This is to certify that the

dissertation entitled

FORMATIVE RESEARCH ON THE ROLE OF SELF-EFFICACY
IN AN ALCOHOL INFORMATION CAMPAIGN:
A SOCIAL MARKETING APPROACH

presented by

Ronald Bruce Anderson

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Mass Media

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Date 11/15/87

FORMATIVE RESEARCH ON THE ROLE OF SELF-EFFICACY IN AN ALCOHOL INFORMATION CAMPAIGN: A SOCIAL MARKETING APPROACH

By

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A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY IN MASS MEDIA

College of Communication Arts and Sciences

1986

ABSTRACT

FORMATIVE RESEARCH ON THE ROLE OF SELF-EFFICACY IN AN ALCOHOL INFORMATION CAMPAIGN: A SOCIAL MARKETING APPROACH

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This study investigated the impact of persuasive efficacy information on self-efficacy beliefs and behavioral intentions. The research also sought to determine the optimal message strategy for engendering self-efficacy beliefs within the context of an alcohol information campaign targeted at young adults. An amended version of Flay's extended information-processing model is offered to explain and predict the process by which efficacy information affects self-efficacy beliefs. The amended model predicts that efficacy information affects behavioral intentions through the intervening mechanisms of knowledge of behavioral skills and self-efficacy beliefs.

To test predictions from the model, subjects (non-, light, moderate, and heavy drinkers, N = 300) were assigned randomly to one of three persuasive efficacy information message conditions (i.e., approach-demonstration, approach-visualization, and approach-explanation), which taught them how to approach and dissuade a heavy-drinking friend from

driving drunk. Subjects in the control condition learned only about the consequences of drunken driving. Following exposure, subjects indicated their knowledge of approach behavior, levels of self-efficacy, and intentions to perform the advocated behavior.

Data were analyzed for the overall sample of drinkers and for a sample of moderate drinkers, the primary target audience for the messages. The results yielded similar findings for both sample. No support was found for the hypothesized relationship between knowledge of behavioral skills and self-efficacy beliefs in either sample; however, self-efficacy and behavioral intentions were significantly and positively related for both samples of drinkers. The approach-demonstration and consequences-only control conditions produced stronger self-efficacy beliefs and behavioral intentions than did the approach-visualization and approach-explanation conditions for both samples. Suggestions for improving the design of the experiment to maximize variance among treatment conditions is offered and questions for future research are proposed.

To Paul Dannelley

Whose presence is felt on every page

ACKNOWLEDGEMENTS

I would like to acknowledge the many people who contributed their time and talent to this dissertation. First, and foremost, I would like to thank my dissertation advisor, Dr. Charles K. Atkin, whose research on mass media health campaigns provided the impetus for the study and whose unbounded patience allowed me to explore (along a circuitous path) the ideas that eventually were refined into research questions. The opportunity to work with such a distinguished scholar was indeed a privilege.

Drs. Garramone and Kaplowitz were instrumental in insuring that the study was "conceptually clean" and conformed to both their standards and those of the field. Their diligence, resourcefulness, and support helped me over many hurdles, and taught me much about the rigors of scientific research. To them, I will always be indebted.

A doctoral student could have no better friend and role model than Tom Baldwin. Dr. Baldwin's encouragement and professionalism have inspired many to continue on when they felt like giving up. Through his words and deeds, he has taught me much about what it means to be a teacher and a scholar, and this dissertation is far better for it.

This dissertation represents the completion of a journey that started many years ago when I was an

undergraduate at the University of Oklahoma struggling to understand my place in a world that seemed to make sense only to corrupt politicians and overzealous generals. In the midst of this, I met Paul Dannelley, who helped me gain some perspective on the times and managed to stimulate my thinking about how communication could be used to better society. From the moment I started listening to him, I knew I wanted to be like him. And that is why this dissertation is dedicated to him. My wish is to share with my students a little piece of Paul Dannelley so that they may find their own ways and pass on to others that which was given to me many years ago.

Finally, I would like to thank my mother, Norma Anderson, and my wife, Helen, for flinching only slightly when I announced that I was quitting my job to become a graduate student at the tender age of 30. My son, Joel, was too young to voice an opinion, but he is glad that he can now carry on a conversation with his dad in some place other than the computer room!

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INTRODUCTION: THE PROBLEM

The last several years have witnessed an outpouring of public concern over drunken driving. This concern is reflected in the columns and over the air waves of the nation's news media; by coordinated campaign efforts at the federal and local levels; and by the collective proclamations of individual citizens who have placed this issue on their personal agendas.

After years of indifference and inaction, the public now seems ready to grapple with the nation's most deadly crime -- a crime that claims the lives of nearly 26,000 persons a year (more lives than all other forms of violence), many of whom are between the ages of 18 and 20. It is estimated that drunken driving accidents cost American society $5.14 billion a year (National Institute on Alcohol Abuse and Alcoholism, 1981).

While stepped-up news media coverage of the consequences of drunken driving surely has contributed to the increased saliency of this major health and social problem, televised public service campaigns designed to change drunken driving behavior seem to have not fared as well. Several reviews of the literature provide insight into the possible reasons why these campaigns seem to be more successful at effecting cognitive change than affective and behavioral changes. Wallack (1981) suggests that failure may be a result of the

use of an invalid model of the social change process that posits a stair-step hierarchy of effects, beginning with gains in awareness and culminating in behavior change, and the naive assumption that mass media have the power to activate the model's variables at will, like so many dominoes toppling each other. This belief in the media's omnipotence is hardly surprising, he states, given the lay person's exaggerated perception of commercial advertising's influence on buying behavior.

A third oversight common to many mediated health information campaigns is inattention to pre-campaign assessment (i.e., formative evaluation procedures) of the likely outcomes of campaign communications, which results in programs created from the sponsor's point of view, rather than the audience's. The weight of these factors led Wallack to conclude that the odds of finding attitude and behavior change in mediated alcohol information campaigns were less than favorable.

Blane and Hewitt (1980) reach a similar conclusion in their impressive review of the impact of alcohol information campaigns on the drinking orientations and behaviors of the public. They, too, criticize past efforts for flawed research designs and recommend future programs be based on a <u>marketing</u> strategy, because such an approach typically addresses many of the shortcomings found in social campaigns (such as inattention to gathering background information on key target markets and pretesting specimen messages, or

formative research). While their point is well taken, it is worth noting that the techniques used to sell pet rocks and instant breakfast cereals cannot be applied blindly to the selling of smoking cessation and the like. The reasons for this lack of direct transferal will be discussed in the next chapter. Still, the planning methodology used to design and evaluate product campaigns is readily adaptable to the merchandizing of ideas and holds great promise for improving the performance record of mass media health promotion programs (Novelli, 1984). Health promotion programs planned from a marketing perspective are referred to as social marketing campaigns (Solomon, 1981).

Similar issues are raised by Flay (1981) in his analysis of the behavioral null effects findings that dominate the field of mediated health communication campaigns. Like Wallack, his concern is with the core assumption of the information-processing model: that changes in knowledge and beliefs will automatically lead to changes in attitudes and behavior. However, Flay suggests that the model is not an invalid description of behavior change, but rather an inadequate one. He believes the factors that govern cognitive change are different from those that predict attitude and behavior change, and proposes an extended information-processing model to explain the conditions under which such higher-order changes may occur. The finding that so many health programs are effective only at creating awareness and changing knowledge is quite

understandable to Flay, since the traditional model appears to be a valid explanation of change at this level and since most campaigns have concerned themselves only with cognitive outcomes (assuming that such change would lead to subsequent changes in attitudes and behavior).

Flay argues that merely providing people with information about an undesirable health practice will have little impact on their behavior unless they are taught how to change their behavior. The inclusion of skills-training information within the context of a persuasive message is suggested as a promising strategy for achieving this objective -- a strategy largely ignored in past campaigns. Flay's extended model is offered as a design for improving the odds of finding behavior change in mediated health promotion programs. He also recommends that greater attention be given to formative evaluation of campaign materials prior to dissemination, because "without answers to questions of implementation and process, questions about why a program was or was not effective cannot be answered" (p.76).

If skills training is a necessary condition for the performance of certain health behaviors, then social marketers would be well advised to make this the focus of their formative investigations. Flay's inclusion of the learning of behavioral skills in his extended model is derived from the theory and evidence of Bandura's (1977a) social learning approach to behavior modification. Bandura

(1977b) has demonstrated that when people are given the appropriate skills to cope with subjectively threatening situations they are able to overcome their fear through expectations of successful performance of the feared behavior. The concept of self-efficacy is proposed as the explanatory mechanism through which expectations of personal competence are engendered. According to Bandura (1977b, p. 193), self-efficacy is the belief that one is capable of performing a given behavior in order to produce a desired outcome. Self-efficacy is conceptually similar to the perceived barriers to action variable in the Health Belief Model (Rosenstock, 1974), personal efficacy in the health threat control model (Beck & Frankel, 1981), constraint recognition in Grunig's (1984) theory of communication behavior, and O'Keefe's (1985) notion of prevention competence.

Empirical support for the skills-training hypothesis can be found in the results of the Stanford Heart Disease Prevention Program's (SHDPP) campaign designed to reduce cardiovascular risk factors in three northern California towns (Meyer, Nash, McAlister, Maccoby, & Farquhar, 1980). Borrowing from the behavior change principles of Bandura's social learning theory, the Stanford program used the mass media to teach audiences how to eliminate coronary risk behaviors by modifying their lifestyles. Impressive reductions in some risk behaviors were recorded at the end of the three-year intervention.

Responding to Blane and Hewitt's (1980) recommendation that alcohol information campaigns be planned from a marketing perspective, Atkin (1985) and Atkin and Anderson (1985) used a series of formative surveys and focus group sessions to gather background information on the drinking attitudes and behaviors of the Michigan public. Of particular relevance to the present discussion is the finding that respondents desire to learn communication intervention skills to dissuade friends from drinking excessively and driving drunk. Furthermore, many light drinkers revealed during focus group sessions that the modeling of these skills on television would provide the motivation for them to approach their excessive-drinking friends. (A discussion of these results and their implications for message design will be presented in a later chapter.)

Although the results of the Stanford Heart Disease Prevention Program have improved our understanding of how skills-training information presented via the mass media can change some behaviors associated with heart disease, we know nothing about the usefulness of such an approach as a strategy for reducing the prevalence of drunken driving. However, we do know that many infrequent drinkers are eager to learn ways to prevent their heavy-drinking friends from driving drunk, based on the results of the Michigan study. The application of self-efficacy theory to the teaching of these skills via the mass media might represent an important

step toward the reduction of this largely preventable health problem. Furthermore, programs planned from a social marketing perspective that emphasize segmenting audiences according to their skills-training needs and designing messages to fulfill these needs should prove more successful than past efforts based largely upon the creative inspirations of weekend sloganeers. Research is needed to test these assumptions. As Kleinot and Rogers (1982) concluded in their study of the effects of fear-arousing communications on intentions to moderate alcohol consumption, "... the role of self-efficacy in alcohol education programs remains an open empirical question" (p. 810).

The purpose of this dissertation is to investigate the role of self-efficacy theory in an alcohol information campaign.An amended version of Flay's extended information-processing model is proposed as a conceptual framework for explaining the process by which self-efficacy is predicted to influence behavior. Flay includes self-efficacy as one of several predictor variables of trial behavior, but does not explain how expectations of personal competence are engendered, although his model posits they are a function of personality. Only the writings of Bandura (1977a, 1977b, 1982) provide this insight. The amended model will be used to test hypotheses derived from Bandura's theory of self-efficacy. Specifically, the dissertation will determine whether there is empirical support for the theoretical

argument that exposure to a skills-training persuasive message affects behavioral intentions through the intervening influences of knowledge of skills and efficacy expectations (i.e., self-efficacy beliefs).

Another objective of the research is to determine the optimal message strategy for administering treatment so that social marketers can begin to understand the types of massage factors that influence self-efficacy beliefs. Finally, the research is part of the formative evaluation stage of a social marketing campaign to prevent drunken driving in Michigan.

CHAPTER I

SOCIAL MARKETING AND FORMATIVE RESEARCH

It is both unsettling and ironic that the near eradication of the major diseases of our time has been accompanied by a sharp increase in mortality rates due to so-called lifestyle-based health problems. Indeed, the Surgeon General's 1979 report stated that of the 10 leading causes of death in the United States, seven could be radically reduced if people at risk would only change their behaviors (cited in Brehony, Frederiksen, & Solomon, 1984).

The relationship between behavior and health has become the focus of a rapidly evolving field called behavioral medicine. A primary goal of the field is to help people live better, more productive lives through the elimination of behaviorally based, life-threatening risk factors, such as smoking, improper diet, lack of exercise, and alcohol abuse.

Within the field, there is a recognized need for the development of media-based intervention programs to improve the health knowledge, motivation, and behavior of those who would benefit most from such efforts. These programs resemble traditional commercial product campaigns and rely heavily upon the disciplined application of marketing

decision-making principles for testing and promoting campaign themes. They also draw extensively from the behavioral scientist's repertoire of psychological change strategies. This approach to health promotion program planning and evaluation has come to be known as a social marketing perspective on mass communication campaigns (Solomon, 1981).

Social marketing, then, can be thought of as the bridge between the behavioral scientist's knowledge of human behavior and the implementation of that knowledge for socially useful purposes (Kotler, 1982). According to Kotler and Zaltman (1971, p. 5):

> Social marketing is the design, implementation, and control of programs calculated to influence the acceptability of social ideas and involving considerations of product, planning, pricing, communication, distribution, and market research.

The core concept of marketing is the transaction (Kotler, 1972). A transaction occurs when value is exchanged between the marketer (i.e., the social unit seeking the response) and the market (i.e., the social unit whose response is sought). In marketing parlance, a product is something that has value to both the marketer and the market. This generic approach to defining a sponsor's product offering(s) implies that a product need not be thought of as only a commercial good or service. Persons (e.g., political candidates), organizations (e.g., the American Medical Association), and ideas (e.g., strategies to prevent a friend from driving drunk) are as much a part

of the marketer's product mix as are toothpaste, toilet paper, and Tootsie Rolls.

Social ideas serve as the focus of the transaction when the marketer attempts to facilitate the adoption of any number of socially desirable behaviors. For example, a transaction takes place when an audience member decides to watch a public service announcement exhorting people to eat high-fiber foods, and to avoid those full of refined carbohydrates. In this case, the viewer is exchanging his or her time for information offering sound nutritional advice (i.e., the product), presumably "packaged" in an entertaining presentational style and "priced" to remove any barriers to action. Thus the practice of social marketing stresses the creation, stimulation, facilitation, and valuation of mutually beneficial exchange relationships between the marketer and various target markets or audiences (Kotler, 1972, p. 49).

The marketing process consists of a series of problem-solving steps designed to provide program planners with information for decision making. Marketers use a conceptual framework that involves consideration of four variables in the planning process: product, price, place, and promotion. Known as the "four Ps," these variables help the marketer determine the proper marketing mix (i.e., campaign strategy). Examples of how social marketers use these variables to plan health promotion campaigns are presented in the next section. Formative research on each of the four

Ps is essential if the campaign is to have its desired impact. Solomon (1984, p. 129) treats formative research as the foundation upon which the practice of social marketing rests. According to Palmer (1981), formative research is conducted in two phases. The first involves gathering background data on audience characteristics and is called the preproduction phase. The second consists of pretesting alternative message strategies and executions on small samples of the intended target audience in order to assess their strengths and weaknesses. This final phase is referred to as production testing.

Flay and Best (1982) define formative research as "collecting information on program implementation, expected or likely outcomes, and preliminary indications of outcomes before the program is fully operational or implemented on a wide scale" (p. 46). Thus, formative researchers collect data during the preproduction and production-testing phases of a campaign evaluation to help them predict how likely a given message strategy is to succeed once the program begins. This information can then be used to revise weak strategies and to set guidelines for the creation of future communications that are likely to achieve campaign objectives.

Indeed, it is research on and consideration of all four of the marketing variables during the campaign planning phases that distinguishes social marketing from social communication, which is concerned mainly with the

promotional variable of the mix. Another difference is that the former focuses on creating products that are desired by target markets and that facilitate behavior change, while the latter attempts to change attitudes toward existing products -- a sales, rather than marketing, approach (Kotler, 1982, p. 493).

With few exceptions, the field of mass communication campaigns has been dominated by a sales orientation, to use the parlance of the marketer. Students of campaign effects such as Mendelsohn (1973), Atkin (1979, 1981) and those cited in the previous chapter have noted two major failings of information campaigns based on a sales approach: (a) They lack sophisticated formative and summative evaluation designs, and (b) they are based more on creative intuition than on empirically grounded principles of mass communication. The Stanford Heart Disease Prevention Program (Solomon, 1984), the National High Blood Pressure Education Program (Rabin, 1981; Ward, 1984), and the Michigan alcohol study (Atkin, 1985; Atkin & Anderson, 1985) are exceptions to rule. Their favorable outcomes are largely attributable to the use of social marketing concepts and tools to monitor and modify campaign events.

Differences between Social and Commercial Marketing

While it is tempting to think that commercial marketing concepts and techniques can be applied directly to the marketing of ideas and social causes, such is not the case.

Solomon (1981) and Bloom and Novelli (1981) warn that there are real differences between the two. These differences challenge the social marketer to think in ways that are foreign to traditional marketing practice.

According to Solomon (1981, p. 283), a product is "the focus of the transaction between the marketer and the target market." Products developed by social marketers are frequently more complex and difficult to define than products sold in the commercial sector. For example, many products in health promotion campaigns are intangible, such as skills information broadcast during a public service announcement to teenagers on how to resist peer pressure to drink. Psychologically, the price of purchasing this type of product is much more uncertain than the decision to join the "Pepsi Generation" (i.e., buy a Pepsi). The removal of such pricing barriers presents the social marketer with a situation seldom found in the commercial sector, since most goods and services are marketed to satisfy existing demand.

