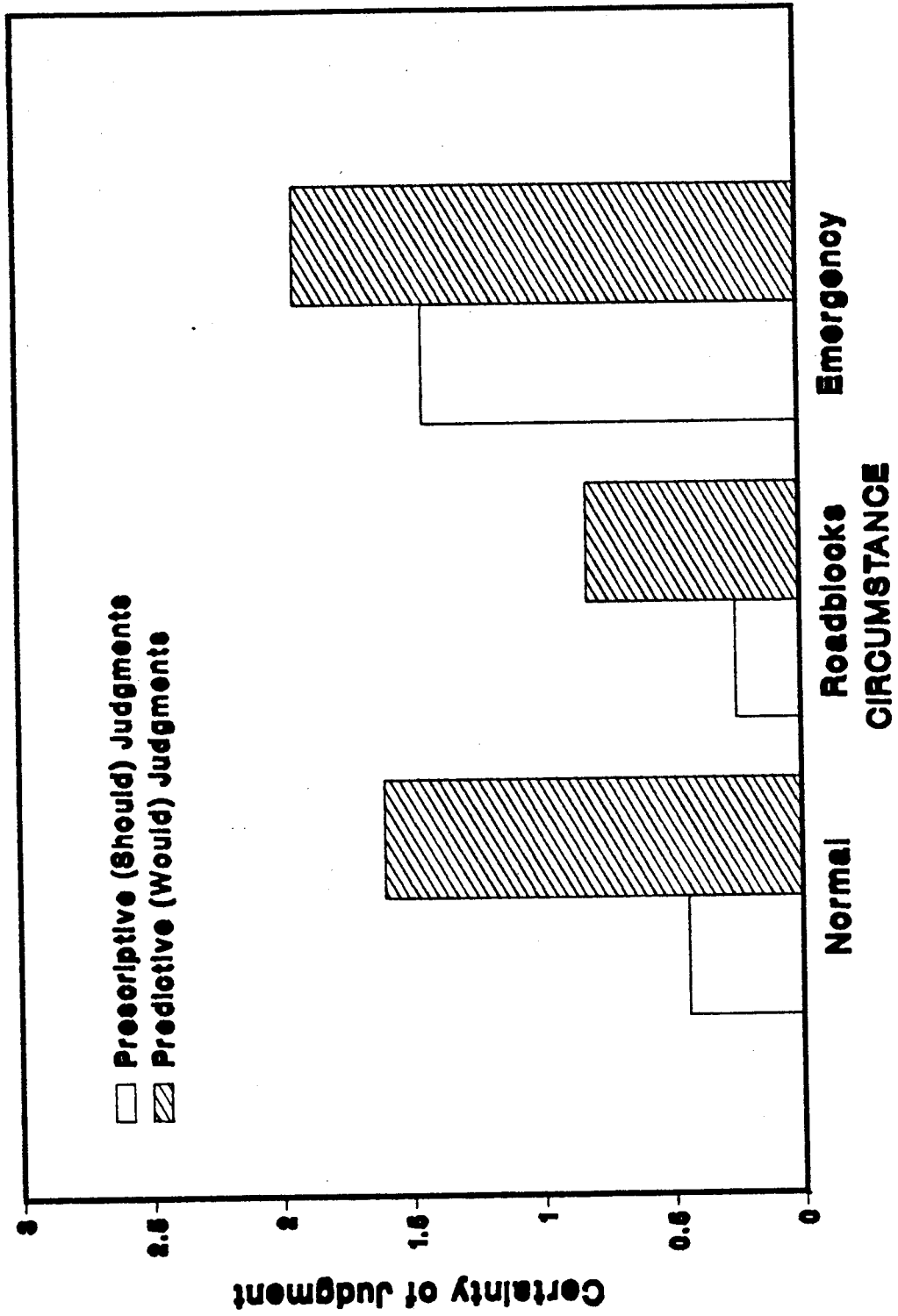
certain that they (or Jack) would drive while impaired across each of the three circumstances ( $F$ 's (1, 74) = 0.14, 0.06, and 0.09).

### The Relationship Between Prescriptive and Predictive Judgments

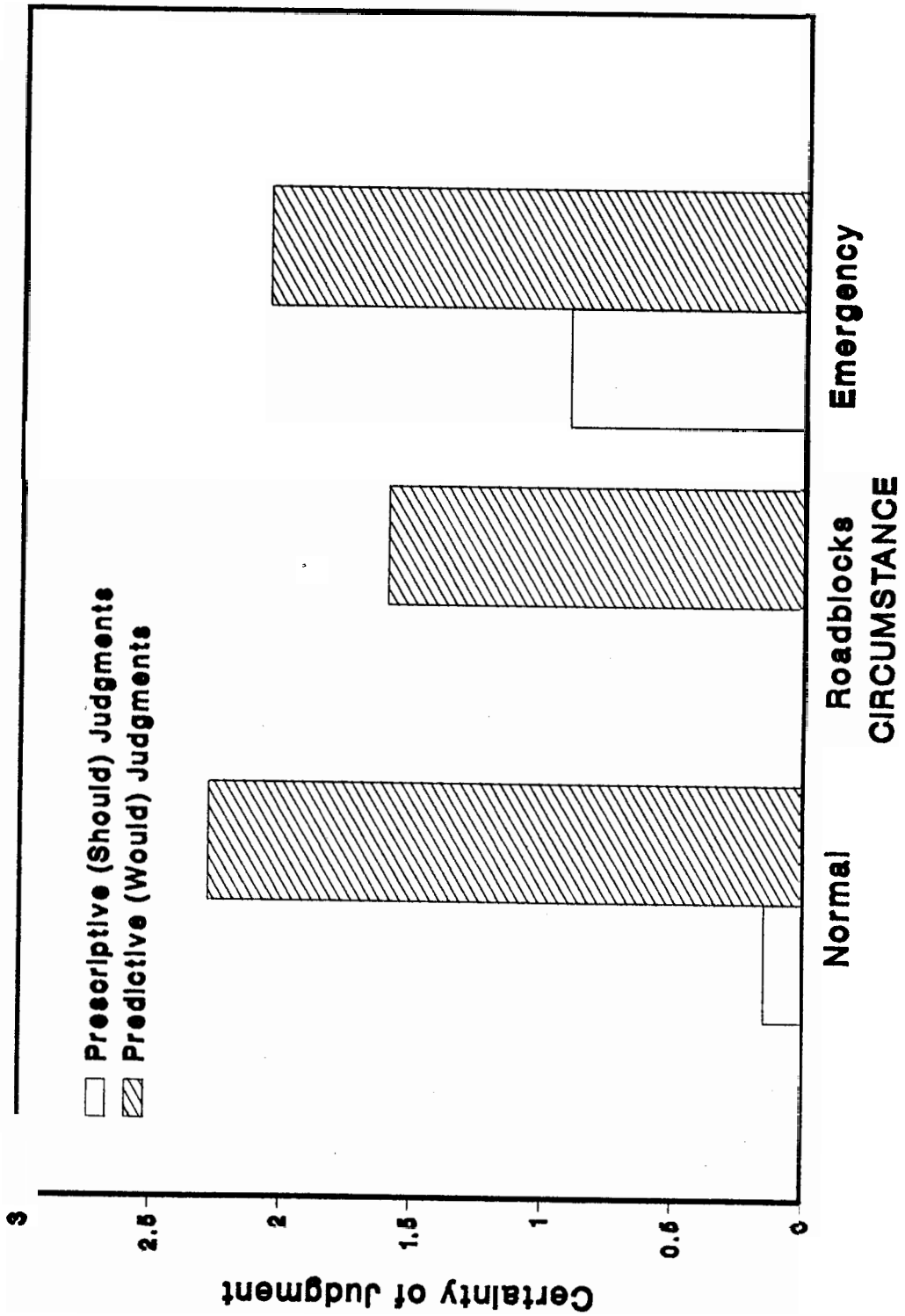
A comparison of the certainty of should and would responses within groups, displayed in Figures 8, 9 and 10, shows that the the two types of judgment are most similar when making hypothetical judgments about the self (Figure 9) and most different when making hypothetical judgments about others (Figure 10). People tend to believe they would do what they should do (not drink and drive) but that others would not do as they should. A series of ANOVAs were conducted to test the statistical significance of the discrepancies between prescriptive and predictive scores for each group. For subjects in the Social Drinking setting, three 2 (BAL) x 2 (Kohlberg MMS) x 2 (Type of Judgment: Prescriptive vs. Predictive) ANOVAs, with repeated measures on Type of Judgment, and certainty as the dependent variable were conducted: the first for judgments about drinking and driving under normal circumstances, the second for judgments about drinking and driving during times when roadblocks are set up, and the third for judgments about drinking and driving in the event of a medical emergency. These analyses revealed that people's prescriptive and predictive judgments were significantly different when reasoning about drinking and driving under normal circumstances ( $F$  (36, 1) = 44.27,  $p < .00001$ ), when roadblocks are set up ( $F$  (1, 36) = 5.96,  $p = .01$ ), and in the event of a medical emergency ( $F$  (1, 36) = 11.16,  $p = .002$ ). As shown in Figure 8, people were more certain they would drive than that they should. This effect was independent of moral maturity and BAL.



