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Preventing driving under the influence through informal interventions: An examination of the decision making processes common to potential DUI offenders

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PREVENTING DRIVING UNDER THE INFLUENCE THROUGH INFORMAL INTERVENTIONS: AN EXAMINATION OF THE DECISION MAKING PROCESSES COMMON TO POTENTIAL DUI OFFENDERS

By

David J. Williams, M.A.

A Dissertation Presented in Partial Fulfillment
Of the Requirements for the Degree of
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ABSTRACT

One novel approach to the driving under the influence (DUI) problem is the informal DUI intervention. Informal DUI interventions are any attempts made to prevent an alcohol-impaired individual from driving. The research to date has concentrated on the factors leading individuals to intervene, informally, in a DUI situation. Comparatively little research has investigated the factors leading potential drunk drivers to comply with informal intervention requests.

An interactional arousal/cost-benefit model was used to predict self-reported informal DUI intervention compliance. According to the model, potential DUI offenders' decisions to comply with intervention requests would be influenced by background variables, context variables, intervention type variables, and evaluative and subjective response variables. Experiment 1 consisted of a survey containing measures to assess the reliability and validity of the measures included in the survey. The survey materials were found to provide adequate measures of the constructs under investigation. A second, independent experiment was conducted on a sample of 453 undergraduate students. Forty-four percent of the sample (males = 97; females = 105) reported that another individual had attempted to stop them from driving following drinking in the past year. A hierarchical regression analysis was conducted on these 202 individuals. Background variables, context variables, intervention type variables, and evaluative and subjective response variables were entered in four sequential blocks.

The first block of background variables failed to contribute significantly to the prediction of self-reported compliance. The second block composed of context variables also failed to predict self-reported compliance. The third block of intervention specific-variables explained a significant amount of the variance ($r^2 = .89$) attributable to self-reported compliance. The fourth and final block of evaluative and subjective response variables failed to increase significantly the amount of variance explained by the final regression equation. Results imply that decisions to comply with informal DUI interventions are guided by a heuristic model (which is mainly a function of the number of passive and assertive interventions attempted) rather than the arousal/cost-benefit model that has been found to underlie the intervener's decision.

DEDICATION

For my wife and family: Tammy, Joshua, Carrie, and Mallory.

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CHAPTER 1

LITERATURE REVIEW

The costs attributable to alcohol use and abuse are extraordinary (Hingson, 1996). Some of the most powerful examples of these costs result from driving under the influence (DUI). Individuals who have driven under the influence of alcohol have devastated families, schools, and communities. Some argue that the attention given to the driving under the influence problem in the United States peaked in the 1980's (Wilson, 1993). Unfortunately, the costs attributable to DUI remain quite high. The reality of the current situation is that driving under the influence is still responsible for thousands of deaths and tens of billions of dollars worth of collateral costs every year in the United States (National Highway Traffic Safety Administration, NHTSA, 1999).

Driving Under the Influence of Alcohol

The prevalence of Driving Under the Influence of Alcohol (DUI) results in exorbitant economic and social costs. Miller, Lestina, and Spicer (1998) reported that the average safety costs of drunk drivers exceeded $5.80 per driven mile while the average safety cost of sober drivers was only $0.11 per driven mile. The direct monetary costs of alcohol related crashes were around $45 billion annually (Miller & Blincoe, 1994). The

human costs of DUI are also staggering. In 1990, DUI caused 5% of all the crashes causing property damage, 10% of crashes involving injury, and 50% of all traffic fatalities (National Highway Traffic Safety Administration, 1991). Zobeck, Grant, Williams, and Bertolucci (1990) found that between 1977 and 1987, 210,785 people were killed in alcohol related traffic accidents. This means that an average of 19,162 people per year died in during that period of time.

Formal Responses to the DUI Problem

Intervention into the DUI problem occurs through a variety of means such as legislating stricter DUI related laws, requiring stricter enforcement of these laws, requiring offender rehabilitation programs, and initiating community intervention campaigns. Hingson (1996) described several legislative and law enforcement interventions implemented against DUI. In all 50 states it was illegal for alcohol to be sold to individuals under the age of 21. As of 1996, each state except for Massachusetts and South Carolina had "per se" laws. These laws made it a criminal offense per se to drive with a blood alcohol content (BAC) above the state's legal limit of .08 or .10. In these states, prosecutors no longer had to introduce evidence other than BAC to show driving impairment in DUI offenders. This made prosecution and conviction of DUI offenders much easier. Thirty-seven states and Washington DC legislated zero tolerance laws or laws that prohibit minors from driving following the consumption of any alcohol. Thirteen states led the nation in lowering per se laws from 0.10 g/dl to 0.08 g/dl BAC. Many states enacted mandatory drivers license suspensions to remove driving privileges from DUI offenders to preserve the public safety. States and localities have enforced jail

sentences upon DUI offenders; however, in the absence of treatment interventions, only minimal evidence was found for post-confinement DUI deterrence (McCarty & Angeriou. 1988).

DUI costs are also managed by decreasing recidivism through the treatment and rehabilitation of offenders. Wells-Parker, Bangert-Drowns, McMillen, & Williams (1995) performed a meta-analysis on 215 independent evaluations of DUI treatment programs. When compared with conventional interventions (i.e., jail time or fines) in the absence of substance abuse treatment, rehabilitation of DUI offenders generated a statistically significant reduction of 7% to 9% in recidivism. The most successful rehabilitation approaches combined punishment, education, and therapy with follow-up monitoring and aftercare. One notable conclusion was that neither treatment nor punishment alone adequately deterred recidivism (Wells-Parker et al., 1995). Williams, Simmons, and Thomas (2000) noted that targeted interventions coupled with appropriate legal sanctions had the potential to provide an avenue for the successful intervention with DUI offenders.

Finally, individual communities have joined the effort to decrease DUI related costs through coalitions and local prevention programs. These organizations usually begin with task forces comprised of members representing community resources. It is common to find the local judiciary, schools, police, and recreational organizations represented on such task forces. Community intervention activities may include public service announcements and outreach education programs. Research illustrated that such community sponsored interventions were often quite effective in reducing the costs attributable to DUI (Hingson, 1996).

The Current State of DUI Prevention and Intervention

The country has rallied against the DUI problem by legislating and enforcing tougher DUI laws for deterrence and levying weighty sanctions for punishment. Local courts in compliance with state law often mandate rehabilitation of DUI offenders. Significant decreases in DUI costs have resulted; however, the problems attributable to DUI remain (Hingson, 1996). Some believe that the importance attached to the DUI problem has declined due to an inability to maintain the intensity for intervention generated in the 1980s. Some argue that the DUI problem has been overshadowed by other national health concerns such as AIDS and illicit drug use (Wilson, 1993). Considering the continuing costs attributable to DUI and the existence of a sociopolitical atmosphere attuned to other concerns, a clear need exists for new, practicable, and cost effective interventions into the DUI problem.

A Novel Solution to a Chronic Problem—An Informal Response

One novel intervention that has received scholarly inquiry but relatively little public attention is that of the informal intervention. Informal DUI intervention is defined as any attempt made by an individual to prevent another alcohol-impaired individual from driving (Hernandez & Rabow, 1987). The best description of this type of intervention is summarized with the popular national media slogan: "Friends don't let friends drive drunk." Although this public service message was widely broadcast, the general public remains uneducated to the most successful intervention strategies. One reason for this oversight may lie in the fact that there is comparatively little empirical

research in this area even though informal interventions happen relatively frequently (Turrisi, Jaccard, Kelly, & O'Malley, 1993).

Although the literature in this area is relatively sparse compared to that of formal interventions, it is clear that informal interventions provide a valuable means to address the DUI problem. Newcomb, Rabow, Hernandez, and Monto (1997) established that informal DUI intervention rates ranged from 37% to 56%. Research has also discerned when these intervention attempts were most likely to be made. The conditions that facilitated attempted intervention included a felt moral obligation to intervene, the number of prior interventions attempted, the belief that intervention affects self-image, the degree to which the parties involved knew each other, the number of persons known, the presence of another intervener, and how badly the potential driver was perceived as needing help (Newcomb, Rabow, Monto, & Hernandez, 1991). Informal interventions into DUI situations occurred relatively frequently, and the data indicated that these interventions were made along systematic patterns.

Researchers have also begun to identify which types of informal interventions were most likely to be successful. Generally, informal DUI intervention success rates vary widely. Self-reported DUI intervention successes ranged from 32% to 80% (Hernandez, Newcomb, & Rabow, 1995; Hernandez & Rabow, 1987; Rabow et al., 1997). Several factors identifiably impacted intervention success: the type of intervention attempted, the level of commitment felt toward a potential DUI offender, the perceived level of dangerousness in a situation, and the degree of intoxication of the individual attempting to intervene (Rabow et al., 1997).

Researchers have explained the process and ultimate success of those intervening in DUI situations through various theoretical models. Some researchers examined demographic characteristics and situational characteristics alone to explain the intervention process (Newcomb et al., 1991). Others examined the likelihood of success through cognitive models (Turrisi & Jaccard, 1992). Newcomb et al., (1997) attempted to integrate the existing, but loose, laboratory findings into a unified arousal/cost-benefit analysis model. In this study, potential interveners first recognized that the DUI situation was dangerous. Then, individuals weighed their options and decided whether or not to act.

The decision-making processes of people choosing to intervene in DUI situations are assuredly moving from the implicit to the explicit. Although formal intervention attempts are at least partially effective, the costs associated with DUI remain high. Informal interventions provide a proactive means to intervene into the DUI problem without having to legislate new DUI laws, struggle for the attention of law enforcement, or tax the resources of mental health professionals. Another advantage of targeting informal approaches to intervene in the DUI problem is that this prophylactic measure occurs in those few moments before an actual impaired driving trip. It serves as the general public's last line of defense as it is an reminder of the danger associated with impaired driving in those critical moments immediately prior to a drunk driving trip. Informal interventions are highly cost effective, they may be implemented by anyone, and they have led to potential DUI offender compliance at least 30% of the time. Thus, this line of research investigates the potential efficacy of a novel, cost-effective, and pragmatic approach to intervention.

Justification for Continued Research

The informal DUI intervention literature is an established line of research that informs interested readers of who is most likely to intervene in a given DUI situation and how successful these interventions are. This line of research is not complete because the majority of the studies concerning informal DUI interventions have examined mostly interveners in DUI situations and not potential offenders. What is commonly known about the informal intervention process is based on a one-sided picture. This is problematic in that if the conditions that lead to intervention success are analyzed from only the intervener's side, the puzzle will never be fully understood. Individuals interested in primary prevention efforts have little understanding of the dynamics involved in a DUI situation from the point of view of the potential DUI offender. Therefore, researchers must discern the characteristics and processes unique to potential DUI offenders that lead to compliance with intervention attempts. By examining those factors linked to compliance among potential DUI offenders, researchers would be in better positions to analyze the interactional nature of the informal DUI intervention situation.

The relationships and dynamics between intervening parties and potential DUI offenders would expectedly mediate intervention success and compliance outcomes. Gaining a greater insight into these dynamics would enable those who intervene in DUI situations to better predict which intervention tactics would be most appropriate for a specific potential DUI offender in a specific DUI situation. If the etiology of potential DUI offenders' decisions to comply with intervention requests is understood, it should then become easier to develop and implement more effective informal interventions.

Statement of the Problem

Thus, the main focus of the proposed dissertation will be to explore empirically the "other side" of informal DUI intervention based upon theoretically induced hypotheses grounded in the relevant literature. Few researchers have analyzed the factors among potential DUI offenders that best predict decisions to comply with informal intervention requests. This information is necessary in order to better understand the complex interactional nature of informal DUI intervention and compliance. Knowing when potential DUI offenders are most likely to comply would enable those that are interested in intervening in DUI situations to do so most effectively. Those involved in the writing of this dissertation investigated this problem through a unified arousal/cost-benefit developed by Newcomb, Rabow, Hernandez, and Monto (1997). This model postulated that potential DUI offenders' choices to comply with intervention attempts would be predicted by basic demographics, characteristics of the situation, types of intervention attempts, and evaluative and subjective responses to intervention attempts.

The Target Problem: Driving Under the Influence

Driving under the influence of alcohol is a potentially disastrous behavior judged by many as socially undesirable (Agostinelli & Miller, 1994). Driving under the influence of alcohol is considered a ubiquitous problem, not at all unique to the United States (Wilson, 1993). Wilson (1993) stated that the levels of DUI and its costs remained at unacceptable levels in many countries.

Prevalence Of DUI In The United States of America

Driving under the influence of alcohol is a frequently occurring behavioral problem that has been viewed as a public health concern for several decades (Bacon, 1968; Donovan, 1989; Hingson, 1996). Driving under the influence of alcohol is common on America's roadways. Researchers in one study concluded that 3 of 100 drivers on an average weekend night had a BAC level of 0.10 g/dl (Fell, 1990). Some estimated that only one DUI arrest is made for every 300 to 1000 drunk driving attempts (Voas & Lacey, 1989); meanwhile, others estimated one arrest per 200 to 2000 impaired driving attempts (Richman, 1995). Approximately 2 million DUI arrests were made on a yearly basis (Greenfield, 1988). Extrapolating from these data, between 400,000,000 and 4,000,000,000 drunk driving attempts are made each year. These estimates only account for those individuals driving with a BAC of 0.10 g/dl, and would increase if the current per se law standard of 0.08 g/dl of most states was used to calculate the number of annual drunk driving trips.

Indeed, some consider the term "drunk driving" as outdated and as a potentially dangerous misnomer (Perrine, 1990). The traditional cut point for being considered driving under the influence was 0.10 g/dl. If an individual had a BAC of 0.08 g/dl, he or she might have incorrectly determined that they were unimpaired and thus free to drive safely. Instead of this dichotomous mindset, imagine that DUI occurs along a continuum. Driving becomes noticeably impaired with a BAC as low as 0.01 g/dl (Julien, 2001). Julien (2001) reported that the risk of having an alcohol related accident quadruples at a BAC of 0.05 g/dl. In light of this information, the estimated incidence of DUI would increase drastically if the cut point for impairment were lowered to 0.05 g/dl. Given the

high incidence of drunk driving, it is clear why approximately 3 in 5 Americans will be involved in an alcohol related crash at some point in their lives (NHTSA, 1996).

Consequences Specific To DUI

The high prevalence of DUI is a major factor leading to excessive costs. In 1990, DUI caused 5% of all crashes causing property damage, 10% of all crashes causing injury, 20% of all crashes causing serious injury, and 50% of all traffic fatalities (National Highway Traffic Safety Administration, 1991). Julien (2001) approximated that ten youths among 15 and 19 years of age died every day in an alcohol related accident. Such injury and property damage results in significant safety expenditures per driven mile. Miller, Lestina, and Spicer (1998) reported that the average safety costs of drunk drivers exceeds $5.80 per driven mile contrasted with only $0.11 per driven mile for sober drivers. The severity of accidents and the subsequent economic costs rose dramatically as BAC levels rose (Richman, 1985). Miller and Blincoe (1994) estimated that the total direct monetary cost attributable to alcohol related crashes was around $45 billion annually. The National Highway Traffic Safety Administration (1999) estimated that the average alcohol-related fatality in the United States costs $3.2 million, and the estimated cost per injured survivor of an alcohol related crash is $79,000. Alcohol related crashes accounted for an estimated $20 billion in U.S. auto insurance payments each year.

Analyzing mortality rates reveals damages more poignantly. Traffic fatality information is routinely obtained through the Fatal Accident Reporting System (FARS). The FARS contains data on motor vehicle crashes documented in every state,

Washington DC, and Puerto Rico. Fell (1990) clarified the operational definition of a traffic fatality as a fatality occurring within 30 days of a motor vehicle accident where alcohol was involved. In 1990, the system contained information on more than 600,000 cases over a 15-year period. This file is maintained and analyzed by the National Highway Traffic Safety Administration (NHTSA) and includes in each datum crash information, police report information, vehicle registration information, and medical examiner information. Based on information gathered by the FARS, alcohol related traffic crashes killed: 22,236 people in 1989; 22,084 people in 1990; 19,900 people in 1991 (NHTSA, 1991b); 17,274 people in 1995; 17,126 people in 1996; 15,935 people in 1998; and 15,786 people in 1999 (NHTSA, 1996a; NHTSA, 1999). In 1999 alone, 308,000 people were injured in an alcohol related crash—that represents one alcohol related crash injury every 2 minutes (NHTSA, 1999).

Zoebek, Williams, Grant, and Bertolucci (1987, 1990) analyzed data contained within the FARS to present an astounding picture of the human costs attributable to DUI. Before presenting their findings, Zoebek and colleagues opined that their figures were conservative because police are often reluctant to judge alcohol involvement in fatal crashes, BAC tests are not administered consistently and routinely across jurisdictions, and citations for DUI are not commonly issued in fatal crashes. In 1987, Zobeck and colleagues reported that approximately one person died every 11 minutes in an alcohol related traffic accident. Zobeck et al. (1990) found that from 1977 to 1987, 210,785 people were killed in alcohol related traffic crashes. On average, 19,162 people per year were killed in DUI related accidents.

The consequences of drunk driving are far-reaching and expensive. Federal, state, and local governments have worked together to ameliorate the costs attributable to drunk driving through a variety of formal approaches. Literally billions of dollars and thousands of lives were saved through the combined efforts of governmental bodies, law enforcement officers, the legal community, mental health providers, the media, and community awareness and prevention groups (Hingson, 1996). Although many formal interventions have been shown to have some success, the DUI problem continues on a national level (Hingson, 1996). Unfortunately, intervention efforts have reached asymptotic levels according to some, and Wilson (1993) projected that future DUI interventions will never reach the frenzy of the 1980s. He reasoned that other prominent national heath concerns such as HIV/AIDS and illicit drug use overshadowed the DUI problem. However, the costs of DUI are still far too weighty to ignore.

Considering the current state of affairs, it is doubtful that drunk driving interventions will regain the central focus of the nation's attention any time soon. It is for this reason that those interested in continued work against the DUI problem should concentrate on deriving novel, cost-effective, and practical interventions that can be easily implemented by a wide range of people. One such approach is informal DUI intervention (Monto, Newcomb, Rabow, & Hernandez, 1992).

Informal Drunk Driving Intervention: A Review Of Variables Affecting Informal Intervention Prevalence And Success

Despite the best efforts of officials and law enforcement personnel, people commit DUI offenses at unacceptable rates. Some have advocated an informal approach

to combat the nation's drunk driving problem (Monto et al., 1992). Informal DUI intervention is defined as any effort made by a concerned individual to prevent any other person from driving under the influence of alcohol. Informal interventions are neither legislated nor enforceable; rather, they occur within the context of interpersonal interactions in a DUI situation. A DUI situation is defined as any event where an alcohol-impaired individual is considering driving any vehicle.

The decision to intervene in a drunk driving situation has traditionally been considered a form of altruism (Newcomb et al., 1991). Macaulay and Berkowitz (1970) defined altruism as committing behaviors to benefit another without the expectation of reward from an external source. Myers (1993) defined altruism as "concern and help for others that asks nothing in return; devotion to others without conscious regard for one's own self-interests" (p. 505). The construct of altruism has remained relatively stable across time and has received voluminous research attention (Rabow & Newcomb, 1992). Experimental studies have provided a wealth of information regarding the factors that catalyze or inhibit helping behavior in contrived situations, but little research has addressed altruism in non-contrived, real life, behavior (Newcomb et al., 1991). Informal DUI intervention is an altruistic behavior that has received national media coverage but comparatively little empirical investigation (Turrisi, Jaccard, Kelly, & O'Malley, 1993).