Conventional marketers merely ask consumers to do what they already are favorably predisposed toward. Social marketers face the unenviable task of exhorting consumers to give up behaviors they have enjoyed for many years, such as smoking and eating cholesterol-rich foods. Commercial products are designed to confer an immediate benefit upon use. Although health information products could be marketed similarly, such has not been the case. Instead, campaigns have focus on the long-range benefits of various health

practices. Adolescents are encouraged not to smoke because they could develop lung cancer at a later date. However, long-term health status is rarely a concern to teenagers who often are prone to risk taking. Furthermore, the health communicator cannot guarantee that abstinence will result in improved health status. Social marketers should design their product offerings to address the short-term consequences of health behaviors, especially when communicating with the young. Thus, a campaign targeted at adolescents to discourage drinking might concentrate on the negative consequences of excessive consumption, such as offending one's date or friend with an unflattering remark, becoming ill or uncontrollable, or injurying a friend in an automobile accident.

Social marketers often are pressured to try and reach an unreasonably large number of target markets with their product offerings (Bloom & Novelli, 1981). This usually is the result of a lack of sophistication on the part of those who sponsor health campaigns, such as non-profit organizations. On the other hand, commercial product campaigns are conducted with the realization that increased sales can be achieved by targeting a small percent of the audience, such as heavy beer drinkers who typically represent about 20 percent of the market. Therefore, commercial marketers can afford to to ignore the less profitable segments of their markets. Social marketers, however, find this difficult to do on ethical grounds, since

often it is the "less profitable" or hardest-to-reach segments that stand to benefit the most from the social marketer's product offering.

Social marketers reconceptualize the "place" variable in the marketing mix to refer to the distribution channels used to communicate the product to target markets. Examples of such channels are mass media gatekeepers, doctors, health care professionals, proprietors of commercial business establishments, and community organizations. These intermediaries are of critical importance, because they control access to the social marketer's product. Often times they must be persuaded to adopt the health innovation and will require special training in its use. Rarely is this a problem for the commercial marketer, who normally can depend upon prominent display of his or her wares as long as consumer demand lasts. Furthermore, large advertising budgets permit business marketers to buy time and space in those mass media that maximize exposure to product messages. For the most part, health communicators must rely upon donated public service time, which often results in messages being relegated to the less popular viewing hours. This is why the use of interpersonal communication channels to stimulate the diffusion and practice of behavior change strategies is of critical importance to the social marketer. The Stanford Heart Disease Prevention Program utilized this approach to supplement exposure to information in the mass media with a group of high-risk subjects who received

intensive face-to-face instruction in risk reduction and self-management techniques (Meyer et al., 1980).

Social Marketing and the Stanford Heart Disease Prevention Program

The SHDPP was a multidisciplinary approach to reducing cardiovascular disease among free-living populations in, first, three, and then later, five northern California towns. The campaigns, which began in 1972 and 1978, respectively, drew heavily from the fields of medicine, psychology, community organization, communication, and marketing. Because of this, the SHDPP was not a social marketing program per se (Solomon, 1984), but rather a sophisticated use of social communication (Fox & Kotler, 1980), although marketing logic played a central role in the conceptualization and execution of the campaigns. Solomon (1984), however, has reconceptualized the Five City Project from a social marketing perspective to demonstrate how this approach can be applied to the planning of future health campaigns.

The SHDPP developed a comprehensive and varied product line designed to satisfy the coronary risk reduction needs of multiple target audiences. According to Solomon (1984), "the core generic product of the SHDPP is improved information, motivation, and skills training on how to quit smoking, how and why to lose weight, how to reduce stress, how to increase physical activity, and how to prepare

healthier meals" (p. 124). Informational products created for adolescents use different strategies and appeals than those designed for adults. Some products are intended to assist audiences with self-directed behavior change, while others are designed for use in group settings, where spouses and group members provide social support to facilitate changes in risk behavior. Principles from Bandura's social learning theory (1977a) were included in the creation of these products to maximize the likelihood of performance of newly acquired skills (Maccoby & Solomon, 1981). It was hoped that the learning of skills would make the price of engaging in risk reduction activities more attractive by removing psychological barriers to performance.

Numerous distribution channels were used to market the SHDPP's product line in order to provide the audience with multiple opportunities (places) for purchase. The majority of these products were distributed through the mass media as a public service; however, many products were made available through community organizations (e.g., smoking cessation classes), and to a lesser extent, local retail outlets (e.g., the sale of booklets and other printed materials). Doctors, nursesand other health professionals helped distribute informational products directly to their patients and clients.

Various promotional techniques were used to attract attention to campaign products and up-coming special events. Direct mail flyers were sent out to notify people of the

broadcast of a one-hour special created by the SHDPP called the "Heart Health Test." Letters were mailed to elementary teachers asking them to tell their students to remind their parents of the program. Weekly doctors' columns in local newspapers were used to generate requests for an exercise booklet. Other media attention focused on publicizing such community events as smoking and weight loss classes.

Formative Research. In addition to message analysis, the face-to-face behavior modification component of the SHDPP was pretested prior to the three-community study (Meyer & Henderson, 1974). Modeling principles derived from Bandura's (1977a) social learning theory were applied to developing behavior change protocols and were tested on a group of high-risk subjects as part of the experiment. Modeling devices included such techniques as symbolic and live instruction on how to change risk behaviors and group participation.

Thirty-six employees of the Varian Corporation in Palo Alto, CA, participated in the study, and were assigned to one of three treatment conditions: behavior modification, individual counseling, and single-time physician consultation. It was hypothesized that behavior modification procedures and individual counseling would produce greater changes in risk behavior than physician consultation, and that changes attributed to behavior modification would be maintained longer than those induced by counseling and the physician meeting.

Results indicated that behavior modification techniques and counseling produced greater change in risk behavior than did physician consultation. However, no statistically significant differences in maintenance behavior were found (perhaps because of the small sample size of 36 subjects), although the condition based on behavior modification techniques scored highest. The overall favorableness of the findings led to the decision to adopt this approach as the model for the interpersonal intervention component of the three-community field experiment.

Outcome Evaluation. Three comparable northern California towns were selected for study. The towns of Watsonville and Gilroy were chosen as intervention sites, while the town of Tracy served as a control group. Both experimental communities were exposed to the mass media campaign; however, in Watsonville, a subsample of high-risk subjects received the behavior modification program, in addition to the media campaign. Changes in heart disease risk-related behaviors were greater and occurred faster in this intensive-instruction group at the end of the first year than in the media-only town of Gilroy. However, by the end of the second year of the intervention, the difference between the two experimental sites on overall risk was no longer statistically significant. The media-only town achieved results equally as impressive as the media plus intensive instruction town, but at a slower rate. Virtually no change occurred in the control town of Tracy (Maccoby,

Farquhar, Wood, & Alexander, 1977). That the mass media alone succeeded in changing lifestyle-related coronary risk behaviors almost as well as media plus supplemental personal instruction led Maccoby et al. (1977) to conclude: "Mass-media risk-reduction programs, when appropriately conceptualized, pretested, and carried out, can help people to learn how to change their behavior so as to reduce their risk of cardiovascular disease" (p. 112).

In summary, behavioral medicine scholars and practitioners view social marketing as a cost-effective procedure for administering behavioral therapies to large numbers of people through the mass media. Formative research provides social marketers with data on the likely outcomes of campaign communications before programs are implemented. This investigation uses formative research techniques to examine the role of self-efficacy in designing campaigns to teach young adults the skills to dissuade their heavy-drinking friends from driving drunk.

CHAPTER II

THEORETICAL STRATEGIES FOR IMPROVING THE CHANCES OF FINDING BEHAVIORAL CHANGE IN HEALTH CAMPAIGNS

As social marketing becomes the conceptual base for the application of marketing concepts and techniques to the task of eliminating behaviorally based health risks, the practice will increasingly be guided by the behavioral scientist's knowledge of the social influence process. This chapter presents three psychological change strategies for influencing health behavior: (a) Flay's (1981) integrative model of attitude and behavior change, (b) Beck and Frankel's (1981) health threat control model, and (c) Bandura's (1977b) theory of self-efficacy. Following a discussion and comparison of these various approaches, an amended version of Flay's integrative model is proposed to explain the process by which persuasive efficacy information affects behavioral intentions through the intervening mechanisms of knowledge of skills and self-efficacy beliefs.

Flay's Integrative Model of Attitude and Behavior Change

Noting that only a few mediated health promotion campaigns have succeeded in changing attitudes and behavior, Flay proposed an extended information-processing model that incorporates theory and evidence from the literature on

communication effects to improve the chances of finding these higher-order changes. Flay argues that failure can be attributed to an overreliance by program planners on a model of the behavior change process that assumes cognitive change is necessary and sufficient to bring about changes in attitudes and behavior. Flay (1981, pp. 59-60) agrees with the core assumption of this traditional approach to persuasive communication: that changes in awareness, knowledge, and beliefs usually precede changes in attitudes and behavior (as long as there is high involvement with the health topic); but he disagrees that these cognitive factors are sufficient to induce such changes by themselves -- as the classic information-processing model predicts (see Figure 1).

Flay states that a comprehensive explanation of the health behavior change process would address factors not usually found in the traditional information-processing model. His extended model is just such an attempt. The model consists of basically three parts: the traditional information-processing model developed by Hovland and his associates (1953), and later refined by McGuire (1981) into his persuasion matrix; Ajzen and Fishbein's (1980) theory of reasoned action; and Bandura's (1977a) social learning theory.

Flay posits that in order to facilitate attitude change, a general value-expectancy approach should be followed, as suggested by Ajzen and Fishbein (1980) in their

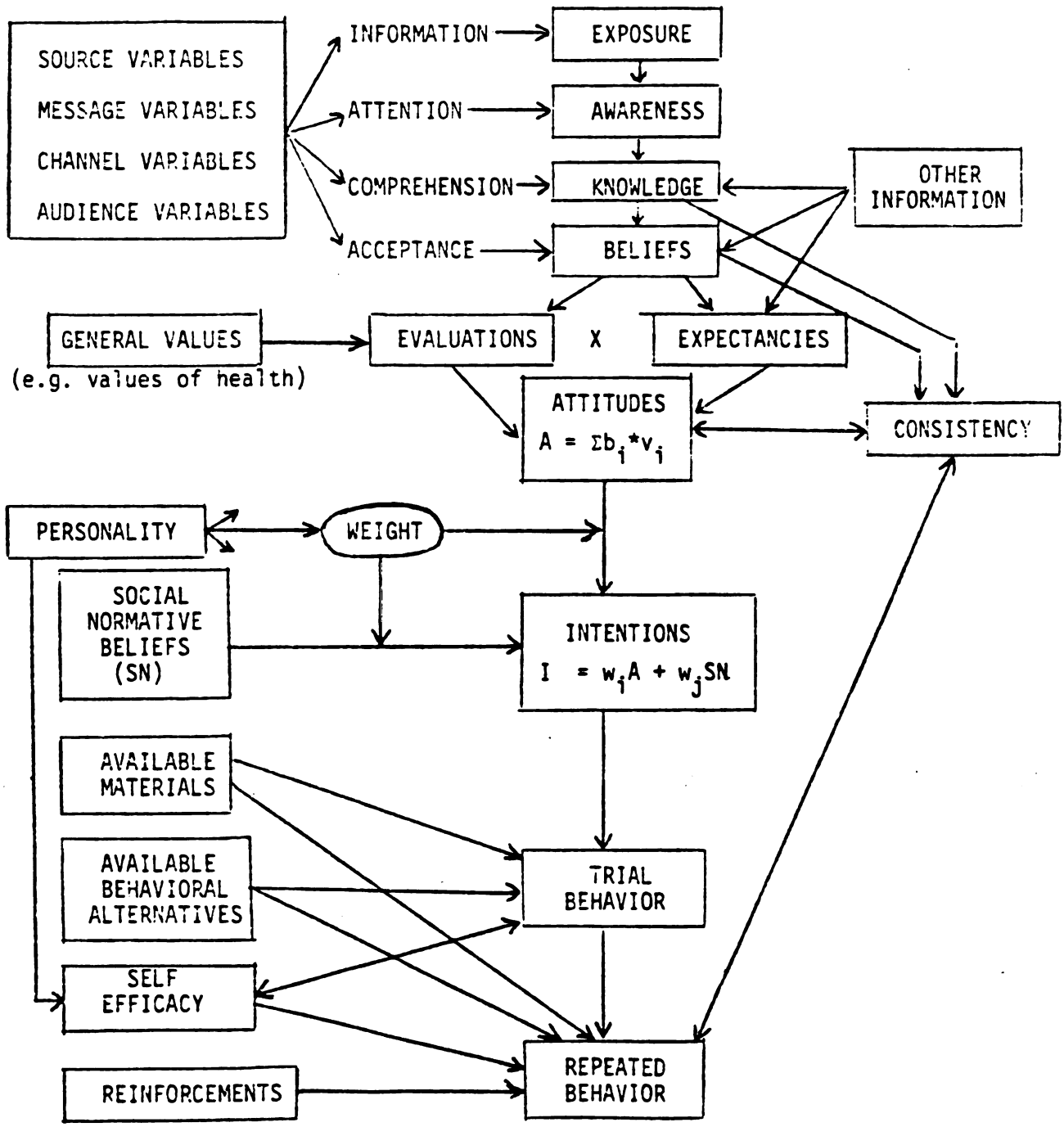

Figure 1: Flay's Integrative Model of Attitude and Behavior Change

Figure 1. From "On Improving the Chances of Mass Media Heath Promotion Programs Causing Meaningful Changes in Behavior" by B.R. Flay, 1981, Health Education by Television and Radio, p. 70. Copyright 1981 by K.G. Saur.

theory of reasoned action. Value-expectancy theories assume that people form beliefs (i.e., expectancies in the model) about the consequences of certain behaviors and that they are more likely to hold positive attitudes toward those behaviors whose consequences are evaluated favorably. For example, many adolescents drink to intoxication simply because they believe there are numerous positive consequences (i.e., perceived benefits) associated with this behavior. Many drive drunk because they believe the probability of an accident is low.

Intervening between attitudes and trial behavior are behavioral intentions (i.e., one's estimate of the probability of performing a given behavior), social normative beliefs (i.e., the expectations of significant others), and personality factors. According to Ajzen and Fishbein, behavioral intentions is the immediate determinant (and strongest predictor) of trial behavior; however, an understanding of the underlying causes of of people's health actions is improved by assessing their attitudes and belief systems.

The bottom part of the model depicts those variables from Bandura's social learning theory that have been demonstrated to improve the chances of inducing trial behavior and maintaining repeated behavior. This part of the model assumes that changing a person's behavioral intentions will not necessarily lead to trial behavior unless at least one of three conditions exist: (a)

appropriate resources are available to help guide the behavior change attempt (i.e., available materials), (b) the individual possesses skills necessary to consummate his or her intention (i.e., available behavioral alternatives), and/or (c) the individual believes he or she is capable of performing the behavior (self-efficacy). Of course, the more conditions addressed, the greater the probability of trial behavior. Finally, newly acquired skills must be practiced and reinforced if they are to last. For example, the SHDPP used guided practice of skills and positive reinforcement techniques to encourage repeated behavior among high-risk subjects in the intensive instruction program.

To stack the odds in behavior change, Flay states that a full assessment of the model's variables is necessary, because breaks in any of the causal links can negate campaign effects. For example, many health programs fail to achieve their behavioral objectives simply because audiences are never exposed to message stimuli, or fail to comprehend behavioral recommendations. This points to the critical role of formative research in planning campaigns. Pretesting messages on small samples of intended target audiences can provide program planners with this information.

The Health Threat Control Model

There almost are as many explanations of how a fear-arousing communication affects attitudes and behavior as

there are studies on the subject (e.g., Higbee, 1969; Hovland, Janis, & Kelley, 1953; Janis & Feshbach, 1953; McGuire, 1969). Common, however, to all of these investigations is the notion that emotional arousal or fear mediates the impact of a health-threat communication on subsequent response. An alternative explanation is provided by the health threat control model (Beck & Frankel, 1981). According to this formulation, cognitive, rather than emotional, factors intervene between message and response. These cognitions combine to form perceived threat control, hence the model's name.

Beck and Frankel (1981, pp. 212-213) identify two beliefs as comprising perceived threat control: response efficacy and personal efficacy. Response efficacy is the belief that the recommended health behavior (i.e., coping response) can prevent, or reduce considerably, the health threat. Personal efficacy is the belief that one is capable of performing successfully the coping response. Of the two, personal efficacy is thought to be the stronger predictor of protective health behavior. Beck and Frankel state that while an individual may believe in the effectiveness of the coping response, he or she will not perform the behavior if personal efficacy is weak.

Bandura's Theory of Self-Efficacy

Bandura's (1977b) theory of self-efficacy proposes that changes in avoidant behavior can be induced

psychologically through exposure to different types of efficacy information. Exposure is said to increase one's confidence to cope with subjectively threatening situations by instilling expectations of personal mastery (i.e., self-efficacy beliefs) through the learning of skills. It is predicted that self-efficacy determines whether coping behavior will be initiated, the amount of effort expended, and how long people will persist in their efforts to overcome stressful situations.

Four principal types of efficacy information are identified: (a) performance accomplishments, predicted to be the strongest mode of induction because it is based on personal mastery experience, or direct evidence of performance capabilities; (b) vicarious experience, which relies upon either live or symbolic modeling of successful performance of feared activities, but does not provide the opportunity to refine skills; (c) verbal persuasion, which uses suggestion to convince people they can cope successfully with their fears; and (d) emotional arousal, which strengthens expectations of personal competence by extinguishing anxiety-arousing thoughts and feelings.