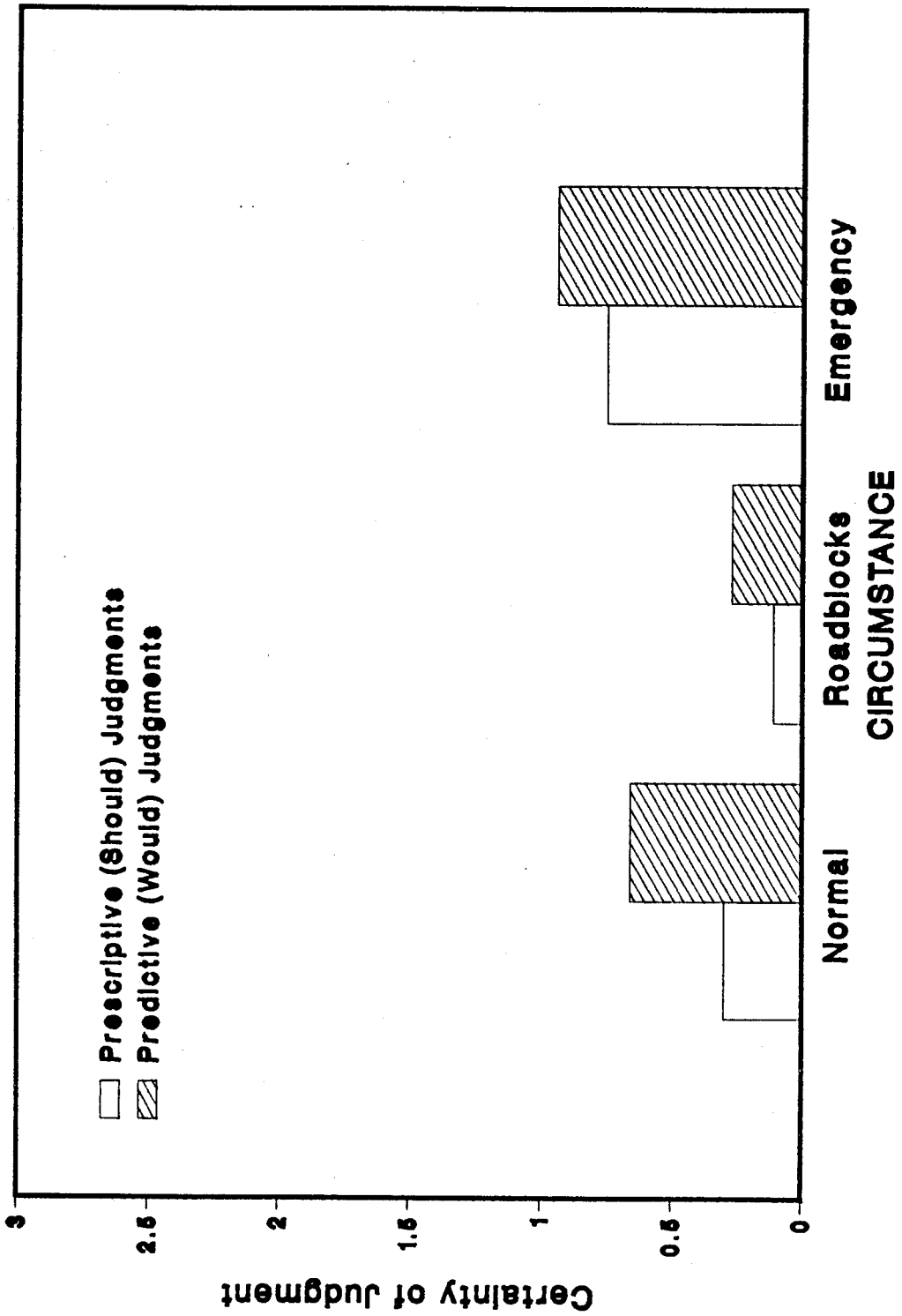
**Figure 8.**  
**Comparison of Prescriptive and Predictive Judgments**  
**Social Drinking Context**



**Figure 9.**  
**Comparison of Prescriptive and Predictive Judgments**  
**Hypothetical Other**



**Figure 10.**  
**Comparison of Prescriptive and Predictive Judgments**  
**Hypothetical Self**



Subjects in the Hypothetical Other group were similarly inconsistent in their prescriptive and predictive judgments. Three 2 (Kohlberg MMS) x 2 (Type of Judgment) ANOVAs, with repeated measures on Type of Judgment, similar to the above, produced virtually identical results. Subjects in this group judged that Jack would drink and drive, even though he should not, under normal circumstances ( $F(1, 18) = 87.04, p < .00001$ ), when roadblocks are set up ( $F(1, 18) = 24.17, p = .0001$ ), and in the event of a medical emergency ( $F(1, 18) = 16.84, p = .0007$ ).