Prevalence of Informal DUI Intervention

In a review of nine studies investigating the prevalence of informal DUI intervention, Hernandez, Newcomb, and Rabow (1995) concluded that approximately 30% to 60% of the respondents sampled tried at least one informal DUI intervention in

the past year. In their study, Hernandez, Newcomb, and Rabow (1995) reported that 68% of their adolescent sample engaged in intervention efforts. In a more recent review, Newcomb et al. (1997) reported that self-reported informal DUI intervention rates were fairly consistent. They noted that the majority of the studies that they reviewed reported informal intervention rates between 37% and 56%.

Newcomb et al. (1997) identified one study where 90% of the participants engaged in informal DUI interventions. They observed that the sample was derived from family members and close friends of problem drunk drivers where other studies sampled mostly college students. Newcomb et al. (1997) concluded that informal DUI interventions occurred relatively frequently in the normal population, and maybe even more so in at-risk populations.

Assuming those individuals actually engaged in their self-reported altruistic acts, it could be accepted that informal intervention is a relatively common phenomenon. Although many researchers in this area have not questioned the validity of these reports, Thomas and Seibold (1995) revealed some support to the veracity of these claims in that a measure of social desirability was unrelated to their dependent measure of intervention attempts. Hernandez et al. (1995) stated that it was clear that "no less than 37% of respondents from any study have intervened to prevent another person from driving drunk" (p. 412). The findings presented by Hernandez et al. (1995) as well as those presented by Thomas and Seibold (1995) suggest that maximizing the success of such behaviors may provide an effective avenue towards decreasing the overall prevalence and consequences attributable to DUI. As such, informal interventions deserve research attention.

Differences in Self-Reported Informal DUI Intervention

Newcomb and Rabow (1992) noted that researchers were only beginning to understand the factors that influenced DUI intervention. Some initial evidence revealed that there were systematic differences in the frequency of self-reported informal intervention attempts across the levels of some demographic variables, but not in others. Both juveniles and adults reported that they engaged in informal interventions (Berger & Persinger, 1980; Davis, 1982; Rabow & Hernandez, 1986); however, the recorded prevalence of self-reported informal DUI intervention was shown to decrease in older adults (Albaum, 1985; Hernandez et al. 1995).

On the other hand, the rate at which people attempted informal interventions appeared to be unaffected by either gender or ethnicity. Only a few researchers have analyzed gender differences in informal DUI interventions directly (Hernandez et al., 1995), and most reported that there were little to no gender differences between those most likely to intervene (Newcomb et al., 1997; Newcomb et al., 1991; Monto, Newcomb, Rabow, & Hernandez, 1992; Turrisi et al., 1992). Thomas and Seibold (1995) discovered that decisions to intervene in a drunk driving situation were primarily motivated by the same factors for both men and women. Both males and females reported that their interventions were prompted by their concern that the target individual had the potential to inflict serious harm on themselves or someone else by driving drunk. Males and females tended not to intervene when there was a weak relationship between the intervener and the potential drunk driver, when their own level of intoxication was high, and when the impact on the intervener's image was perceived to be negative.

Monto, Newcomb, Rabow, & Hernandez (1992) reported that there were no significant differences between the prevalence rates of informal DUI interventions between white and non-white individuals. These authors noted that those who were the same sex and ethnicity as the potential drunk driver made informal interventions more often because they encountered these situations more often. Monto and his colleagues reported that their results were not conclusive; they were tempered by their sample of college students. Even so, Monto et al. (1992) concluded that those who participated in their research "seem willing to help others when they are in need, regardless of race and sex" (p. 67).

Finally, preliminary evidence has indicated that the environment does not necessarily impact whether an intervention is at least attempted, but it may impact the type of intervention employed. Hernandez and Rabow (1987) investigated intervention rates in DUI situations across four environments. They reported that college students frequently intervened in drunk driving situations and that the form of intervention varied some in different environments. Generally, they suggested that the more intimate the gathering, the more passive the intervention; and antithetically, the less intimate the gathering, the more assertive the intervention.

Factors Related to DUI Intervention Success

Researchers sought not only to isolate the factors associated with the occurrence of informal interventions, but also the factors that were believed to impact the success of those attempts. Several factors were identified that predicted favorable outcomes in informal DUI interventions. Self-reported informal DUI intervention success rates

ranged from 32% to 71% in one study (Hernandez, Newcomb, & Rabow, 1995), and from 67% to 80% in other studies (Hernandez & Rabow, 1987; Rabow et al., 1997). The success of interventions depended upon, in part, whether these attempts were passive or assertive. An example of a passive intervention is asking the potential drunk driver to stay and drink coffee. An example of an assertive intervention is taking the potential drunk driver's car keys. Although passive interventions were shown to be at least moderately successful (Hernandez & Rabow, 1987; Newcomb et al., 1997), assertive interventions were found by a preponderance of research to be most successful (Hernandez et al., 1995; Hernandez & Rabow, 1987; Newcomb et al., 1997). Hernandez, Newcomb, and Rabow (1995) reported that the mean percentage success rate for passive intervention attempts was 40% while the mean percentage success rate for assertive interventions was a statistically significantly higher 59%. Similarly, Newcomb et al. (1997) stated that passive interventions resulted in a 47% success rate while assertive interventions resulted in a significantly greater 57% success rate.

Individuals were said to engage in assertive interventions more frequently in a few specific situations. Assertive interventions were attempted more when the individual making the intervention was influenced by a personal commitment to the potential drunk driver, and when the individual making the intervention perceived a significant amount of danger inherent in the potential DUI situation. Assertive interventions were also attempted when the individual making the intervention had consumed little to no alcohol. Individuals tended to make more assertive interventions in public, low intimacy settings. People tended to feel more comfortable making assertive interventions in bars or restaurants than at parties or friends' homes (Hernandez & Rabow, 1987).

In addition to the level of assertiveness involved in an intervention, Turrisi and Jaccard (1992) concluded that certain cognitive appraisals of DUI situations were more likely to result in successful interventions than in others. Turrisi and Jaccard discerned that when potential drunk drivers were confronted with a potential DUI situation, they decided to comply with intervention requests when their beliefs regarding alternatives to drunk driving were made more favorable.

On the other hand, several factors inhibited intervention success once an intervention was attempted. Examples of identified factors that inhibited successful interventions included: weak relationships between individuals involved in a DUI situation, perceived powerlessness on the part of the individual seeking to intervene, and fear of physical or verbal harassment (Thomas & Seibold, 1995). Thomas and Seibold (1995) found that intervention attempts were suppressed when individuals felt incompetent to make an attempt, when they did not feel a sense of responsibility, and when they felt powerless. Intervention success was limited when those who intervened did not feel self-confident and were fearful of verbal and physical harassment. These findings suggested that perceptions of self-efficacy might impact intervention success.

Self-efficacy is defined as an expectancy people hold for their own competence and effectiveness in specific circumstances (Bandura, 1997). Self-efficacious attitudes are normally optimistic by nature and support behavioral persistency as well as feelings of esteem and confidence (Myers, 1999). Bandura (1997) emphasized that feelings of self-efficacy grew as achievements were made—as achievements increased, individuals experienced greater perceptions of control over their behavior.

Wells-Parker, Williams, Dill, and Kenne (1998) used the construct of self-efficacy to explain behavioral change in DUI rehabilitation programs. They reported that individuals who had confidence in their ability to make plans to avoid drinking and driving were less likely to contemplate actions to avoid drinking and driving in the future. They also said that as efficacy expectations to avoid drinking and driving increased, self-reported levels of alcohol abuse decreased. Individuals who were contemplating changing their driving after drinking behaviors tended to report lower levels of self-efficacy to avoid drunk driving; inversely, individuals that were actively changing their driving after drinking behaviors tended to report higher levels of self-efficacy to avoid drunk driving. Wells-Parker and her colleagues concluded that self-efficacy for controlling drinking and driving reflected an enduring expectancy, and that it was the best predictor within their set of variables of prior DUI related accidents. Offenders that felt little control of their behavior to control their drinking and driving tended to report higher frequencies of prior DUI related accidents. Although self-efficacy appears to be related to intervention attempt and success based on Thomas and Seibold's (1995) work, researchers have yet to specifically apply the construct to informal DUI intervention.

The amount of alcohol consumed by the potential intervener in a DUI situation suppressed intervention success rates in the past. People chose not to intervene in the past as frequently when they considered themselves to be intoxicated (Newcomb et al., 1997; Thomas & Seibold, 1995; Turrisi et al., 1993). A summary of the factors related to successful and unsuccessful interventions presented herein are summarized in Table 1.

Table 1

Factors Associated with Informal DUI Intervention Success

Factor	Relationship to Success
Lack of Perceived Competence (low self-efficacy)	Inhibits Success
Weak Relationship between involved parties	Inhibits Success
Felt Powerlessness to Intervene	Inhibits Success
Fear of Verbal Harassment	Inhibits Success
Fear of Physical Harassment	Inhibits Success
Intoxicated Intervener	Inhibits Success
Assertive Intervention	Elicits Success
Personal Commitment to Driver	Elicits Success
High Degree of Perceived Danger	Elicits Success
Public Settings	Elicits Success
Moral Obligation	Elicits Success

The Process of Informal DUI Intervention

Given the number and wide range of variables identified to influence intervention success, researchers have turned to theory driven research to help explain and predict informal DUI intervention. Some researchers conceptualized informal DUI intervention and success in terms of relatively loose social psychological models. The models

explored the impact of similarity (age, race, gender, and social status), perception of emergency situations, arousal, perceived ability to intervene as a skill, self-concept (i.e.: moral obligation), bystander effects, perceptions of consequences, judgment biases, and drinking environments (Hernandez & Rabow, 1987; Hernandez et al., 1995; Monto et al., 1992; Newcomb et al., 1991; Turrisi et al., 1993).

Other researchers have emphasized cognitive and attitudinal models (Turrisi & Jaccard, 1992), while still others have emphasized interpersonal influence models (Thomas & Seibold, 1995). The theories with the strongest empirical support have been process-oriented models based upon Latane and Darley's (1970) research (see Figure 1; Rabow et al., 1990; Wolfinger et al., 1994; Newcomb et al., 1997). These models incorporated both social and cognitive/attitudinal factors within specific, parsimonious, and deductive frameworks.

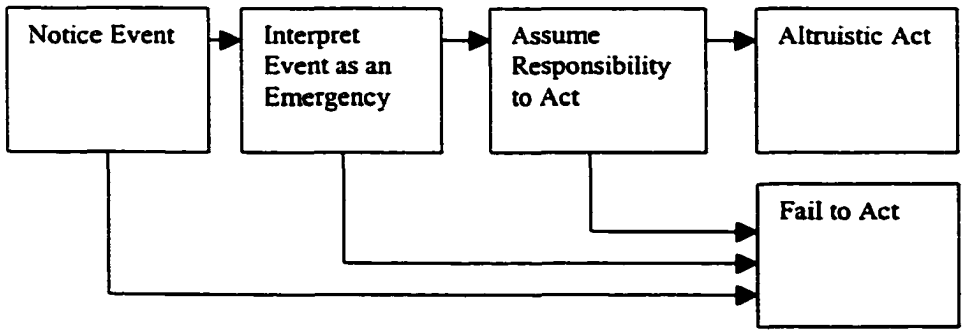

Figure 1. Latane and Darley's (1970) Conceptualization of Altruism

Rabow, Newcomb, Monto, and Hernandez (1990). Rabow, Newcomb, Monto, and Hernandez (1990) stated that little research used theory in attempting to predict and

explain informal DUI interventions. These authors conceptualized informal intervention as a form of helping behavior, and as such, they argued that models derived to explain and predict altruism should generalize to this phenomenon (see Figure 2). Rabow et al. (1990) discussed the model of initiating helping behavior created by Latane and Darley (1970). Latane and Darley (1970) staged creative emergencies to determine when bystanders were most likely to intervene. They derived a model of helping behavior consisting of four basic steps. First, the incident must be noticed. Second, it must be interpreted as an emergency. Third, bystanders must assume responsibility for helping the identified victim. Fourth, if these conditions are met, it was predicted that bystanders should engage in altruistic behaviors.

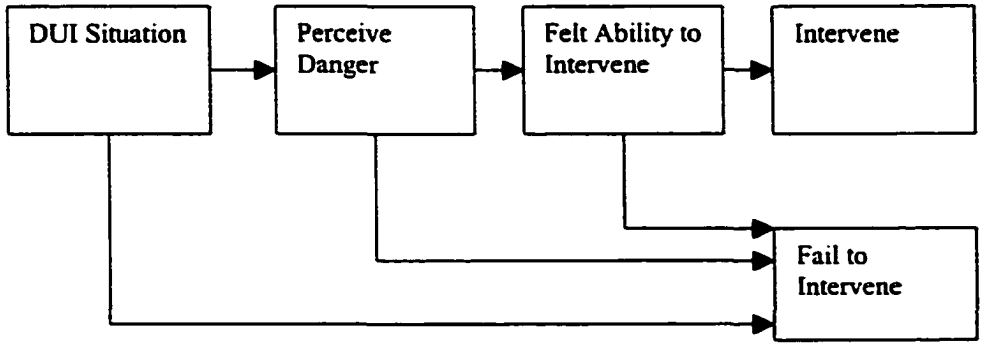

Figure 2. Rabow, Newcomb, Monto, and Hernandez's (1990) Conceptualization of Informal DUI Intervention

Rabow et al. (1990) developed a quasi-simplex model to test their hypotheses. A quasi-simplex model is characterized by a series of steps that mediate the decision-making process and help to "explain the association between an independent variable and a dependent variable" (Rabow et al., 1990, p. 206). The steps in the model are causally

linked in a chain. At any given point along the causal chain of events, only the step immediately preceding and the step immediately following the target step are related. In other words, step B could only occur once step A has occurred. Step C follows only step B. Step C would never result directly from step A. Therefore, decisions are bound in a process of ordered and causally linked events. The steps in the Rabow et al. (1990) model were as follows: involvement in a DUI situation, perception of danger, felt ability to intervene, and an intervention attempt.

Rabow et al. (1990) developed a second model incorporating social and psychological dynamics that might impinge upon intervention decisions. They found that the number of people in a DUI situation as well as the number of known people in a DUI situation influenced participants' perceptions of danger. The amount of alcohol consumed by the participant in the DUI intervention situation decreased his or her perceived ability to intervene; however, a participant's affinity toward the potential drunk driver increased his or her perceived ability to intervene. The amount of perceived danger, the perceived ability to intervene, and the affinity felt for potential drunk drivers all impinged upon decisions to intervene. These authors concluded that although individuals could choose to intervene at any stage in the decision-making model, the rate of intervention increased significantly as participants moved through the sequential stages of the model.

Wolfinger, Rabow, and Newcomb (1994). Wolfinger, Rabow, and Newcomb (1994) sought to validate the informal drunk driving intervention model of helping behavior derived by Rabow, Newcomb, Monto, and Hernandez (1990). In their research,

Wolfinger et al. (1994) supported the Rabow et al. (1990) modified quasi-simplex model. A notable exception between the studies was that Wolfinger et al. (1994) failed to support Rabow et al.'s (1990) finding that the number of times in a DUI situation affected intervention attempts. However, there was strong support for the final stages of the Rabow et al. (1990) model.

In both models, the amount of perceived danger, the perceived ability to intervene, and the actual intervention attempted shared the same strong relationships. Wolfinger et al. (1994) asserted that these variables effectively "capture[d] the cognitive stages of decision-making in DUI intervention scenarios" (p. 1635). People first perceived danger, saw themselves as competent helpers, and then chose to intervene. These researchers concluded that the convergence of the findings support Latane and Darley's (1970) model of helping behavior.

Several other findings were noted. Based on their results, Wolfinger et al. (1994) suggested that informal DUI interventions might be a regular part of college drinking behavior. They also suggested that informal DUI interventions become less important or less possible for individuals who had been drinking. Finally, they concluded that the most important factor impinging upon decisions to intervene was that of the perceived ability to intervene.

Newcomb, Rabow, Hernandez, and Monto (1997). Another promising model was explored by Newcomb, Rabow, and Monto (1997). Newcomb et al. (1997) explored the usefulness of an arousal/cost-benefit model to explain and predict informal drunk driving interventions (see figure 3).

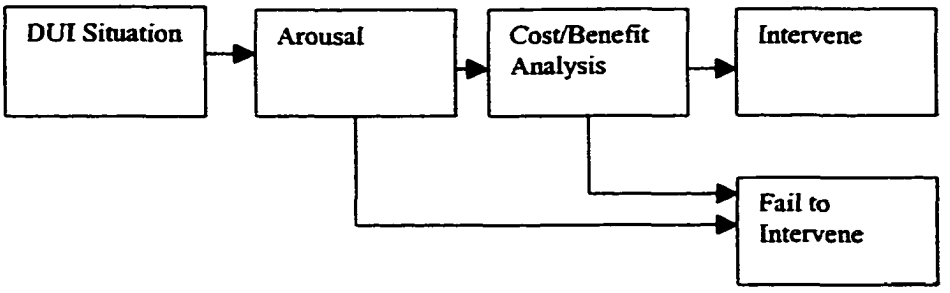

Figure 3. Newcomb, Rabow, Hernandez, and Monto's (1997) Conceptualization of Informal DUI Intervention

These authors agreed with Rabow et al. (1990) and Wolfinger et al. (1994) that informal DUI intervention was a form of altruism; however, they stipulated that it was also inherently different from several other altruistic conditions. They asserted that informal DUI intervention was not as consequential as donating body organs, and that it was not as immediate as offering CPR to a heart attack victim. Informal DUI interventions were not considered to be a set of fully planned behaviors such as giving donations to charity. Informal interventions were not as spontaneous as jumping into a river to save a drowning victim. Newcomb et al. (1997) stated that in a DUI situation, the victim may or may not know that he or she needs help. This type of altruism differs in its nature from much of the helping behaviors that have been extensively researched.

Newcomb et al. (1997) argued that informal DUI interventions were helping behaviors that could be predicted using an arousal/cost-benefit model. Individuals first became sufficiently aroused by some distressing environmental happenstance, then they evaluated their options based on a cost-benefit analysis of the situation. The results of this appraisal lead to either an intervention attempt or a decision to remain a bystander.

They speculated that background variables, context variables, intervention-type variables, and subjective and evaluative response variables impacted this decision-making process.

This set of variables was reminiscent of Rabow et al.'s (1990) and Wolfinger et al.'s (1994) conclusion that DUI intervention attempts consisted of a perception of danger (context variables leading to arousal), a felt capacity to intervene (appraisal and evaluative response), and a choice to intervene (intervention attempt). Newcomb et al. (1997) believed that background characteristics and contextual variables provided the framework from which an individual would operate. They asserted that individuals' subjective and evaluative responses included appraisals of the people involved in a DUI situation, and they conceptualized the intervention attempt to include the number and type of interventions employed as well as their success rates.

For the purposes of their study, interventions were characterized as passive (potential drunk driver approached tentatively) or assertive (potential drunk driver approached more directly). Newcomb et al. (1997) predicted that knowing others who were hurt or killed previously in a DUI situation should spark arousal and increase intervention attempts. They also believed that feeling a moral obligation to intervene would heighten personal costs if an intervention was not implemented. They predicted that intense feelings of moral obligation would lead to more intervention attempts; further, they believed that if people intervened frequently in the past they would not become as aroused as those who infrequently intervened. Therefore, more passive intervention attempts were predicted to result. Conversely, Newcomb et al. (1997) predicted that the more danger that was perceived the more arousal should occur, and therefore, more assertive interventions would be expected. Discussion of the DUI

situation was predicted to lead to increased arousal and result in assertive intervention attempts. Alcohol consumption among individuals was expected to decrease arousal; therefore, intoxication was predicted to be associated with more passive intervention attempts. It was also predicted that the greater the number of people present in a DUI situation the greater would be the diffusion of responsibility, and as a result, passive interventions should follow. Assertive interventions were predicted to be more successful than passive interventions because assertive interventions should require more arousal. Newcomb et al. (1997) tested their hypotheses using path analysis.