Performance accomplishments (i.e., guided participation or participant modeling) is predicted to be the strongest type of efficacy information because subjects learn firsthand how to cope with stressful situations. "... participant modeling provides additional opportunities for translating behavioral conceptions to appropriate actions

and for making corrective refinements toward the perfection of skills" (Bandura, 1977b, p. 196).

Vicarious experience utilizes live and symbolic modeling to extinguish avoidance behavior. Observation of the successful performance of feared activities (whether live or mediated) can induce efficacy expectations. Vicarious experience is thought to affect self-efficacy beliefs in the following way:

> Seeing others perform threatening activities without adverse consequences can generate expectations in observers that they too will improve if they intensify and persist in their efforts. They persuade themselves that if others can do it, they should be able to achieve at least some improvement in performance. Vicarious experience, relying as it does on inferences from social comparison, is a less dependable source of information about one's capabilities than is direct evidence of personal accomplishments. (Bandura, 1977b, p. 197)

Verbal persuasion relies upon sugestion to convince people that they are capable of handling threatening situations. Social persuasion is a less dependable type of efficacy information than performance accomplishments because it does not "provide an authentic experiential base" for one's efficacy expectations (Bandura, 1977b, p. 198). Emotional arousal is the fourth type of efficacy information identified by Bandura. People rely upon information about physiological states to assess their abilities to cope with anxiety-arousing situations. Bandura argues that a strong sense of personal efficacy can reduce one's susceptibility to generating fear-provoking thoughts, thereby enhancing performance capabilities.

According to Bandura (1977b, p. 194), there are three dimensions of efficacy expectations: (a) magnitude, (b) strength, and (c) generality. Magnitude refers to the likelihood of task performance based on perceived capability. Strength of efficacy expectations refers to how certain one is that he or she will perform the difficult task. Generality of efficacy expectations refers to the extension of coping efforts to situations similar to those encountered during treatment, as well as to unfamiliar situations. Operationally, magnitude has been measured by asking subjects whether they would perform a series of increasingly difficult tasks with a feared object, such as a snake. Strength of efficacy expectations has been measured by asking subjects to indicate their certainty of task performance on a 100-point probability scale (e.g., how likely they are to hold the reptile). Generality has been measured by asking subjects to rate their expectations for coping with snakes of the same variety as used in treatment, as well as with dissimilar snakes.

Because performance accomplishments is based on personal mastery experiences, Bandura posits it is the strongest source of efficacy information. Indeed, in a study designed to create differential levels of efficacy expectations within severe adult phobics, Bandura, Adams, andBeyer (1977c) found the performance-based treatment produced higher, stronger, and more generalized expectations of coping behavior (self-efficacy) with snakes than did the

treatment relying solely upon live modeling, or vicarious experience, which in turn outscored the control group. The influence of verbal persuasion and emotional arousal on self-efficacy were not tested.

Early applications of social learning theory attest to the appropriateness of this conceptual scheme for explaining and predicting changes in avoidant behavior. Virtually all of this research is summarized by Bandura (1977b) in the latest refinement of his theory. Findings relevant to the present investigation are highlighted here.

In a study of the influence of different modes of symbolic modeling on the reduction of behavioral inhibitions, Bandura and Barab (1973) found that adult phobics who watched a film in which children performed a graded series of threatening tasks with a snake, and those who observed adults model the same activities, were more likely to interact with the feared reptile than were subjects exposed to irrelevant modeling in the control condition, although there were no differences between the two treatment conditions in approach behavior. Bandura, Blanchard, and Ritter (1969) examined the effects of various modeling treatments on changing snake phobics' attitudes. As predicted by social learning theory, participant modeling (i.e., performance accomplishments) produced greater attitude change than did the conditions based on mediated forms of presentation. Symbolic modeling (i.e., vicarious experience), however, was more effective at changing

attitudes than was symbolic desensitization (i.e., emotional arousal). All modeling conditions exhibited greater change than did the no-treatment control condition.

Blanchard (1970) attempted to isolate the relative contributions of participant modeling (i.e., direct contact), live modeling, and verbal persuasion (i.e., reassuring information) on modifying snake phobic behavior by exposing subjects to various combinations of the three treatment effects. The experimental evidence showed that the addition of participant modeling to live modeling and persuasion produced incremental changes in approach behavior, fear reduction, and attitudes toward snakes over changes induced by a combination of live modeling and verbal persuasion. Comparison of modeling only with the combination of all three treatment effects yielded no differences in incremental changes in fear reduction and attitudes, although the three-factor condition exhibited greater approach behavior toward the experimental snake. Blanchard speculated that the influence of verbal persuasion may have canceled the positive benefit of participant modeling. A contrast of live modeling and verbal persuasion with modeling only failed to demonstrate any incremental changes due to the reassuring information. In fact, less attitude change was found in the former condition than in the latter. All three treatment groups achieved greater changes than did the control group. Blanchard concluded that the extinction of inhibitory responses associated with

phobic behavior was obtainable through the use of live modeling procedures and that participant modeling added a significant increment of change to this effect.

Live modeling also has been shown to be an effective method for overcoming fearful responses in children. In a study by Bandura, Grusec, and Menlove (1967), children observed an uninhibited peer perform progressively threatening behaviors toward a dog without aversive consequences at a nursery school party. A second group of children saw the same peer perform identical approach responses but without the benefit of the positive context of the party. The third group attended the party with the dog but observed no modeled behavior. The fourth group participated in the party but was not exposed to either the dog or the peer model. These last two conditions served as control groups. Between-group comparisons revealed that the two live modeling conditions displayed more approach behavior than did the controls. However, there were no significant differences between the two modeling conditions and the two control conditions.

Two points can be made about these findings. First, modeling procedures, whether direct or mediated, are capable of changing attitudes and extinguishing avoidance behavior. Second, research is needed to determine how persuasion can be better used to eliminate inhibitory responses, since reassuring information seems to have little impact on defensive behavior (Blanchard, 1970). Flay's model provides

an explanation as to why this is so: informational and persuasive messages are well suited for accomplishing their respective cognitive and affective goals, but they are less adept at inducing trial behavior because they typically fail to teach audiences how to perform new behaviors.

The inclusion of skills training within the context of persuasive health communications might improve the odds of finding behavior change in mediated health promotion campaigns (Flay, 1981, p. 69). Messages of this type would combine the effects of two types of efficacy information: verbal persuasion and symbolic modeling. For example, drunken driving intervention skills could be demonstrated during a televised public service announcement designed to teach responsible drinkers how to approach and persuade their heavy-drinking friends not to drive drunk. Likewise, other forms of visual presentation might serve to strengthen the impact of a persuasive efficacy message by stimulating the learning of communication intervention skills, such as depicting the legal, financial, and psychological consequences of arrest for drunken driving, while exhorting responsible drinkers to tell their friends about these consequences and reassuring them that it can be done easily. Indeed, research shows that visual stimuli in advertising messages increases learning of the verbal message component (Alesandrini, 1983) and facilitates changes in product attitudes and buying behavior (Rossiter & Percy, 1983). Self-efficacy theory has much to offer those who design

persuasive messages to teach communication intervention skills. But research is needed to determine the optimal message treatment for raising expectations of personal competence by persuasion. As Bandura (1977b) noted in his concluding remarks on self-efficacy theory:

> The research completed thus far has tested the predictive power of the conceptual scheme for efficacy expectations developed through enactive, vicarious, and emotive-based procedures. Additional tests of the generality of this approach need to be extended to efficacy expectations arising from verbal persuasion (italics added) and from other types of treatments aimed at reducing emotional arousal. (p. 212)

Conceptual Integration

The amended version of Flay's integrative model (see Figure 2) depicts the process by which efficacy information is hypothesized to affect self-efficacy beliefs. There are three fundamental differences between this model and Flay's. In the amended model, efficacy information is shown to affect self-efficacy beliefs through the intervening influence of knowledge of skills. Flay (1981, p. 76), however, posits that self-efficacy is a function of trial behavior and "personality factors" (see Figure 1). Although Flay does not refer to specific factors, he does note that the behavioral intentions of individuals who are internally controlled are determined more by their attitudes than by social normative influences. The opposite holds for externally controlled individuals. Bandura (1977b) argues that self-efficacy is based on a person's perception of

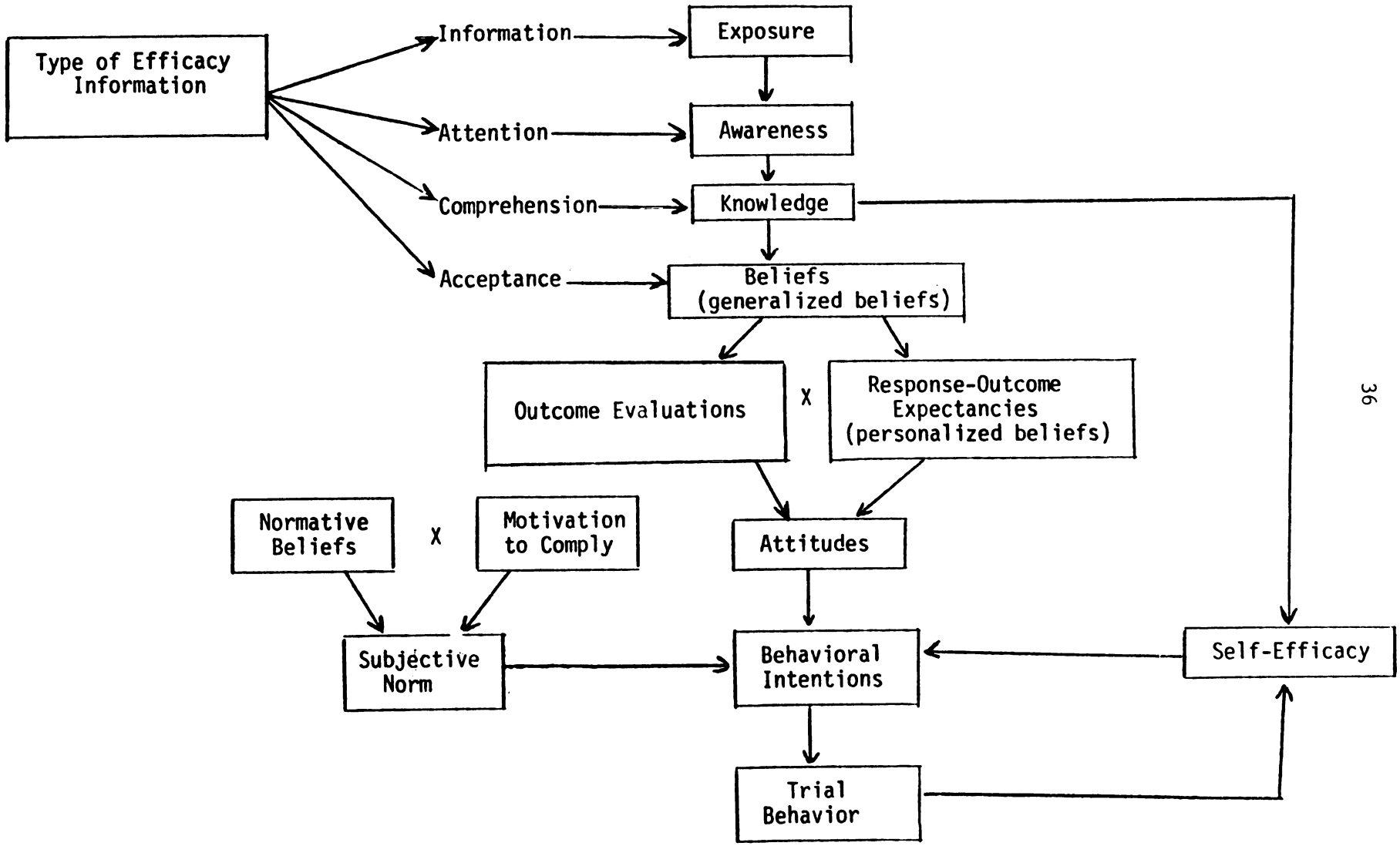

Figure 2. Amended Version of Flay's Integrative Model

successful performance, rather than "global personality traits" (p. 203). Instead of being a function of one's personality, Bandura maintains that self-efficacy beliefs are derived from diverse types of efficacy information (i.e., performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal).

A second difference concerns the nature of the relationship between self-efficacy and trial behavior. Flay postulates a direct, reciprocal relationship between self-efficacy and trial behavior. In the amended model, self-efficacy affects trial behavior through the mediating influence of behavioral intentions. The linkage between self-efficacy and behavioral intentions can be justified on both theoretical and empirical grounds. Bandura (1977b, p. 196) writes, "People displaying intractable fears and inhibitions are not about to do what they dread." This statement is supported by findings from the research reviewed earlier on the extinction of avoidant behavior where it was found that control group subjects failed to overcome their phobias, while subjects exposed to different types of efficacy information gained confidence in their abilities to master threatening situations. Additional evidence is provided by Beck (1981) and Beck and Lund (1981) in tests of the health threat control model who found a positive association between personal efficacy and behavioral intentions. It seems reasonable to assume that if people are convinced they lack the skills necessary to

cope with stressful situations their behavioral intentions will be guided by this lack of confidence.

Self-efficacy theory predicts that past successful performance of a behavior strengthens efficacy expectations. This relationship is depicted in the amended model by the arrow running from trial behavior to self-efficacy. The question, then, is not whether efficacy expectations affect trial behavior, but, rather, how. The amended model hypothesizes self-efficacy affects trial behavior through the mediating influence of behavioral intentions. According to Bandura (1977b, p. 194), "Those who persist in subjectively threatening activities that are in fact relatively safe will gain corrective experiences that reinforce their sense of efficacy, thereby eventually eliminating their defensive behavior." Thus, people who are initially overwhelmed by inhibitory thoughts and feelings can eventually learn to cope with their fears through successful performance of dreaded activities.

The third difference between the two approaches concerns the process by which behavioral skills are acquired. Flay includes skills (available behavioral alternatives) as one of several predictors of trial behavior; yet, his model does not explain how skills are learned, although he does state that they could be modeled on television. The amended version of his model shows how exposure to efficacy information sets off a causal chain of events where knowledge of skills affects behavioral

intentions through the intervening influence of self-efficacy beliefs. Expectations of personal mastery, then, are engendered by the learning of specific coping skills derived from various types of efficacy information.

There also are several similarities between these two approaches to health behavior change. These are depicted in the amended version of Flay's model. For example, in Flay's model, "expectancies" is conceptually similar to "response efficacy" in the health threat control model and "response-outcome expectations" as defined by Bandura. All refer to personalized beliefs about the probability of occurrence of a behavioral consequence for an individual (e.g., the belief that quitting smoking will reduce one's chances of becoming terminally ill). These beliefs are multiplied by their evaluations and summed to determine a person's attitude toward the recommended health behavior.

Flay states that generalized beliefs also must be considered in health behavior change programs. These beliefs represent a person's probability estimate that a given behavior is associated with a certain outcome (e.g., smoking causes cancer). The difference between the two types of beliefs is that a person (especially an adolescent) can believe that smoking causes cancer (generalized belief), but also believe that his or her chance of getting the disease is extremely remote (personalized expectation), persumably because people tend to underestimate their chances of falling victim to a life-threatening illness.

Another shared concept is, of course, self-efficacy, referred to as personal efficacy in the health threat control model. Both Bandura (1977b) and Beck and Frankel (1981) draw important conceptual distinctions between efficacy expectations and response-outcome expectancies. They are differentiated because people can believe that the performance of a given behavior will lead to certain favorable outcomes, but they will not necessarily intend to try the behavior unless they believe they are capable of performing it successfully. According to Bandura (1977b):

> Outcome and efficacy expectations are differentiated because individuals can believe that a particular course of action will produce certain outcomes, but if they entertain serious doubts about whether they can perform the necessary activities such information does not influence their behavior. (p. 193)

To summarize, then, the major concepts of this study are defined as follows:

1. Persuasive efficacy information is defined as a type of efficacy information that (a) uses suggestion to convince people they can perform certain stressful tasks, and (b) teaches them the skills necessary to perform the tasks successfully.

2. Mode of presentation of behavioral skills refers to the mode in which the behavioral skills information part of the persuasive efficacy message is presented. There are three modes of interest in this study:

a. demonstration, which uses symbolic modeling (i.e., mediated observation) of the successful performance of a given task to teach skills;

b. visualization, which, while not modeling, visualizes information to facilitate the learning of skills; for example, visualization of the consequences of arrest for drunken driving to enhance the learning of persuasive arguments; and

c. explanation, which uses verbal instructions only, excluding modeling and visualization, to teach skills.

3. Knowledge of behavioral skills refers to knowledge of how to perform certain tasks in order to achieve a desiredoutcome.

4. Efficacy expectations are beliefs that one is capable of performing a given behavior in order to produce a desiredoutcome. Efficacy expectations has three dimensions:

a. magnitude of efficacy expectations is defined as the likelihood of task performance based upon perceived capability.

b. strength of efficacy expectations is defined as how certain one is that he or she will perform a given task.

c. generality of efficacy expectations is defined as the extension of performance capability to situations similarto those encountered during treatment, as well as to dissimilar situations.

5. Behavioral intentions is defined as one's probability estimate of how likely he or she is to perform a given behavior.

The demonstration, visualization, and explanation modes of presentation will be referred to as approach messages, because they teach subjects how to approach and what to say to a heavy-drinking friend. The control is referred to as the consequences-only message, because it mentions only the consequences of arrest and does not employ suggestion as a means of convincing subjects that they are capable of performing successfully the recommended behavior.

