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CONTINGENCIES OF PERSUASION IN MASS MEDIA CAMPAIGNS AGAINST ALCOHOL ABUSE

by

Edward Sawka

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

OF Master of Arts

Department of Sociology

EDMONTON, ALBERTA

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Date 13 June 1983

Abstract

Three questions guided this study: "Do preventive interventions of persuasive appeal change relevant behaviors in the desired direction?" "What characteristics of mass messages are associated with the greatest change in people's knowledge, attitudes, and behaviors concerning alcohol abuse?" "What considerations of cost apply in efforts to alter behavior?"

The primary focus is on campaigns of persuasion and information presented through the mass media. Introductory chapters broadly review the rationales of prevention in the public and mental health fields. The discussion notes that the effectiveness and efficiency of preventive interventions are optimized when they rest on clear classification of disorders, clean measurement procedures, and accurate causal analysis. Assessment of media-based prevention campaigns employs an "information-processing paradigm" developed by McGuire (1974) and others.

The review considers nine campaigns conducted in the U.S.A. and Canada during the 1970s that were evaluated either through large-scale surveys or incorporated pre-posttest measurement and control groups. Their theoretical foundations, persuasive designs, and apparent outcomes are critically summarized.

Overall, the campaigns exhibited a "gradient of diminishing effects," demonstrating major impact through measures of "general awareness" of moderation advertising

and prompted recall of communication elements, but showing only minor effects according to indicators of knowledge and attitude change. The two evaluations that made use of behavioral measures produced equivocal results. Quantity-frequency consumption indices failed to detect reliable reductions in self-reported intake of ethanol.

It is concluded that these campaigns reflected inadequate knowledge of the causes of alcohol abuse, rested on problematic assumptions about the relationships between knowledge, attitude, and behavior change, and incorporated weak persuasive elements. Deficiencies in design and measurement among the evaluations do not permit definite conclusions of the campaigns' powers to affect the behavior of recipients. A speculation notes that such interventions may exert small, cumulative effects.

Major communications contingencies that bear on persuasive messages against alcohol abuse--selection of target groups, exposure variables, and characteristics of the source, channel, message, and receiver--are also reviewed.

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I wish to acknowledge the singular contribution of Prof. Gywnn Nettler to this thesis. He gave generously of his time and energy and influenced it deeply. I benefited from his stimulating and steady guidance throughout the project.

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I. INTRODUCTION AND OVERVIEW

A. FOCUSING PUBLIC ATTENTION ON ALCOHOL ABUSE

The run of daily life brings most North Americans into contact with persuasive messages in the mass media. These messages compete for our attention and prompt us to perform behaviors that profit ourselves or others.

In the last twenty years, increasing numbers of communiques with persuasive content were broadcast under the banner of "prevention" or "health promotion"[1] against alcohol abuse. This set of public education messages appears in the full range of the mass media. They represent the interests of the beverage industry and a plethora of government agencies as well as voluntary and private mental health organizations concerned with alcohol use and the consequences of its *overuse*, or *abuse*.

Examples of such messages abound. Billboards display the human and vehicular wreckage following auto crashes involving alcohol, pictures often inscribed with stark titles labeling impaired drivers as killers. Radio "spots" and magazine ads laud moderate drinking. Television commercials depict adolescents immersed in the adventures of their age; some use alcohol in moderation while others follow styles of excessive consumption that inflict injury

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[1]For the purposes of introduction, the terms "prevention," "primary prevention," and "health promotion" are used interchangeably. Chapter 3 distinguishes among these labels.

to themselves or others. Posters, hanging in neighborhood liquor stores, portray a police officer or magistrate staring icily at the customer in visual reinforcement of the posters' worded message: "You will be caught." On a more local and limited scale, agencies canvass door-to-door or set up displays in public places to present "idea-packages" to consumers.

This is but a partial catalogue of the images and demonstrations pertaining to alcohol that prevention messages contain. The damage and distress conveyed by some of them serve as reminders that while alcohol comforts us, it does so at personal and social costs. The rationale of these efforts argues that audience exposure to such stimuli channels individuals to abstain from alcohol or to limit their drinking to levels where destructive effects do not occur.

It is part of the work of this thesis to examine critically the rationale of primary prevention.

Numerous factors and conditions support the prevention movement. With respect to alcohol concerns in North America, several developments in recent years have braced this approach. First, since mid-century the overall trend in the United States and Canada has been toward increased consumption of alcohol (Moser, 1980:53). Second, the damage in which alcohol plays some part--from organic disorders to behavioral disturbances to social "problems"--have resisted traditional interventions. Treatment efforts to date have

demonstrated only modest success at effecting "cures" for alcohol-related disorders (Chafetz, 1970; Ogborne, 1978). Third, alcoholism specialists have reacted with growing interest in what Blane (1976c:176) lists as "specifications of ends, re-examination of means used in other times and other places, empirical evidence to support policy alternatives and a quest for new solutions."

B. QUESTIONS OF INTEREST

The chief questions posed by this thesis ask: *"Do preventive interventions of persuasive appeal change relevant behaviors in the desired direction?" "What characteristics of mass messages are associated with the greatest change in people's attitudes, knowledge, and behaviors concerning alcohol abuse?" What considerations of cost [2] apply in efforts to alter behavior?"*

---

[2] The question of costs concerns program efficiency. As Chapter 10 explains, this question is usually addressed in "cost-benefit" analyses. These studies attempt to estimate quantitatively the value or amount of resources committed to programs relative to the value or amount of gains derived from them. Assessments of program efficiency in prevention must also consider side effects as well as the political and moral ramifications of interventions that may be manipulative or impose undue restrictions on the population (Lamb and Zusman, 1979:15; Room, 1974:16-19; Wikler, 1978).