Newcomb et al. (1997) discovered that most respondents tried an average total of three interventions with potential drunk drivers. These interventions could have been either passive or assertive, but they found that assertive interventions had a 57% success rate while passive interventions had a 47% success rate. There were no gender differences in the number and types of interventions used, and no direct paths for personal or contextual variables were identified. The predictions that assertive interventions would be influenced by personal commitment, greater perceived danger, and less alcohol consumption were supported. They believed this supported the model developed by Rabow et al. (1990). However, Newcomb et al. (1997) stated that the assertion that knowing others hurt or killed in a DUI situation would increase interventions. The prediction that attempting a greater number of prior DUI interventions would lead to more passive interventions was not supported. Similarly, the prediction that involvement of fewer people would lead to more assertive interventions was also not supported. Finally, discussing interventions failed to lead to assertive approaches; instead, these discussions ultimately led to more passive interventions.

These authors concluded that they supported the arousal/cost-benefit model as well as partially supported the model developed by Rabow et al. (1990). Assertive interventions were inhibited by alcohol consumption, but a personal commitment to intervention, the perception of danger, and knowing that the potential drunk driver was younger all led to assertive interventions. Assertive interventions were influenced by a person's sense of commitment while passive interventions resulted more from situational factors. Newcomb et al. (1997) demonstrated that these variables impacted the smaller antecedent decisions involved in an individual's ultimate decision to intervene thereby supporting the assertion that informal DUI intervention is a process. Newcomb et al. (1997) concluded that the arousal/cost-benefit model had clear implications when it was applied to informal DUI intervention.

Summary of DUI Intervention Theories

The decision-making models of Rabow et al. (1990), Wolfinger et al. (1997), and Newcomb et al. (1997) addressed the notion that intervening in a DUI situation is a complex process involving a variety of mitigating factors. Some of the most important factors identified were an individual's perception of danger, and the degree to which an individual feels capable of intervening. The degree of felt affinity toward the potential drunk driver impinged upon an individual's felt ability to intervene in all of these models. Increased alcohol consumption inversely affected individuals' felt ability to intervene. Unfortunately, neither Rabow et al. (1990), nor Wolfinger et al. (1994) addressed the distinction between assertive and passive interventions, but both of the quasi-simplex models converged to support the theoretical model derived by Newcomb et al. (1997).

For example, becoming aware of danger and feeling affinity toward a potential drunk driver were both likely to increase an individual's level of arousal. Choosing to abstain from an intervention attempt with a close friend would seemingly result in significant emotional guilt and an intervention attempt would not have been predicted.

These studies indicated that informal DUI intervention may be considered a complex process involving numerous and diverse personal and situational variables (Newcomb et al., 1997), and several factors significantly mitigate this decisional process. The factors that weighted the decision-making process the most were possessing an affinity toward the potential drunk driver, a clear perception of danger, and the perceived ability to intervene successfully (Hernandez et al., 1995; Newcomb et al., 1991; Newcomb et al., 1997; Rabow et al., 1990; Turrisi et al., 1993; Wolfinger et al., 1994). Analyses consistently reflected that decisions to intervene in DUI situations were not static; rather, the ultimate decision to intervene was based on a progression of smaller component decisions driven by varying degrees of arousal (Rabow, Newcomb, Monto, & Hernandez, 1990; Wolfinger, Rabow, & Newcomb, 1994; Newcomb et al., 1997). Each decisional point in the intervention process was believed to impact the range of available future choices. People decided to intervene when they decided that there was in fact a potential DUI situation, and when they decided that the potential drunk driver would not be dangerous if confronted. People decided to intervene once they concluded that they were capable to intervene. Finally, people chose to intervene once they decided which intervention would be most appropriate (Wolfinger, Rabow, & Newcomb, 1994). Informal DUI intervention may be considered a process because only when these antecedent decisions were made would people commit to an intervention attempt.

Potential DUI Offender Compliance:

A Review of Variables Predicting DUI Offender Compliance

The line of research investigating intervention attempts and successes has progressed steadily through the past decade to the point where specific decision-making tendencies are becoming increasingly predictable based on scientific theory. Both Thomas and Seibold (1995) and Newcomb et al. (1997) noted the same problem in the literature. No one has directly investigated the decision-making processes of potential drunk drivers. Thomas and Seibold (1995) discussed the implications of investigating "interpersonal influence from a transactional perspective" (p. 586). They believed that it was necessary to understand the unique dynamics impinging upon the informal DUI intervention decision-making process in the presence of both an actor and a target. Although Thomas and Seibold (1995) underscored the importance of this interaction, they did not directly investigate the decision-making influences unique to potential drunk drivers.

Similarly, Newcomb et al. (1997) concluded that the arousal/cost-benefit model accorded a wealth of research directions; however, they stated that their findings were based on a "one-sided story " (p. 198). They stated, "we have no idea of what processes occur within the potential DUI driver" (Newcomb et al., 1997, p.198). This is effectively the same as discussing the predictors of psychotherapeutic efficacy based upon therapist variables while ignoring clients' contributions to outcomes. Newcomb and his colleagues recognized this disparity when they contended that potential drunk driver characteristics such as stubbornness, denial, or ego-involvement might elicit more (or less) interventions. Newcomb et al. (1997) concluded that systematically investigating

the decision-making processes of potential DUI offenders is "a critical area for further research" (p.198).

Extant Research Involving Potential DUI Offenders

Only a few studies have attempted to investigate the factors that impacted potential DUI offenders' decisions to abstain from drunk driving. Hernandez and Rabow (1987) found that drunk drivers' decisions to comply with intervention requests hinged partially upon the environment in which they were exposed to an intervention attempt. In their study, higher intervention success rates were reported in public places (restaurants and bars) rather than in private places (private parties and friends' houses). Turrisi and Jaccard (1992) investigated several attitudinal and cognitive factors that impacted drunk driving tendencies and acceptance of alternatives to drunk driving. They confirmed that possessing an awareness of arrest consequences was negatively related to individuals' drunk driving tendencies. They also confirmed that favorable attitudes toward avoiding drunk driving were negatively related to drunk driving tendencies.

Recently, some researchers investigated what drunk drivers did to prevent their own driving under the influence (Nelson, Isaac, Kennedy, & Graham,1999). Nelson et al. (1999) found that attitudinal and social factors were involved with at-risk men's decisions to avoid drunk driving. Men who believed that they could drink six drinks or more before it would be too dangerous to drive were 45% less likely to report planning to avoid drunk driving. Men who believed that they could drive drunk safely after heavy episodic drinking were less likely to avoid drunk driving. Having friends that disapproved of

drunk driving was linked to efforts to avoid drunk driving. The presence of a wife or a girlfriend was also linked to successful efforts to avoid drunk driving.

Nonetheless, no one has directly examined the decision-making processes engaged by potential drunk drivers in response to informal DUI intervention attempts from a specific theoretical model. Very little is known about the substantive factors impinging upon potential DUI offenders' decision-making processes (Nelson, Isaac, Kennedy, & Graham, 1999).

Predicting Potential DUI Offender Compliance

Hernandez, Newcomb, and Rabow (1999) speculated that informal DUI intervention frequency, type, and success depended upon the interaction between the intervener and the person upon which the intervention is made. Hernandez et al. (1999) stated that the nature of this interaction could conceivably influence the potential drunk driver's appraisal of his or her ability to drive. Potential drunk drivers could react to informal intervention attempts through their own appraisal process before committing to a decision. Environmental conditions as well as the nature of the interaction between the parties involved in a DUI situation should influence the outcome of intervention attempts; therefore, investigating the factors that impact a potential DUI drivers' appraisal of DUI situations and their ultimate decisions is appropriate. Since no theory driven research investigating potential drunk drivers' compliance patterns with informal DUI intervention attempts exists to guide the current investigation, it is appropriate to apply models used to explain and predict similar constructs to the current situation.

The work of Rabow et al. (1990), Wolfinger et al. (1994), and Newcomb et al. (1997) provide useful deductive guides to apply to potential offenders in DUI situations. These studies illustrated that decisions to intervene in drunk driving situations were not static; rather, they were the end result of a predictable process involving an intervener and a potential DUI offender. Newcomb et al. (1997) supported their arousal/cost-benefit model and concluded that it was impacted by four distinct sets of variables: personal background variables, context variables; intervention type variables; and subjective and evaluative response variables. Since informal DUI intervention was identified as interactional in nature (Thomas & Seibold, 1995; Nelson et al., 1999), it is reasonable to expect that potential DUI offenders' decisions to comply with intervention requests would be impacted by these variables as well.

Argument for the Generalizability of an Arousal/Cost-Benefit Model to Potential DUI Offenders

It has been known for some time that contextual variables, subjective and evaluative variables, and variables related to the manner with which requests are made affect individuals' compliance with others. Such contextual variables as the appearance (Bull & Rumsey, 1988), trustworthiness, credibility (O'Keefe, 1990), and similarity of an individual to oneself (Mackie, Worth, & Asuncion, 1990) influenced compliance in prior studies. Milgram (1965) demonstrated that when presented with powerful contextual cues encouraging compliance, people were willing to administer lethal amounts of electricity to another individual in a teacher/learner environment.

Cialdini (1993) reported that individuals' appraisal and evaluation of a situation

also affected compliance in past research. He reported that the construct of psychological reactance impacted individuals' willingness to comply with requests. The theory of psychological reactance was originally developed by Jack Brehm (1966) and further refined and elaborated upon Brehm and Brehm (1981). The theory holds that psychological reactance is a motivational force that is aroused to restore loss of or the threatened loss of perceived behavioral freedoms. This motivational state will be focused at the restoration of the eliminated or threatened behavior and results in behavior known as reactance effects. Reactance effects can be expressed directly or indirectly. Brehm (1966) noted that the amount of psychological reactance generated was mediated by four variables: the significance of the free behaviors threatened, the belief that the individual originally possessed freedom, the magnitude of the threat to free behaviors, and the implications of the perceived threat to other freedoms. A high degree of psychological reactance would be expected when people perceive a significant threat to the well being of specific freedoms that they hold dear—such as driving home regardless of their level of intoxication.

Since reactance was postulated to be a motivational state, it was believed to possess energizing and behavior directing properties (Brehm, 1966) which may be expressed in several ways. An individual may directly engage in the prohibited behavior or he or she may vicariously engage in prohibited behaviors by observing others. When confronted in a DUI situation a reactant individual may either act directly by purposefully driving home following an intervention attempt, or the individual may act more indirectly by complaining incessantly while complying. Individuals may also exhibit aggression towards the agent that is prohibiting the behavior or may engage in a related behavior to

the one prohibited. A highly reactant potential DUI offender may lash out physically at an individual attempting to take the impaired individual's car keys.

Dowd and Wallbrown (1993) revealed that psychological reactance was associated with defensiveness, dominance, and aggressiveness. Reactant individuals also were forceful, domineering, individualistic, controlling, and tended to act impulsively. Similarly, Dowd, Yesensoky, Wallbrown and Sanders (1992) indicated that reactant individuals were less concerned with making good impressions, less tolerant, less likely to follow rules, and more likely to express strong emotions. Reactance may play a prominent role in a potential DUI offender's evaluation of an intervention attempt.

Finally, the way in which a message is framed and expressed was shown to impact persuasive efforts in the past (Jones & Brehm, 1970). Individuals were more likely to comply with others when persuasive messages presented both sides of an argument. Jones and Brehm (1970) demonstrated that people who were simply informed that there were two sides to an argument tended to lend more credibility to the individual making a persuasive attempt than those that were not told that an issue had two sides. Petty and Cacioppo (1979) demonstrated that individuals were likely to resist persuasive attempts when they had foreknowledge that the attempt would be directed against them. Finally, Cialdini (1993) illustrated how such message techniques as low-balling and foot-in-the-door increased compliance.

Since contextual factors, evaluative responses, and message characteristics were shown to influence persuasive influence and subsequent compliance in various other areas, and since these factors were also identified to predict DUI intervention attempts

and successes (Rabow et al., 1990; Wolfinger et al., 1995; Newcomb et al., 1997) it seems more acceptable to attempt to apply them to the current condition as well.

The Arousal/Cost-Benefit Model of Decision-making Applied to Potential DUI offenders

Extending the arousal/cost-benefit model as developed by Newcomb et al. (1997) to potential DUI offenders possesses several interesting research applications (see Figure 4). Four classes of variables would expectedly influence potential drunk driving offenders' decisions to comply with intervention requests. Background variables and then context variables would expectedly impact potential DUI offenders' decisions. Background variables would include such things as basic demographic variables, the potential DUI offender's attitudes toward drunk driving, personality variables, etc. Context variables would include such things as the setting of the DUI situation, the level of dangerousness present in the DUI situation, the relationship between the intervener and the potential DUI offender, and a number of other factors. Intervention-type variables such as the number of interventions attempted as well as the type of interventions attempted (passiveness versus assertiveness) would be expected to contribute to decisions to comply. Finally, decisions to comply would be influenced by potential DUI offenders' subjective and evaluative response variables. These variables would include such things as considering the potential legal consequences of DUI, the potential consequences to the relationship between the intervener and the individual intervened upon in the DUI situation, and the perceived level of dangerousness in the situation following the intervention.

The potential DUI offender's personal background, context variables, the nature and number intervention attempts, and the potential offender's evaluative response to the intervention should either increase or reduce his or her degree of arousal (i.e.: the degree of perceived dangerousness in the DUI situation). Several of the variables that were identified as interloping factors in the informal intervention process that were reviewed in the current work are summarized in Table 2.

Table 2

Variables Identified to Help Understand and Predict Informal DUI Intervention

Variables	Description	Citation Example
Background Variables		
Gender	male vs. female	Hernandez et al. (1995)
Age	chronological age	Albaum (1985)
Ethnicity	whites vs. non-whites	Monto et al. (1992)
Drunk Driving Tendencies	self-reported driving after drinking	Turrisi & Jaccard (1992)
Attitudes toward DUI Alternatives	asking a friend for a ride	Turrisi & Jaccard (1992)
Attitudes toward Drunk Driving	felt safe to drive after drinking over six drinks	Nelson et al. (1999)
Degree of Intoxication	self-reported perception of intoxication at the time of the DUI Situation	Newcomb et al. (1997)
Drinking Goals	planning to arrange a ride home prior to drinking	Nelson et al. (1999)
Context Variables		
Setting Characteristics	drinking location	Hernandez & Rabow (1987)
Relationship	relationship between intervener and potential DUI offender	Thomas & Seibold (1995)
Perceived Dangerousness	how safe it is to drive prior to DUI intervention	Newcomb et al. (1997)

Variables	Description	Citation Example
Intervention Type Variables		
Type of Intervention	assertive vs. passive interventions	Hernandez & Rabow (1987)
Evaluative and Subjective Response Variables		
Examination of Consequences	I would be embarrassed	Turrisi & Jaccard (1992)
Perceived Dangerousness	how safe it is to drive following DUI Intervention	Newcomb et al. (1997)
Perception of Competency	felt capacity to stop the person from drunk driving	Thomas & Seibold (1995)

The variables in Table 2 have been grouped together into categories. These categories are "Background Variables" (age, gender, ethnicity, etc.), "Context Variables" (drunk driving setting characteristics, relationship strength between all parties involved, attitudes toward DUI alternatives, etc.), "Intervention Type Variables" (assertive vs. passive interventions), and "Evaluative and Subjective Response Variables" (examination of perceived consequences, perceived dangerousness). All the variables in Table 2 have been suggested to impact the frequency of informal intervention attempts and successes in the past. However, they have neither been systematically analyzed with a sample of potential prior DUI offenders, nor have they been conceived of as intermingling

influences within a unified intervener—potential DUI offender process framework. The theoretical model presented in Figure 4 provides a deductive framework from which to investigate variables such as those listed in Table 2.

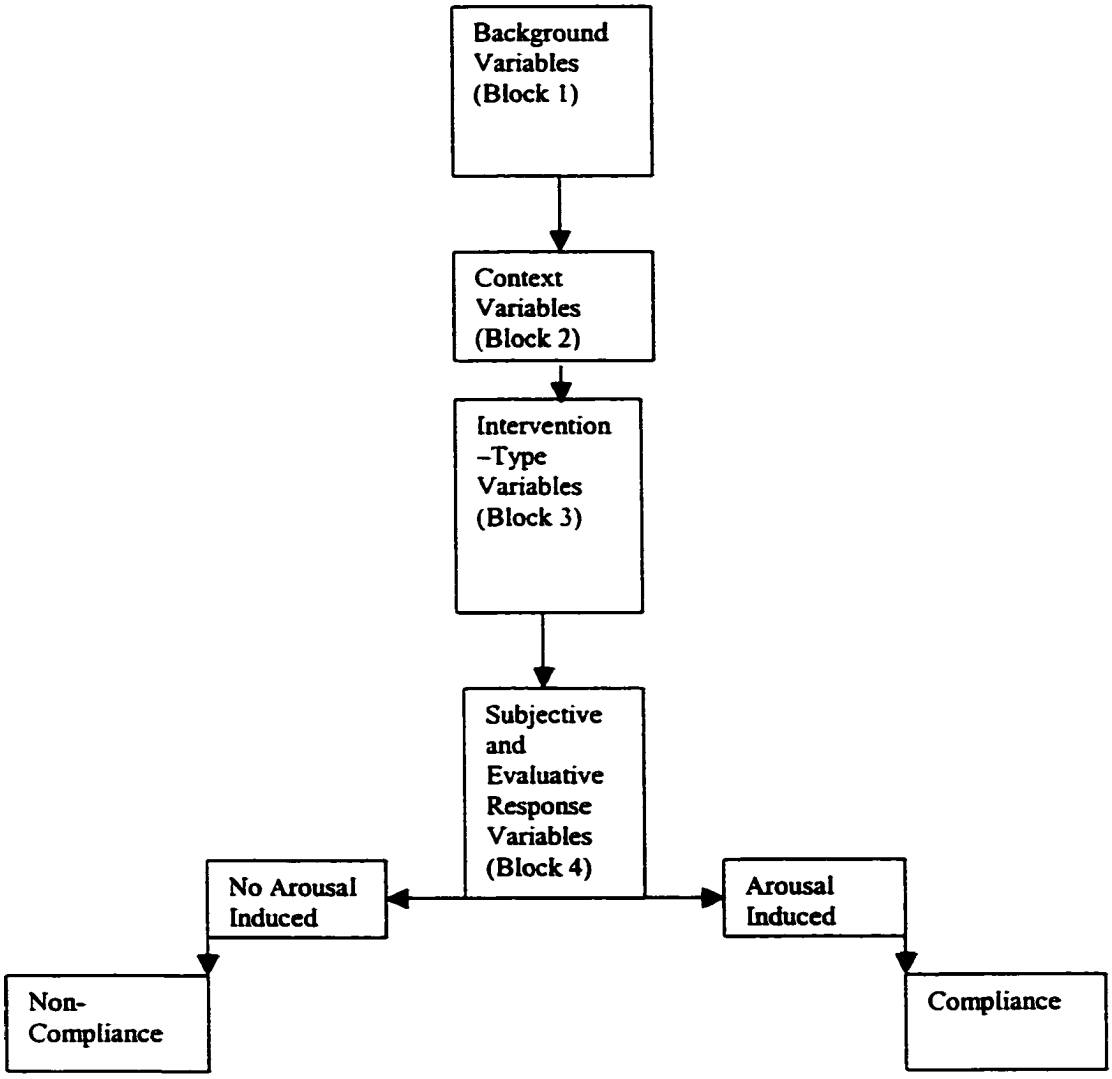

Figure 4. Visual Representation of an Arousal/Cost-Benefit Model for Decision Making in DUI Situations

Dissertation Hypotheses

The following hypotheses are made based upon the variables summarized in Table 2 and the theoretical conceptualization of potential DUI offenders' decision-making processes presented in Figure 4.