In contrast to these results, subjects in the Hypothetical Self group were notably consistent in their prescriptive and predictive responses: ANOVAs similar to those conducted on the Hypothetical Other group failed to produce any significant effects for Type of Judgment across the three circumstances ( $F$ 's  $(1, 18) = 1.25, 1.32, \text{ and } 0.72$ ). When people make hypothetical judgments, they think they would do as they should, but that others would not.

#### The Relationship Between Moral Reasoning and Moral Behavior

Results relevant to the relationship between moral reasoning and moral behavior are discussed in three sections. In each section a different reasoning-behavior comparison is drawn. The first section examines the relationship between the moral maturity of subjects in the Social Drinking context and a specific behavior--driving home after reasoning about the morality of drinking and driving. The second section examines the relationship between the moral maturity of subjects in all groups and their recent (self-reported) experiences with drinking and driving. The third section evaluates the utility of prescriptive and predictive judgments in predicting frequency of drinking and driving.

## Moral Reasoning and Moral Behavior in a Social Drinking Context

Ninety-three percent of the subjects in the Social Drinking setting said they should not drive impaired. Recall that half of the subjects in this condition were impaired at the time of testing. The number of subjects who became impaired after being tested is unknown. With this in mind, it is notable that, with only one exception, every subject who had driven to the bar (or party) drove home ( $N = 26$ ).<sup>2</sup>

To test whether the MMSs of subjects who drove to and from the pub or party were significantly different from the MMSs of subjects who did not drive, two one-way ANOVAs with High/Low Kohlberg MMS as the independent variable and driving as the dependent variable were conducted, the first using MMSs obtained in the Social Drinking setting, the second using MMSs obtained in the Academic setting. None of these analyses produced significant effects for MMS ( $F$ 's (1, 38) = 0.71 and 0.41 for Social Drinking context and Academic context, respectively). Subjects at High and Low levels of moral maturity were equally likely to drive after drinking.

A similar ANOVA to the above was conducted using High/Low Drinking and Driving MMS as the independent variable and driving as the dependent variable. This analysis failed to produce a significant effect for Drinking and Driving MMS ( $F$  (1, 38) = 1.77).

## Moral Reasoning and Self-Reported Drinking and Driving

A measure of the frequency with which subjects customarily drink and drive was derived from responses to three questions: (1) "How often are you in a situation where you need to drive but have been drinking?", (2) "What do you usually do in this situation?", and (3) "Have you ever deviated from

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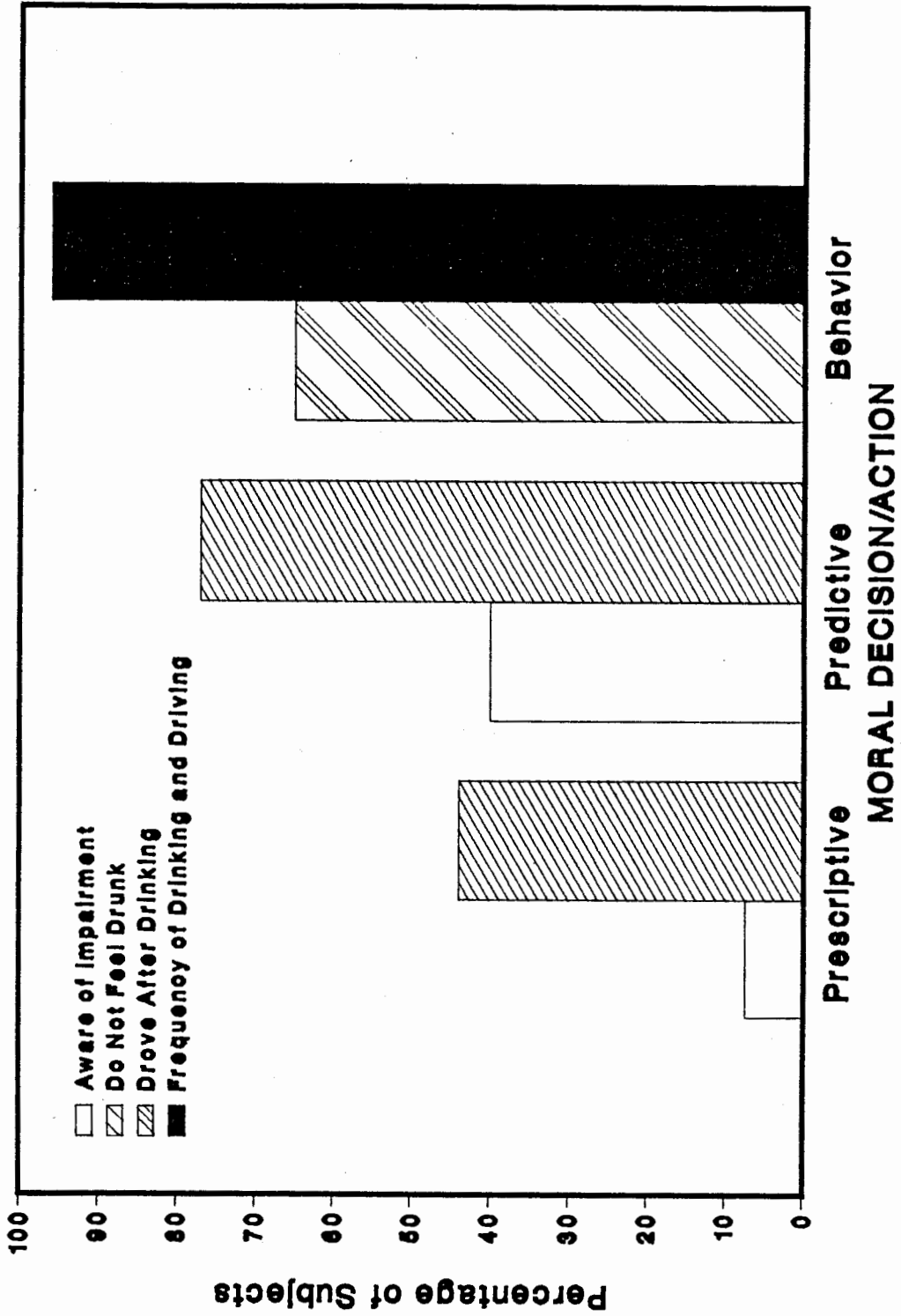
2. Thirteen subjects who volunteered to take part in the study did not drive to the pub or party.

this behavior (and driven while impaired), if so, how often and in what circumstance?" For the sample as a whole, 95% (N = 76) reported that they had driven while impaired on at least one occasion; three of the four subjects who had never driven while impaired did not have driver's licences. Thirty-seven percent of the subjects reported they had never repeated the offense, 40% reported they had driven impaired on a few occasions, 13% reported driving while impaired often, and 5% reported they frequently drove impaired. The mean frequency score for drinking and driving was 0.8--on average, subjects reported driving while impaired on "a few occasions." With frequency of drinking and driving as the dependent variable, a series of 2 (Sex) x 2 (Kohlberg MMS) ANOVA were computed. These analyses failed to produce any significant effects or interactions--males and females at high and low levels of moral maturity were equally prone to report drinking and driving. Virtually identical results were produced for a similar set of ANOVAs using Drinking and Driving MMSs.