Hypotheses

The theoretical formulation presented in this chapter assumes that a persuasive efficacy message can engender expectations of personal competence through the learning of skills, and that these expectations determine whether a person will engage in subjectively threatening behaviors. Therefore, messages that contain persuasive efficacy information should produce efficacy expectations of greater magnitude, generality, and strength than those lacking such information, and these expectations should be a result of increased knowledge of behavioral skills. To test the validity of the process by which persuasive efficacy information (as opposed to enactive, vicarious, and emotive efficacy information) is acquired and predicted to affect

self-efficacy beliefs and behavioral intentions, the following hypotheses are proposed:

Hypothesis 1a: Approach-demonstration, approach-visualization, and approach-explanation messages will produce efficacy expectations of greater magnitude than will a consequences-only message.

Hypothesis 1b: Approach-demonstration, approach-visualization, and approach-explanation messages will produce efficacy expectations of greater generality than will a consequences-only message.

Hypothesis 1c: Approach-demonstration, approach-visualization, and approach-explanation messages will produce efficacy expectations of greater strength than will a consequences-only message.

Hypothesis 2a: The impact of approach-demonstration, approach-visualization, and approach-explanation messages on the magnitude of efficacy expectations operates through increased knowledge of behavioral skills.

Hypothesis 2b: The impact of approach-demonstration, approach-visualization, and approach-explanation messages on the generality of efficacy expectations

operates through increased knowledge of behavioral skills.

Hypothesis 2c: The impact of approach-demonstration, approach-visualization, and approach-explanation messages on the strength of efficacy expectations operates through increased knowledge of behavioral skills.

Hypothesis 3: Approach-demonstration, approach-visualization, and approach-explanation messages will have a greater effect on behavioral intentions than will a consequences-only message.

Hypothesis 4a: The impact of approach-demonstration, approach-visualization, and approach-explanation messages on behavioral intentions operates through increased magnitude of efficacy expectations.

Hypothesis 4b: The impact of approach-demonstration, approach-visualization, and approach-explanation messages on behavioral intentions operates through increased generality of efficacy expectations.

Hypothesis 4c: The impact of approach-demonstration, approach-visualization, and approach-explanation messages on behavioral intentions operates through increased strength of efficacy expectations.

While the preceding hypotheses test the nature of the relationship between efficacy information, knowledge of skills, self-efficacy, and behavioral intentions, the following test the impact of alternative persuasive efficacy information message executions on self-efficacy beliefs, in order to determine the optimal treatment effect. Because modeling procedures, whether direct or mediated, are capable of extinguishing avoidant behavior, and visualization enhances recall of key elements in advertising messages, it is expected that the approach-demonstration and approach-visualization messages will have a greater effect on efficacy expectations than will the approach-explanation message, which in turn will outscore the consequences-only message on efficacy expectations.

Hypothesis 5a: With respect to the magnitude of efficacy expectations, the following ranking from highest to lowest is predicted among treatment conditions: approach-demonstration, approach-visualization, approach-explanation, and consequences-only.

Hypothesis 5b: With respect to the generality of efficacy expectations, the following ranking from highest to lowest is predicted among treatment conditions: approach-demonstration, approach-visualization, approach-explanation, and consequences-only.

Hypothesis 5c: With respect to the strength of efficacy expectations, the following ranking from highest to lowest is predicted among treatment conditions: approach-demonstration, approach-visualization, approach-explanation, and consequences-only.

Hypothesis 6: With respect to behavioral intentions, the following ranking from highest to lowest is predicted among treatment conditions: approach-demonstration, approach-visualization, approach-explanation, and consequences-only.

CHAPTER III

CONSIDERATIONS BEHIND MESSAGE DESIGN

The Michigan alcohol study (see Atkin, 1985) is an on-going formative investigation of the drinking orientations and practices of the Michigan public. Data gathered during the preproduction phase of the project are providing direction for the design of the mass media component of a social marketing campaign. This chapter discusses selected findings from the audience analysis phase and their implications for message design, as they apply to this study.

Four survey investigations were conducted during the summer of 1984. Telephone interviews with a representative sample of 800 Michigan adults (aged 21 and older) assessed the prevailing climate of alcohol attitudes and opinions in the state. Each interview lasted approximately 20 minutes and covered such topics as alcohol abuse, moderate drinkers' rights to object to drunken behavior, police checklanes, probability and consequences of arrest for drunken driving, persuasion attempts with drinkers, etc. Two written questionnaires were distributed to quota samples of predominantly older adolescents (i.e., respondents in their late teens) and young adults, because the former were

excluded from the statewide survey on the basis of age, and both are known for their high rates of drunken driving and abusive drinking. One questionnaire focused exclusively on drunken driving (N = 165), while the other examined general drinking attitudes (N = 424). Finally, a special 10-page questionnaire was prepared for teenagers in the 8th and 10th grades from two school districts (N = 235) to explore their attitudes and opinions. No drunken driving questions were asked of these younger adolescents, since they are under the legal drinking age. These formative questionnaires were designed to supplement the limited range of questions posed to the statewide adult sample and to generate a variety of evidence on adolescents' alcohol attitudes and drinking behavior.

Twenty focus group sessions also were held during this time period. The interviews were conducted with five adult groups (aged 24-40), nine young adult groups (aged 18- 23), and six groups of adolescents (chosen from the 8th, 10th, and 12th grades). Participants were selected on the basis of age, sex, and drinking level and were categorized according to whether they were infrequent (i.e., 9 or less drinks per month) or frequent (i.e., 10 or more drinks per month) drinkers. Most group sessions were attended by eight to ten participants, who were encouraged to talk freely about their alcohol experiences and their opinions on alcohol-related topics.

Focus groups are used by market researchers to gain insight into consumers' perceptions of a product and to generate ideas for developing new product messages. The casual, spontaneous nature of the sessions creates a relaxed atmosphere where participants can answer questions openly and in their own words. Often times these informal discussions are used to illuminate findings from large-scale consumer surveys by suggesting reasons why respondents replied one way or another. The focus group questions were designed with this in mind, and their qualitative yield is helping campaign planners better understand the statistical data from the surveys so that messages can be created that reach audiences talk to them in their own language. To illustrate this point, selected findings from the statewide survey regarding young adults' attitudes toward discouraging friends from drinking excessively and their desire to learn communication intervention skills will be discussed, along with the corresponding focus group responses. Recommendations for message design will follow.

Only a slight majority of the statewide survey respondents under age 30 (53%) say they are "very likely" to discourage further drinking by a friend who has had too much. Twenty-four percent are "fairly likely" to do this, 12 percent are "not likely", and 11 percent say it "depends". Responses to a related item may explain why respondents in the "fairly likely" and "depends" categories are less than certain about their willingness to intervene

on a friend's behalf. When asked: "Do you wish you knew better ways to convince certain friends to stop drinking when they have had too much" 75% said "yes", with only 15% answering "no" and 10% saying their "friends do not drink too much." Clearly, then, most respondents desire to learn how to prevent their friends from drinking excessively and driving drunk. Self-efficacy theory tells us that the learning of such skills will increase one's confidence in his or her ability to dissuade a friend from overdrinking and driving drunk. Focus group data suggest strategies for communicating these persuasive skills.

Infrequent drinkers (i.e., non- and light drinkers) were asked to discuss their attitudes toward cautioning a friend: "Suppose you were with a friend who had too many drinks and was getting drunk. What would be your reaction ... would you verbally express disapproval, silently tolerate it, or not be bothered by it?" Young adult college students said the phrase "express disapproval" was too judgmental, and that they did not care to reprimand or lecture their friends on drinking. However, they did say they would express "concern" about their friend's excessive drinking, especially if that friend were going to drive. Most feel an obligation or responsibility to caution a friend about his or her drunken behavior; but this applies only to a friend, not a casual acquaintance or stranger.

A similar question asked: "Another idea for reducing excessive drinking is to aim messages at non-drinkers and

light drinkers, to convince them to express disapproval to those who drink too much -- right now most people don't openly object to drunkenness, even if they feel it is wrong. If messages recommend that responsible drinkers should express their views, do you think they would be more likely to do so?" According to infrequent-drinking college students, the use of televised public service announcements to encourage non-, light, and moderate drinkers to express their views is a promising strategy, because they are motivated to act and believe these messages will help create a supportive social environment for their persuasive efforts. They also see a parallel between this approach and recent progress made on the non-smokers' rights issue. However, encouragement is not enough, because this is not a common practice among their age group and they do not wish to offend their heavy-drinking friends by trying. They are afraid their persuasive efforts will fail because they are unsure of how to approach their friends and what to say to them. Their reluctance appears to be a result of weak self-efficacy beliefs. Therefore, while motivational messages that encourage responsible drinkers to express their views are likely to be attended to, they are unlikely to be put into practice if the requisite coping skills are not taught. Self-efficacy theory tells us why this is so: Even if a person believes in the adequacy of the coping response (i.e., response-outcome expectations are high), he or she will not perform the recommended behavior if

self-efficacy beliefs are weak. As one male said, "I think it would pave the way for light drinkers to be able to approach the heavy drinkers. I think that if a campaign were started where these type of drinkers (non and light) stand up for their protection, then when the heavy drinkers see it, and everybody's starting to realize that this is going around ... it makes it a lot easier for me as a light drinker to go up and say, 'Listen, you've had a little too much. Why don't you just take it easy for a while.'" Finally, this young woman's comment is typical of the enthusiasm expressed by most non- and light drinkers for the skills-training approach: "People would say, 'Gosh, I really could do that!'"

A possible message appeal for this campaign stratgey was suggested during focus group sessions with heavy drinkers. These drinkers were asked whether messages should stress moderation, emphasize the arguments against excessive drinking, show scenes from car accidents, or inform drinkers about the consequences of arrest for drunken driving. Most of these young adults said that PSAs that try to scare them with scenes from accidents and the testimonies of drunken drivers and their victims' families have little impact, because they simply do not think of themselves and their friends as drunken drivers. This belief is apparently based on their image of the drunken driver (i.e., an "older" person who drinks regularly to solve personal problems and endangers the lives of others by driving recklessly). These

college students believe that because their drunken driving occurs primarily on weekends, a time reserved for drinking and celebration, their behavior is different from that of the drunken driver's. One male put it this way, "When you think of a drunk driver, you think of someone who's causing an accident. You don't think of your friend as somebody running down little kids, or killing somebody in a car accident." Another male said, "I've seen on TV someone totally smashed, just weaving all over the road -- the 'Don't Drink And Drive' type of thing. I say, 'That's not me. I don't get that drunk.'" This female concurred: "I think people don't watch them (accident spot announcements). If they see it once, they're not going to watch it again. They're going to think, 'That isn't going to happen to me, because this is too disgusting.'"

Other heavy drinkers also make this point. They simply do not relate to messages that portray them as drunken drivers. Perhaps this is why past campaigns using this approach have been so ineffective at changing this target audience's drunken driving behavior. These drinkers believe messages that emphasize the <u>consequences of arrest</u> for drunken driving would be more personally relevant, because they do not wish to be humiliated and they realize their parents would have to cover the costs. This latter consequence is a major concern to these students, who say having to face their parents would be the worst part of the experience. Interestingly, although many of these heavy

drinkers know of someone who has been arrested, few are aware of the steep financial costs and of the severity and extent of the legal penalties. This lack of awareness is especially high among females. As one young woman stated, "I hate that bloody gore. But I have no idea what will happen if you get caught for drunk driving. They need to tell people." This male heavy drinker agreed: "People know they shouldn't drink and drive. But they don't know about the legal penalties and the financial, emotional, and psychological consequences." Another male added, "I think fear appeals are good if you tell them what will happen if they get nailed for drunk driving -- not trying to scare them to death. Tell them what's going to happen if they get stopped." This female stated it plainly: "The fear isn't of having an accident, but of getting caught and getting a ticket, and getting your license taken away for drunk driving."

Implications for Message Design

Non- and light drinkers also are of the opinion that messages should emphasize the consequences of arrest, rather than depict the grim scenes of drunken driving accidents and fatalities, because they realize this is of great concern to heavy drinkers. Therefore, it is quite likely that responsible drinkers would respond favorably to messages that teach them how to approach and tell their heavy-drinking friends about the consequences of arrest for

drunken driving -- not only because they believe in the relevancy of the appeal, but because this also would give them the skills to persuade their friends. Furthermore, their persuasive efforts are more likely to be appreciated than resented, since heavy drinkers say they would not be offended, as long as responsible drinkers "don't sound like they're passing judgment." The teaching of these skills during televised public service announcements would represent a creative application of the principles of self-efficacy theory to the problem of drunken driving among this age group by assuring audiences they can succeed if they apply what they have learned and persist in their efforts. Also, a controlled study of this type would provide basic researchers with data missing from the literature on the effects of verbal persuasion on efficacy expectations, and formative researchers with data on message factors that enhance beliefs of personal competency.

CHAPTER IV

METHOD

Subjects

Three-hundred undergraduate students enrolled in different sections of three courses in the Department of Advertising (i.e., media planning, consumer behavior, and public relations) served as subjects. All subjects received extra credit for their voluntary participation. One-hundred eighty-one females (60.3%) and 119 (39.7%) males participated in the research, of which 226 were advertising majors, 44 were communication majors, 11 were telecommunication majors, and 16 were from disciplines outside the College of Communication Arts and Sciences, such as business administration. The majority of subjects (199) were seniors; 96 were juniors, and five were sophomores. The mean age was 21.

Preparation of Stimulus Materials

The independent variables, persuasive efficacy information and mode of presentation of behavioral skills information, were operationalized by creating four televised public service announcements. These PSAs were produced as animatics and were approximately 60-seconds in length. An

animatic is an artist's rendering, scene by scene, of a television commercial, which is video taped and dubbed for sound. Motion is simulated by using different camera movements, such as zooms and pans. The resulting spot annoucement resembles a cartoon version of a live action commercial. Because animatics are relatively inexpensive to produce, they are used frequently by commercial testing houses to provide diagnostic information on product campaign messages prior to final production. The animatics produced for this study are part of the production-testing phase of the larger formative investigation of the drinking attitudes and behaviors of the Michigan public.

The decision to use animatics, instead of live actors, was dictated by both production and research design considerations. Animatics are quicker and cheaper to produce than live action commercials. They are quicker because they require only an artist, voice-over for the audio track, and a small production team, whereas live action requires auditions, rehearsals, props, selection of the location site, and hours of editing time. When time and budget considerations are of little importance, live action should be the preferred choice because it obviously is more realistic than line drawings. Both of these production factors placed constraints upon the present study. For example, the PSAs had to be produced during the summer, because this was the only time the artist and production team were available and data collection was scheduled for

fall term when students return to campus. Furthermore, student talent would have been hard to find during this time because most are on vacation, and even if they were not, the production costs of live action would have greatly exceeded the project's shoestring budget. Finally, animatics were chosen because there was little time for rehearsal and the use of untrained student actors could have resulted in a loss of control over the design of message stimuli, making the PSAs appear contrived and phony. On the other hand, close supervision of the artist's work ensured all message formats were similar except for the manipulation of the independent variable. The artist was a senior majoring in advertising and had received considerable training in graphic design and creative strategies. After several strategy sessions, it was decided that he would draw four storyboard executions of the study's independent variables.

A videotape for pretesting health public service announcements (National Cancer Institute, 1984) was obtained from the Department of Health and Human Services' Office of Cancer Communications. The tape contains a 15-minute program on wildlife conservation and a series of four product and service commercials, which appear between program segments. The first three messages are finished commercials, and are shown in the following order: All State, Xerox, and Amtrak. The fourth message is a rough-produced animatic of a Dial Soap commercial. Between the Xerox and Amtrak commercials, and directly following the

program, are blank spaces for inserting the test public service announcement.

It was feared that the mixing of animatics and finished commercials within the same exposure sequence would create a threat to the internal validity of the experiment, because subjects, having never seen an animatic, might be attracted to the test announcement for reasons of novelty, rather than for its content and visual appeal. In order to control for this potential threat, the artist was instructed to draw storyboads of the finished commercials so they could be videotaped as animatics. This was accomplished easily by freezing each scene in the commercial, allowing the artist to make sketches and notations of the visual content. The product and test announcement storyboards were videotaped by the production team, and the audio portions, which had been recorded on cassettes, were mixed with the video. Four tapes were produced, one for each different execution of the behavioral skills information.

Design and Procedure

A 1 X 4 posttest-only design was chosen because it was believed that pretesting of criterion variables would sensitize subjects to the purpose of the experiment. Research participants were assigned randomly to one of the four experimental groups, resulting in 75 subjects per group. Data were gathered over a two-week period during November, 1985. Each test session was attended by 10

subjects, who read a cover story explaining that they had been invited to watch a 15-minute documentary on wildlife conservation, and that they would be asked their opinions about the program at its end. Subjects then viewed the program entitled "A Second Chance," which was interrupted about halfway through by the four commercials and test PSA. Immediately following this exposure sequence, the tape was stopped, and subjects were told to open their questionnaires and answer all questions up to page three (see Appendix). The first page of the instrument was intended to distract subjects from the purpose of the experiment by asking questions only about the program's content. This page was discarded from the questionnaire, and no further use was made of it. Subsequent items measured subjects' knowledge of behavioral skills by asking them to recall all the messages they had just seen and to indicate what they said. After these items were completed, the program was resumed. Following its completion, subjects were exposed only to the test PSA, and answered the remaining questions, which included measures of subjects' efficacy expectations and behavioral intentions. Subjects were told a debriefing would be held at the end of the two-week, data-gathering period, and were encouraged to attend if they were interested in learning about the goals and procedures of the research.