Hypothesis One

It is predicted that decisions to comply with informal intervention attempts will not be affected by basic demographics variables such as gender, race, or family income. It is predicted that there will be a relationship between self-reported compliance and other background characteristics such as drunk driving tendencies, drunk driving self-efficacy, drinking goals, psychological reactance, openness to alternatives to drunk driving, measures of alcoholism, and self-reported frequency of alcohol use.

Hypothesis Two

It is hypothesized that there will be a relationship between informal DUI intervention compliance rates and a number of context variables such as those identified in Table 2. These variables include the gender and ethnicity of the intervening party, the perceived level of intoxication of the intervening party, the relationship between the parties in the DUI situation, the setting of the DUI situation, and the perceived level of dangerousness in the DUI situation.

Hypothesis Three

There will be a relationship between the number of assertive interventions, the number of passive interventions, and the frequency of self-reported informal DUI intervention compliance.

Hypothesis Four

It is hypothesized that there will be a relationship between evaluative and subjective response variables (examination of perceived consequences, perceived danger in a DUI situation) and informal DUI intervention compliance.

Hypothesis Five

It is predicted that there will be a relationship between informal DUI intervention compliance and background variables, context variables, intervention-type variables, and evaluative and subjective response variables. All four blocks of variables are expected to contribute to the prediction of self-reported DUI compliance.

CHAPTER 2

METHODS

The following chapter presents the methods used in Study One and Study Two. The first study was conducted to investigate the utility, reliability, and validity of the survey. The method section of the first study presents the procedures used in both studies as well as full descriptions of the variables included in the dissertation survey. The method for the second dissertation study is presented after the discussion of the first study. The lengthy review of the survey materials included in the first study's method section will not be replicated in the second study's method section.

Study 1

Method

Most of the variables identified in Table 2, and presented in the model detailed in Figure 4, have received little reliability or validity analysis. The first study was conducted in an attempt to show that the survey materials that were assembled were defensible from psychometric as well as utilitarian perspectives. This study provided the opportunity to conduct internal consistency reliability analyses on key scales as well as the opportunity

to perform exploratory analyses of the relationships between several of the measures included within the survey.

Participants

Survey materials were tested with the cooperation of 115 introductory psychology students enrolled in a southern university. All participants volunteered for the project and responded with informed consent (see Appendix A for Human Subjects Approval forms). Participants ranged in age from 17 to 33 ($M = 19.5$, $SD = 2.7$), and they were 60% male ($n = 69$) and 38.3% female ($n = 44$). Two individuals failed to provide their gender. The majority of these students, or 83.5% ($n = 96$), classified themselves as Caucasian while 10.4% ($n = 12$) were African American, 3.5% ($n = 4$) were Asian, and 2.6% ($n = 3$) listed themselves in the "other" category. Five individuals, or 4.3%, reported that they had been arrested at least once for driving under the influence of alcoholic beverages, and 7 individuals (6.1%) reported that they had been arrested at least once for drunken behavior. A full 44% of the sample ($n = 51$) reported that they had an individual attempt to stop them from driving after drinking at least once in the past year. Additionally, 73% ($n = 85$) reported that they had attempted to intervene to prevent someone from driving after drinking at least once in the past year, including 88% ($n = 45$) of the 51 individuals who reported that others had intervened with them.

Measures

Independent Variable: Informal DUI Intervention Characteristics Measure. Hernandez and Rabow (1987) developed a method to ascertain which of several common informal DUI interventions were most implemented and which were most successful. They generated a list of ten interventions and asked their participants to recall their most recent intervention attempt within the past year. Interventions were assessed with 10 yes/no questions. Participants responded to five items assessing assertive interventions. They also responded to five items assessing passive interventions. Assertive interventions involved confrontational approaches like telling the intoxicated person not to drive or taking his or her car keys to prevent drunk driving. Passive interventions involved non-confrontational approaches such as asking the intoxicated person not to drive, or offering the impaired person a ride home. A second set of 10 yes/no questions assessed whether or not the interventions that were attempted led to successful compliance with the request.

Hernandez, Newcomb, and Rabow (1995) formed several composite measures with these items to help assess the prevalence and success rates of passive and assertive informal interventions. Each passive item and each assertive item was dummy coded (0 [*no attempt*], 1 [*attempt*]; 0 [*unsuccessful*], 1 = [*successful*]). The groups of questions were summed separately to create new intervention variables: the total number attempted of assertive interventions, and the total number of attempted passive interventions, the total number of successful assertive interventions, and the total number of passive interventions. These authors also summed the entire set of passive and assertive items to

form a total intervention attempted score as well as a total successful intervention score. They did not provide reliability data for the composite scales they created.

Dependent Variables

Background Variables: Basic Demographics. A thorough review of the informal DUI intervention literature was conducted and no single measure of informal intervention compliance was found. Typically, researchers used self-report survey data and vignettes to make conclusions (e.g., Agostini & Miller, 1994; Hernandez et al., 1995; Newcomb et al., 1991; Newcomb et al., 1997). The items that were presented to participants in the pilot research were compiled to assess those variables listed in Table 2. A copy of the survey is presented in Appendix B.

A basic demographics questionnaire assessed participants' age, gender, socioeconomic status, ethnicity/race, educational level, and grade point average. These variables were assessed because other researchers suggested that they might impact informal DUI interventions (Monto et al., 1992).

Background Variable: Drunk Driving Tendencies Measure. A thorough review of the literature failed to result in the discovery of validated scales of drunk driving tendencies; instead, most of the research has depended primarily upon self-reports to single item measures included in surveys. The most reliability and validity evidence presented favoring the use of specific item measures was given by Turrisi and Jaccard (1992).

Turrisi and Jaccard (1992) developed several single item measures of drunk driving tendencies. They adopted one item from the work of Donovan and Marlatt (1982) that asked individuals to estimate how many times in the past 30 days they have driven after consuming one or more drinks. Turrisi and Jaccard's (1992) second item was: "During the past *six months*, how many times have you driven your car after you thought you *might* have drank too much? (a) never, (b) 1 to 2 times, (c) 3 to 4 times, (d) 5 to 6 times, (e) 7 to 8 times, (f) 9 to 10 times, (g) 11 to 12 times, (h) 13 to 14 times, (i) 15 to 16 time, (j) 17 or more" (Turrisi & Jaccard, 1992, p. 407). Their third question was: "During the past *thirty days*, how many times have you driven a car after you thought you *might* have drank too much? (a) never, (b) 1 to 2 times, (c) 3 to 4 times, (d) 5 to 6 times, (e) 7 to 8 times, (f) 9 to 10 times, (g) 11 to 12 times, (h) 13 to 14 times, (i) 15 to 16 time, (j) 17 or more" (Turrisi & Jaccard, 1992, p. 407).

Turrisi and Jaccard (1992) evaluated the reliability and validity of these items in several ways. They reported that the one month test-retest reliability on all three items was "uniformly high (i.e., $r = .82$ or greater)" (Turrisi & Jaccard, 1992, p. 408), and the convergence between the items yielded a validity score of $r = .74$. The items were not significantly correlated with the Good Impression scale derived from the California Psychological Inventory suggesting that participants failed to respond to them in a socially desirable manner. Gender differences have been shown to exist in the number of self-reported drunk driving trips between males and females in the past; Turrisi and Jaccard (1992) noted that their items revealed a significant difference in a composite score obtained from these items between males and females. Turrisi and Jaccard (1992)

stated "although the measures are admittedly not perfect, they appear to be sufficiently valid to provide insight into correlates of drunk-driving tendencies" (p. 408).

Background Variable: Attitudes toward Drunk Driving Alternatives Measure. A thorough literature search failed to lead to the discovery of a single validated measure designed to assess attitudes toward drunk driving. Instead, most of the conclusions in the literature were based upon inferences made from single item measures found in survey data. Turrisi and Jaccard (1992) assessed the impact of attitudes toward drunk driving alternatives on drunk driving tendencies. They presented participants with the following scenario: "Assume you have driven yourself to a party that is across town, about 10 miles from your home. The person giving the party is someone you know from work. As it begins nearing time to leave, you realize that you drank a little too much and probably shouldn't drive home." (p.407). Respondents were then asked to indicate how favorably they would view the following alternatives: asking a friend at the party for a ride home; calling someone for a ride home; taking a taxi home; and asking if he or she could stay the night. Individuals ranked these alternatives on a six point Likert-type scale from 1 (*extremely favorable*) to 6 (*extremely unfavorable*). Turrisi and Jaccard (1992) reported that item content was based on literature reviews and independent samples of individuals; however, they failed to provide any other data on these items.

Background Variable: Drinking Goals Measure. In order to assess the degree to which individuals planned to avoid drunk driving, Nelson et al. (1999) asked their participants how often they made plans ahead of time so they would not have to drive

after drinking. They also asked how well these plans worked. Responses were measured using a seven point Likert-Type scale ranging from 1 (*Extremely Often)* to 7 (*Extremely Rarely*). Unfortunately, reliability and validity information were not presented to defend the use of these items, but they were derived from the National Highway Traffic Safety Administration Survey of Drinking and Driving Attitudes and Behavior (NHTSA, 1995) and the Harvard College Alcohol Study (Wechsler, Isaac, Grodstein, & Sellers, 1994).

Background Variable: Psychological Reactance Measure. Recent reviews have identified and evaluated the three existing measures of psychological reactance (Thomas, Donnell, & Buboltz, 1999; Buboltz, Thomas, & Donnell, 1999; Donnell, Thomas, & Buboltz, 1999). These measures are The Hong Psychological Reactance Scale (HPRS; Hong & Page, 1989); the Therapeutic Reactance Scale (TRS; Dowd, Milne, & Wise, 1991); and the Questionnaire for the Measurement of Psychological Reactance (QMPR; Merz, 1983). Donnell, Thomas, and Buboltz (1999) concluded that the QMPR lacked consistency and factorial stability. Three different factorial studies yielded grossly different factor structures. These authors cautioned that the instrument was unable to reliably tap the dimensions of psychological reactance, and therefore its validity as a measure remained suspect. Buboltz, Thomas, and Donnell (1999) opined that the TRS has slightly better reliability and validity support. They stated that the TRS is the most widely used measure of reactance to date; however, relatively little research has examined its psychometric properties. Buboltz et al. (1999) concluded that psychological reactance is multidimensional in nature, and the TRS is incapable of accurately measuring these dimensions. Finally, Thomas et al. (1999) concluded that the HPRS

provides an effective means to measure psychological reactance levels with a "solid total scale reliability" (p. 12). Two models were identified that accurately explained their data.

The current study used the HPRS for two primary reasons. First, although the TRS is more widely used in the literature, the HPRS has more psychometric stability. Second, the HPRS has greater functional utility than the TRS. Specifically, Thomas et al. (1999) derived a relatively solid 11-item multidimensional measure of reactance compared to the unstable 28-item TRS. Participants respond to the HPRS on a 5-point Likert-type scale ranging from 1 (*disagree completely*) to 5 (*agree completely*). Cronbach alpha reliability on the 11-item scale was .75. Subscale reliabilities were .61 on the Freedom of Choice scale, .61 on the Conformity Reactance scale, .47 on the Behavioral Freedom scale, and .48 on the Reactance to Advice and Recommendations scale (Thomas et al., 1999).

Background Variable: Measure of Drunk Driving Self-Efficacy. After an extensive review of the literature, a widely used and validated drunk driving self-efficacy scale could not be found. A general self-efficacy assessment scale was not used in this research because self-efficacy beliefs are "highly specific control-related beliefs which concern one's ability to perform a particular outcome" (Fiske & Taylor, 1991, p. 198). Wells-Parker et al. (1998) reported that general measures of self-efficacy were not useful in predicting alcohol related behavioral change; however, task specific measures have been more useful. Therefore, it seemed inappropriate to obtain an overall measure of self-efficacy, especially when the current concern lies with individuals' beliefs specific to drunk driving.

One scale was discovered that measured the degree of self-efficacy individuals' reported in controlling their drunk driving (Wells-Parker, Bangert-Drowns, McMillen, & Williams, 1997; Wells-Parker, Williams, Dill, & Kenne, 1998). This scale was shown to be an important factor in understanding how DUI remediation programs can impact recidivism. However, it seems that an individual in a DUI situation would not be considering how well he or she could control their drunk-driving behavior. Instead, it would seem that an individual in a DUI situation would be considering his or her ability to drive "X" amount of miles after drinking "Y" amount of alcohol. How effectively people believe they can control their drunk driving behavior is a different construct than how effectively they believe they can actually drive drunk. It is possible to feel different degrees of self-efficacy across both constructs simultaneously.

Since no scales were identified that measured drunk driving self-efficacy, items were constructed in an attempt to measure the expectations individuals have in their abilities to drive under the influence of alcohol. These items were designed to tap individuals' perceptions of their own competency and mastery to drink and then drive. The items were constructed to obtain measures of feelings of self-efficacy across driving short, moderate, and longer distances after drinking one, three, or six drinks. An example of one of these items is: "I am confident in my ability to drive *less than a mile* after consuming *one* drink." Responses were measured using a seven point Likert-Type scale ranging from 1 (*Extremely Unfavorably)* to 7 (*Extremely Favorably*).

Background Variable: Heavy Drinking Composite Scale. Hurlbut and Sher (1992) developed a heavy drinking composite scale to measure individuals' self-reported

frequency of alcohol consumption as well as consumption patterns over the past year and over the past month. The composite is obtained by calculating the mean average obtained from three scores. The three items assessed the number of occasions that the subject was drunk, the number of occasions that a subject was a little high or light headed, and the number of occasions where an individual consumed five or more drinks in one sitting. Participants are free to respond to these items, and are not asked to do so on a forced choice scale. The researchers reported that these items were significantly correlated at an $\alpha < .001$ probability level with: the Short Michigan Alcohol Screening Test (S-MAST; $r = .57$), the Past-Year scale of the Young Adult Alcohol Problems Screening Test (YAAPST; $r = .60$), the Past Year Severity Scale of the YAAPST ($r = .65$), and the Diagnostic Interview Schedule Version III-A ($r = .48$). These items were shown to have relatively strong concurrent validity when compared with other strong measures of alcohol abuse and dependency.

Background Variable: Short-Michigan Alcohol Screening Test (S-MAST). The Michigan Alcohol Screening Test (MAST) is a twenty-four-item instrument designed to diagnose alcoholism. The MAST was designed for both professionals and non-professionals to administer, and it takes roughly fifteen minutes to complete. Questions on the MAST do not require an individual taking the test to provide specific frequencies or quantities of alcohol consumption; rather, the test is designed to ask seemingly neutral questions to avoid defensive response tendencies practiced by alcoholic individuals (Selzer, 1971). Scores on the MAST range from 0 to 53. Scores between zero and four indicate the absence of a significant drinking problem. Scores of five or above indicate

the probable presence of an alcohol problem. Scores above ten indicate alcoholism. (Selzer, 1971). Participants respond with either a "yes" response or a "no" response.

Selzer (1971) concluded that the MAST had solid reliability (Cronbach alpha = .95) and validity (r = .90) evidence. The MAST had stable test-retest reliability (Zung, 1982; Skinner & Sheu, 1982). Zung (1982) reported that the MAST had a test-retest reliability coefficient of 0.97 after one day, 0.84 after two days, and 0.94 after three days. Skinner and Sheu (1982) found the test-retest reliability coefficient of the MAST to be 0.84 following 4.8 months. Storgaard, Nielson, and Gluud (1994) reviewed 20 validity studies involving the MAST. They concluded that there was a considerable amount of disagreement in the field regarding the definition of alcohol problems, and that this lack of agreement made it difficult to assess the validity of the MAST. When the MAST was evaluated against physicians' opinions and DSM-II diagnostic criterion, it appears to be a weaker instrument than when it is evaluated using the DSM-III and the National Institute of Mental Health Diagnostic Interview Schedule. Sensitivity indexes ranged from 0.88 to 0.98 while specificity indexes ranged from 0.57 to .64. The MAST tended to identify accurately those diagnosed with alcohol problems based on typically recent conceptualizations of this construct; however, it was less able to identify accurately those without alcohol problems. The MAST is a useful screen for alcohol problems, but it should not be used alone to make diagnoses. The MAST is a widely used alcohol screening instrument with strong construct validity evidence (Watson, Detran, Fox, Ewing, Gearhart, and DeMotts, 1995; Ross, Gavin, and Skinner, 1990).

In an effort to tap the predictive power of the MAST in a more limited amount of time, Selzer, Vinkor, and Rooijen (1975) developed the Short Michigan Alcohol

Screening Test (S-MAST). The creators of the S-MAST intended to produce "an effective, shorter, self-administered, and more easily scored version of the original 25-item MAST" (p. 123). It is scored by coding a single point for each alcoholic positive response. Scores may range between 0 and 26. They suggested that participants who scored zero to one were considered nonalcoholic, those that scored two points were possibly alcoholics, and those that scored three points were alcoholics. Also, affirmative responses to questions 6, 10, and 11 were considered as diagnostic of alcoholism. The S-MAST was shown to have internal consistency reliability coefficients of .76, .78, and .93 across samples comprised of licensed drivers over twenty years old, outpatient alcoholics, and inpatient alcoholics. Selzer et al. (1975) demonstrated that the S-MAST was significantly correlated with the MAST across their samples as well (r = .93; r = .90; r = .97). They used the S-MAST to discriminate between alcoholic and non-alcoholic individuals and found that it performed slightly better than the original MAST. Selzer et al. (1975) concluded that the S-MAST may be substituted for the MAST where "time and questionnaire space are at a premium" (p. 125).

Alexander and Mangelsdorff (1994) agreed that the S-MAST was a reliable and valid screening instrument that could be useful in identifying those with alcohol problems. They reported that the S-MAST's predictive accuracy ranged from 72-94% with civilian populations. Harburg (1988) assessed a random sample of 1,266 social drinkers in a mid-western university and concluded that it successfully predicted patterns of use in drinkers and non-drinkers from a normal population. Alexander and Mangelsdorff (1994) reported that the S-MAST had the same factor structure in both the normal samples reported in Harburg (1988) and in their own sample of army reservists.

They also concluded that the reliability coefficients in both studies were similar to those reported by Selzer et al. (1995).

Subjective and Evaluative Response Variable: Examination of Perceived Consequences Measure. The current items were developed based on those used by Turrisi & Jaccard (1992) as well as those used by Turrisi, Jaccard, Kelly, and O'Malley (1993) to assess the potential consequences of drunk driving. Turrisi and Jaccard (1992) used four single item attitude measures that were significantly related with drunk driving tendencies. The more likely individuals were to believe that their names would be published in the paper and that they would have to pay at least $250 for a lawyer, the less likely they were to drive drunk. The more individuals believed they could get seriously injured and the more they believed that drunk driving would result in their having a criminal record, the less likely they were to drive drunk. One month test-retest measures of these items were high (r = .82 or greater). Additionally, responses were not significantly correlated with a measure of impression management.