#### Prescriptive and Predictive Judgments and Self-Reported Drinking and Driving

Although virtually everyone said they (or Jack) should not drink and drive, virtually everyone had driven impaired in the past; and only one subject in the Social Drinking context acted on his moral conviction. In general, prescriptive judgments about drinking and driving did not relate to behavior. Predictive judgments provided a better indication of how people behaved, both in specific instances and in general. The relationship between subjects' prescriptive and predictive judgments and behavior is displayed in Figure 11. Note that the judgment which relates most closely to behavior stems from the question "Would it be okay for you (or Jack) to drive if you (or he) do (does) not feel drunk?".

**Figure 11.**  
**Percentage of Subjects in the Social Drinking Group**  
**Prescribing, Predicting, and Doing Immoral Behaviour**



To determine the utility of prescriptive and predictive judgments for predicting the frequency with which subjects drive impaired, two regression analyses were conducted: one for subjects in the Social Drinking group and one for subjects in the Hypothetical Self group. Responses to all eight prescriptive and predictive questions were entered into the multiple regression analyses. These analyses produced different results.

Prescriptive and predictive judgments made by subjects in the Social Drinking context were useful for explaining why these subjects drove impaired in the past. Responses to the question "Would you drive home tonight if you are impaired?" accounted for 36% of the total variance in the frequency of self-reported drinking and driving behavior (multiple  $R = .60$ ,  $p < .01$ ). Responses to the question "Should you drive with the intention of driving more carefully than usual?" accounted for a further 17% of the total variance (multiple  $R = .73$ ,  $p < .01$ ). However, for subjects in the Hypothetical Self group, prescriptive and predictive judgments failed to explain any of the variance in the frequency with which these subjects drove impaired in the past.

Because individuals within groups differed with respect to such things as the frequency and quantity of alcohol they normally consume per week and the frequency with which they attend social occasions, it was felt that predictive power may be increased by including these and other variables (i.e., age, years post secondary education, extent to which people take precautions for drinking and driving when going out, and the degree to which people exercise post drinking safety measures such as leaving the car behind and taking a taxi home) in the multiple regression analysis. The results of these analyses were more similar across groups than the previous analyses. In both cases, the best predictor of frequency of drinking and



driving was the frequency with which people reported driving to social occasions--accounting for 52% of the variance for subjects in the Social Drinking group (multiple  $R = .72$ ,  $p < .01$ ) and 75% of the variance for subjects in the Hypothetical Self group (multiple  $R = .86$ ,  $p < .01$ ). No other variables significantly contributed to the percentage of explained variance in impaired driving.

CHAPTER V  
DISCUSSION

Kohlberg's Moral Judgment Interview assesses people's competence in moral reasoning; it supplies a measure of ideal moral reasoning. However, the abilities demonstrated by people in response to the dilemmas on Kohlberg's test are not necessarily representative of the way they reason in their everyday lives. In everyday life people may reason below their level of competence, for a variety of reasons. Thus, people may not behave in accordance with their ideal moral principles--for example they may not do as they would have somebody do unto them (Stage 3), but, rather they may do what is best for them (Stage 2). As recognized by Kohlberg in his latest writings, moral performance--the judgments people actually make--not competence--the judgments they are capable of making--relate to moral behavior (Colby & Kohlberg, 1987, p. 7). Therefore, to predict what someone in a given situation will do when faced with a moral decision, it is better to know how they conceptualize the moral issue at that time, in that context, than to know how they conceptualize it under ideal circumstances.

The Consistency of Moral Reasoning about Kohlberg Dilemmas Across Contexts

As predicted, people used lower structures when reasoning about the dilemmas from Kohlberg's test in the Social Drinking context than they did when reasoning about matched dilemmas in the Academic context, especially when intoxicated. Consider, for example, one subject's responses to two matched interview questions: When asked in the Social Drinking context "Thinking in terms of society, should people who break the law be punished?" the subject, whose BAL was .14, replied "Yes, to supposedly

prevent that person from acting in the same way again." Later, in the Academic context, the subject gave this response to the same question on the alternate form of Kohlberg's test:

Yes, to show society that there are laws set up for protection of I guess the criminal, as well as society. To show that they can lead an orderly life or live within the terms that they themselves have chosen. As a society you live by certain rules, you don't do this, you don't do that, it's okay to do this but it's not okay to do that. I guess by passing a sentence upon somebody that's committed a crime, you're removing their influence and preserving a better attitude towards the legal system.

In the Social Drinking context, the subject was concerned with the repetition of a crime by an individual. Punishment was favored because it deters individuals from repeating the same offense. This judgment reflects Stage 2 reasoning because punishment is instrumentally valued. In contrast the subject demonstrated Stage 4 reasoning in the Academic context-- punishment was valued because it protects society and preserves a positive attitude toward the legal system.

Inconsistencies in moral reasoning across the Academic and Social Drinking contexts may be explained in two ways. First, they may be due to the pharmacological effects of alcohol on people's ability to reason about moral issues. This explanation is consistent with the finding that inconsistency in moral reasoning is greater for subjects with High BALs. Subjects with High BALs may have experienced significant reductions in their moral maturity scores in the Social Drinking Setting because they consumed enough alcohol to alter their cognitive processes; and subjects with Low BALs may have experienced less significant reductions in moral maturity because they did not consume enough alcohol to be influenced.

However, Low BAL subjects, most of whom had consumed very small amounts of alcohol, also experienced stage change, though only marginally

significant. This finding, in conjunction with the findings of the Graham et al. (1979) study reported earlier--subjects who had consumed moderate amounts of alcohol experienced no significant impairment in their ability to identify moral responses on Rest's Defining Issues Test--suggests that alcohol alone is not producing the reduction in moral maturity experienced by Low BAL subjects. Accordingly, a second explanation, based on an interaction between the social setting and alcohol, seems to supply a better explanation.