Treatment Conditions

Subjects in the three skills-training conditions (i.e., approach-demonstration, approach-visualization, and approach-explanation groups) were exposed to the same persuasive efficacy information (i.e., information about how the spokesperson overcame his reluctance to discuss with his heavy-drinking friends their drinking and driving, and how easy this is now that he knows what to say and do), but to different executions of the behavioral skills information (i.e., information about how to approach (don't make it sound like you are putting him or her down) and what to say (the consequences of arrest) to a heavy-drinking friend. These PSAs emphasized ease of performance and the positive benefits of helping a friend. Subjects in the consequences-only control group were not exposed to persuasive efficacy information, and were told only about the consequences of arrest and not how to approach their friends. The critical differences among these treatment conditions are highlighted below.

The same script was used in each of the three skills-training conditions, only the visuals varied. A similar script and different visuals were used in the control condition. As mentioned, each skills-training message contained persuasive efficacy information and behavioral skills information. However, different message executions were used to present the skills-training information. For example, in the approach-demonstration condition, the skills

are modeled; that is, the spokesperson is shown approaching and discussing with his heavy-drinking friends the consequences of arrest. In the approach-visualization condition, behavior is not modeled; instead, each consequence is depicted on screen as it is mentioned by the spokesperson. In the approach-explanation condition, the spokesperson faces the camera and delivers the message without the aid of modeling or the visualization of consequences. In the consequences-only condition (the control message), the spokesperson mentions only the consequences of arrest. He does not relate how he overcame his reluctance to approach his heavy-drinking friends. To further clarify the differences among these treatment conditions, the complete script and visuals for the approach-demonstration condition will be given, so comparisons can be made between it and the other message conditions.

Approach-demonstration. This condition uses a combination of persuasive efficacy information and symbolic modeling (i.e., the demonstration) to influence efficacy expectations. Subjects assigned to the approach-demonstration condition initially observed a college student moderate drinker tell how they can dissuade their friends from driving drunk if they use the proper approach behavior and persuasive arguments. He mentions how he used to worry that he would offend his friends if he talked to them about their drunken driving, because he never knew exactly what to

say or how to say it. But all that has changed since he learned about the new drunken driving laws, and started telling his friends about them. He says he has noticed other moderate drinkers doing the same. He tells how easy it is to talk to his friends because he doesn't make it sound like he is putting them down, and that they appreciate his concern. In the next few scenes, he is pictured approaching a male and female friend in a casual manner, and engaging in friendly conversation with them about the legal, financial, and psychological consequences of arrest for drunken driving. He tells the couple that if arrested they will have to pay a fine, which could be as much as $500, pay the towing fee for their car, pay court costs, hire an attorney, lose their license, attend sobriety classes, and suffer the humiliation of telling their parents, possibly a future employer. His friends are surprised to learn of the extent and severity of these consequences and thank him for his concern. The model then faces the camera and reassures the audience that they too can succeed, as long as they know what to say and how to say it. The next scene shows the model and his friends arm-in-arm, as he advises the audience not to be surprised if their friends thank them. In the last scene, the camera cuts to a close-up of the slogan: "A Friend's Drunk Driving Is Your Business."

The script and visuals for this message are as follows: The PSA opens with a medium shot (from the waist up) of the male spokesperson (i.e., a college student moderate

drinker) at a party. Several students are pictured in the background serving themselves drinks at a table. A banner hangs from the ceiling saying, "Go State." Voice-Over (VO): "I don't drink much. But I do like to have a couple of drinks when I go out. You know, everything in moderation." Scene two cuts to a close-up of the spokesperson as he says, "But one thing that really bothers me is when my friends drive drunk." Scene three cuts to a medium shot of the spokesperson, as he points with his thumb over his shoulder to his friends behind him and says, "And I used to feel a bit uneasy talking to them about it. Because I never knew exactly what to say and how to say it. So I worried I'd offend them." Scene four cuts to a medium shot of the spokesperson with his hands in the pockets of his pants and his friends conversing in the background as he says, "Then I learned about the new drunk driving laws and I started telling my friends about them." Scene five cuts to a medium shot of the spokesperson with the "Go State" banner in the background, as he says, "And pretty soon other moderate drinkers were doing the same." Scene six cuts to a medium shot of the spokesperson gesturing with his hands to reinforce the point that it is easy to perform the recommended behavior. He says, "It's <u>easy</u>. Because when I talk to my friends, I don't make it sound like I'm putting them down." Scene seven shows the spokesperson approaching a young man and woman. He says, "I just say, 'Look, I know you think you can handle the road. But that's not the

point.' Scene eight cuts to a close-up of the spokesperson facing his friends. His face and the backs of their heads are pictured, as he says, 'If you get caught, it's gonna cost you a lot more than the embarrassment of spending time in jail and loosing your license.' Scene nine cuts to a reaction shot of the man and woman. They are visibly shaken from learning about these consequences. The spokesperson continues, 'You'll have to pay a fine, which can be as much as $500. And that's just the beginning. You'll also have to pay the towing fee for your car, and for the sobriety classes they make you attend. And you'll probably need an attorney.' Scene ten is the opposite of scene eight. In this scene, the solemn faces of the man and woman are seen in close-up, while the back of the spokesperson's head is pictured. He says, 'But the worst part is the humiliation of having to tell your parents ... maybe even a future employer.'" Scene eleven cuts to a medium shot of the man and woman as they provide positive reinforcement for the spokesperson's efforts by saying, "Thanks for your concern." Scene twelve cuts back to scene six as the spokesperson says, "So you see there are <u>lots</u> of reasons to tell your friends not to drive drunk. But the best reason of all is that you're doing something nice for your friends. And it's <u>easy</u>, as long as you know what to say and how to say it." Scene thirteen shows the three friends arm-in-arm, as the spokesperson says, "Don't be surprised if your friends even thank you." The PSA closes with a close-up of the slogan:

"A Friend's Drunk Driving Is Your Business!"

Approach-visualization. Subjects in this condition were exposed to the same message as those in the modeling condition, but instead of watching a demonstration of the advocated behavior with positive results, they viewed a series of scenes depicting the consequences of arrest for drunken driving. The moderate drinker is off camera as he mentions each consequence as it appears on screen. For example, as the spokesperson mentions the financial penalty, a stack of five $100 bills -- the fine for drunken driving -- flashes on screen, followed by scenes of a tow truck pulling an impounded car, an arrested drunken driver standing before a judge, a young man and woman attending a sobriety class, etc. This sequence continues until all nine consequences are mentioned. The remaining scenes are identical to those used in the approach-demonstration condition beginning with scene twelve (where the spokesperson is seen gesturing with his hands to reinforce the ease-of-performance point), except scene thirteen, which pictures the friends arm-in-arm, is replaced by scene four -- the scene that shows the spokesperson with his hands in his pockets.

Approach-explanation. Subjects in this condition received the same message as those in the demonstration and visualization conditions, but instead of attending to the modeling and visualization scenes, they watched the spokesperson explain how to approach and what to say to a

heavy-drinking friend. Scenes one through six were repeated during this sequence, but not in order, and some scenes were used twice. Scenes twelve, thirteen, and fourteen were the same as those used in the approach-visualization condition.

Consequences-only. Subjects in this condition served in what the psychotherapy literature refers to as an attention-placebo control group. Subjects in an attention-placebo control group "undergo the same or very similar activities as recipients of the program under test, but do not receive the actual components of the program that are presumed or hypothesized to cause changes" (Flay & Best, pp. 50-51, 1982). Therefore, subjects in this group observed the spokesperson merely enumerate the various consequences without learning how he overcame his reluctance through expectations of successful performance. This PSA used a different setting than the skills-training PSAs. Instead of a party setting, the spokesperson is seen in his bedroom preparing to go to a party. As he delivers the message, he is pictured combing his hair, straigthening his tie, tying his shoes, putting on his coat, etc.

The script and visuals for this message are as follows: The PSA opens with a medium shot of the spokesperson in his bedroom. He is dressed in a white tee shirt and is combing his hair at a dresser. On the wall behind him, is a pennant which says: "State." Voice Over (VO): "I don't drink much. But I do like to have a couple of drinks when I go out. You know, everything in moderation." Scene two cuts to a medium

shot of him at the dresser, as he puts the comb down and says, "But one thing that really bothers me is when my friends drive drunk." Scene three cuts to a medium shot of him at the dresser gesturing with his hands, as in the skills-training messages, as he says, "And when you think about all that could happen to them, it's hardly worth the risk." Scene four cuts to a medium shot of him at the dresser gesturing with his hands in a similar fashion, as he says, "Because if they're arrested, it's gonna cost them a lot more than time in jail and their licenses." Scene five cuts to him at the dresser putting on his shirt, as he says, "They'll have to pay a fine, which can be as much as $500. And that's just the beginning." Scene six cuts to a medium shot of him straightening his tie, as he says, "They'll also have to pay the towing fee for their car ... and for the court costs ... <u>even</u> for the sobriety classes. And they'll probably need an attorney." Scene seven cuts to a medium shot of him at the dresser with his shirt and tie on, as he says, "But the worst part is the humiliation of having to tell their parents ... maybe even a future employer." Scene eight cuts to a shot of the spokesperson sitting on his bed tying his shoe, as he says, "So you see there are lots of good reasons why your friends shouldn't drive drunk. And many of them probably wouldn't if they only knew what you know." Scene nine cuts to a a shot of the spokesperson putting on his coat, as he says, "Now wouldn't that be nice?" Scene ten shows the slogan in close-up, as the

whether they would perform a series of increasingly threatening tasks with a feared object, such as a snake. For each task chosen, subjects rate the strength of their efficacy expectations on a probability scale of varying degrees of certainty. Subjects then rate the magnitude (i.e., level) and strength of their expectations of successful performance with an unfamiliar snake and a snake of the same variety as used during treatment. Scores on these measures are summed into an index of the generality of efficacy expectations. The measures are administered before and after treatment.

Efficacy Expectations. In the present study, different operational definitions of the magnitude, strength, and generality dimensions of efficacy expectations are used. Subjects were not asked whether they would perform a series of fear-provoking tasks; instead, they indicated the probability of being able to perform only one task: dissuade a friend or relative their own age from driving drunk. This scale measured both the magnitude and strength of subjects' efficacy expectations, because the end points of 0 and 100% on a probability scale are analogous to the nominal categories of "would not" and "would" and numbers between these extremes reflect varying degrees of certainty. Given this measurement procedure, the strength of efficacy expectations will be treated as part of the magnitude dimension, and only the magnitude of efficacy expectations will be discussed in the Results chapters. Because

spokesperson says, "A Friend's Drunk Driving Is Your Business!"

Dependent Measures

Knowledge of Behavioral Skills. Two open-ended questions measured subjects' knowledge of skills. The first asked them to recall the recommended approach behavior (e.g., approach them in a casual manner and don't act like you are putting them down), and the second asked them to list as many of the consequences (legal, financial, and psychological) of drunken driving as they could remember. Subjects were awarded one point for recalling the correct approach behavior and for each of the nine consequences they remembered. The total number of points awarded represented a subject's knowledge score.

Knowledge of approach behavior was measured as follows: "In the drunken driving public service announcement you just saw, it was recommended that you tell your friend(s) they should not drive drunk. According to this announcement, how should you approach your friend(s)?" A similar question elicited knowledge of consequences: "According to this announcement, what should you tell your friend(s) about the consequences of arrest for drunken driving? Please list all the consequences you remember."

In tests of self-efficacy theory (Bandura, 1977b; Bandura et al., 1977c), magnitude of efficacy expectations is measured at the nominal level by asking phobic subjects

magnitude is based on a person's perception of his or her ability to perform difficult tasks, the magnitude and strength dimensions were measured jointly on two scales: perceived capability and perceived task difficulty.

To complete the perceived capability measure, subjects were asked to indicate how certain they are of their abilities to tell friends and relatives their own age not to drive drunk by using a number from 0 to 100. scale. The instructions for this measure read as follows:

> If you feel certain that you are capable of telling these people, write 100. If you think there is a 50/50 chance of your being capable, write 50. If you think there is more than a 50/50 chance, but you are not certain that you would tell these people, choose a number between 50 and 100. The more certain you are of your capability, the closer your answer should be to 100. If you feel certain you are not capable of telling these people, write 0 (zero). If you feel there's less than a 50/50 chance, but you are not certain that you would not tell these people, choose a number between 0 and 50. The less capable you believe you are, the closer your answer should be to 0.

To complete the measure of perceived task difficulty, subjects were told they could use any number they wished to indicate how difficult it would be for them to tell a friend not to drive drunk, and that while 0 was the lowest number, there was no highest number. For example:

> If it would not at all be difficult, write 0 (zero). If it would be moderately difficult, write 100. If it would be twice as difficult as moderately, write 200. If it would be half as difficult as moderately, rate it as 50. Use any number between 0 and 100 if you think it would be less than moderately difficult, and any number greater than 100 if you think it would be more than moderately difficult. While 0 is the lowest number you can use, there is no "highest number."

Because the correlation between the capability and difficulty scales was a weak .33, the items will be treated separately in the analyses.

The generality of efficacy expectations was measured by asking subjects how certain they were of their abilities to tell friends and relatives older than themselves not to drive drunk. Three age groups were used: 1 to 10, 10 to 20, and 20 or more years older. A fourth item measured how certain subjects were of their abilities to tell a stranger their own age not to drive drunk. Subjects indicated their certainty on the same scale of perceived capability used to measure the magnitude and strength of their efficacy expectations. A test of the reliability of these measures revealed that eliminating the fourth item increased the reliability of the index from an alpha of .28097 to .93872. Therefore, the first three items were used to construct an index of the generality of efficacy expectations.

Behavioral Intention. Subjects' behavioral intentions were measured by having them indicate on a scale of 0 to 100% their probability of telling a friend not to drive drunk the next time they had the chance. Instructions were similar to those for the perceived capability scale:

> ... if you are absolutely certain that you do intend to tell a friend, write 100. If you think there is a 50/50 chance that you will tell a friend, write 50. If you think there is more than a 50/50 chance, but you are not certain that you will tell a friend, choose a number between 50 and 100. The more certain you are that you will tell a friend, the closer your answer should be to 100. If you are absolutely certain that you will not tell a friend, write 0. If you feel there's less than a

50/50 chance, but you are not certain that you would not tell a friend, choose a number between 0 and 50. The less likely you are to tell a friend, the closer your answer should be to 0.

CHAPTER V

RESULTS FOR THE OVERALL SAMPLE

The results are presented in two chapters. This chapter reports findings for the entire sample (i.e., non-, light, moderate, and heavy drinkers). The next chapter reports findings for only moderate drinkers, the primary target audience for the public service announcements.

(Non-, light, and heavy drinkers were included in the sample because there is no commonly agreed upon definition of moderate drinking shared by this age group. In the absence of such a universal definition, it is possible that light and heavy drinkers consider themselves moderate drinkers. It also is possible that non-drinkers might identify with the moderate drinker spokesperson in the PSAs, because he espouses a drinking philosophy similar to theirs. Hence, we included in our sample all levels of drinkers. In our later analyses, we restrict our attention to those who fit <u>our</u> definition of a "moderate drinker.")

The findings are discussed in the following order: (a) validation of the manipulation checks on knowledge of approach behavior and consequences of arrest, (b) the influence of the three skills-training messages on the magnitude and generality of efficacy expectations versus

that of the control, (c) the mediating influence of knowledge of behavioral skills on efficacy expectations, (d) the influence of the skills-training messages on behavioral intentions, (e) the mediating influence of efficacy expectations on behavioral intentions, and (f) the influence of alternative message executions on efficacy expectations and behavioral intentions. (The approach-demonstration, approach-visualization, and approach-explanation conditions are collectively referred to as skills training conditions. The consequences-only condition is referred to as the control condition).

Manipulation Checks

Knowledge of Approach Behavior. Unaided recall of the recommended approach behavior was used to determine whether there were perceived differences in the experimental messages. It was expected that recall of approach behavior would be ordered for the four conditions, with subjects in the approach-demonstration condition recalling the most and those in the consequences-only condition the least. Sixty-one percent of the subjects in the approach-demonstration condition answered the open-ended item correctly, as compared to 52% of those in the approach-visualization condition and 45.9% in the approach-explanation condition. Subjects in the control condition were not told how to approach their excessive-drinking friends; consequently, only 6.8% could recall the recommended behavior. The

results of this ordered effect are presented in Table 1, which indicates an association between the experimental conditions and recall of approach behavior, X^2 = (3, N = 297) = 52.17, p <.001.

Knowledge of Consequences. Analysis of variance was performed on subjects' unaided recall of the consequences of arrest for drunken driving to validate the visualization

TABLE 1

Unaided Recall of Approach Behavior

UNAIDED RECALL	CONDITION			
	Approach-Demonstration	Approach-Visualization	Approach-Explanation	Consequences-Only
Correct	61.3% (46)	52% (39)	45.9% (34)	6.8% (5)
Incorrect	38.7 (29)	48 (36)	54.1 (40)	93.2 (68)
N = 297	(n = 75)	(n = 75)	(n = 74)	(n = 73)

Note: The number of subjects for each entry is shown in parentheses.
X^2 = 52.17, df = 3, p <.001

Table 2

Means, Standard Deviations, and Sample Sizes for Knowledge of Consequences According to Treatment Condition

CONDITION	MEAN	STANDARD DEVIATION	N
Approach-Demonstration	5.8	1.3	75
Approach-Visualization	6.2	1.4	75
Approach-Explanation	5.5	1.5	75
Consequences-Only	5.8	1.4	75
			N = 300

Table 3

ANOVA Summary Table for Knowledge of Consequences

SOURCE	SS	df	MS	F	
Between Groups	14.8367	3	4.9456	2.298	NS

manipulation. Subjects were asked: "According to this announcement, what should you tell your friend(s) about the consequences of arrest for drunken driving? Please list all the consequences you remember." Subjects were awarded one point for each of the nine consequences they correctly recalled. Table 2 shows that mean recall scores were higher for subjects in the persuasion-visualization condition (M =

6.2, SD = 1.4) than for those in the persuasion-modeling and control conditions (M = 5.8, SD = 1.3; M = 5.8, SD = 1.4, respectively), and the approach-explanation condition (M = 5.5, SD = 1.5). However, the four conditions did not differ significantly on knowledge of consequences, although there was a trend toward significance (p = .07) (see Table 3).