Next, Turrisi et al. (1993) submitted nine attitudinal items to confirmatory factor analysis. Interveners in DUI situations responded to these items on a five point Likert-type scale from 1 (*strongly agree*) to 5 (*strongly disagree*). Their factor model included four constructs: verbal consequences, physical consequences, social consequences, and relationship consequences. They successfully confirmed their model through factor analysis, and they found that participants tended to fear verbal consequences, physical consequences, and relationship consequences more than social consequences. No other reliability or validity data were reported. The current research included the physical,

verbal, and relationship items from Turrisi et al. (1993). It did not include social consequence items because they do not seem to factor into decision-making in DUI situations among interveners, and they probably do not factor into potential offenders' decisions either.

Subjective and Evaluative Response Variable: Perceived Dangerousness Measure. A thorough review of the literature failed to reveal a validated measure of self-perceived dangerousness of DUI situations. Most of the research in this field of study has assessed perceptions of dangerousness and risk through single item measures without reporting reliability and validity data (Newcomb et al., 1997; Newcomb et al., 1991; Wolfinger et al., 1994; Thomas & Seibold, 1995). The current study modeled items after those used elsewhere (Newcomb et al., 1997). Respondents were asked to report how safe they believed it was to drive before the intervening party made an intervention attempt. They responded on a seven point Likert-Type scale ranging from 1 (*extremely safe to drive*) to 7(*extremely unsafe to drive*). In order to determine how intervention attempts affected perceived dangerousness to drive, respondents were also asked how safe they felt to drive after the intervention scenario they were asked to recall.

Validity Variable: Marlowe-Crowne Social Desirability Scale-Short Form X1. In order to determine the impact of social desirability on responses, the Marlowe-Crowne Social Desirability Scale-Short Form X1 was presented to participants. The Marlowe-Crowne Social Desirability Scale- Short Form X1 (SDS-X1; Strahan & Gerbasi; 1972) was derived from the Marlowe-Crowne Social Desirability Scale (Crowne & Marlow,

1960). The original scale was designed to measure participants' socially desirable responding tendencies; however, many felt that the scale was too long to serve as a practical instrument to control for socially desirable responding tendencies in research (Fischer & Fick, 1993). Several shorter versions have been formed through the use of factor analytic methods. Fischer and Fick (1993) identified the SDS-X1 as the best measure of social desirability when compared to seven other instruments. This 10-item instrument was shown to have solid internal consistency reliability ($\alpha = .88$), and a significant correlation with the original scale ($r = .96$). The Marlowe-Crowne Social Desirability Scale was used in prior research to measure social desirability in responding in other alcohol and drug related surveys (McDonald, Zanna, & Fong, 1995). Participants choose either "True" or "False" in response to each item.

Procedure

Surveys were presented to students after their voluntary informed consent was obtained. The survey was designed based on methods developed by Turrisi et al. (1995) to guard against several potentially confounding effects. First, packets were arbitrarily numbered prior to testing so that students did not need to provide any identifying information such as a social security number or a student identification number to differentiate their surveys. Participants were asked to avoid responding to questions in an all-or-none fashion. To discourage social desirable response patterns, participants were reminded that their names were not to be placed on their response sheets. They were also informed that their informed consent forms would be kept separately from their actual data. In addition, respondents were told in the orienting instructions how essential it is

that they respond honestly and openly to the survey. Students were read the contents of Appendix C to initiate them to the testing procedure. Others (Turrisi & Jaccard, 1992) used these procedures with success.

To ensure that the data were collected following ethical testing standards, the survey proctor followed the following steps in data collection. She greeted potential participants and distributed informed consent sheets and pencils. She asked participants to read the informed consent sheets, and asked if they had questions. She collected informed consent sheets and pencils and read the orienting directions from a protocol sheet (Appendix C). She asked if any students/participants had special needs (none did), and reminded all participants that their surveys were taken anonymously. She distributed surveys to those that agreed to participate and fielded questions during survey administration. Finally, she debriefed participants and thanked them for their time. Then the proctor sealed informed consent sheets separately from the survey packets, and indicated the date and the testing time on the packets. She then mailed the data and the informed consent forms separately via Federal Express to the author of the dissertation. All these steps were followed using the checklist format contained in Appendix D.

Results

The data gathered from this sample of 51 self-identified potential DUI offenders indicated that the overall compliance rate was 71.9%.

Reliability Analysis. The internal consistency reliability of several measures included in the survey was analyzed using Cronbach's alpha (see Table 3).

Table 3

Pilot Study Internal Consistency Reliability Coefficients

Factor	α	n
Drunk Driving Tendency Scale	.83	115
Drunk Driving Self-efficacy Scale	.96	106
Perceived Consequences to DUI Scale	.82	52
Heavy Drinking Composite Scale	.94	114
Total informal DUI intervention compliance Composite Scale	.80	48
Assertive Intervention Compliance Composite Scale	.61	48
Passive Intervention Compliance Composite Scale	.57	49

Note. Coefficients were calculated using the Cronbach's α statistical procedure.

The drunk driving tendency composite scores resulted in a moderately high reliability coefficient ($\alpha = .83$, $n = 115$). The drunk-driving self-efficacy scale designed for this research yielded a high reliability coefficient ($\alpha = .96$, $n = 106$). The examination of perceived consequences composite scale also showed some promise as an internally stable measure ($\alpha = .82$, $n = 52$). Hurlbut and Sher's (1992) heavy drinking composite scale had a high level of internal consistency ($\alpha = .94$, $n = 114$). When a total successful informal DUI intervention compliance composite score was created following the

procedures detailed by Hernandez et al. (1995), the internal consistency reliability fell within an acceptably high range ($\alpha = .80$, $n = 48$). The measures of assertive intervention compliance that were administered to potential DUI offenders in the college student sample were compiled into a composite score and yielded a moderate degree of internal consistency ($\alpha = .61$, $n = 48$). The measure of intervention attempt success rates administered to interveners in the college student sample indicated a moderate degree of internal consistency as well ($\alpha = .61$, $n = 79$). The measures of passive intervention compliance that were administered to potential DUI offenders in the college student sample were compiled into a composite score and yielded a moderate degree of internal consistency ($\alpha = .57$, $n = 49$). The measure of intervention attempt success rates administered to interveners in the college student sample indicated a moderate degree of internal consistency as well ($\alpha = .66$, $n = 79$).

Validity Analysis: Drunk Driving Tendencies Measure. Several of the scales included in the survey materials were associated with other measures as would be expected. First, the greater the reported tendency to drive after drinking, the greater the likelihood was that people would neglect to make plans to avoid drunk driving, $r(102) = .26$, $p < .01$. Second, as self-reported drunk driving tendencies increased, so did individuals' reports of failed attempts to avoid drunk driving by following pre-determined plans, $r(102) = .76$, $p < .001$. Third, drunk driving tendency composite scores were positively and significantly correlated with drunk driving self-efficacy scores, $r(106) = 0.39$, $p < .001$. In other words, as individuals reported that they were more

likely to drive after drinking, they were also more likely to endorse stronger feelings of efficacy to drive longer distances after drinking more alcohol.

Validity Analysis: Drunk Driving Alternatives Measure. Additional testing revealed that several of the drunk driving alternative items were associated with drunk driving tendencies. As individuals reported greater tendencies to drive drunk, their willingness to take a taxi home decreased, $r(110) = -.28, p < .05$. Drunk driving tendencies were positively correlated with viewing driving home more carefully than usual as an option to consider after drinking, $r(110) = .36, p < .05$.

Validity Analysis: Drunk Driving Self-Efficacy Measure. Testing revealed that a nine-item drunk driving self-efficacy scale developed for the dissertation project has a great deal of promise. The scale was positively correlated with drunk driving tendencies, $r(106) = .39, p < .001$, and recent heavy drinking, $r(105) = .41, p < .001$. In other words, as the level of people's appraisal of their own ability to drive well after drinking increased, so did their self-reported tendency to drive after drinking. As individuals' feelings of drunk driving self-efficacy increased, so did their likelihood of failing to make plans for a safe ride home, $r(99) = .35, p < .001$. Finally, as drunk driving self-efficacy scores increased, so did the probability of plans to avoid drunk driving fail, $r(99) = .24, p < .001$.

Validity Analysis: Heavy Drinking Composite Scale. Testing on the HDCS revealed the heavy drinking composite was significantly correlated with the Short-

Michigan Alcohol Screening Test, $r(106) = .22, p < .05$. In other words people who reported higher levels of current heavy drinking tended to score more highly on a measure designed to assess alcoholism.

Social Desirability Analysis. Participants seemed to respond to the survey materials relatively free from social desirability effects. Only two variables showed any significant correlation between themselves and the social desirability measure. As would be expected, as psychological reactance scores increased, social desirability scores decreased, $r(107) = -.41, p < .001$. In addition, as individuals' scores increased on the social desirability scale, so did their tendency to favorably view taking a taxi home following drinking, $r(106) = -.19, p < .05$. The methods used to decrease the chances of obtaining social desirable response patterns were not changed for the dissertation data collection due to the data supporting reliability and validity gathered during Study One. A correlation matrix for all the variables investigate in Study One is presented in Table 4.

Table 4

Correlation Matrix for Study One

Variables	1	2	3	4	5	6	7	8	9	10
1. SUCCESS	1.00	0.04	-0.02	-0.09	*0.17	0.09	*0.25	0.04	*0.38	*-0.17
2. AGE		1.00	0.04	-0.05	*-0.23	*0.42	0.02	0.08	0.07	-0.02
3. GENDER			1.00	-0.12	-0.10	*0.20	*-0.13	*0.25	-0.11	*-0.36
4. RACE				1.00	*-0.15	*-0.16	-0.04	0.05	*-0.14	-0.11
5. MONEY					1.00	0.01	-0.02	*0.15	*-0.12	*0.16
6. EDUC						1.00	*-0.23	*0.29	-0.05	*-0.17
7. PRIOR75							1.00	*-0.17	*0.59	0.09
8. DG46								1.00	*-0.38	-0.08
9. AFTER86									1.00	-0.06
10. MASTSC										1.00

Table 4 (Continued)

Variables	11	12	13	14	15	16	17	18	19	20
11. DRUNKSE	1.00	*0.24	-0.08	-0.04	*-0.14	*-0.23	*-0.12	-0.08	*0.23	*0.33
12. DDTEND		1.00	*-0.19	*0.12	0.02	0.00	-0.06	0.01	*0.86	*0.33
13. SOCDES			1.00	*-0.41	*0.48	*0.19	*0.20	0.17	*-0.21	0.07
14. REACTANC				1.00	*-0.51	*-0.30	0.02	0.08	0.10	*-0.13
15. DDALTERN					1.00	*0.19	0.04	0.01	-0.04	0.08
16. CONSEQU						1.00	*0.37	*0.32	0.11	0.01
17. ACOMPLY							1.00	*0.90	-0.10	*-0.27
18. PCOMPLY								1.00	-0.05	*-0.20
19. HEAVYDRI									1.00	*0.28
20. DD70										1.00

Table 4 (Continued)

	21	22	23	24
21. DD71	1.00	*-0.18	*-0.18	0.08
22. DD72		1.00	-0.01	-0.10
23. DD73			1.00	*0.14
24. DD74				1.00

Note. SUCCESS = total compliance composite score; MONEY = family income; EDUC = educational level; PRIOR75= perceived level of dangerousness in the DUI situation prior to intervention; DG46 = drinking goals; AFTER86= perceived level of danger in the DUI situation following the intervention; MASTSC= Michigan Alcohol Screening Test Scores; Drunkse = Drunk Driving self efficacy; DDTEND = drunk driving tendencies; SOCDES = social desirability; REACTANC = psychological reactance; DDALTERN = drunk driving alternatives; CONSEQU = consequences to self; ACOMPLY = assertive attempts; PCOMPLY = passive attempts; HEAVYDRI = heavy drinking composite scale; DD70 = relationship with the intervening party; DD71 = gender of the intervening party; DD72 = ethnicity of the intervening party; DD73 = perceived degree of intoxication of the intervening party; DD74 = the number of people in the DUI situation.

*$p < .05$

Discussion

The first study provided useful data for the current project. The purpose of the study was to identify the psychometric and utilitarian strengths and weaknesses of the survey instrument prior to conducting the second study. This goal was accomplished in a number of ways. First, it appeared that the scales included on the survey had relatively strong internal consistency reliability coefficients. The reliability coefficients of the drunk driving self-efficacy scale, the drunk driving tendency composite scale, the perceived consequences scale, and the heavy drinking composite scale all had more than acceptable reliability coefficients (Anastasi, 1982). Of particular interest was the total composite score derived for informal DUI intervention compliance. This variable appeared to sample consistently the content at hand with relatively heterogeneous items (Anastasi, 1982). However, the results revealed moderate internal consistency reliability coefficient scores for both the assertive composite measure and the passive composite measure of informal intervention success. This suggests that any inferences to be made based on these scales needs to be tempered by the relative degree of error present in the observed scores.

Second, the measures included within the survey provided some support for its construct validity. Data gathered from the first study indicated that the more individuals tended to drive after drinking, the less likely they were to report planning a safe ride home prior to venturing out for the evening, and they were also less likely to keep their safety plans once they were made. As the respondents' drunk driving tendency scores increased, their willingness to call a taxi-cab for a safe ride home decreased. These findings are similar to those of Turrisi and Jaccard (1992).

The drunk driving self-efficacy scale created specifically for this dissertation appears to be a solid instrument. As drunk driving self-efficacy scores increased, so did drunk driving tendency scores and heavy drinking scores. As drunk driving self-efficacy scores increased, individuals reported less chances for making safety plans prior to drinking as well as a decreased chance of actually keeping these safety plans if they were made.

The heavy drinking composite scores were significantly correlated with the S-MAST indicating that current self-reported heavy drinking frequency was predictably associated with a long-validated measure of alcoholism. This finding replicated what Hurlbut and Sher (1992) reported in their discussion of the heavy drinking composite scale.

Third, it is apparent that student responses on the survey were relatively un-associated with social desirability scores. Therefore, the orienting directions were not changed for the dissertation study. This is an important finding in that students appeared to respond to the survey free from a need to present them in a favorable light. In conclusion, the survey appeared to be a solid means to assess the constructs in question.

Study 2

The first study indicated that the assembled survey materials were relatively useful, reliable, and valid measures of the constructs investigated. The second study applied the survey to the investigation of self-reported informal DUI intervention compliance.

Method

Participants

A total of 453 students enrolled in psychology classes at a southern university chose to participate after signing an informed consent agreement. Of these students, 44% (n = 202) met inclusion criteria in that they reported that another individual had attempted to stop them from driving following drinking in the past year. These self-reported potential DUI offenders were 48% male (n = 97) and 52% female (n = 105). Participants ranged in age from 17 to 48 (M = 19.9, Mdn = 18, SD = 4.6). Participants were 13.4% African American (n = 27), 2% Asian (n = 4), 3% Hispanic (n = 6), 79.2% Caucasian (n = 160), and 2.5% claimed membership to other ethnicities (n = 5). Seven percent (n = 14) of participants admitted to having at least one prior DUI conviction and 7.5% (n = 15) reported having some prior alcohol related arrest. See Table 5 for a summary of sample demographics.

Table 5

Summary of Sample Demographic

Variable	*N*	%
Gender		
Male	97	48
Female	105	52
Ethnicity		
African American	27	13.4
Asian	4	2
Hispanic	6	3
Caucasian	160	79.2
Other	5	2.5
Family Income		
5000-14,999	21	10.6
15,000-24,999	18	9.1
25,000-34,999	22	10.8
35,000-49,999	19	9.4
50,000-59,000	13	6.4
60,000-79,000	17	8.4
80,000-99,000	37	18.2
100,000+	50	24.7

Table 5 (Continued)

Variable	*N*	%
Education		
Some High School	5	2.5
High School Grad	92	45.8
1-2 Years College	77	38.3
3-4 Years College	23	11.4
Graduate Student	4	2

Measures

The same survey materials were used in the second study as were used in the first study. Please refer to the *Measures* section of the first study to review the survey items that were used.

Procedure

University students who agreed to participate signed their informed consent sheets. Precautions were implemented to minimize the effects of demand characteristics on the testing environment: The class instructors or professors did not administer the survey to their own classes, nor were they allowed to view their students' data. Students were advised of this in the orienting instructions (see Appendix C). The research assistant read the orienting instructions to the students, advised them of their rights related to

research participation, and reminded them that their participation was voluntary. Participants read and signed their informed consent form. After the students agreed to participate, survey packets were distributed to the volunteers. Following the completion of the survey, the data were collected, and the students were debriefed to the nature of the study. The research assistant thanked student volunteers for their time. Once coded, the data set was examined for coding errors and cleaned prior to conducting statistical procedures. Statistical computations were calculated with SPSS 8.0 for windows.

CHAPTER 3

RESULTS

This chapter presents preliminary analyses to include reliability results, social desirability results, and the intervention attempt and success rates reported by volunteers in the second study. Each hypothesis test is presented in the order listed in the literature review. A family wise error rate of $\alpha_{FW} = .05$ was maintained for every hypothesis test. Since $\alpha_j = 1 - (1 - \alpha_{FW})^j$, and since there were five significance tests ($\alpha_{FW} = .05$) used to analyze the five hypotheses, a Bonferoni's correction was calculated and indicated that $\alpha_j = .01$.

Preliminary Analyses

Reliability Data

Internal consistency reliability estimates were calculated for the measures included within the survey. Generally, internal consistency reliabilities fell in acceptable ranges. Table 6 lists internal consistency reliability information.

Table 6

Internal Consistency Reliability Analysis

Variables	α	*n*	*N*
Heavy Drinking	.91	202	3
Mast	.62	194	13
Social Desirability	.61	199	10
Self Efficacy	.95	197	9
Drunk Driving Tendencies	.74	201	3
Drunk Driving Alternatives	.37	202	5
Consequences of DUI	.76	198	6
Consequences to Self	.80	199	8
Hong Reactance Scale	.78	196	11
Total Compliance Composite Score	.81	200	10
Assertive Intervention Attempt Composite Scores	.78	199	5
Passive Intervention Attempt Composite Scores	.76	202	5

Note. Internal consistency reliability was computed using the Cronbach alpha statistic.

As seen in Table 6, reliability coefficients ranged from poor to above average. Caution must be used in making conclusive statements involving the openness to alternatives to drunk driving scale. As was found in the first study, the survey remained

an imperfect, but relatively internally consistent set of measures for the constructs in question.

Social Desirability Analysis

The Marlowe-Crowne Social Desirability Scale-XS achieved an internal consistency reliability coefficient of $r = .61$ in the current research; therefore, any conclusive statements made concerning the impact of social desirability are made somewhat tentatively. Nonetheless, social desirability scores were significantly correlated with three survey measures. Unsurprisingly, social desirability and psychological reactance scores were negatively and significantly correlated, $r(193) = -.19$, $p < .01$. As individuals' self-reported levels of psychological reactance increased, their socially desirable response scores decreased.

Drunk driving self-efficacy scores were also negatively and significantly correlated with social desirable response scores, $r(194) = -.14$, $p < .05$. As individuals admitted to greater levels of drunk driving self-efficacy, their self-reported social desirability scores decreased. It would appear then that the drunk driving self-efficacy scores obtained might represent an under-representation of true perceptions of drunk-driving self-efficacy.

Finally, self-reported acceptance of drunk driving alternatives scores were significantly correlated with social desirability scores, $r(199) = -.19$, $p < .01$. Self-reported openness to drunk driving alternatives may be an over-representation of participants' true beliefs.

Informal DUI Intervention Attempt and Compliance Rates

Table 7 summarizes the individual assertive informal DUI Intervention attempt and success rates.