An important part of this study was the naturalistic setting in which it was conducted. The social drinking setting is the most appropriate place to examine people's perspectives on drinking and driving, after all, the decision to drive impaired is usually made in this environment. Therefore, just as it is important to analyze the role that alcohol plays in influencing moral decisions, it is important to analyze the role that the social environment plays. In general, the environment of a drinking establishment is not conducive to philosophical thinking (Cavan, 1966). This is not to say that people in pubs or bars never get into philosophical discussions, but, rather to assert that this setting is not conducive to high level moral reasoning. Most people go to bars to relax, leave their troubles behind, enjoy themselves, and socialize, in the many meanings of the concept. This kind of setting is self-oriented, people seek to satisfy their own needs, and interests. In moral development terms, it is a Stage 2 environment where people are not encouraged to engage in high level perspective-taking. With hedonistic enjoyment as the norm, people in this context would likely perceive moral issues from an individualistic (Stage 2) perspective. Accordingly, when asked whether Heinz should steal a drug to save his wife, or whether they should drink and drive, people in this

atmosphere perceive the moral problems through a lens appropriate to the atmosphere--how do I feel about that--and attend to the (Stage 2) instrumental gains or losses of the problem--what will I get out of it.

Social psychologists such as Zimbardo (1969) and Prentice-Dunn and Rogers (1983) have found that people in dynamic groups tend to lose their sense of self-awareness; they become deindividuated. In this state, which is common to people in social settings such as parties, nightclubs, and concerts, people lose touch with their values and standards of behavior. They do not perceive themselves as individuals but as part of a group; they go along with the crowd, guided by group norms (Prentice-Dunn & Rogers, 1983). The predominant norm in social drinking contexts--self-indulgence--is served further by the reductions in self-awareness induced by alcohol (Hull & Young, 1984; Prentice-Dunn & Rogers, 1983). People in this state are uninhibited, pleasure-seeking, and oblivious to the impressions they make on others. In this state of reduced self-awareness, it is not surprising that subjects do not perform at their level of competence on tests of moral reasoning--their moral principles are not salient to them.

Another possible explanation for the poor performance of people in the Social Drinking context follows from the idea that people in all social situations play roles. The roles they play are defined by the situation. When people are given a moral judgment interview in an academic setting they take on the role of a student and do their best to answer the questions. When they are given a similar interview in a Social Drinking setting there are no standards to follow. There are no rules for test-taking in a pub; but there are rules for pub behavior. "The public drinking place is often treated as a setting where a variety of self-indulgent and otherwise improper acts can be engaged in" (Cavan, 1966, p.

68). Alcohol enhances people's tendency to play pub roles; and, therefore, roles inappropriate to the pub, such as student, are preempted. The result of this, according to theorists such as Harre (1985), is that people in the pub will fashion their responses to moral questions in ways appropriate to their audience's expectation (e.g. "she must want the reasoning of a drunk if she's interviewing people in this context"). And, although it is unlikely subjects would be able to anticipate what a low stage Kohlbergian response would sound like to meet their audience's experimental expectations, they may, nonetheless, pattern their judgments after those of a drunk or "party animal" to fulfill the expectations of the experimenter.

#### Kohlberg vs. Drinking and Driving: Consistency in Moral Reasoning Across Dilemmas

It was predicted that subjects in the social drinking context would use lower structures of moral reasoning when reasoning about the Drinking and Driving dilemma than when reasoning about Kohlberg dilemmas, and indeed they did. However, so did subjects in the Hypothetical Self and Hypothetical Other groups. These findings were unexpected. The Drinking and Driving dilemma elicited virtually identical responses across all three conditions. None of the experimental manipulations were successful. Thus, results cannot be attributed to the behavioral demands of the Social Drinking situation or the involvement of the self. Instead, the results must be attributed to something which is consistent across the three contexts, such as familiarity with (Stage 2) reasons for not drinking and driving offered by counterattack media campaigns and social norms, or personal experience with drinking and driving (recall that 95% of the subjects in the study had driven impaired on at least one occasion).

The drinking and driving dilemma is an issue to which most people have

been exposed. In contrast, the abstract philosophical dilemmas on Kohlberg's test involve conflicts which are removed from most people's experience. Kohlberg constructed his interview using unrepresentative conflicts for a purpose--to challenge people and evoke moral reasoning. By introducing unique conflicts to people, Kohlberg hoped to avoid evoking pat answers. The Drinking and Driving dilemma does not have this quality, nor do most moral decisions in everyday life. Most people already have opinions about drinking and driving, some of which may have come from media campaigns. People do not have to work very hard to answer questions about drinking and driving, and neither does the interviewer; in most cases probes, which are essential to uncover people's moral justifications, are inappropriate. Consider, for example a typical exchange between interviewer and subject:

Interviewer: Should you drive home if you are legally impaired?

Subject: No.

Interviewer: Why not?

Subject: Because I might kill someone.

So far the interviewer has established that this subject values life, but does not know why. If probed, the subject might explain that the reason he or she does not want to kill someone is because then he or she would be punished (Stage 2). But probing a response such as "because I might kill someone" seems inappropriate at an interpersonal level, often inducing annoyance or defensiveness--"Isn't that enough?"--especially after the same probe has been used several times, as is typical in a moral judgment interview. For responses to Kohlberg dilemmas, though, probes to seemingly obvious responses are appropriate because the way his dilemmas are structured favoring one value is always at the expense of another. Thus, it is always necessary to explain why one value is preferred over the other. In the Drinking and Driving dilemma, however, with the exception of

a questions which pits life and law against contract (see Appendices A, C, & D, question 8) and three questions which pit law against life (see Appendices A, C, & D, question 10), the values of life and law are in concert. The Drinking and Driving dilemma, then, is one of personal convenience. Note, however, the decision to drive impaired--to oppose the values of life and law--is, nonetheless, a moral decision.

Personal experience with drinking and driving supplies another explanation for the lower structures elicited by this dilemma. In contrast to Kohlberg's dilemmas, which are safe to reason about because the likelihood of ever encountering the situations described in his dilemmas and being forced to live up to one's moral ideals is remote, the Drinking and Driving dilemma addresses issues that people have experienced in the past and will experience in the future. Accordingly, subjects are less inclined to invoke idealized moral principles. They maintain that drinking and driving is wrong, but they tend to give Stage 2 reasons to support their claims (e.g. "I should not drive impaired because I might lose my license or wreck my car"), perhaps because violations of Stage 2 principles are easier to rationalize--"I was only hurting myself by driving impaired."

#### A Structured Whole?

The results of this study, particularly the scores obtained for the Drinking and Driving dilemma, challenge the assumption that moral reasoning is organized as a structure of the whole. If moral reasoning is organized as a structured whole, with new stages displacing old ones, subjects capable of Stage 3 or 4 reasoning should not have supplied Stage 2 justifications for the Kohlberg dilemmas in the Social Drinking context or for the Drinking and Driving dilemma in all contexts. But they did. Kohlberg might account for this inconsistency by attributing it to, what he



calls "performance factors," however, according to Kohlberg's transformational-displacement model, subjects who have reached Stage 3 or 4 should not possess the capacity to use a Stage 2 structure (because it has been integrated in Stage 3), and, clearly, this is not the case.