Data Transformations

Measures of the magnitude of efficacy expectations yielded positively skewed distributions for the perceived capability and difficulty scales. Two transformations were conducted to normalize the distributions of these variables and to reduce heteroscedasticity. A logarithmic transformation was performed on data for the perceived difficulty scale. The initial distribution for this scale produced a skew of 16.781. The resulting log transformation succeeded in reducing the skew to .569. (Following Fink, Kaplowitz, and Bauer (1983), all values larger than 10,000 on the perceiveddifficulty scale were coded to 10,000 before the transformation was performed, in order to reduce outliers.)

To normalize the distribution of the perceived capability scale, each value was raised to the third power. This resulted in reducing the skew of this variable from -2.038 to -.800. Because the skews of the transformed data are between + and - 1.00, the distributions of the perceived difficulty and capability scales were judged to conform to

the assumptions of normality and homoscedasticity, necessary criteria for hypothesis testing. Using analysis of variance, measures of the generality of efficacy expectations and behavioral intentions yielded acceptable skewness values of -.636 and -1.22, respectively.

Hypotheses 1a and 1b

Planned comparisons among treatment means[2] were used to test hypotheses 1a and 1b, which predicted the three skills-training messages (i.e., the approach-demonstration, approach-visualization, and approach-explanation conditions) will produce efficacy expectations of greater magnitude and generality, respectively, than will the the control message (i.e., the consequences-only condition). The means and confidence intervals for each dependent variable according to treatment condition are presented in Table 4. No support for these hypotheses was found. Subjects in the three skills-training conditions did not differ significantly from those in the control condition on either measure of the magnitude of their efficacy expectations: $t(296) = -1.04$, $p = .14$, for perceived capability; or on the generality of their expectations, $t(296) = .40$, $p = .34$ (see Table 5).

Hypotheses 2a and 2b

Partial correlation analysis was used to test hypotheses 2a and 2b, which predicted the impact of the

Table 4

Means and Confidence Intervals for Each Dependent Variable According to Treatment Condition

	Skills-Training Conditions			Control
Dependent Variable	Approach-Demonstration	Approach-Visualization	Approach-Expectation	Consequences-Only
Magnitude of[a] Efficacy Expectations (Difficulty Scale)	1339.43 (970.60 , 1849.75)	685.39 (486.09 , 966.40)	1141.39 (839.26 , 1552.30)	1236.45 (909.15 , 1681.57)
Magnitude of[b] Efficacy Expectations (Capability Scale)	91.88 (89.19 , 94.42)	89.09 (86.03 , 91.96)	88.58 (85.39 , 91.56)	91.28 (88.75 , 93.67)
Generality of Efficacy Expectations	204.46 (188.10 , 220.83)	198.78 (181.72 , 215.85)	186.65 (170.17 , 203.13)	192.69 (176.01 , 209.37)
Behavioral Intentions	87.52 (83.76 , 91.27)	68.24 (61.77 , 74.71)	74.41 (68.59 , 80.23)	83.13 (78.54 , 87.72)

a. Transformed data: If a subject's response were X, this was transformed to $X = \ln (X + 5)$. Column means are anti-logs of transformed scale means.

b. Transformed data: If a subject's response were X, this was transformed to X^3. Column means are the cube root of the transformed mean. Standard deviations are shown in parentheses below means.

c. All confidence intervals were computed at the 95% level and are shown in parentheses below means.

Table 5

Summary of Intergroup Differences for

Each Dependent Variable -- t Values

Dependent Variable	AD, AV, AE vs. CO	AD vs. AV	AD vs. AE	AD vs. CO	AV vs. AE	AV vs. CO	AE vs. CO
Magnitude of Efficacy Expectations (Difficulty Scale)	-1.04	2.89[a]	1.67[a]	0.34	-2.20[a]	-2.55[a]	-0.34
Magnitude of Efficacy Expectations (Capability Scale)	-0.87	1.42	0.69	0.37	0.24	-1.1	-1.35
Generality of Efficacy Expectations	0.4	0.48	1.5	1.02	0.99	0.51	-0.51
Behavioral Intentions	-2.10[a]	5.20[a]	3.51[a]	1.20[a]	-1.65[a]	-4.04[a]	-2.39[a]

Note: AD = Approach-Demonstration; AV = Approach-Visualization; AE = Approach-Explanation; CO = Consequences-Only

a. $p < .05$ (one-tailed)

skills-training messages on the magnitude (2a) and generality (2b) of efficacy expectations operates through increased knowledge of behavioral skills. The prediction assumes a positive association between membership in the three skills-training conditions and efficacy expectations and that this association is largely attributable to knowledge of behavioral skills. Categories of the independent variable were dummy coded so that a comparison of the three skills-training conditions (coded as 1) and the control condition (coded as 0) could be made. Table 6 presents the results of the partial correlation analysis. As indicated, neither measure of the magnitude of efficacy expectations was was associated with exposure to skills-training information: $r(295) = -.06$, $p = .13$, for the perceived difficulty scale; and $r(295) = -.06$, $p = .14$, for the perceived capability scale. The association remained nonsignificant when knowledge of skills was controlled: $r(294) = -.06$, $p = .12$, for the perceived difficulty scale; and $r(295) = -.05$, $p = .16$, for the perceived capability scale. Therefore, hypothesis 2a was not supported. Neither measure of the magnitude of efficacy expectations was associated with scores on the knowledge of skills index: $r(295) = .02$, $p = .30$, for the difficulty scale; and $r(295) = -.03$, $p = .28$, for the capability scale. However, exposure to skills-training information and knowledge of skills were significantly and positively

Table 6

Zero-Order and Partial Correlations of Exposure to Skills-Training Information, Magnitude and Generality of Efficacy Expectations, and Knowledge of Skills

	Exposure	Magnitude		Generality
		PD	PC	
Magnitude				
PD	-.06 (-.06)			
PC	-.06 (-.05)			
Generality	.02 (.01)			
Knowledge of Skills	.12[a]	.02	-.03	.05

Note: PD = Perceived Difficulty Scale; PC = Perceived Capability Scale. A positive correlation indicates greater association for subjects in the three skills-training conditions (i.e., approach-demonstration, approach-visualization, and approach-explanation) than for those in the control condition (i.e., consequences-only), and vice versa. Figures in parentheses are correlations with the effect of knowledge of skills partialled out.

a. $p < .05$

associated, $r(295) = .12$, $p<.05$, although the relationship was not substantial.

Hypothesis 2b also was not supported. Exposure to skills-training information and subjects' generality of efficacy expectations were unrelated, $r(295) = .02$, $p = .35$. The association remained nonsignificant when knowledge of skills was controlled, $r(294) = .01$, $p = .39$. The generality of efficacy expectations and knowledge of behavioral skills also were unrelated, $r(295) = .05$, $p = .18$.

Hypothesis 3

Hypothesis three predicted that the skills-training messages will have a greater effect on behavioral intentions than will the control message. This hypothesis was not supported. Behavioral intentions were significantly weaker for subjects in the three skills-training conditions than for those in the control, $t(295) = -2.10$, $p < .05$ (see Table 3). As shown in Table 4, behavioral intentions were highest for subjects in the approach-demonstration condition ($M = 87.5$, $SD = 16.3$). Subjects in the control condition recorded the second highest intentions ($M = 83.1$, SD 19.9), followed by those in the approach-explanation condition ($M = 74.4$, $SD = 25.2$), and those in the approach-visualization condition ($M = 68.2$, $SD = 27.9$).

Hypotheses 4a and 4b

Partial correlation analysis was used to test hypotheses 4a and 4b, which predicted the impact of the skills-training messages on behavioral intentions operates through increased magnitude (4a) and generality (4b) of efficacy expectations. The prediction assumes that membership in the three skills-training conditions is positively associated with behavioral intentions and that this association can be explained by the magnitude and generaltiy of efficacy expectations. The same dummy coding scheme was used as before to compare the skills-training conditions with the control. As Table 7 indicates, exposure to the three skills-training messages was significantly and inversely related to behavioral intentions, $r(297) = -.11$, $p < .05$, indicating that subjects in the three skills-training conditions had, on the average, lower behavioral intentions than did those in the control condition. However, given the weak size of this correlation for a sample of $N = 300$, the effect should be considered trivial. Controlling for the magnitude of efficacy expectations resulted in the same coefficient for both measures and weakened the relationship only slightly, $r(296) = -.10$, $p < .05$. Therefore, hypothesis 4a was not supported.

Behavioral intentions and magnitude of efficacy expectations (as measured on the perceived difficulty scale) were significantly and positively related, $r(297) = .18$, $p < .05$, although the strength of the association was weak.

Table 7

Zero-Order and Partial Correlations of Exposure to Skills-Training Information, Behavioral Intentions, and the Magnitude and Generality of Efficacy Expectations

	Exposure	Magnitude PD	Magnitude PC	Generality
Behavioral Intentions	-.11[a] (-.10[b]) (-.13[c])	.18	.42	.36

Note: PD = Perceived Difficulty Scale; PC = Perceived Capability Scale. A positive correlation indicates greater association for subjects in the three skills-training conditions (i.e., approach-demonstration, approach-visualization, and approach-explanation) than for those in the control condition and vice versa.

a. All correlations are significant at or beyond $p < .05$.

b. Controlling for the magnitude of efficacy expectations (both measures)

c. Controlling for the generality of efficacy expectations

Behavioral intentions and the magnitude of efficacy expectations (as measured on the perceived capability scale) also were significantly and positively correlated, $r(297) = .42$, $p < .05$.

Hypothesis 4b also was not supported. Controlling for the influence of the generality of efficacy expectations on behavioral intentions did little to change the zero-order correlation of -.11 between exposure to the skills-training messages and behavioral intentions, although it did increase slightly and become statistically significant, $r(296) = -.13$, $p < .05$. Behavioral intentions and generality were significantly and positively related: $r(297) = .36$, $p < .05$.

Hypotheses 5a and 5b

Hypothesis 5a predicted the following rank ordering from highest to lowest for the magnitude of efficacy expectations: approach-demonstration, approach-visualization, approach-explanation, and consequences-only. The results of planned comparisons among treatment conditions did not support this prediction. Table 5 presents the results of these contrasts. The magnitude of efficacy expectations were greater for subjects in the approach-demonstration condition than for those in the approach-visualization condition on the perceived difficulty scale, $t(296) = 2.89$, $p < .05$, but not on the perceived capability scale, although there was a trend toward significance, $t(296) = 1.42$, $p = .07$. The magnitude of efficacy expectations also were

greater for subjects in the approach-demonstration condition than for those in the approach-explanation condition on the perceived capability scale, $t(296) = 1.67$, $p < .05$, but not on the perceived difficulty scale, $t(296) = .69$, $p = .24$. Subjects in the approach-demonstration condition did not differ significantly from those in the consequences-only condition on either measure of the magnitude of their efficacy expectations, $t(296) = .34$, $p = .36$, for the perceived difficulty scale and $t(296) = .31$, $p = .37$, for the perceived capability scale.

Visualization of the consequences of arrest for drunken driving did not enhance the magnitude of efficacy expectations. Subjects in the approach-visualization condition demonstrated significantly weaker expectations than did those in the approach-explanation condition on the perceived difficulty scale, $t(296) = -2.20$, $p < .05$. However, the two conditions did not differ on the perceived capability scale, $t(296) = .24$, $p = .40$. A comparison of treatment effects between the approach-visualization and control conditions yielded similar results. The magnitude of efficacy expectations of subjects in the approach-visualization condition were significantly weaker than the expectations of those in the control condition on the perceived difficulty scale, $t(296) = -2.55$, $p < .05$. Neither condition differed on the perceived capability scale, $t(296) = -1.10$, $p = .13$. Finally, subjects in the approach-explanation condition did not differ significantly

from those in the control condition on either measure of the magnitude of efficacy expectations: $t(296) = -.34$, $p = .36$, for the perceived difficulty scale, and $t(296) = -1.35$, $p = .08$, for the perceived capability scale, although there was a trend toward significance.

The rank order predicted for the magnitude of efficacy expectations (i.e., approach-demonstration, approach-visualization, approach-explanation, and consequences-only) also was expected for the generality of expectations. However, none of the conditions differed significantly on any of the contrasts (see Table 5). Therefore, hypothesis 5b was not supported.

Hypothesis 6

Hypothesis 6 predicted the following rank ordering on behavioralal intentions: approach-demonstration, approach-demonstration, approach-explanation, and consequences-only. Although the results of these contrasts did not support the hypothesis (see Table 5), the behavioral intentions of subjects in the approach-demonstration condition were significantly greater than for those in the approach-visualization condition, $t(295) = 5.20$, $p < .05$, and the approach-explanation condition, $t(295) = 3.51$, $p < .05$. Subjects in the approach-demonstration condition and those in the control condition did not differ significantly on their behavioral intentions, $t(295) = 1.20$, $p = .10$,

although there was a trend toward significance in the direction of the former.

The behavioral intentions of subjects in the approach-visualization condition were significantly weaker than of those in the approach-explanation condition, $t(295) = -1.65$, $p < .05$, and of those in the control, $t(295) = -4.04$, $p < .05$. Finally, subjects in the approach-explanation condition demonstrated significantly weaker behavioral intentions than did those in the control condition, $t(295) = -2.37$, $p < .05$.

To summarize, no support was found for hypotheses 1a and 1b, which predicted the three skills-training messages would produce efficacy expectations of greater magnitude and generality, respectively, than would the control message. Subjects in the skills-training conditions did not differ significantly from those in the control condition. Hypotheses 2a and 2b, which predicted the impact of the skills-training messages on the magnitude (2a) and generality (2b) dimensions of self-efficacy operates through increased knowledge of behavioral skills, also failed to receive support. No association was found between exposure to skills-training information and either dimension of self-efficacy. Hypothesis three was not supported. This prediction assumed the behavioral intentions of subjects in the skills-training conditions would be greater than those of subjects in the control condition. The opposite was found; the behavioral intentions of subjects in the control

condition were significantly greater than for those in the skills-training conditions, although subjects in the approach-demonstration condition registered the highest mean.

Hypotheses 4a and 4b, which predicted skills-training information influences behavioral intentions through the influence of self-efficacy beliefs, were not confirmed. No substantial relationship was found between exposure to the skills-training messages or the control message and behavioral intentions. Therefore, controlling for the effects of the magnitude and generality of efficacy expectations was inconsequential. Hypotheses 5a and 5b also were rejected. The predicted rank-ordering of approach-demonstration, approach visualization, approach-explanation, and consequences-only on the magnitude (5a) and generality (5b) dimensions did not obtain. Finally, hypothesis 6, which predicted the same rank-ordering for behavioral intentions, was not confirmed.

NOTES

1. Following McCarty, Morrison, and Mills (1983), subjects were classified as non-drinkers (drinking less than 1 drink per month), light drinkers (1 - 10 drinks per month), moderate drinkers (11 - 55 drinks per month), or heavy drinkers (56 or more drinks per month).

2. A major problem associated with conducting a number of planned comparisons is the increased risk of making a type 1 error. Keppel (1982, p. 147) states that most researchers agree that the use of nonorthogonal comparisons is acceptable as long as they are theoretically meaningful and they range only slightly above the number of treatment groups minus one (a - 1), or the number of degrees of freedom for the treatment source of variance. For the present study, this would mean only three orthogonal comparisons could be made, although four or five comparisons would probably be within the acceptable range. Given that seven comparisons were made, the approximate "familywise" error rate is .20, meaning that there is a 20% chance of making a type 1 error, instead of a 5% chance. Had all or most of the comparisons been significant, this would have presented a serious problem for the present investigation, in terms of interpreting the results. In such instances, Keppel (1982, p. 148) recommends the use of a "modified Bonferroni test," which controls for the familywise error rate.

CHAPTER VI

RESULTS OF TESTS OF THE HYPOTHESES FOR MODERATE DRINKERS

This chapter reports findings for the primary target audience for the public service announcements -- moderate drinkers (N = 161). This audience was chosen because the majority of infrequent drinkers said during focus group sessions that they favored a campaign strategy that taught responsible drinkers how to tactfully approach and impress upon their heavy-drinking friends why they should not drive drunk. Results of tests of the hypotheses appear in the same order as in the previous chapter. The two measures of the magnitude of self-efficacy were subjected to the same data transformations as reported earlier. The approach-demonstration, approach-visualization, and approach-explanation conditions are again referred to as skills-training conditions, and the consequences-only condition as the control.

Hypotheses 1a and 1b

Planned comparisons among treatment means were used to test hypotheses 1a and 1b, which predicted the three skills-training messages will produce efficacy expectations of greater magnitude and generality, respectively, than will

the control message. The means and confidence intervals for each dependent variable according to treatment condition are shown in Table 8. As with the overall sample, these hypotheses were not supported. Moderate drinkers in the three skills-training conditions did not differ significantly from those in the control condition on either measure of the magnitude of their efficacy expectations: $t(161) = -.16$, $p = .43$, for the perceived difficulty scale; and $t(161) = -.42$, $p = .33$, for the perceived capability scale. Nor did they differ on the generality of their expectations: $t(161) = .53$, $p = .29$ (see Table 9).