Table 7

Assertive Informal Intervention Attempt and Compliance Rates

	Attempt		Compliance	
Variable	Yes	No	Yes	No
Told not to drive				
%	83.2	16.8	60.7	39.3
N	168	34	102	64
Told would be driven				
%	66.8	33.2	74.1	25.9
N	135	67	100	35
Given Coffee				
%	9	91	66.7	33.3
N	18	183	12	6
Told to stay until Sober				
%	35.1	64.9	53.5	46.5
N	71	131	38	33
Car keys taken				
%	32.3	67.7	80.0	20
N	65	136	52	13

Note. Compliance rates are calculated only in cases where interventions were attempted.

The assertive intervention attempt rates ranged from 9% to 83.2%. The results indicated that the most commonly attempted intervention against potential DUI offenders was being told not to drive. The second most frequently attempted intervention was being told not to drive. The third and fourth most frequently attempted interventions were being told to stay until sober and having car keys physically taken away. The least frequently employed intervention was being told to drink coffee until sober. In contrast, intervention success rates ranged from 53.5% to 80% in the following order: car keys taken away, told they would be driven, given coffee, told not to drive, and told to stay until sober.

Table 8 summarizes the individual passive informal DUI Intervention attempt and success rates.

Table 8

Passive Informal Intervention Attempt and Compliance Rates

	Attempt		Compliance	
Variable	Yes	No	Yes	No
Asked not to drive				
%	76.2	23.8	63.6	36.4
N	154	48	98	56
Asked to be driven				
%	65.3	34.7	79.5	20.5
N	132	70	105	27
Asked if wanted Coffee				
%	9.4	90.6	73.7	26.3
N	19	183	14	5

Table 8 (Continued)

	Attempt		Compliance	
Variable	Yes	No	Yes	No
Asked to stay until Sober				
%	33.3	66.7	61.2	38.8
N	67	134	41	26
Asked for Car keys				
%	33.7	66.3	64.7	35.3
N	68	134	44	24

Note. Compliance rates are calculated only in cases where interventions were attempted.

The passive intervention attempt rates ranged from 76.2% to 9.4%. The results indicated that the most commonly attempted passive intervention against potential DUI offenders was being asked not to drive. The second most frequently attempted intervention was being asked if they would like to be driven. The third and fourth most frequently attempted interventions were being asked for their car keys and asked to stay until they were sober. The least frequently employed intervention was being asked to drink coffee until sober. In contrast, intervention success rates ranged from 79.5% to 61.25% in the following descending order: asked to be driven, asked if wanted coffee, asked not to drive, asked for car keys, and asked to stay until sober.

The proportion of the total number of assertive attempt successes ($n = 304$) to total assertive attempts ($n = 457$) was .665. The proportion of the total number of passive attempt successes ($n = 302$) to total assertive attempts ($n = 440$) was .686. Significance

testing indicated that there was no statistical difference between the success rates of assertive and passive intervention attempts, $Z = .67, p > .01$. This reveals that there is no significant difference in the success rates between assertive intervention attempts and passive intervention attempts. There was no difference between the frequencies of compliance obtained following an assertive or passive intervention.

The correlation between assertive intervention attempt scores and compliance composite scores was significant ($r = .826$). The correlation between passive intervention attempt scores and total compliance scores was also significant ($r = .843$). There was no statistically significant difference between these two correlations, *Fisher's* $Z = 0.3, p > .01$. In other words, as more passive and assertive attempts were made, compliance scores increased relatively equally.

Univariate Relationships Between Study Two Variables

It may be helpful for some to understand the univariate relationships between the variables under investigation. The following correlation matrix presents the specific univariate correlation coefficients between each variable used in the second study. Since the major goal of this work is to use background, context, intervention type, and subjective and evaluative response variables to predict--not describe--compliance, a description and analysis of the correlation matrix will not be presented. The correlation matrix is presented in Table 9.

Table 9

Correlation Matrix for Study 2

Variable	1	2	3	4	5	6
1. SUCCESS	1.00					
2. RACEUSE	*-0.22	1.00				
3. DDALTERN	0.03	-0.02	1.00			
4. GENDER	*-0.15	*-0.13	-0.07	1.00		
5. AGE	*-0.17	-0.10	-0.01	-0.05	1.00	
6. HEAVYDRI	-0.08	*0.16	-0.04	-0.05	-0.06	1.00
7. DG46	-0.02	-0.03	-0.06	*-0.13	*0.12	0.02
8. REACTANC	0.10	-0.01	-0.05	0.03	-0.07	0.01
9. MONEY	-0.09	*0.35	0.05	-0.08	*-0.16	*0.14
10. DDSELFEF	-0.05	0.04	-0.03	-0.02	0.02	*0.21
11. DDTEND	-0.05	*0.13	-0.11	0.01	-0.05	*0.52
12. DD71	-0.02	-0.03	0.02	0.04	0.05	-0.06
13. SETTING1	0.07	-0.01	*0.14	-0.11	0.00	0.03
14. DD74	0.01	0.03	0.10	0.09	*-0.13	0.08
15. DD70	-0.08	-0.01	-0.03	-0.09	0.06	0.05
16. PRIOR75	0.09	0.06	0.10	-0.03	*0.12	-0.04
17. DD73	*-0.12	*0.17	0.08	-0.03	-0.06	*0.25
18. DD72	*-0.14	*0.67	0.05	0.07	-0.07	*0.16
19. PTRY	*0.66	*-0.18	0.00	*-0.40	-0.09	-0.01
20. ATRY	*0.63	*-0.15	0.02	*-0.41	-0.10	0.00
21. DDCONSEQ	0.08	0.10	*0.13	-0.08	*0.19	-0.02
22. CONSSELF	*0.31	0.03	0.07	0.01	0.00	-0.06
23. AFTER86	*0.12	*0.13	0.01	*0.12	0.09	*-0.14

Table 9 (Continued)

Variable	7	8	9	10	11	12	13
1. SUCCESS							
2. RACEUSE							
3. DDALTERN							
4. GENDER							
5. AGE							
6. HEAVYDRI							
7. DG46	1.00						
8. REACTANC	*0.23	1.00					
9. MONEY	-0.07	0.02	1.00				
10. DDSELFEF	*0.27	*0.24	*0.15	1.00			
11. DDTEND	*0.15	*0.13	*0.17	*0.41	1.00		
12. DD71	-0.08	-0.01	-0.03	-0.01	-0.06	1.00	
13. SETTING1	0.00	-0.09	-0.03	0.08	0.07	0.05	1.00
14. DD74	-0.09	*0.12	0.01	0.01	-0.01	-0.03	-0.06
15. DD70	0.08	*0.13	-0.01	0.00	-0.01	-0.10	-0.07
16. PRIOR75	*-0.15	-0.11	-0.08	*-0.21	-0.10	*-0.16	-0.06
17. DD73	*0.18	0.08	*0.16	*0.18	*0.18	-0.05	*-0.12
18. DD72	-0.07	-0.05	*0.35	0.01	0.10	0.03	-0.01
19. PTRY	0.02	-0.03	0.01	-0.08	-0.06	-0.09	0.03
20. ATRY	0.10	0.03	0.02	-0.04	-0.04	*-0.13	0.06
21. DDCONSEQ	0.05	-0.02	0.08	-0.02	0.05	-0.05	-0.01
22. CONSSELF	-0.03	*0.14	0.07	0.00	-0.01	-0.01	-0.03
23. AFTER86	*-0.20	*-0.18	-0.02	*-0.13	-0.06	*-0.12	*-0.13

Table 9 (Continued)

Variable	14	15	16	17	18	19	20
1. SUCCESS							
2. RACEUSE							
3. DDALTERN							
4. GENDER							
5. AGE							
6. HEAVYDRI							
7. DG46							
8. REACTANC							
9. MONEY							
10. DDSELFEF							
11. DDTEND							
12. DD71							
13. SETTING1							
14. DD74	1.00						
15. DD70	0.04	1.00					
16. PRIOR75	-0.05	-0.03	1.00				
17. DD73	*0.20	*0.14	0.02	1.00			
18. DD72	0.00	0.09	0.10	*0.20	1.00		
19. PTRY	0.00	0.05	0.06	0.02	*-0.12	1.00	
20. ATRY	-0.08	0.04	0.08	0.04	*-0.14	*0.90	1.00
21. DDCONSEQ	*-0.14	0.04	*0.13	-0.03	0.06	0.06	0.10
22. CONSSELF	0.01	0.00	*0.28	-0.07	0.04	0.07	*0.17
23. AFTER86	-0.08	-0.03	*0.61	-0.02	0.10	0.05	0.02

Table 9 (Continued)

Variable	21	22	23
21. DDCONSEQ	1.00		
22. CONSSELF	*0.19	1.00	
23. AFTER86	*0.13	*0.19	1.00

Note. SUCCESS = Total compliance composite score; MONEY = family income; EDUC = educational level; PRIOR75 = perceived level of dangerousness in the DUI situation prior to intervention; DG46 = drinking goals; AFTER86 = perceived level of danger in the DUI situation following the intervention; MASTSC= Michigan Alcohol Screening Test Scores; DRUNKSE = Drunk Driving self efficacy; DDTEND = drunk driving tendencies; SOCDES = social desirability; REACTANC = psychological reactance; DDALTERN = drunk driving alternatives; CONSEQU = consequences to self; ACOMPLY = assertive attempts; PCOMPLY = passive attempts; HEAVYDRI = heavy drinking composite scale, DD70 = relationship with the intervening party, DD71 = gender of the intervening party; DD72 = ethnicity of the intervening party; DD73 = perceived degree of intoxication of the intervening party; DD74 = the number of people in the DUI situation.

*$p < .05$

Hypotheses

Hypothesis One

A stepwise regression procedure was used to investigate the first hypothesis where background variables served as independent variables and total compliance scores served as the dependent measure. The race of the potential DUI offender was the only variable that predicted compliance with intervention attempts, $F(1, 172) = 7.12, p = .008$.

Specifically, non-Caucasian individuals tended to comply more than Caucasians; however, only 4% of the total variance attributable to compliance was explained with the predictive model ($r^2 = .04$). Results of the regression procedure are summarized in Table 10.

Table 10

Summary of Hypothesis One Regression Analysis

Variable	B	Standard Error	β	*t*	*p*
Race	13.51	1.32	-1.99	-2.67	.008

Excluded Variables	Beta In	*t*	*p*
Age	-0.12	-1.65	0.10
Gender	0.09	1.23	0.22
Family Income	-0.06	-0.71	0.48
Drinking Goals	-0.004	-0.06	0.95
Drunk Driving Tendency	-0.03	-0.44	0.66
Drunk Driving Self-Efficacy	0.01	0.07	0.94
Reactance	0.13	1.73	0.09

Table 10 (Continued)

Excluded Variables	Beta In	*t*	*p*
Drunk Driving Alternatives	-0.03	-0.45	0.67
Heavy drinking	-0.07	-0.95	0.34
MAST	-0.02	-0.21	0.84

Note. Table presents those variables included in the final step of the stepwise regression analyses.

Hypothesis Two

It was predicted that there would be a relationship between context variables and self-reported compliance scores. Stepwise regression analysis was conducted where compliance scores served as the dependent variable. The following served as independent variables: setting of the DUI situation, relationship between the intervening party and DUI offender, gender of the intervening part, ethnicity of the intervening party, perceived degree of intoxication of the intervening party, number of people present in the DUI situation, and perception of dangerousness of the DUI situation prior to intervention. Results indicated that the only context variable that predicted compliance was the perceived degree of intoxication of the intervening party, $F(1, 189) = 8.24, p < .01$. This variable explained approximately 4% of the variance attributable to self-reported compliance scores ($r^2 = .04$). Results are summarized in Table 11.

Table 11

Summary of Hypothesis Two Regression Analysis

Variable	B	Standard Error	β	*t*	*p*
Perceived Intoxication Of Intervening Party	-.76	.26	-2.0	-2.87	.005
Excluded Variables	**Beta In**	***t***	***p***		
DD70	-0.07	-0.99	0.32		
DD71	0.004	0.06	0.96		
DD72	-0.07	-0.90	0.37		
DD74	0.03	-0.35	0.73		
Prior75	0.11	-1.49	0.14		
Setting	0.06	0.86	0.86		

Note. Table presents those variables included in the final step of the stepwise regression analyses.

Hypothesis Three

It was predicted that there would be a relationship between assertive interventions, passive interventions, and successful informal DUI intervention compliance. A stepwise linear regression procedure was used to test this hypothesis. Assertive intervention attempt composite scores and passive intervention attempt composite scores served as predictor variables. Total intervention compliance composite

scores served as the criterion variable. As expected, the number of assertive intervention attempts and the number of passive intervention attempts significantly predicted self-reported compliance, $F(2, 198) = 362.98$, $p < .001$. Regression results are summarized in Table 12.

Table 12

Summary of Hypothesis Three Regression Analysis

Variable	B	Standard Error	β	*t*	*p*
Passive Composite Scores	2.8	.29	.51	9.87	.000
Assertive Composite Scores	2.5	.30	.43	8.43	.000

Note. Table presents those variables included in the final step of the stepwise regression analyses.

These variables explained roughly 79% ($r^2 = .79$) of the total variance attributable to participants' self-reported informal intervention compliance composite scores.

Hypothesis Four

It was hypothesized that evaluative and subjective response variables would predict informal DUI intervention compliance. A stepwise multiple regression procedure was used to test the sixth hypothesis where total compliance composite scores served as the dependent variable. The subjective and evaluative response independent variables

included perceived consequences of drunk driving scores, perceived consequences of the intervention to the self scores, and perception of the dangerousness in the DUI situation following an intervention scores. Regression results indicated that only one subjective and evaluative response variable, consideration of consequences to the self scores, predicted total compliance composite scores, $F(1, 183) = 25.01, p < .001$. This variable explained approximately 12% of the variance attributable to intervention compliance scores ($r^2 = .12$). Based on this finding it appeared that the degree to which individuals reported considering potentially harmful consequences to themselves or to the relationship with the intervening party impacted decisions to comply with informal DUI intervention attempts. Table 13 summarizes the regression results.

Table 13

Regression for Hypothesis 4

Variables Included	B	Standard Error	β	*t*	*p*
CONSSELF	.34	.07	.35	5.00	.000

Variables Excluded	Beta In	*t*	*p*
DDCONSEQ	-.03	-0.46	.65
AFTER86	-.10	1.47	.15

Note. Table presents those variables included in the final step of the stepwise regression analysis.

Hypothesis Five

Based upon the arousal/cost-benefit model presented in Figure 4, it was predicted that background variables, context variables, intervention type variables, and evaluative and subjective response variables would all be related to self-reported informal DUI intervention compliance in a systematic fashion. This hypothesis test assessed the effect that one set of variables contributed to the prediction of compliance scores prior to the assessment of subsequent effects in other blocks. To test the cumulative impact of these variables on compliance decisions, the four classes of variables were entered in distinct blocks into a hierarchical linear regression model.

The first block of background variables included all of the background variables including, gender, ethnicity, family income, heavy drinking composite scores, openness to drunk driving alternatives composite scores, drunk driving tendency scores, and goal setting prior to drinking scores. The second block consisted of context variables such as the physical setting, the relationship between the intervening part and the potential DUI offender, the race of the intervening party, the ethnicity of the intervening part, the perceived degree of intoxication of the intervening party, and the number of people present in the DUI situation. The third block consisted of passive informal DUI intervention composite scores and assertive DUI intervention composite scores. The fourth block consisted of evaluative and subjective response variables which included perceived legal consequences of drunk driving, perceived consequences of drunk driving to the self and to the relationship between the potential DUI offender and the intervening party, and the perception of dangerousness in the DUI situation following the intervention. The total regression model was significant at $\alpha = .01$, $F(23, 153) = 47.83$, p

< .001. However, no significant changes in r^2 were noted except for that which occurred in the third block. Table 14 summarizes the regression model, Table 15 summarizes the r^2 values at each step in the regression procedure, and Table 16 summarizes the regression coefficients for each variable entered into the fourth block.

Table 14

Summary of Regression ANOVA Statistics for Hypothesis 5

Model	*SS*	*df*	*MS*	*F*	*P*
Step 1					
Regression	724.70	11	65.88	1.37	.20
Residual	6898.91	142	48.58		
Total	7623.61	153			
Step 2					
Regression	1351.27	18	75.07	1.62	.06
Residual	6272.34	135	46.62		
Total	7623.61	153			
Step 3					
Regression	6790.37	20	339.52	54.19	.000*
Residual	833.24	133	6.27		
Total	7623.61	153			
Step 4					
Regression	6817.87	23	296.43	47.83	.000*
Residual	805.74	130	6.20		
Total	7623.61	153			

*$p < .01$.

Table 15

Hierarchical Regression Change Statistics

Model	r^2	r^2 adjusted	r^2 Change	*F* Change	*df1*	*df2*	*p*
Block 1	.095	.025	.095	1.36	11	142	.20
Block 2	.177	.068	.082	1.94	7	135	.07
Block 3	.891	.874	.713	434.09	2	133	.000*
Block 4	.894	.876	.004	1.48	3	130	.223

*$p < .01$.

As Table 15 illustrates, the hierarchical regression revealed that only intervention type-variables contributed significantly to the prediction of self-reported compliance rates. On average, the first block and second clocks of background and context variables failed to significantly contribute to the prediction of self-reported compliance. The variables included in the third block explained a significant 89% ($r^2 = .891$) of the variance attributable to self-reported compliance. Evaluative and subjective response variables failed to significantly increase the amount of variance explained by the final regression equation.

Table 16

Summary of the Regression Procedure for Hypothesis 5

Variable	B	Standard Error	β	*t*	*p*
Constant	-47.94	3.83	------	-12.54	.000
AGE	-00.00	0.06	-0.002	-00.05	.96
GENDER	-00.52	0.49	-0.04	-01.06	.29
MONEY	-00.11	0.09	-0.04	-01.19	.24
DG46	00.22	0.11	0.06	01.91	.06
DD70	-00.58	0.32	-0.06	-01.80	.07
DD71	-00.34	0.44	-0.02	-00.77	.44
DD72	00.22	0.30	0.03	00.74	.46
DD73	-00.19	0.12	-0.05	-01.57	.12
DD74	00.00	0.22	0.00	00.01	.99
PRIOR75	00.34	0.17	0.08	02.00	.05
DDTEND	-00.05	0.07	-0.03	-00.66	.51
REACTANC	-00.02	0.03	-0.02	-00.46	.65
DDALTERN	-00.02	0.04	-0.01	-00.40	.69
RACEUSE	00.12	0.78	0.01	00.16	.87
SETTING1	00.25	0.43	0.02	00.57	.57
HEAVYDRI	00.00	0.02	0.004	00.10	.92
MASTSC	-00.26	0.15	-0.06	-01.72	.09

Table 16 (Continued)

Variable	B	Standard Error	β	*t*	*p*
DDSELFEF	-0.01	0.02	-0.02	-00.63	.53
ATRY	2.71	0.31	0.47	08.83	.00
PTRY	2.83	0.27	0.51	10.39	.00
DDCONSEQ	-0.06	0.04	-0.05	-01.47	.14
CONSSELF	0.03	0.03	0.03	00.83	.41
AFTER86	-0.21	0.17	-0.05	-01.24	.22

Summary

Chapter three presented the results of the dissertation hypotheses. Since the analysis of these hypotheses resulted in a large amount of data to consider, the results are summarized in Table 17.