Levine's model of moral development offers a more compelling and parsimonious explanation than Kohlberg's for the inconsistencies in moral reasoning observed in this study. In line with Levine's model, people in the Social Drinking context reasoned at lower stages on Kohlberg's test because those stages were still available to them--they had not been transformed by higher stages. Alcohol and social setting impaired people's ability to use and/or articulate higher stage moral principles, so they drew from simpler structures. Had the lower stage structures not been available, they would not have been used.

#### The Consistency of Prescriptive and Predictive Judgments

Subjects in all conditions thought they (or Jack) should not drink and drive. A few subjects, primarily those with low moral maturity scores in the Social Drinking context, were somewhat inclined to permit drinking and driving in the event of a medical emergency, however, they still maintained that impaired driving should be avoided. The similarity between subjects' judgments in each of the three conditions demonstrates that the social setting and alcohol do not appear to inhibit people's ability to make socially responsible prescriptive judgments.

Even though there was agreement among subjects in each condition regarding what people should do when faced with a decision about drinking and driving, there was considerable disagreement regarding what people actually would do. The majority of subjects in the Social Drinking context said they would drive impaired in response to the primary question in the

Drinking and Driving dilemma (i.e., "Would you drive home even though you may be legally impaired?"). The only circumstance in which subjects in this context qualified their prediction was in response to the question about roadblocks--when roadblock are set up the majority would not drive. A similar pattern of results was observed for subjects who predicted what a hypothetical character named Jack would do in a potential drinking and driving situation. For Jack, there was almost perfect agreement--he would drive--in all circumstances. To substantiate this prediction, some of the subjects in the Hypothetical Other group attributed negative character traits to Jack:

Sure, sure he'd drive his friends home. He's a barfly.

He wasn't responsible enough to think about it ahead of time, and he doesn't really keep track or how many drinks he's had... so he's not really caring whether he's going to get drunk... so I tend to think he probably would [drive home] even though he senses that he's drunk. He probably would take the chance... He might even consider it a challenge.

In contrast, the few subjects who thought Jack would not drive home tended to make positive attributions about Jack's character:

He pays attention to how intoxicated he is and he's concerned about being a little intoxicated, so I would assume he's quite a careful person and would wait long enough to safely drive home.

It is interesting that these impressions of Jack were generated from the same brief description of Jack's dilemma.

The predictive judgments of subjects in the Hypothetical Self group were dramatically different from judgments made by subjects in the Social Drinking and Hypothetical Other groups. Subjects in this group believed they would not drive impaired. Given the similarity between groups in terms of age, years of post secondary education, drinking habits, and experience with drinking and driving, it is safe to conclude that people underestimate their likelihood of drinking and driving when making

hypothetical judgments. The results of regression analyses were consistent with this conclusion. The prescriptive and predictive responses of subjects in the Hypothetical Self group did not correspond with their self-reported drinking and driving behavior. They did, however, for subjects in the Social Drinking group (but, even for subjects in the Social Drinking group, the best predictor of impaired driving was the frequency with which people go out to drink).

It is not surprising that the predictive judgments of subjects in the Social Drinking context were more consistent with their behavior, and less consistent with their moral ideals, than subjects in the Hypothetical Self group given the context in which the questions were asked. Subjects in the Social Drinking context made a prediction about a highly specific behavior--what they were going to do in a few hours, whereas subjects in the Hypothetical Self group were predicting how they would behave on an unspecified hypothetical occasion. Accordingly, subjects in the Social Drinking context knew what they are going to do whereas subjects in the Hypothetical Self group could only speculate. Subjects in the Social Drinking context did not have the freedom to speculate. They were facing the decision in a few hours and would be held accountable for their behavior. They admitted they would drive home because that is what they intended to do, and have done in the past. As for subjects in the Hypothetical Other condition, they simply made ungenerous predictions about Jack, as people often do when making judgments about others (see Fiske & Taylor, 1984; Ross & Fletcher, 1985).

#### The Disparity between Reason and Action: Understanding the Drinking Driver

Since there was agreement about what people in a drinking and driving situation should do, according to Kohlberg and Candee (1984) there should

be a monotonic increase in the relationship between reasoning and behavior: subjects at higher stages of moral reasoning should be less likely to drive while impaired than subjects at lower stages. This hypothesis, however, was not supported. There was virtually no variance in subjects' behavior. With only one exception (a subject who scored at Stage 3 on Kohlberg's test), every subject who drove to the pub or party drove home. A similar finding was observed in the self-report data: subjects with high and low Kohlberg moral maturity scores reported drinking and driving on at least a few occasions. On the basis of these results, it seems that moral reasoning and stage of moral development have no impact on drinking and driving<sup>1</sup>--even when people are made to consider the behavior in moral terms prior to doing it.

However, these results do not necessarily oppose the Kohlberg and Candee model of the relationship between moral reasoning and moral behavior due to the inconsistency in subjects' prescriptive and predictive judgments. Recall that Kohlberg and Candee (1984) maintain that responsibility links prescriptive judgments to predictive judgments and that judgments of responsibility are necessary for moral behavior. The finding that prescriptive and predictive judgments are inconsistent in the Social Drinking setting suggests that subjects did not perceive that they had a responsibility to consider the safety of others and not drive. Thus, the absence of responsibility, and not the failure of moral reasoning to

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1. There were too few Stage 5 subjects in this study to establish a trend--one in the Social Drinking condition and one in the Hypothetical Self group--but, it is worth noting that the subject in the Social Drinking group did not drive to or from the party where he was interviewed and reported driving impaired on only one occasion in the past; and, the subject in the Hypothetical Self group had never driven impaired (recall that only 4 out of 80 subjects had never driven impaired). These findings suggest there is hope for the consistency between judgment and behavior among principled reasoners.

resolve the conflict, may account for the gap between reasoning and behavior. This possibility is consistent with the finding that subjects in the Hypothetical Self group were consistent in their prescriptive and predictive judgments. When people are removed from the social drinking setting they are more willing to take responsibility for their actions.

### Why do People Drive Impaired?

Several explanations may be offered for why people drive impaired. No single explanation, though, is going to explain all drinking and driving. Some people may drive impaired because they believe that the legal limit is too low and feel confident that they can drive safely and/or that they will not get caught for impaired driving. Others may drive impaired out of habit--people usually drive to and from places. And, still others may drive impaired out of ignorance--not realizing they are impaired. The first two explanations are relatively straight-forward. The third, however, needs further elaboration.