Hypotheses 2a and 2b

Partial correlation analysis was used to test hypotheses 2a and 2b, which predicted the impact of the skills-training messages on the magitude (2a) and generality (2b) of efficacy expectations operates through increased knowledge of behavioral skills. As before, categories of the independent variable were dummy coded so a comparison of moderate drinkers in the three skills-training conditions (coded as 1) and those in the control (coded as 0) could be made. Table 9 shows the results of this partial correlation analysis for moderate drinkers. No support for these hypotheses was found. Neither measure of the magnitude of efficacy expectations was associated with exposure to skills-training information: $r(159) = .01$, $p = .42$, for the perceived difficulty scale; and $r(159) = .03$, $p = .33$, for

Table 8

Means and Confidence Intervals for Each Dependent Variable for

Moderate Drinkers According to Treatment Condition

Dependent Variable	Approach-Demonstration	Approach-Visualization	Approach-Expectation	Consequences-Only
Magnitude of[a] Efficacy Expectations (Difficulty Scale)	1540.71 (1034.03 , 2295.66)	492.75 (304.17 , 798.25)	1022.49 (672.69 , 1554.18)	880.07 (553.50 , 1399.30)
Magnitude of[b] Efficacy Expectations (Capability Scale)	92.82 (89.64 , 95.80)	88.28 (83.76 , 92.40)	88.80 (84.32 , 92.88)	89.03 (84.81 , 92.90)
Generality of Efficacy Expectations	203.00 (183.34 , 222.66)	185.95 (161.34 , 210.57)	185.09 (162.90 , 207.29)	198.93 (173.82 , 224.06)
Behavioral Intentions	87.00 (81.85 , 92.15)	63.45 (54.26 , 72.64)	75.59 (67.62 , 83.57)	81.18 (73.77 , 88.59)

a. Transformed data: If a subject's response were X, this was transformed to X = ln (X + 5). Column means are anti-logs of transformed scale means.

b. Transformed data: If a subject's response were X, this was transformed to X^3. Column means are the cube root of the transformed mean. Standard deviations are shown in parentheses below means.

c. All confidence intervals were computed at the 95% level and are shown in parentheses below means.

Table 9

Summary of Intergroup Differences for

Each Dependent Variable for Moderate Drinkers -- t Values

Dependent Variable	AD, AV, AE vs. CO	AD vs. AV	AD vs. AE	AD vs. CO	AV vs. AE	AV vs. CO	AE vs. CO
Magnitude of Efficacy Expectations (Difficulty Scale)	-0.16	3.67[a]	1.31[a]	1.68[a]	-2.32[a]	-1.73[a]	0.45
Magnitude of Efficacy Expectations (Capability Scale)	-0.42	1.74[a]	1.56	1.38	-0.18	-0.25	0.46
Generality of Efficacy Expectations	0.53	1.10	1.16	0.24	-0.05	0.77	0.83
Behavioral Intentions	-1.27	4.61[a]	2.76[a]	1.08	-2.34[a]	-3.21[a]	-1.02[a]

Note: AD = Approach-Demonstration; AV = Approach-Visualization; AE = Approach-Explanation; CO = Consequences-Only

a. $p < .05$ (one-tailed)

the perceived capability scale. The association remained nonsignificant when knowledge was controlled: $r(158) = -.00$, $p = .47$, for the perceived difficulty scale; and $r(158) = .05$, $p = .24$, for the perceived capability scale. Neither measure of the magnitude of efficacy expectations was associated with moderate drinkers' scores on the knowledge of skills index: $r(159) = .11$, $p = .08$, for the perceived difficulty scale; and $r(159) = -.08$, $p = .13$, for the perceived capability scale. However, exposure to skills-training information and knowledge of skills were significantly and positively related, $r(159) = .19$, $p < .05$, although the association was weak.

Hypothesis 2b also was not supported. Exposure to skills-training information and moderate drinkers' generality of efficacy expectations were unrelated: $r(159) = -.04$, $p = .30$. The association remained nonsignificant when knowledge was controlled: $r(158) = -.02$, $p = .38$. Generality and knowledge of skills also were unrelated: $r(159) = -.08$, $p = .14$ (see Table 9).

Hypothesis 3

Hypothesis three predicted that the skills-training messages will have a greater effect on behavioral intentions than will the control message. This hypothesis was not supported for moderate drinkers. The behavioral intentions of subjects in the skills-training conditions did not differ significantly from those in the control condition, although

the intentions of the latter group approached significance, $t(160) = -1.27$, $p = .10$ (see Table 7). Interestingly, the means were in the same order for both the overall and moderate drinker samples. Moderate drinkers in the approach-demonstration condition recorded the highest behavioral intentions ($M = 87$, $SD = 17.1$); those in the control condition registered the second highest ($M = 81.1$, $SD = 20.9$); those in the approach-explanation the third highest ($M = 75.6$, $SD = 25.6$); and those in the approach-visualization the lowest ($M = 63.4$, $SD = 28.7$).

Hypotheses 4a and 4b

Partial correlation analysis was used to test hypotheses 4a and 4b, which predicted the impact of the skills-training messages on behavioral intentions operates through increased magnitude (4a) and generality (4b) of efficacy expectations. The prediction assumes that membership in the skills-training conditions is positively associated with behavioral intentions and that this association can be explained by the magnitude and generality of efficacy expectations. The same dummy coding scheme was used as before. As shown in Table 10, exposure to the three skills-training messages was not related to behavioral intentions, $r(158) = -.08$, $p = .13$. Controlling for the magnitude of efficacy expectations had no appreciable effect on the size of the correlation for the perceived difficulty scale, $r(157) = -.09$, $p = .12$, but did produce a trend

Table 10

Zero-Order and Partial Correlations of Exposure to Skills-Training Information, Magnitude and Generality of Efficacy Expectations, and Knowledge of Skills for Moderate Drinkers

	Exposure	Magnitude PD	Magnitude PC	Generality
Magnitude				
PD	.01 (-.00)			
PC	.03 (.05)			
Generality	-.04 (-.02)			
Knowledge of Skills	.19[a]	.11	-.08	-.08

Note: PD = Perceived Difficulty Scale; PC = Perceived Capability Scale. A positive correlation indicates greater association for subjects in the three skills-training conditions (i.e., approach-demonstration, approach-visualization, and approach-explanation) than for those in the control condition (i.e., consequences-only), and vice versa. Figures in parentheses are correlations with the effect of knowledge of skills partialled out.

a. $p < .05$

toward significance in the direction of the control condition on the perceived capability scale, $r(157) = -.11$, $p = .08$. Therefore, hypothesis 4a was not supported for moderate drinkers. However, behavioral intentions and magnitude were significantly and positively related for moderate drinkers on both measures: $r(158) = .20$, $p < .05$, for the perceived difficulty scale; and $r(158) = .40$, $p < .05$, for the perceived capability scale.

Hypothesis 4b also failed to be confirmed. Controlling for the generality of efficacy expectations did little to change the zero-order correlation of -.08 between exposure to the skills-training messages and behavioral intentions, $r(157) = -.07$, $p = .16$. But generality and behavioral intentions were significantly and positively related, $r(158) = .25$, $p < .05$.

Hypotheses 5a and 5b

Hypothesis 5a predicted the following rank ordering from highest to lowest on the magnitude of efficacy expectations: approach-demonstration, approach-visualization, approach-explanation, and consequences-only. Although the expected ranking did not obtain for moderate drinkers, the results of these planned comparisons are more encouraging than those performed on the overall sample. The magnitude of efficacy expectations was greater for moderate drinkers in the approach-demonstration condition than for those in the approach visualization-condition: $t(157) = 3.67$, $p <$

Table 11

Zero-Order and Partial Correlations of Exposure to Skills-Training Information, Behavioral Intentions, and the Magnitude and Generality of Efficacy Expectations for Moderate Drinkers

	Exposure	Magnitude PD	Magnitude PC	Generality
Behavioral Intentions	-.08 (-.09[a]) (-.11[b]) (-.07[c])	.20[d]	.40[d]	.25[d]

Note: PD = Perceived Difficulty Scale; PC = Perceived Capability Scale. A positive correlation indicates greater association for subjects in the three skills-training conditions (i.e., approach-demonstration, approach-visualization, and approach-explanation) than for those in the control condition (i.e., consequences-only), and vice versa.

a. Controlling for the magnitude of efficacy expectations (perceived difficulty scale)

b. Controlling for the magnitude of efficacy expectations (perceived capability scale)

c. Controlling for the generality of efficacy expectations

d. $p < .05$

.05, for the perceived difficulty scale; and t(157) = 1.74, p < .05, for the perceived capability scale. Although moderate drinkers in the approach-demonstration condition did not differ significantly from those in the approach-explanation condition, there was a trend toward significance on both measures of magnitude: t(157) = 1.31, p = .09, for the perceived difficulty scale; and t(157) = 1.56, p = .06, for the perceived capability scale. The magnitude of efficacy expectations of moderate drinkers in the approach-demonstration condition was significantly greater than those in the consequences-only condition on the perceived difficulty scale, t(157) = 1.68, p < .05, but not on the perceived capability scale, although there was a trend toward significance, t(157) = 1.38, p = .08.

The magnitude of efficacy expectations of moderate drinkers in the approach-visualization condition was significantly weaker than the expectations of those in the approach-explanation condition on the perceived difficulty scale, t(157) = -2.32, p < .05; neither condition differed on the perceived capability scale, t(157) = -.18, p = .42. The magnitude of efficacy expectations of moderate drinkers in the approach-visualization condition also was significantly weaker than those in the control condition on the perceived difficulty scale, t(157) = -1.73, p < .05, but, again, neither differed on the perceived capability scale, t(157) = -.25, p = .40. Finally, the magnitude of efficacy expectations of moderate drinkers in the

approach-explanation condition did not differ significantly from those in the control condition on either measure: $t(157) = .45$, $p = .32$, for the perceived difficulty scale; and $t(157) = -.07$, $p = .46$, for the perceived capability scale. Interestingly, the outcomes of these contrasts are similar to those for the overall sample.

Hypothesis 5b predicted the same rank ordering of treatment conditions on the generality of efficacy expectations that was hypothesized for subjects' magnitude of efficacy expectations. This hypothesis was not supported for moderate drinkers. As shown in Table 7, none of the contrasts was statistically significant. The same pattern of results was obtained for the overall sample.

Hypothesis 6

Hypothesis 6 also predicted the same rank ordering on behavioral intentions for moderate drinkers that was hypothesized for subjects' magnitude and generality of efficacy expectations. Although the results did not support the predicted rank ordering, the behavioral intentions of moderate drinkers in the approach-demonstration condition were significantly greater than for those in the approach-visualization condition, $t(156) = 4.6$, $p < .05$, and for those in the approach-explanation condition, $t(156) = 2.7$, $p < .05$. Moderate drinkers in the approach-demonstration and control conditions did not differ significantly on their

behavioral intentions, $t(156) = 1.1$, $p = .14$. These results also were found for the overall sample.

As with the overall sample, visualization of the consequences of arrest of drunken driving did not increase moderate drinkers' behavioral intentions. The behavioral intentions of subjects in the approach-visualization condition were significantly weaker than for those in the approach-explanation condition, $t(156) = -2.3$, $p < .05$, and for those in the control, $t(156) = -3.2$, $p < .05$. Finally, the behavioral intentions of moderate drinkers in the approach-explanation condition did not differ significantly from those in the control, $t(156) = -1.0$, $p = .15$.

In summary, the findings for moderate drinkers closely parallel those for the overall sample. Moderate drinkers in the skills-training conditions did not differ significantly from those in the control condition on either measure of the magnitude of their efficacy expectations; nor did they differ on the generality of their expectations, as predicted by hypotheses 1a and 1b. Knowledge of skills-training information was not related to the magnitude and generality of efficacy expectation for moderate drinkers, as predicted by hypotheses 2a and 2b.

Hypothesis 3 was not supported. The behavioral intentions of moderate drinkers were not greater than for those in the control condition. No correlational evidence was found to support hypotheses 4a and 4b, which predicted the impact of the skills-training messages on behavioral

intentions operates through increased magnitude and generality of efficacy expectations.

Hypotheses 5a and 5b were not confirmed, which predicted the following rank ordering among treatment conditions for the magnitude and generality dimensions of self-efficacy: approach-demonstration, approach-visualization, approach-explanation, and consequences-only. However, the magnitude of efficacy expectations of moderate drinkers in the approach-demonstration condition was significantly greater than for those in the control condition on the perceived difficulty scale, and approached significance on the perceived capability scale. Hypothesis 6 predicted the same rank-ordering on behavioral intentions that was predicted for moderate drinkers' efficacy expectations. This hypothesis also was not confirmed, although the approach-demonstration condition outscored the approach-visualization and approach-explanation conditions. No difference was found between the approach-demonstration and control conditions.

CHAPTER VII

DISCUSSION

The purpose of this dissertation was to investigate the role of self-efficacy theory in a campaign to prevent drunken driving among young adults. An amended version of Flay's extended information-processing model was proposed to explain the process by which persuasive efficacy information affects behavioral intentions. The model posits that persuasive efficacy information affects behavioral intentions through the intervening mechanisms of knowledge of skills and self-efficacy beliefs. The research also sought to determine the optimal treatment condition under which these effects occur.

Perhaps the primary reason significant differences were not found between the skills-training conditions and the control condition on the magnitude and generality dimensions of self-efficacy was because the experiment was conducted on a sample of "skilled learners" confident of their persuasive abilities (i.e., college students majoring in advertising and communications whose levels of self-efficacy were high initially). This probably was the case, since responses to measures of the magnitude (which, will be recalled, also included the strength dimension of

self-efficacy) and generality dimensions of efficacy expectations produced highly skewed distributions, and the experimental manipulations failed to create differential levels of efficacy expectations.

One possible way of inducing variation among the treatment conditions would be to ask subjects what they would do if their heavy-drinking friends began to counterargue and told them to mind their own business. It is quite likely that subjects in the modeling (approach-demonstration) condition would record the strongest efficacy expectations, as predicted by self-efficacy theory. It also is worth speculating that had the experiment been conducted on a sample of freshman and sophomores (instead of predominantly juniors and seniors) significant differences might have been found, since younger college students are likely to have had less experience dealing with a friend's drunken behavior. A similar point can be made about the possible effects of the experiment on a sample of young adults with no college, whose information-processing abilities may not be as great as those of college students.

A second, but less plausible reason (as it turns out) for the disappointing results concerns the nature of the control condition. Apparently, it did not function as intended. It will be recalled that subjects in an attention-placebo control group undergo the same treatment as subjects in the experimental conditions except they do

not receive those program components that are predicted to cause change. Such was not the case in the present study. Although subjects in the control condition were not exposed to self-efficacy information (i.e., information about ease of performance and the likelihood of success), they were exposed to some of the skills-training information (i.e., the consequences of arrest for drunken driving), and it was implied that they should tell their heavy-drinking friends about the consequences of arrest. Theoretically, this could have affected the control group's efficacy expectations, since it was hypothesized that knowledge of skills (defined as how to approach and what to say to a heavy-drinking friend) influences self-efficacy. However, the data do not support this assumption, since no association was found between knowledge and self-efficacy for either sample. (Treatment conditions did not differ significantly on knowledge of the consequences of arrest for drunken driving (see Table 2), which helps to explains why the approach-visualization manipulation failed to strengthen self-efficacy as expected.) Perhaps a better design for the control condition would have been to mention statistics on drunken driving accidents, rather than enumerate the consequences of arrest, thereby excluding skills information from the message. Finally, two important formative research questions emerged from this study: (a) Why were the efficacy expectations and behavioral intentions of subjects in the control condition as strong as those of subjects in the

approach-demonstration condition?; and (b) Why were the efficacy expectations and behavioral intentions of subjects in the approach-visualization condition the weakest? One way of getting at this information would be to expose a small sample of moderate drinkers to all four messages during a focus group session and probe for possible reasons. For example, it might be revealed that the reason the control message fared so well was because the behavioral recommendation was implicit (i.e., "Wouldn't it be nice if your friends knew what you now know about the consequences of drunken driving"?), rather than explicit, as in the other messages, (i.e., "Don't be afraid to tell your friends about the legal, financial, and psychological consequences of arrest for drunken driving, because it's easy and they'll appreciate your concern."). The use of a rhetorical appeal might prove to be an effective message strategy for audiences already convinced of their capabilities (as seems to be the case in this study); on the other hand, explicit behavioral recommendations may work better with audiences low in self-efficacy. It may also be revealed that the reason the visualization of consequences manipulation failed to raise expectations of personal competency was because the various scenes of the consequences actually served to distract subjects from the self-efficacy information in the message.

A similar point can be made about behavioral intentions. It appears that the visualization manipulation weakened the

effect of the combined impact of the three skills-training messages on behavioral intentions in both samples. Evidence for this assumption can be found in the results of the individual planned comparisons made among the four experimental groups on behavioral intentions. The behavioral intentions of subjects in the visualization condition were significantly weaker than for those in the other experimental conditions in both the overall and moderate drinker samples. Because this effect was the same in both samples, there is good reason to believe that the visualization manipulation had a negative impact on self-efficacy and behavioral intentions in this study. Only further formative research will shed light on this interesting finding.

A third possible reason why the experiment failed to produce differences between the skills-training conditions and the control condition is because subjects were not administered a behavioral assessment test to determine levels of self-efficacy prior to manipulation of the independent variable, as in the Bandura experiment. Bandura uses the test to screen out overly confident subjects, so only subjects sufficiently fearful of the experimental tasks are included in the sample. A similar procedure could have been used in the present investigation by asking moderate drinkers what they would do if their heavy-drinking friends began to argue with them (as suggested earlier). Only those subjects who report they

would retreat from their friends' counter-arguments, or would not approach their friends, would be included in the sample. A similar screening question could be used to determine the results of past intervention efforts, since self-efficacy theory predicts successful past performance of a feared activity strengthens efficacy expectations. Of course, these questions could have been used in the present study to create high and low levels of self-efficacy in each of the four treatment conditions, although there would have been a disproportionately large number of subjects in the high groups; still, it would have been interesting to observe the effects (if any) of the messages on the low self-efficacy subjects.