Table 17

Summary of Hypotheses 1-5

Hypothesis	Summary
Hypothesis 1	The prediction that background variables would predict self-reported compliance rates was not supported. Contrary to prediction, race predicted self-reported compliance rates.
Hypothesis 2	The prediction that context variables would predict compliance was partially supported. As potential DUI offenders judged intervening parties to be more intoxicated, self-reported compliance decreased.
Hypothesis 3	The prediction that assertive and passive intervention attempts would predict self-reported compliance was supported. Both variables were equally correlated with compliance.
Hypothesis 4	The prediction that evaluative and subjective response variables alone would predict potential DUI offender compliance rates was supported. Consideration of consequences to the self and to the relationship between those involved in the DUI situation predicted self-reported compliance rates.
Hypothesis 5	The prediction that background, context, intervention-type, and evaluative and subjective response variables would all be useful in predicting self-reported compliance rates was partially supported. Intervention characteristics were the only significant predictors of compliance rates

CHAPTER 4

DISCUSSION

The present study investigated hypotheses that were generated using an arousal/cost-benefit model (see Figure 4) based upon the work of Rabow et al. (1990), Wolfinger et al. (1994), and Newcomb et al. (1997). The model predicted that decisions to comply with informal DUI intervention attempts would be impacted by characteristics of the DUI situation, and characteristics of the people involved in the situation, and characteristics of the actual intervention. Specifically, the relationship between background variables, context variables, intervention type variables, and evaluative and subjective response variables on self-reported potential DUI offender informal intervention compliance rates were analyzed using a variety of statistical procedures.

Preliminary Analyses

Prior to conducting hypothesis testing, the data were subjected to preliminary analyses to investigate the reliability of survey materials as well as the correlation of social desirability with responses. Intervention attempts and compliance base rates were calculated for each assertive and passive intervention used in the survey.

Internal Consistency Reliability Analyses

Internal consistency reliability coefficients estimate the degree of heterogeneity of the behavioral domain sampled (Anastasi, 1988). As the homogeneity of the content of a scale increases, so will the corresponding correlation coefficient. Correlation coefficients ranging from $r = .80$ or above are generally preferable for research in the social sciences (Anastasi, 1988). Reliability analysis revealed that the Drunk-Driving Alternatives Composite Score scale ($r = .36$) had weak internal consistency coefficients. Nelson et al. (1999) derived the items used in to compute Drunk Driving Alternatives composite scores, but they failed to give an internal consistency coefficient for this scale in their publication. The items included in these two scales appeared to inadequately measure social desirability and drunk driving alternatives consistently. Any conclusions based upon these measures need to be made with appropriate discretion.

The internal consistency reliability of the short form of the MAST that was used in the present study was noted to range between $r = .76$ and .93 in the literature (Selzer et al. 1975). The current sample generated $r = .62$. The moderate internal consistency for this sample falls outside the range of what was reported in the literature, and it is unclear why this discrepancy exists. The Marlowe-Crowne Social Desirability Scale-Short Form X1 (SDS-X1; $r = .34$) also falls in the moderately stable range. Any conclusions to be made using these measures need to be made with appropriate caution.

All other scales included in the survey appeared to perform in the average to the above average range. Scales with high internal consistency reliability included the heavy drinking composite score scale ($r = .91$) and the drunk driving self-efficacy scale ($r = .95$). Scales with average internal consistency reliability included the following: drunk

driving tendencies scale (r = .74), legal consequences of DUI scale (r = .76), consequences to self scale (r = .80), Hong reactance scale (r = .78), total compliance composite score scale (r = .81), assertive intervention attempt composite score scale (r = .78), and passive intervention attempt composite score scale (r = .76). The survey consisted of imperfect, but relatively consistent measures to explore the hypotheses in question.

Social Desirability Analyses

One potentially confounding variable in survey research is the impact of social desirability on response tendencies. Only three of the measures included on the survey appeared to be related to social desirability. Psychological reactance was negatively associated with desirable response patterns. This finding replicated the results presented in the first study and makes conceptual sense. Psychologically reactant individuals would be less concerned with appearing desirable to others than non-reactant individuals. Acceptance of alternatives to drunk driving was positively correlated with social desirability. This may indicate that participants exaggerated their true openness to alternatives to drunk driving on the survey. The desire to appear socially correct may also be implicated in an individual's perception of the viability of options to drinking and driving. This relationship warrants further investigation. Finally, social desirability and drunk driving self-efficacy were negatively correlated. As individuals expressed greater belief in their ability to drive after drinking, they also tended to express less socially desirable responses. Obtained drunk driving self-efficacy scores may under-represent

actual drunk driving self-efficacy beliefs. This relationship warrants further investigation as well.

Informal DUI Intervention Attempt and Compliance Rates

The current research indicated that there was no significant difference between the proportion of total number of successful attempts to total attempt between assertive and passive interventions. In other words, potential DUI offenders reported that they were as likely to comply with a passive attempt as they were to comply with an assertive attempt. Further, there was no significant difference between the correlation of the number of passive attempts and compliance and the correlation of the number of assertive attempts and compliance.

In practical terms, potential DUI offenders reported that they were equally likely to respond to a passive or an assertive intervention attempt. Further, there was no significant difference between the positive linear relationships between compliance and the two intervention types. As the number of passive attempts and the number of assertive attempts increased, so did compliance. One implication is that those interested in intervening with potential DUI offenders would not need to discriminate between making passive or assertive intervention attempts. The expected success rates would be the same. Additionally, those interested in intervening with potential DUI offenders would be encouraged to make as many intervention attempts as possible because as the number of attempts increases, so does the level of compliance. Persistence appears to be the key to successful interventions, and not assertiveness. No greater effect was noted for either passive or assertive intervention attempts.

It is unclear why potential DUI offenders reported that passive interventions were as effective as assertive interventions where intervening parties in other research reported more compliance using assertive interventions (Hernandez et al. 1995). One explanation may be that potential DUI offenders are actually as likely to comply with passive and assertive interventions, but intervening parties are misattributing success to their own perceived assertiveness. In other words, intervening parties may construe their memories of interventions differently than potential DUI offenders according to established social psychological principles.

Individuals tend to develop self-schemas over time (Fiske & Taylor, 1991). Self-schemas are defined as mental constructs that organize perception, memory, and attributions. People derive a sense of their own self-concept, and act to preserve and maintain these personal constructions (Fiske & Taylor, 1991). Individuals tend to develop self-preserving or self-enhancing schemata (Aronson, Wilson, & Akert, 1999). Persons' perceptions of themselves tend to be heavily influenced by a need to feel good and to maintain self-esteem (Greenwald, Bellezza, & Banaji, 1988). Individuals are motivated at some level to preserve a positive self-concept, and they will actively construe their memories to reflect this self-preserving tendency.

When this concept is applied to the current context, it seems reasonable that intervening parties would view any action to intervene in a self-preserving or enhancing way (i.e.: I told him not to drive vs. I asked him not to drive). Their memory recall may be influenced by their positive self-appraisal and thus, their self-reports of successful intervention attempts would reflect this disposition. For example, in reality an intervening party may have asked a friend not to drive home, but at a later date recall being more

forceful in their request in order to promote positive self-appraisals and enhanced feelings of self-esteem. Or, the intervening party could recall both asking and telling an individual not to drive drunk, but in a self-enhancing fashion, he or she attributed the success in the intervention to his or her own assertiveness. People have set tendencies to attribute positive outcomes to internal causes and negative causes to external causes (Rotter, 1966).

Discussion of the Dissertation Results

Hypothesis One

The first hypothesis was designed to investigate the extent to which background variables could be used to predict self-reported potential DUI offender compliance rates. Basic demographics variables such as race and gender were not expected to predict compliance while other constructs such as psychological reactance, drunk driver self-efficacy, and drunk driving tendencies were. In contrast to the first hypothesis, the only variable that was useful in the prediction of compliance scores was the race of the potential DUI offender. In the past, race played a role in predicting who intervened upon whom in DUI situations, but race was not predictive of the actual success of those interventions (Monto et al., 1992). In contrast to prior results, potential DUI offenders in the current research reported that they were more likely to comply with intervention requests if they were from non-Caucasian ethnic descent.

This discrepancy may be interpreted to mean that although intervening parties fail to report race to be a deciding factor in intervention success, Caucasian potential DUI

offenders systematically perceive themselves to be less compliant with intervention requests than non-Caucasians. Intervening parties may need to make more intervention attempts with Caucasians. However, it is important to note that although race is a statistically significant predictor, it only explained 4% of the amount of variance attributable to compliance. It is likely that better predictors exist, and people would be better served by not basing their intervention approach decisions completely on race alone.

Hypothesis Two

The prediction that context variables alone would predict potential DUI offender compliance rates was partially supported. Context variables were analyzed to determine which, if any, contributed to the prediction of informal DUI intervention compliance. These variables included characteristics of the intervening party (gender, ethnicity, perceived level of intoxication, and nature of the relationship with the potential DUI offender) and setting characteristics (physical setting, and number of people involved in the DUI situation). Results demonstrated that the potential DUI offender's perception of the intervening party's degree of intoxication predicted self-reported compliance rates. This context variable was a statistically significant predictor, but like race in the preceding hypothesis test, it explained only about 4% of informal intervention compliance variance. This significant result makes conceptual sense in that if an intervener is perceived to be as intoxicated as the potential drunk driver, there would be little reason to comply with an intervention request. In fact, this event may occasion the potential drunk driver to intervene upon the individual making the original informal

intervention. This finding also supports Thomas and Seibold's (1995) contention that informal DUI intervention is an interpersonal process.

However, it is clear that better predictors probably exist to use in understanding the decision-making processes of potential DUI offenders. Over 95% of the variance attributable to offender compliance is left unaccounted for using only context variables as predictors. These results provide partial support for the hypothesis that context variables contribute to the prediction of compliance scores. One implication may be that intervening parties could consider finding a sober individual to intervene once they recognize a DUI situation while they are personally under the influence.

Hypothesis Three

The third hypothesis predicted that assertive interventions and passive interventions would predict compliance. This hypothesis was based upon previous findings that indicated that potential DUI offenders reported compliance following intervention attempts, and that assertive interventions were more successful than passive interventions (Hernandez and Rabow, 1987; Hernandez et al., 1995; Newcomb et al., 1997). The current research demonstrated that the number of assertive and passive intervention attempts were both vital in the prediction of self-reported levels of compliance.

One implication of this research would be that any program designed to teach individuals to intervene with potential DUI offenders would best advise intervening parties to use both passive and assertive interventions. This would enable the potential DUI offender a means to preserve esteem, practice autonomy, and still comply with a

request. Intervening parties would also have the benefit of enhancing their own self-concept by attributing success to their own assertiveness. This would predictably increase their confidence in their abilities to intervene in the future. Future research should address the impact of locus of control on attributions of success in informal DUI intervention attempts and compliance.

Hypothesis Four

The interactional arousal/cost-benefit model presented in Figure 4 postulated that individuals become aroused by an intervention made by an intervening party, and then process the request in terms of the potential benefits and consequences that compliance would bring. If individuals failed to engage in this type of analysis, the model would primarily depend upon the level of arousal generated by an intervention attempt. If individuals engaged in this analysis of the situation, then the model presented in Figure 4 is partially supported. Hence, the hypothesis that evaluative and subjective response variables would predict potential DUI offender compliance rates was partially supported.

Potential DUI offenders reported that the degree to which they considered consequences to themselves and to their relationships with the intervening parties predicted self-reported compliance rates. This variable explained approximately 12% of the variance attributable to compliance. People were more likely to comply when they expected non-compliance to result in arguments, fights, and loss of trust, arrest, or jail time. They did not seem concerned with specific legal consequences such as receiving a $250 fine, hiring a lawyer, having their names placed in the paper, or gaining a criminal record. This discrepancy suggests that not only is the consideration of consequences a

factor in informal intervention request compliance rates, but that the type of consequences considered plays a role as well. People in the current study were more willing to report compliance when they perceived that their relationships were at risk or they faced immediate physical harm than when they consider legal consequences that could occur some time after arrest.

Another interesting finding resulting from the current hypothesis test was that potential DUI offenders' perceptions of how safe it was to drive following the intervention attempt failed to predict compliance. It seems that once an intervention attempt is made, individuals become focused on what may happen in the future between themselves and the intervening party and less aware of just how dangerous the current situation is, or their present ability to drive. Implications for training individuals to intervene more successfully include teaching them to encourage potential DUI offenders to consider the impact of failing to comply with an intervention request on themselves and their relationships. Potential DUI offenders may be more persuaded by this type of approach than they would be by listening to a litany of specific legal consequences, to comments on how dangerous the situation is, or to arguments against their ability to drive. Future research that systematically analyzed the effects of these various approaches would be useful.

Hypothesis Five

The fifth hypothesis test investigated the four sets of variables included in the arousal/cost-benefit model for informal DUI intervention and compliance presented in Figure 4. According to the model, potential drunk drivers' decisions to comply with

intervention requests would be influenced by the nature of the actual attempted interventions, potential DUI offenders' level of arousal, and their analysis of the costs and benefits of compliance.

The model predicted that the type of intervention attempted would impact the potential DUI offender immediately. The intervention could either elicit arousal, or the individual could remain un-aroused. If the potential DUI offender became sufficiently aroused, he or she would consider the costs and benefits of compliance. Once this process is completed, the offender would make a decision. As predicted, regression analysis indicated that intervention type variables were the greatest predictors of compliance. This partially supports the arousal/const-benefit analysis model in that as more interventions were attempted, more compliance with these requests was reported. Background, context, and evaluative and subjective response variables failed to significantly contribute to the prediction of compliance in the hierarchical regression.

The results of this hypothesis revealed a few unexpected findings. Neither background, context, nor evaluative and subjective response variables contributed significantly to the prediction of compliance. This suggests that although these types of variables alone may explain significant amounts of variance attributable to compliance in the absence of intervention type variables, successful compliance is best predicted when the number of attempted passive and assertive interventions is known. This contradicts the arousal/cost-benefit analysis model that postulates that individuals are first aroused and then consider costs and benefits of compliance. The current results indicate that instead of using a model based on active processing of costs and benefits, offenders may

actually use cognitive processing short-cuts known as heuristics in their decisions to comply.

Heuristics are rapid forms of reasoning that enable individuals to make complex decisions quickly (Fiske & Taylor, 1991). Kahneman and Tversky (1982) discussed a number of different heuristics including the simulation heuristic and the availability heuristic. The simulation heuristic is often used in ambiguous circumstances where an individual attempts to predict how a situation will turn out. The availability heuristic is a rule of thumb where people make judgments based on the ease with which they can bring something to mind. For example, potential DUI offenders may rapidly construct images of how their drunk driving attempts will come out after intervention attempts. They would use a simulation heuristic in order to quickly construct predictions of how well they would drive home following intervention attempts, and per an availability heuristic, they may imagine themselves arriving safely. In cases where only a single intervention attempt was made, it is possible that individuals may have an easier time constructing a mental scenario where they are able to drive home safely. In cases where intervening parties makes several intervention attempts, potential DUI offenders may be more likely to construct scenarios that would discourage non-compliance with the intervention attempts.

Therefore, instead of an arousal/cost-benefit analysis approach to decision-making, potential DUI offenders may well engage in an arousal/heuristic driven approach to decision-making. There are several possible implications to consider if offenders make decisions based upon heuristics instead of a careful delineation of the costs and benefits of driving after drinking. Intervening parties would predictably benefit by slowing the

reasoning process of the potential DUI offender. They would be encouraged to help the DUI offender conduct a cost-benefit analysis. They would also be encouraged to help the DUI offender imagine negative consequences to their relationships due to decisions to drink and drive. Future researchers would be encouraged to pursue the impact of heuristic reasoning strategies on the process of informal DUI intervention compliance.

General Discussion

Limitations

It is important to understand the results obtained in the current research in light of the study's limitations. One source for error mentioned previously in the dissertation is the potentially confounding effects of memory encoding and recall processes on response tendencies. Potential DUI offenders encode intervention attempts while they consume increasingly more alcohol. The subsequent material that reported is likely to reflect at least partially inaccurate reconstructions of what really occurred (McKim, 1997). Even though social desirability was not significantly correlated with compliance scores, it remains possible the potential DUI offenders systematically chose to recall favorable interventions. College students at a southern university participated in the current research. Generalizability to other populations is yet to be investigated. The variables that were included in the current project are not considered to be a definitive list of all the relevant factors that impact compliance decisions. It is entirely possible that background, context, and evaluative and subjective response variables that were not included in the current research may contribute to predictive accuracy. It is also possible that results

would differ if different measures of the same constructs assessed in the current research were used. For example, although the MAST failed to contribute to compliance prediction, other alcohol screening tests may. Dissertation results should be interpreted with these limitations in mind.

Discussion of Hypotheses

This dissertation investigated the "other side of the coin" of informal DUI interventions using an arousal/cost-benefit model in an attempt to elucidate factors that predict intervention compliance. As reported elsewhere (Monto et al., 1992), differences in intervention success rates were not influenced by gender and family income; however, intervention varied by ethnicity. Caucasian individuals were more likely to report non-compliance than non-Caucasian individuals. Of the background variables investigated, only one significantly contributed to the prediction of compliance, and this one only explained about 4% of the total variance. Similarly, of the context variables investigated only the perception of the intervening party's degree of intoxication significantly predicted compliance in the regression analysis. The perception of the intervening party's degree of intoxication explained approximately 4% of the total variance attributable to self-reported compliance scores.

These results shed some light on the value of predicting compliance prior to an intervention attempt. It appears that it may be possible to predict compliance with intervention requests better than chance before actually attempting an intervention. Intervening parties could use these results to maximize compliance rates by making sure sober individuals make intervention attempts. Intervening parties could also prepare

themselves to make more intervention attempts with Caucasian potential DUI offenders. However, based on the amount of variance explained by these variables, it is unlikely that these factors would lend much practical utility to prevention efforts.

Intervention type variables were much more powerful predictors of self-reported compliance than any other type of variable. The obtained data indicated that passive and assertive intervention attempts resulted in equivalent obtaining successful compliance. The data also indicated that as the total number of attempted passive and assertive interventions increased, so did self-reported compliance. This implies that arousal is raised within the potential DUI offender not by the type of intervention attempted, but by the sheer number of interventions attempted. Those interested in training others to intervene in DUI situations would be well served by encouraging trainees to make as many intervention attempts as possible. Persistence is the key.

Unfortunately, the instruments used to measure intervention attempts and compliance do not provide for a more thorough investigation of these constructs. It is possible that other intervention type variables effect compliance in addition to the number of interventions attempted. One possibility is that the order with which interventions are attempted may lead to differences in self-reported compliance. The current design does not allow for a closer inspection of intervention type variables, and that is unfortunate in that the majority of compliance decisions appear to be very strongly linked to how the intervention message is imposed. Future researchers should develop better measures of informal DUI intervention attempts and compliance. These would incorporate measures of order and self-reports on how much specific interventions contributed to decisions to comply. The research into potential DUI offenders' decisions to comply remains in its

infancy, and it appears that the next step in the process is to generate better tools to refine the existing understanding of informal DUI intervention.

As predicted by the arousal/cost-benefit model, the current data demonstrated that in the absence of background, context, and intervention type variables, consideration of evaluative and subjective response variables can be used to predict self-reported compliance. As potential DUI offenders considered potential consequences to themselves and their relationships with the intervening parties, compliance rates rose. One implication is to encourage intervening parties to help potential DUI offenders consider these types of consequences verses specific legal or financial consequences that could result following an arrest. The results that were obtained indicated that considering immediate and personal consequences played a more decisive role in compliance decisions than considering impersonal future consequences.

When the arousal/cost-benefit model was tested using all four sets of variables within the hierarchical regression procedure, it was possible to get a clearer insight into the nature of DUI compliance than when each block of variables were investigated in isolation. The regression tested the hypothesis that background, context, intervention characteristics, and evaluative and subjective response variables would add incremental power to the prediction of self-reported informal DUI intervention compliance rates. Statistical analysis indicated that the most predictive set of variables was the intervention characteristics variable block. All other blocks failed to contribute significantly to the prediction of compliance. No incremental predictive power was gained when evaluative and subjective response variables were entered into the regression equation.