People may drive impaired because they are poor judges of their own level of intoxication (see Beirness, 1984, for a review of research testing people's ability to assess their level of alcohol impairment). Recall that people in social contexts have a reduced sense of self-awareness; and, that people in this state do not attend to cues about themselves. Accordingly, they may miss cues that indicate they are intoxicated, and fail to consider their level of drunkenness before driving. People in this state merely act as others act. They do not question the appropriateness of their behavior (Prentice-Dunn & Rogers, 1983). Therefore, when others drive home they do the same.

But, people may differ with respect to the degree to which they get engulfed by situations and act without thinking. Some people may take the

time to evaluate their level of drunkenness before driving. However, this effort may be in vain. Drunkenness is a subjective state, and the social drinking setting is a poor place to evaluate it, as most social behaviors do not require a great deal of coordination, perception, or attention. The result of these kinds of invalid assessments is that people may incorrectly judge their degree of impairment and resolve that they are safe to drive. Consider the following responses to an interview question directed at assessing subjects' perceptions of when they feel they should draw the line and not drive:

When I can't walk straight.

Well, when I start feeling like that I can't see as straight or that I'm like you know weaving or if I can tell myself that I'm drunk, not you know, I wouldn't decide by what the law says you know like sometimes it says I'm over and I'm totally sober.

When I start having problems walking.

With behaviors such as walking and seeing straight as criteria for driving ability, it is no wonder that people drive when they are legally impaired.

Consistent with this perspective, but taking the idea a step further, people may be aware of the degree to which alcohol is affecting their behavior but perceive it as within an acceptable range for driving, after all, they are functioning fine in the social environment. They reconceptualize impaired driving to mean "drunk" driving. Thus, as long as they do not feel drunk they may drive. This explanation offers some insight into why subjects in this and other studies (e.g., Calvert-Boyanowsky & Boyanowsky, 1976; Meier, 1984) drive after learning they are impaired. The term legally impaired is familiar to most people; but few appreciate what it means or know how it feels. It is interesting to note that many people in the Social Drinking context were anxious to take the breathalyzer test to learn what impaired felt like. Because people do not

know what it feels like to be impaired, they interpret "impaired" in a way they can understand, as synonymous with drunk. Therefore, if they do not feel drunk after consuming even large amounts of alcohol they do not perceive themselves as violating their principles against "drunk driving" and drive in good conscience (recall that the majority of subjects felt it was permissible to "drive if they (or Jack) had enough alcohol to be legally impaired but did not feel drunk").

The final explanation offered for why people drink and drive stems from the research of theorists such as Leigh (1987) (see also Lang, 1983; Marlatt & Rohsenow, 1980). According to Leigh, people's expectations about the effects of alcohol on their social behavior, not the pharmacological effects of the drug, cause them to experience emotional and behavior changes and to attribute these changes to the effects of alcohol. Thus, when people want to experience the effects of alcohol (for example, when introducing themselves to members of the opposite sex) they create the expectation and perceive themselves as "under the influence;" but, when they do not want to experience the effects of alcohol (for example, when it is time to drive home), they reduce their expectation and correctly perceive that alcohol is not causing them to feel what they were feeling--it never was--and incorrectly conclude that they are sober. Thus, when it is time to go home and it is no longer appropriate to feel drunk people no longer want or expect to feel the effects of alcohol and suddenly feel fine to drive--"the effects have worn off."

## CHAPTER VI

### CONCLUSION

#### What Can be Done to Prevent Drinking and Driving?

The findings of this study reflect poorly on most of the efforts of drinking and driving intervention strategists. The impact of intervention campaigns seems minimal for people who continue to drive their cars to parties and bars. Indeed, it seems that unless people who go out to social drinking settings plan ahead and designate a member of their group to stay sober for the trip home, stop drinking after a couple of drinks, or use alternate forms of transportation, they will drive home. Therefore, a continuing effort should be made to encourage these kinds of preventative measures. To coin a familiar phrase (popularized by campaigns against impaired driving) people should use their judgment while they still have it. Once people engage in social activities, drink, and become engulfed by the situation, they lose perspective and may not act as they should.

The results of this study suggest that people are still able to identify what the correct or sensible course of action is in a potential drinking and driving situation, but when faced with a choice to drive impaired or make alternate arrangements to get home they do not live up to their standards; they do not take responsibility for their actions. However, it is unclear why. It seems that either people leaving social drinking settings do not fully appreciate the dangers of drinking and driving, do not think they are susceptible to them or, do not think at all. But, even if it were possible to make people consider reasons why they should not drink and drive, people still might think that they are the exception to the rule--probably because most people have driven impaired



successfully in the past. There is a great deal of evidence in research on social psychology that people make "assumptions of uniqueness": they underestimate the probability that they, relative to their peers, will contract a disease or suffer a serious injury, even after being informed of normative statistics (see Ross & Fletcher, 1985, for a review). Thus, interventions programs directed at drawing people's attention to the dangers of drinking and driving may not influence them. Indeed, research on deterrence suggests that low probability events are often dismissed by people (Cook, 1980).

It seems, then, that the logical approach to deterring drinking and driving is to increase the probability of punishment and respond to the (Stage 2) concerns of drinking drivers--for example, by setting up roadblocks. I make this suggestion with ambivalence. On the one hand, anything that can make the roads safer is a step in the right direction. On the other hand, I worry about the implications for the rights and freedoms of (sober) drivers. But perhaps deterrence can be achieved by the mere threat of apprehension. Research has demonstrated that the perception of risk is more important in deterring crime than the actual level of risk (Cook, 1980). Therefore, perhaps an attempt can be made to increase people's perception of risk, by, for example, publishing names of people charged with impaired driving in the newspapers. Alternatively, the present policy of broadcasting the onset and duration of Counterattack campaigns--which has both the positive effect of temporarily deterring drinking drivers and the negative effect of sensitizing people to the idea that when they are not warned they need not worry about encountering a roadblock--could be abolished, so people would not know when "it's safe to drive."

If people are going to continue to drive to social gatherings and drink, then something has to be done to stop them from driving home. Just what will stop them is a matter that must be resolved through further research. This study has contributed to an understanding of people's perceptions of the morality of drinking and driving--why they think they should not drive impaired--but more research is needed to understand why people do as they want, not as they should. Failure to take responsibility for the safety of others seems to be an important contributor to the drinking and driving problem. Social norms, or, more exactly, social-drinking norms also appear to play a role in permitting people to engage in the offense, as do other forms of social influence. These and other social and psychological factors need to be investigated to understand what can be done to stop drunks from driving. There is no point guessing what an effective intervention strategy might be--unless, of course, one guesses in a state of drunkenness. Effective intervention strategies can only be implemented through information gained by talking to people who drink and drive, preferably before they drive.