Another methodological problem may have had to do with the wording of the self-efficacy measures. Bandura does not ask subjects directly how difficult they perceive subjectively threatening tasks to be or how capable they believe they are of performing each task. This is probably because such questions have the potential to invite socially desirable responses from subjects who may tend to over-estimate their capabilities when they are not confronted with the anxiety-provoking situation. Instead, he measures the magnitude of efficacy expectations by recording the number of increasingly threatening tasks a subject performs with the frightful object. Perhaps, it would have been better to place subjects in different hypothetical situation, (e.g., at a party, in the dorm, between classes,

at lunch, etc.) to determine whether self-efficacy varies according perceived situational constraints, as predicted by the theory. This measurement procedure would be similar to Bandura's, and therefore might produce the desired variance on the dimensions of self-efficacy that was missing in this study. For example, self-efficacy theory would predict that the efficacy expectations of subjects in the approach-demonstration condition would be stronger across different situations than the expectations of those in the three other conditions because "seeing others perform threatening activities without adverse consequences can generate expectations in observers that they too will improve if they intensify and persist in their efforts" (Bandura, 1977b, p.197).

Although this study failed to demonstrate empirically an association between knowledge of skills and self-efficacy, the magnitude and generality dimensions of efficacy expectations were found to be significantly and positively associated with behavioral intentions for both samples, as predicted by the heath threat control model (Beck & Lund, 1981). The moderate correlations between self-efficacy and behavioral intentions (as measured on the perceived capability scale) suggest that the hypothesized linkage between the two constructs in the amended version of Flay's extended information-processing model deserves further investigation. As mentioned, better measurement procedures would help to validate the hypothesized

relationship and, perhaps, increase the size of the correlations. Finally, the role of personality in influencing self-efficacy should be examined. In Flay's model, personality and trial behavior are the two predictors of self-efficacy. Bandura, however, posits that self-efficacy is a function of diverse types of efficacy information, and not global personality constructs. His research focuses on eliminating phobic behavior, rather than teaching socially well-adjusted individuals how to overcome stressful social encounters -- although he argues phobics who extinguish their fears also gain confidence in their abilities to cope with stressful social situations. Future research should investigate the hypothesized impacts of knowledge of skills, past performance, and personality on self-efficacy.

APPENDIX A

QUESTIONNAIRE

NO. _____ (1-4)

Thank you for your participation in this research project. We've asked you here because we would like to get your reaction to the documentary you are about to see on wildlife conservation. The program was produced by the Edison Electric Institute, and it's called "A Second Chance."

Keep in mind that what we're interested in is your own personal views. We don't want you to tell us what you think we want to hear or what your friends think or anyone else. We need your own opinions. So please do not discuss the program or your answers with the people around you.

Please do not write your name anywhere on the attached questionnaire. All responses are completely confidential. Also, please make sure that you write your answers clearly in the space provided on your questionnaire, and be sure that you don't move to each new section of the questionnaire until told to do so. Do not go back and change any of your answers.

If any of the questions are unclear to you, raise your hand and you will be assisted.

Enjoy the show.

DO NOT TURN THE PAGE UNTIL TOLD TO DO SO.

Thank you for watching the program up to this point. One of the reasons we're showing it is to get your reaction -- to see what parts you like and what parts you don't like. Please answer the following questions about the program.

A. Was there any part of the program that you especially liked?

B. Was there anything about the program you disliked?

C. Please indicate your overall reaction to the program by circling one of the phrases below.

1. A great program, would like to see it again
2. A pretty good program
3. Just so-so, like a million otheres
4. Another bad program

D. Would you recommend the program to your friends? Circle your answer.

1. YES
2. NO

1. We'd also like to get your reactions to the commercials you just saw. For each commercial you remember seeing, please write down what the message <u>said</u> and what the message <u>showed</u>.

A. What did the message say? _____

_____ (5)

What did the message show? _____

_____ (6)

B. What did the message say? _____

_____ (7)

What did the message show? _____

_____ (8)

C. What did the message say? _____

_____ (9)

What did the message show? _____

_____ (10)

D. What did the message say? _____

_____ (11)

What did the message show? _____

_____ (12)

E. What did the message say? _____

_____ (13)

What did the message show? _____

_____ (14)

2. Now, please rank each of these commercials from most to least liked, and describe what you liked or disliked about each of them briefly below.

A. (Most Liked) _____

_____

_____ (15)

B. _____

_____

_____ (16)

C. _____

_____

_____ (17)

D. _____

_____

_____ (18)

E. (Least liked) _____

_____

_____ (19)

STOP!!! DO NOT TURN THE PAGE UNTIL YOU ARE TOLD TO DO SO.

3. In the drunken driving public service announcement you just saw, it was recommended that you tell your friend(s) they should not drive drunk. According to this announcement, how should you approach your friend(s)?

--- (20)

4. According to this announcement, what should you tell your friend(s) about the consequences of arrest for drunken driving? Please list <u>all</u> the consequences you remember.

--- (21)

5. Do you agree with the announcement's recommendations? That is, do you think this is an effective strategy for convincing your friends they should not drive drunk?

1. YES

2. NO (IF NO) What would be a better strategy? (22)

--- (23)

6. In your opinion, was there anything in the drunken driving message that was confusing?

   1. YES

   2. NO (24)

   (IF YES) What was confusing? _____

   _____

   _____

   _____ (25)

TURN THE PAGE

Next, we will be asking you some questions using two kinds of opinion scales with which you may not be familiar. One type of scale uses 100 as a maximum value. It will be referred to as a probability scale. The other type of scale uses 100 as a moderate value. It's called an unbounded scale. Scales that use 100 as a moderate value have no upper limit (that's why they are said to be unbounded) -- so you may use as high a number as you wish to answer the question. For example, suppose you are rating how much you like something and moderate liking is equal to 100. In that case, if you like something twice as much as moderate, you would rate it 200 (2 x 100). If you like it half as much as moderate, you would rate it 50 (1/2 x 100). Remember, you may use any number you wish, and there is no highest number for this type of scale. On the other hand, 100 is the highest number you can use for the probability scales.

Please read the instruction for using each type of scale carefully. And just so you don't mistaken one type of scale for another, we've grouped all the probability scales together and all the unbounded scales together. Be sure to raise your hand if you have questions about how to interpret a particular scale.

The next five questions ask you to use a probability scale for your answers. Turn the page and begin answering the questions.

7. How likely are you to tell a friend not to drive drunk the next time you get the chance?

To answer this question, we'd like you to use the type of scale that has 100 as a maximum value. For example, if you are absolutely certain that you do intend to tell a friend, write 100. If you think there is a 50/50 chance that you will tell a friend, write 50. If you think there is more than a 50/50 chance, but you are not certain that you will tell a friend, choose a number between 50 and 100. The more certain you are that you will tell a friend, the closer your answer should be to 100. If you are absolutely certain that you will not tell a friend, write 0. If you feel there's less than a 50/50 chance, but you are not certain that you would not tell a friend, choose a number between 0 and 50. The less likely you are to tell a friend, the closer your answer should be to 0.

The likelihood of my telling a friend not to drive drunk the next time I get the chance is

_____ (26-28)

8. This next question asks how certain you believe you are of your ability to tell different people not to drive drunk. Again, you'll be using a probability scale that has 100 as a maximum value.

If you feel certain that you are capable of telling these people, write 100. If you think there is a 50/50 chance of your being capable, write 50. If you think there is more than a 50/50 chance, but you are not certain that you would tell these people, choose a number between 50 and 100. The more certain you are of your capability, the closer your answer should be to 100. If you feel certain you are not capable of telling these people, write 0 (zero). If you feel there's less than a 50/50 chance, but you are not certain that you would not tell these people, choose a number between 0 and 50. The less capable you believe you are, the closer your answer should be to 0.

How certain are you of your ability to tell:

1. friends and relatives your own age not to drive drunk?

   _____ (29-31)

2. friends and relatives 1 to 10 years older than yourself not to drive drunk?

   _____ (32-34)

3. friends and relatives 10 to 20 years older than yourself not to drive drunk?

   _____ (35-37)

4. friends and relatives 20 or more years older than yourself not to drive drunk?

_____ (38-40)

5. someone your own age whom you do not know at the same party not to drive drunk?

_____ (41-43)

TURN THE PAGE

9. Suppose you have a friend who sometimes drinks too much and drives drunk. Suppose further that you and your friend are some place where people are drinking alcoholic beverages, and you know your friend will be driving later. So you decide to tell him or her not to drive drunk. How likely is it that your friend will still drive drunk?

As before, if you are absolutely certain your friend will still drive drunk, write 100. If you think thre is a 50/50 chance that your friend will drive drunk, write 50. If you think there is more than a 50/50 chance, but you are not certain your friend will drive drunk, choose a number between 50 and 100. The more certain you are that your friend will still drive drunk, the closer your answer should be to 100. If you are absolutely certain your friend will not drive drunk, write 0. If you feel there's less than a 50/50 chance, but you are not certain that you would not tell such a person, choose a number between 0 and 50. The less likely you think your friend is to drive drunk, the closer your answer should be to 0.

How likely is it that your friend will still drive drunk?

_____ (44-46)

10. The questions below ask how likely various people are to approve of your telling a friend not to drive drunk. Please use the following probability scale for your answers.

    If you are absolutely certain they would not agree with the statement, write 0 (zero). If you are absolutely certain they would agree with the statement, write 100. If you think they are equally likely to agree as not to agree with the statement, choose 50. If you think they are more likely to agree than not to agree, choose a number between 50 and 100. The more certain you are that they would agree, the closer the number should be to 100. If you think they are more likely to not agree than to agree, choose a number less than 50. The less likely you think they are to agree with the statement, the closer to 0 (zero) should be your answer.

Most people I know, think I should tell a friend not to drive drunk.

_____ (47-49)

My close friends think it is all right for me to tell a friend not to drive drunk.

_____ (50-52)

Friends of mine who drink more than me, would not be offended if I tell them not to drive drunk.

_____ (53-55)

The next four questions ask you to use an unbounded scale for your answers. Remember that for these scales 100 indicates a moderate value, and that there's no highest number -- so you may use any number you wish.

11. Now that you have indicated whether certain people would want you to tell a friend not to drive drunk, we would like you to indicate how much you want to do what would please these people.

    If pleasing them is moderately desirable to you, write 100. If pleasing them is twice as desirable as moderately desirable, choose 200 (2 x 100). If pleasing them is half as desirable as moderately desirable, rate it as 50 (1/2 x 100). And if pleasing them is of no concern to you, write 0 (zero). You may use any number between 0 and 100 for amounts of desirability less than moderate, and any number greater than 100 for amounts greater than moderately desirable. While 0 is the lowest number you may use, there is no "highest number."

Generally speaking, how much do you want to do what most people who know you think you should do?

_____ (56-60)

Generally speaking, how much do you want to do what your close friends think you should do?

_____ (61-65)

Generally speaking, how much do you want to do what your friends who drink more than you think you should do?

_____ (66-70)

12. How unhappy would you be if your friend drives drunk?

If it would not make you at all unhappy, write 0 (zero). If it would make you moderately unhappy, write 100. If it would make you twice as unhappy as moderately unhappy, choose 200 (2 x 100). If it would make you half as unhappy as moderately unhappy, choose 50 (1/2 x 100). Use any number between 0 and 100 if you think it would make you less than moderately unhappy, and any number greater than 100 if you think it would make you more than moderately unhappy. While 0 is the lowest number you may use, there is no "highest number."

How unhappy would you be if your friend drives drunk?

---------- (71-75)

13. Please read the following statement and indicate how similar it is to your own view on the line below:

Telling a friend he or she should not drive drunk will lessen the chance your friend will drive drunk.

If the statement's view is not at all the same as yours, write 0 (zero). If the statement's view is moderately similar to yours, write 100. If you think the similarity between your view and the statement's is twice as much as moderately similar, rate it as a 200 (2 x 100). If you think the similarity between your view and the statement's is half as much as moderately similar, rate it as 50 (=100 x 1/2). You may use any number between 0 and 100 for views that are less than moderately similar to your own, and you may use any number greater than 100 for views that are more than moderately similar to your own. While 0 is the lowest number you can use, there is no "highest number." Think about the statement above.

How similar is the view in the statement above to your own view?

---------- (76-80)

CARD 2

No (1-4)

14. How difficult would it be for you to tell a friend not to drive drunk?

If it would not at all be difficult, write 0 (zero). If it would be moderately difficult, write 100. If it would be twice as difficult as moderately, write 200. If it would be half as difficult as moderately, rate it as 50. Use any number between 0 and 100 if you think it would be more than moderately difficult. While 0 is the lowest number you can use, there is no "highest number."

How difficult would it be for you to tell a friend not to drive drunk?

---------- (5-9)

TURN THE PAGE

These next few questions are intended to find out what you know about the effects of alcohol and about drunken driving. Circle your answer.

15. Alcohol is a stimulant that peps up people and makes them more alert.

True False (10)

16. If convicted of drunken driving, which of the following costs can you expect to pay? Circle <u>all</u> that apply.

1. A fine
2. Court costs
3. Cost of towing your car
4. If required, the charge for the sobriety class
5. None of the above (11)

17. Eating when you drink will slow down the absorption rate of alcohol into the bloodstream.

True False (12)

18. A first offense drunken driving conviction does not necessarily mean you will loose your license.

True False (13)

19. In Michigan, the new law says a driver is legally drunk if the level of alcohol in his bloodstream reaches .10%.

True False (14)

20. If you are arrested for drunken driving, how much can the fine be as high as for the first offense? Circle only one answer.

1. $100
2. $500
3. $1000
4. $5000 (15)

21. A can of beer is less intoxicating than an average drink of liquor.

True False (16)

22. The majority of all first offense arrests for drunken driving result in a warning rather than time in jail.

True False (17)

23. A heavier person is affected by alcohol less quickly than is a light person, and becomes less high with an equal amount of alcohol.

True False (18)

24. Although first-time offenders are required to pay a drunken driving fine, they are not tried in court until their second arrest.

True False (19)

25. What attitudes do most of your friends hold toward drunken driving -- are they negative and disapproving, or do they tend to tolerate and excuse drunken driving?

1. Mostly Negative
2. Mixed
3. Mostly Tolerant (20)

26. In your opinion, what type of person was this message talking to?

1. Someone Like Me
2. Someone Else, Not Like Me (21)

(IF SOMEONE ELSE) Why? _____

_____

_____

(22)

27. Which of the following statements better describes the character(s) in the drunken driving announcement?

1. The character(s) reminded me of people I know.
2. The character(s) did not remind me of people I know. (23)

28. What type of drinker would you say is the main character in the public service announcement you just saw?

1. Non-Drinker
2. Light
3. Moderate
4. Heavy
5. Don't Know (24)

29. Overall, how would you describe the character(s) in the announcement? Please select one answer from each pair of alternatives.

1.	____ appealing	____ not appealing	(25)
2.	____ gets the message across	____ does not get the message across	(26)
3.	____ believable	____ not believable	(27)
4.	____ easy to understand	____ not easy to understand	(28)

30. Some people have mentioned different feelings they had during or after watching the announcement. Please circle the opinion which comes closest to yours.

1. The announcement made me uncomfortable and I had difficulty paying attention to it.

2. The announcement interested me so I paid attention to it.

3. I had no particular feeling about the announcement. (29)

31. Please circle one answer from each pair of phrases which better describes your feelings about the advice given in the public service announcement on how to tell a friend not to drive drunk.

1. Clear and easy to understand

2. Confusing, hard to understand (30)

1. I would be able to tell a friend not to drive drunk after seeing this announcement.

2. I would not be able to tell a friend not to drive drunk after seeing this announcement. (31)

32. How much, if any, of the information in the announcement was new to you?

1. All Of It
2. Most Of It
3. Some of It
4. None of It (32)

33. Overall, how useful was the information in the announcement to you?

1. Very Useful
2. Somewhat Useful
3. Not Very Useful
4. Not At All Useful (33)

34. Is there anything about this public service announcement that bothers or offends you?

1. Yes
2. No (34)

(IF YES) What? _____

_____

_____

(35)

35. Which of the following phrases best describes the drinking habits of your friends?

1. Non-Drinkers
2. Light Drinkers
3. Moderate Drinkers
4. Heavy Drinkers (36)

36. In a typical month, how many alcoholic beverages would you say you drink? (A drink equals one can or glass of beer, one glass of wine, or any kind of mixed drink.)

_____ (37-39)

37. In estimating your chances of getting arrested or convicted or penalized for drunken driving, what information do you base your ideas on? On a scale of 0 to 10, rate the amount of information you have learned from the following sources.

_____ TV NEWS STORIES (40)

_____ NEWSPAPER STORIES (41)

_____ CONVERSATIONS WITH FRIENDS (42)

_____ TV OR RADIO DRUNKEN DRIVING MESSAGES (43)

_____ RADIO NEWS STORIES (44)

_____ DRIVER'S EDUCATION CLASSES (45)

_____ OBSERVATION OF POLICE ACTIVITIES (46)

_____ EXPERIENCE WITH POLICE OR COURTS (47)

Now, just a few more questions about yourself.

38. What is your school classification?

1. Freshman
2. Sophomore
3. Junior
4. Senior (48)

39. What is your major? _____ (49)

40. What is your age? _____ (50-51)

41. Which of the following best describes your race or ethnic background?

1. White
2. Black
3. Hispanic
4. Asian
5. American Indian
6. Arabic
g. Other _____ (52)

42. Are you male or female?

1. Male
2. Female (53)

THANK YOU FOR YOUR VALUABLE PARTICIPATION!

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