This finding suggests that the arousal/cost-benefit model may not be the best frame from which to understand compliance in these situations. If the model held true, then each block of variables would have been significant in the decision-making process. Instead, compliance with intervention attempts appeared to be most influenced by how many intervention attempts were made. This implies that potential DUI offenders do not engage in an active cost-benefit analysis following the interventions. Instead, they seem to make these types of decisions following a heuristic driven process.

Future researchers are encouraged to investigate the utility of an arousal/heuristic judgment model and its impact in decision-making strategies on compliance. Researchers would be encouraged to use a research methodology that corrects for identified shortcomings in Hernandez and Rabow's (1987) measures. Potential DUI offenders could be prompted to recall DUI interventions where they complied with interventions and DUI interventions where they failed to comply. This should help isolate differences between approaches that work and those that do not. Another consideration for future researchers would be to develop a methodology to tap the true relationship between assertive and passive interventions and compliance. Such a tool would need to ask offenders about all the interventions that were attempted to prevent the potential DUI offender from drinking and driving. It would also need to address which were the ones that actually persuaded the person to stop. Ranking the impact of intervention attempts may also provide much needed insight into the decision-making process. Finally, researchers may benefit from investigating the impact of locus of control on recall of informal DUI intervention compliance.

Conclusion

Driving under the influence of alcohol remains a significant social concern. Informal DUI interventions provide a novel, cost-effective, and pragmatic approach to decrease the costs attributable to the DUI problem. The current research was conducted to investigate the factors believed to be most involved in potential DUI offenders' decisions to comply with informal intervention requests. In an effort to correct for the paucity of theory driven research identified in this line of research, an arousal/cost-benefit model was applied to generate research directions and hypotheses.

The arousal/cost-benefit model postulated that four blocks of variables would impact potential DUI offenders' decision-making. These blocks of variables included background variables, context variables, intervention type variables, and evaluative and subjective response variables. When these blocks were considered in isolation each produced at least one variable that significantly predicted self-reported compliance. However, when the complete model was tested using each block of variables in a hierarchical regression procedure, only intervention type variables meaningfully predicted self-reported compliance. This finding is interpreted to suggest that potential DUI offenders may approach compliance decisions using an arousal/heuristic approach rather than an arousal/cost-benefit approach. The arousal/heuristic approach would lead those interested in training others to intervene in DUI situations to make as many intervention attempts as necessary to garner compliance. They may also be served by actively eliciting a cost-benefit analysis from potential DUI offenders to maximize compliance rates.

APPENDIX A

HUMAN SUBJECTS APPROVAL FORM

LOUISIANA TECH
UNIVERSITY

RESEARCH & GRADUATE SCHOOL

MEMORANDUM

TO: David J. Williams, Adrian Thomas

FROM: Deby Hamm, Graduate School

SUBJECT: HUMAN USE COMMITTEE REVIEW

DATE: October 12, 2000

In order to facilitate your project, an **EXPEDITED REVIEW** has been done for your proposed study entitled:

"Informal DUI intervention"
Proposal # 1-TN

The proposed study procedures were found to provide reasonable and adequate safeguards against possible risks involving human subjects. The information to be collected may be personal in nature or implication. Therefore, diligent care needs to be taken to protect the privacy of the participants and to assure that the data are kept confidential. Further, the subjects must be informed that their participation is voluntary.

Since your reviewed project appears to do no damage to the participants, the Human Use Committee grants approval of the involvement of human subjects as outlined.

You are requested to maintain written records of your procedures, data collected, and subjects involved. These records will need to be available upon request during the conduct of the study and retained by the university for three years after the conclusion of the study.

If you have any questions, please give me a call at 257-2924.

APPENDIX B

SURVEY PROTOCOL

*Survey Number*_____

THIS SURVEY IS COMPLETELY ANONYMOUS!

Please do not put your name of this form! This survey is designed to gain an understanding of how a variety of factors impact decisions to drive after drinking. THANKS FOR YOUR PARTICIPATION!

Please answer the following questions openly and honestly.

1. Age _____
2. Gender a. Male b. Female
3. Race/Ethnicity a. African American b. Asian c. Hispanic d. White e. other_____
4. Family Income a. 5000-14,999 b. 15,000-24,999 c. 25,000-34,999 d. 35,000-44,999 e. 45,000 - 49,999 f. 50,000 - 59,999 g. 60,000 - 79,999 h. 80,000 - 99,999 i. 100,000+
5. Educational Level a. some high school b. high school graduate c. 1-2 years college d. 3-4 years college e. college graduate or graduate student
6. How many times in the past month have you drank alcohol to the point of being drunk? _____
7. How many times in the past month have you drank alcohol to the point of being a little high or light headed? _____
8. How many times in the past month have you drank five or more drinks in one sitting? _____

Please answer Yes or No to the following items

9. Do you feel you are a normal drinker? (By normal we mean that you drink less than or as much as most other people.) Yes or No
10. Do others who are important to you ever worry or complain about your drinking? Yes or No
11. Do you ever feel bad about your drinking? Yes or No
12. Do friends or relatives think you are a normal drinker? (By normal we mean that you drink less than or as much as most other people.) Yes or No
13. Are you able to stop drinking when you want to? Yes or No
14. Have you ever attended a meeting of Alcoholics Anonymous for yourself? Yes or No
15. Has drinking ever created problems between you and others who are important to you? Yes or No

16. Have you ever gotten into trouble at work because of your drinking? Yes or No

17. Have you ever neglected your obligations, your family, or your work for more than two days because of your drinking? Yes or No

18. Have you ever gone to anyone for help about your drinking? Yes or No

19. Have you ever been in a hospital because of your drinking? Yes or No

20. Have you ever been arrested for driving under the influence of alcoholic beverages? Yes or No

21. If yes, how many times? _____

22. Have you ever been arrested, even for a few hours, because of drunken behavior? Yes or No

23. If yes, how many times? _____

Please circle: T = True, or F = False

24. I like gossip at times	T	F
25. There have been occasions where I took advantage of someone	T	F
26. I'm always willing to admit when I make a mistake	T	F
27. I always try to practice what I preach	T	F
28. I sometimes try to get even, rather than forgive and forget.	T	F
29. At times, I have really insisted on having things my own way.	T	F
30. There have been occasions where I have felt like smashing things.	T	F
31. I never resent being asked to return a favor.	T	F
32. I have never been irked when people expressed ideas very different from my own	T	F
33. I have never deliberately said something to hurt someone's feelings.	T	F

Please use the following scale to answer these questions.
0 = Extremely Unconfident 1 = Quite Unconfident 2 = Slightly Unconfident 3 = I Don't Know
4 = Slightly Confident 5 = Quite Confident 6 = Extremely Confident

	Extremely Unconfident						**Extremely Confident**
I am confident in my ability to drive:							
34. *less than a mile* after consuming *one* drink?	0	1	2	3	4	5	6
35. *less than a mile* after consuming *three* drinks?	0	1	2	3	4	5	6
36. *less than a mile* after consuming *six* drinks?	0	1	2	3	4	5	6
37. *one to two miles* after consuming *one* drink?	0	1	2	3	4	5	6
38. *one to two miles* after consuming *three* drinks?	0	1	2	3	4	5	6
39. *one to two miles* after consuming *six* drinks?	0	1	2	3	4	5	6
40. *3 or more miles* after consuming *one* drink?	0	1	2	3	4	5	6
41. *3 or more miles* after consuming *three* drinks?	0	1	2	3	4	5	6
42. *3 or more miles* after consuming *six* drinks?	0	1	2	3	4	5	6

43. How many times in the past 30 days have you driven after consuming one or more drinks?

a) never b) 1 to 2 times c) 3 to 4 times
d) 5 to 6 times e) 7 to 8 times
f) 9 to 10 times g) 11 to 12 times
h) 13 to 14 times i) 15 to 16 time
j) 17 or more

44. During the past *six months*, how many times have you driven a car after you thought you *might* too much to drink?

a) never b) 1 to 2 times c) 3 to 4 times d) 5 to 6 times e) 7 to 8 times have had f) 9 to 10 times g) 11 to 12 times h) 13 to 14 times i) 15 to 16 time j) 17 or more

45. During the past thirty days, how many times have you driven a car after you thought you *might* too much to drink?

a) never b) 1 to 2 times c) 3 to 4 times d) 5 to 6 times e) 7 to 8 times have had f) 9 to 10 times g) 11 to 12 times h) 13 to 14 times i) 15 to 16 time j) 17 or more

	Extremely Often						**Extremely Rare**
46. When you know you are going to be out drinking, how often do you make plans ahead of time so you won't have to drive after drinking?	0	1	2	3	4	5	6
47. How often have these plans worked to keep you from driving after drinking?	0	1	2	3	4	5	6

Please read the following sentences before you respond to questions 48-52.

Assume you have driven yourself to a party that is across town, about 10 miles from your home. The person giving the party is someone you know from work. As it begins nearing time to leave, you realize that you drank a little too much and probably shouldn't drive home.

How favorably do you view these options?

	Extremely Unfavorable						**Extremely Favorable**
48. Asking a friend at the party for a ride home	0	1	2	3	4	5	6
49. Calling someone for a ride home	0	1	2	3	4	5	6
50. Taking a taxi home	0	1	2	3	4	5	6
51. Asking if you could stay the night	0	1	2	3	4	5	6
52. Driving home more carefully than usual	0	1	2	3	4	5	6

How much do you agree with the following items?

1 = Strongly Disagree, 2 = Moderately Disagree, 3 = Don't know, 4 = Moderately Agree, 5 = Strongly Agree

	Strongly Disagree				**Strongly Agree**
If I were ever arrested for drunk driving:					
53. I would receive at least a $250 fine.	1	2	3	4	5
54. I would need a lawyer	1	2	3	4	5
55. The cost of a lawyer would be a problem	1	2	3	4	5
56. My name would appear in the paper	1	2	3	4	5
57. I would have a criminal record	1	2	3	4	5
58. I would go to jail	1	2	3	4	5

	Completely Disagree				**Completely Agree**
59. Regulations trigger a sense of resistance in me.	1	2	3	4	5
60. I find contradicting others stimulating,	1	2	3	4	5

61. When something is prohibited, I usually think "that's exactly what I'm going to do."	1	2	3	4	5
62. I consider advice from others to be an intrusion	1	2	3	4	5
63. I become frustrated when I am unable to make free and independent decisions	1	2	3	4	5
64. It irritates me when someone points out things that are obvious to me	1	2	3	4	5
65. I become angry when my freedom of choice is restricted	1	2	3	4	5
66. Advice and recommendations induce me to do just the opposite	1	2	3	4	5
67. I resist the attempts of others to influence me	1	2	3	4	5
68. It makes me angry when another person is held up as a model for me to follow	1	2	3	4	5
69. When someone forces me to do something, I feel like doing the opposite	1	2	3	4	5

If you have <u>never</u> driven a vehicle after drinking even one alcoholic drink, please skip to number 95.

Remember that there is <u>absolutely no way anyone</u> will be able to know what your responses are on this sheet. *****Please be honest.*****

Recall a time in the past year when someone asked you to not drive or otherwise tried to stop you from driving after you had been drinking.

69. I was drinking at a:	a) Restaurant b) Bar c) Small Gathering at a Friend's House d) Party
70. The person who intervened in the situation was:	a) spouse b) girlfriend/boyfriend c) close friend d) acquaintance e) unknown to me
71. The person was:	a) male b) female
72. The person was:	a) African American b) Asian c)Hispanic d) White e) Other:_____
73. The person was:	a) Extremely Sober b) Quite Sober c) Slightly Sober d) Don't Know e) Slightly Intoxicated f) Quite Intoxicated g) Extremely Intoxicated
74. The person was:	a) Alone b) with 1-2 others c) with 3-5 others d) with more than 5 others
75. Before the person intervened, I thought it was	a) Extremely Safe to drive b) Quite Safe to drive c) Slightly Safe to drive d) Don't Know e) Slightly Unsafe to drive f) Quite Unsafe to drive g) Extremely Unsafe to drive

Now, please indicate if this person tried the following interventions and if they were successful.
Please circle either Y=Yes, N=No, or NA=Not Applicable for EACH COLUMN.

	Did he, she, or they try this approach?	Was it successful?
76. Someone told you not to drive	Y N	Y N NA
77. Someone told you that he or she would drive you	Y N	Y N NA
78. Someone gave you coffee	Y N	Y N NA
79. You were told by someone to stay sober	Y N	Y N NA
80. Someone took your car keys away from you	Y N	Y N NA
81. You were asked not to drive home	Y N	Y N NA
82. Someone offered to drive you home	Y N	Y N NA
83. Someone offered you coffee	Y N	Y N NA
84. Someone asked you to stay sober	Y N	Y N NA
85. Someone asked for your car keys	Y N	Y N NA

86. After the person intervened, I thought it was

a) Extremely Safe to drive b) Quite Safe to drive c) Slightly Safe to drive d) Don't Know e) Slightly Unsafe to drive f) Quite Unsafe to drive g) Extremely Unsafe to drive

In this situation, please state how much you considered the following possible consequences to yourself and to your relationship with the person that asked you not to drive after drinking.
1 = Strongly Disagree, 2 = Moderately Disagree, 3 = Don't know, 4 = Moderately Agree, 5 = Strongly Agree

	Strongly Disagree				**Strongly Agree**
87. If I didn't listen, we would get into a serious argument	1	2	3	4	5
88. I could be arrested for drunk driving	1	2	3	4	5
89. It might ruin our relationship/friendship	1	2	3	4	5
90. It would look like I didn't trust his or her judgment	1	2	3	4	5
91. They would put up great physical resistance to me	1	2	3	4	5
92. I could wreck my vehicle	1	2	3	4	5
93. They might become physically violent	1	2	3	4	5
94. I could go to jail	1	2	3	4	5

Recall the most recent time in the past year when you asked someone not drive or otherwise tried to stop them from driving after he or she had been drinking.

95. The person was drinking at a:

a) Restaurant b) Bar c) Small Gathering at a Friend's House d) Party

96. The person in the situation was:

a) spouse b) girlfriend/boyfriend c) close friend d) acquaintance e) unknown to me

97. I knew the person: a) Extremely well known b) Quite well known c) Slightly well known d) Don't Know e) Slightly not well known f) Quite not well-known g) Extremely not well known

98. The person was: a) male b) female

99. The person was: a) African American b) Asian c)Hispanic d) White e) Other:_____

100. I was: a) Extremely Sober b) Quite Sober c) Slightly Sober d) Don't Know e) Slightly Intoxicated f) Quite Intoxicated g) Extremely Intoxicated

101. I was: a) Alone b) with 1-2 others c) with 3-5 others d) with more than 5 others

102. Before I intervened, I thought it was how safe for the person to drive a) Extremely Safe b) Quite Safe c) Slightly Safe d) Don't Know e) Slightly Unsafe f) Quite Unsafe g) Extremely Unsafe

Now, please indicate if you tried the following interventions and if they were successful.
Please circle either Y=Yes, N=No, or NA=Not Applicable for EACH COLUMN.

	Did you try this approach?		Was it successful?		
103. Told someone not to drive	Y	N	Y	N	NA
104. Told someone you would drive him or her	Y	N	Y	N	NA
105. Gave someone coffee	Y	N	Y	N	NA
106. You told someone to stay sober	Y	N	Y	N	NA
107. You took someone's car keys away from them	Y	N	Y	N	NA
108. You asked someone not to drive home	Y	N	Y	N	NA
109. You offered to drive someone home	Y	N	Y	N	NA
110. You offered someone coffee	Y	N	Y	N	NA
111. You asked someone to stay sober	Y	N	Y	N	NA
112. You asked someone for their car keys	Y	N	Y	N	NA

113. After the I intervened, I thought it was how safe for the person to drive a) Extremely Safe b) Quite Safe c) Slightly Safe d) Don't Know e) Slightly Unsafe f) Quite Unsafe g) Extremely Unsafe

APPENDIX C

INITIAL SURVEY INSTRUCTIONS

Hello! My name is _____, and I am gathering research to be used in David Williams' dissertation. Thank you very much for agreeing to participate in this survey. Your time is valuable and we truly appreciate your willingness to participate in this project. Each of you has read and signed an informed consent agreement and you are aware of your testing rights as detailed in the informed consent agreement. This agreement will be stored separately from your survey, so you should know that there will be no way to link your name to your responses. In other words, this survey is completely anonymous.

It is important for you to know that the survey is anonymous because we are asking you to respond to items that assess your degree of involvement with many alcohol related behaviors, including driving after drinking. Specifically, we are attempting to determine which factors are involved with driving after drinking.

When you are answering the survey, please be sure to read all of the directions. Also, please avoid answering all of the items other than "true/false" and "yes/no" questions in an "all or nothing" fashion. In other words, some items will have a range of responses to choose from. For example, you may be asked how much you agree with a specific item. You can respond with either extremely favorable, quite favorable, slightly favorable, I don't know, slightly unfavorable, quite unfavorable, or extremely unfavorable. Avoid answering items the same way out of convenience's sake. Please give us the most accurate picture of your thoughts and feelings.

This survey will take 30 minutes at the most, so you will not lose a great deal of time volunteering for this important project.

Some people may feel uncomfortable with this subject, but we are asking for you to answer the questions on the survey openly and honestly. Your survey already has a number on it so please do not put your name or any other identifying information on it. If you have already done so, please erase or scratch your name out now. In addition, your professor/class instructor will not be allowed to view your data. Your responses to the survey will in no way impact your current relationship with your professor/class-instructor. This is how we protect your anonymity so you will feel free to take this survey openly and honestly

Thank you again for your time. Please feel free to begin.

APPENDIX D

SURVEY CHECKLIST

1) Greet potential participants.

2) Distribute informed consent sheets and pencils when necessary. Ask participants to read the informed consent sheets, AND ask if they have questions.

3) Collect informed consent sheets and pencils.

4) Read orienting directions.

5) Ask if any students/participants have special needs and offer assistance to them.

6) Remind all participants that their surveys will be taken anonymously.

7) Distribute Surveys to those willing to participate.

8) Field questions during survey administration. Individuals with special needs may need you to read their surveys for them.

9) Debrief participants and thank them for their time.

10) Seal Informed consent sheets separately from your survey packets.

11) Indicate your name, the date, and the testing time on your packet.

12) Return surveys to Adrian Thomas, Ph.D. to be stored in a Locked Filing cabinet OR Return surveys to Donna Clendenning or Pam Simmons to be stored in a locked filing cabinet.

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VITA

David J. Williams graduated Magna Cum Laude with his Bachelor of Science Degree from Longwood College in Farmville, Virginia. He completed his Masters of Arts Degree in General/Experimental Psychology at James Madison University in Harrisonburg, Virginia, and his thesis was entitled "Counterfactual Thinking and Attributional Style." After working as an alcohol and drug probation officer with the Virginia Alcohol Safety Action Program, Mr. Williams decided to pursue his Ph.D. in Counseling Psychology at Louisiana Tech University. Mr. Williams has presented his research at national and international conferences, and garnered multiple publications in national academic journals. He completed his doctoral internship at Ulster County Mental Health Department in Kingston, NY, and his rotations included Adult Mental Health Treatment, Sex Offender Treatment, and Family Court and Forensic Psychological Assessment. He was recently hired by Louisiana State University in Shreveport as an Assistant Professor of Psychology. He missed his clinical work too much in his academic position, so he is now working with a successful private practice in Monroe, Louisiana. But, the original move to Louisiana was made a true success on July 17, 1999 when he married his wife Tammy. Today, his pride and joy rest comfortably on the shoulders of his son Joshua, and his daughters Carrie and Mallory.