## APPENDIX A

### Drinking and Driving Dilemma: Hypothetical Other

A person named Jack is out drinking with his friends. He doesn't keep track of exactly how much he drinks, but, when it comes time to go home, he senses that he has had more to drink than the legal limit. His car is outside.

1. What should Jack do? Should he drive home even though he suspects that he is legally impaired? Why or why not?
2. What is your position on drinking and driving? Should people drive after they have been drinking? Why or why not?
3. Does it make any difference how drunk Jack is? Where should people draw the line?
4. Are there any circumstances under which it is alright to drive when impaired? Describe them.
5. Is it worse for some people to drive when impaired than others? Why or why not?
6. If Jack had a lot to drink but didn't feel drunk, would it be okay for him to drive? Why or why not?
7. Would it be okay for Jack to drive impaired if he made a point of driving more carefully than usual? Why or why not?
8. What if Jack promised that he would give his friends a ride home and knew that they would get angry if he let them down, should he keep his promise? Why or why not?
9. Should the probability that Jack will get stopped in a roadblock affect his decision to drive? Why or why not?
10. Would it be okay for Jack to drive impaired if, after he had been drinking, a close relative like his mother had to be taken to the hospital in an emergency? Why or why not? What if it were a friend, not a relative? What if it were someone Jack didn't know very well?
11. Should people be held responsible for their actions when they've been drinking? Why or why not?

You just told me what you thought Jack should do when faced with a decision about drinking and driving. But, sometimes people don't actually do what they think they should. Now I'd like to ask you a different question: What do you think Jack actually would do?

Would Jack:

1. Drive home?
2. Drive home if he didn't feel drunk?
3. Drive home with the intention of driving more carefully than usual?
4. Drive his friends home as promised even though he has been drinking?
5. Drive home even though there may be roadblocks set up?
6. Drive his mother to the hospital in an emergency?
7. Drive a friend to the hospital in an emergency?
8. Drive someone he doesn't know very well to the hospital in an emergency?

## APPENDIX B

### Drinking and Driving Self-Report

1. How many days a week do you have even one alcoholic drink?
2. How much do you usually drink on one of those days?
3. What do you usually drink?
4. How many drinks does it usually take for you to feel drunk? How many drinks does it take for you to be legally impaired?
5. How often do you get drunk? Legally impaired?
6. How often are you in a situation where you will be drinking and plan to drive home?
7. What do you usually do in that situation?
8. Have you ever deviated from your customary behavior and driven impaired? How often? Why? Under what circumstances?
9. Have you ever done any of the following after you've driven somewhere and then had too much to drink (if so, how often):
  - a. Had someone drive you home in your car?
  - b. Had someone drive you home in his or her car?
  - c. Taken a taxi?
  - d. Taken a bus?
  - e. Stayed somewhere until you sobered up?
  - f. Slept over somewhere because you had been drinking?
10. When you are in a situation where you've been drinking and need to drive, do you usually give it any thought? If not, have you ever given it any thought? If so, what do you think about? What considerations do you weigh?
11. Have you ever been charged with a drinking offense?

## APPENDIX C

### Drinking and Driving Dilemma: Hypothetical Self

Imagine that you are out drinking with your friends. You don't keep track of exactly how much you drink, but, when it comes time to go home, you sense that you've had more to drink than the legal limit. Your car is outside.

1. What should you do? Should you drive home even though you suspect that you may be legally impaired? Why or why not?
2. What is your position on drinking and driving? Should people drive after they have been drinking? Why or why not?
3. Does it make any difference how drunk you are? Where do you draw the line?
4. Are there any circumstances under which it is alright to drive when impaired? Describe them.
5. Is it worse for some people to drive when impaired than others? Why or why not?
6. If you had a lot to drink but didn't feel drunk, would it be okay for you to drive? Why or why not?
7. Would it be okay for you to drive impaired if you made a point of driving more carefully than usual? Why or why not?
8. What if you promised your friends a ride home and knew that they would get angry if you let them down, should you keep your promise? Why or why not?
9. Should the probability that you will get stopped in a roadblock affect your decision to drive? Why or why not?
10. Would it be okay for you to drive impaired if, after you had been drinking, a close relative like your mother had to be taken to the hospital in an emergency? Why or why not? What if it were a friend, not a relative? What if it were someone you didn't know very well?
11. Should you be held responsible for your actions when you've been drinking? Why or why not?

You just told me what you thought you should do when faced with a decision about drinking and driving. But, sometimes people don't actually do what they think they should. Now I'd like to ask you a different question: What do you think you actually would do?

Would you:

1. Drive home?
2. Drive home if you didn't feel drunk?
3. Drive home with the intention of driving more carefully than usual?
4. Drive your friends home as promised even though you have been drinking?
5. Drive home even though there may be roadblocks set up?
6. Drive your mother to the hospital in an emergency?
7. Drive a friend to the hospital in an emergency?
8. Drive someone you don't know very well to the hospital in an emergency?

## APPENDIX D

### Real-Life Drinking and Driving Dilemma

You've been drinking, how much? Would you say that you are drunk? Impaired? What do you think you would score on a breathalyzer test? How much more do you intend to drink tonight?

From what you've just told me you probably will be legally impaired when it is time to go home (for subjects who have had very little to drink and say they probably will not drink anymore, ask them to suppose that they did continue drinking). What should you do if you are impaired at the end of the evening?

1. Should you drive home even though you may be legally impaired? Why or why not?
2. What is your position on drinking and driving? Should people drive after they have been drinking? Why or why not?
3. Does it make any difference how drunk you are? Where do you draw the line?
4. Are there any circumstances under which it is alright to drive when impaired? Describe them.
5. Is it worse for some people to drive when impaired than others? Why or why not?
6. If you had a lot to drink but didn't feel drunk, would it be okay for you to drive? Why or why not?
7. Would it be okay for you to drive impaired if you made a point of driving more carefully than usual? Why or why not?
8. What if you promised your friends a ride home and knew that they would get angry if you let them down, should you keep your promise? Why or why not?
9. Should the probability that you will get stopped in a roadblock affect your decision to drive? Why or why not?
10. Would it be okay for you to drive impaired if, after you had been drinking, a close relative like your mother had to be taken to the hospital in an emergency? Why or why not? What if it were a friend, not a relative? What if it were someone you didn't know very well?
11. Should you be held responsible for you actions when you've been drinking? Why or why not?



You just told me what you thought you should do tonight, but, sometimes people don't actually do what they think they should. Now I'd like to ask you a different question: What do you think you actually would do?

Would you:

1. Drive home?
2. Drive home if you didn't feel drunk?
3. Drive home with the intention of driving more carefully than usual?
4. Drive your friends home as promised even though you have been drinking?
5. Drive home even though there may be roadblocks set up?
6. Drive your mother to the hospital in an emergency?
7. Drive a friend to the hospital in an emergency?
8. Drive someone you don't know very well to the hospital in an emergency?

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