These questions rest on the broad assumption that the elements of primary prevention programs operate through pliant relationships with a mesh of personal, cultural, communication, and consumption variables. With a focus on the communication process, we will attempt to specify which variables have persuasive effects, in what arrangements and circumstances, and with what powers. In short, this thesis will investigate contingencies of influence for mass messages.

C. AN APPROACH

Our study will take the form of a review of the literature on the models and methods of prevention, concentrating on campaigns of persuasion and information on alcohol abuse presented through mass media. We will examine the concepts and premises of media-based prevention, study its application, and examine empirical findings that bear on our research questions. The review will be based on literature from sociology, social psychology, marketing, alcohol abuse prevention, and other areas of prevention in health practice.

This query has practical warrant given the assumption of prevention programs that they will reduce the incidence of alcohol abuse among targeted populations (Bacon, 1978:1126; Whitehead,1979:84).

If prevention programs are to be *rational and*

effective,[3] their architects must have knowledge of the etiological processes at work in disorders involving alcohol. This assumes, of course, that they are in position, with adequate resources, to intervene.

Such efforts encounter difficulties, however. Those who would design programs to neutralize social troubles do not have at their disposal a comprehensive, empirically validated theory of human action to direct them in predicting how people will respond. In general, they work with incomplete theories containing unclear, untested, or untestable concepts.

Many writers have commented on these shortcomings (Glazer (1967); Lipset (1981); Mazur (1968); Scott and Shore (1979), for example). Fiske (1971:26-29) and Nettler (1982a:34-35), with others, include among the deficiencies of the social and behavioral studies such major flaws as ambiguous classificatory categories, imprecise specification of constructs and their relationships, and crude measurements. In addition, scholars in these disciplines often persist in identifying and locating the causes of

---

[3]Programs of *rational* design have operationally defined goals and employ efficient means (relative to costs) to reach them. Rational activities contrast with *irrational* acts, where inefficient means are used to achieve empirical ends, and *nonrational* acts, which are of two types: (1) expressive behaviors performed as ends-in-themselves, and (2) those conducted in service of nonempirical goals the attainment of which lie beyond demonstration (Nettler, 1982b:237, footnote 1).

In practice, Hershfield et al. point out, the action plans of preventive programs typically contain a mix of activities; some are rationally derived, others not (1981:21).

undesirable behaviors in sites most congenial to their political and ethical beliefs (Glazer, 1967:65; Nettler, 1982a:20-21). Following chapters consider these complications further.

On a practical level, gradients of knowledge and efficacy underwrite prevention efforts against alcohol abuse. Of course, forecast of events is possible without knowledge of their causes (Nettler, 1982a:144). Similarly, successful intercession can occur even when the intervenors remain ignorant of the causes of offensive behaviors. However, if program planners seek the foresight needed to predict the outcomes of their interventions--and convert that prevision into effective programs--knowledge of causes becomes requisite.

Most health promoters show interest in identifying and understanding the causes of alcohol abuse. So far, however, they and other reformers possess little of the knowledge that would permit rational intervention in social ills with known probabilities of success (Lipset, 1981:3; Nettler, 1982b:268-269).

Organization of the Thesis

At this juncture, the requirements of introduction and overview are nearly met. A brief description of the remaining chapters follows.

Chapter 2 gives perspective by highlighting the long tradition of prevention in medical practice. It cites the

early success of specific public health measures, which were based on the medical model, in the control of numerous communicable and infectious diseases. It goes on to explore why the chronic-degenerative and mental disorders have not yielded to preventives following this approach. The discussion also evaluates an alternative approach, based on a "social-adaptive" model (McPheeters, 1976), which dominates preventive practice in mental health.

Chapter 3 differentiates between primary prevention and health promotion in the fields of public and mental health. It brings forward the main concepts and assumptions of these topics for review and assessment.

Chapter 4 presents an overview of the nature and effects of the drug, ethyl alcohol. It notes the shading of alcohol use into conditions characterizing "abuse." This chapter examines the range of impairments, from organic disorders to personality and social disturbances, in which the drug is causally implicated. Major explanations of abuse are highlighted.

Chapter 5 introduces the four major models of prevention that have been applied to alcohol abuse: the proscriptive or moral model, the public health model, the distribution of consumption model, and the sociocultural model.

Chapter 6 explores the role of persuasion in the preventive measures against alcohol abuse that flow from the sociocultural model, the conceptual framework that underlies

most of the mass media programs broadcast in North America. It addresses the topic of achieving knowledge-attitude-behavior change through persuasive communications. A popular "information-processing" model is assessed as a construct of the influence process. Finally, consideration is given to the use of marketing concepts in the organization and execution of promotional campaigns.

The analysis section of our study incorporates nine media-based campaigns against alcohol abuse conducted in North America during the 1970s. Chapter 7 considers the theoretical foundations of these efforts; Chapter 8 examines their persuasive materials in detail; and Chapter 9 assesses the campaigns' effects relative to their goals.

This serves as preparation for an evaluative summary in Chapter 10 of communication contingencies that favor persuasion and for an assessment of the potency of mass messages to alter people's beliefs and actions regarding beverage alcohol.

Restriction of Scope

An exhaustive study of primary prevention against alcohol abuse would be a project of enormous scope. Limitations inherent in our investigation required that it be restricted to ensure manageability. Thus, for example, the discussion does not include drugs other than alcohol. Its focus is also limited to prevention programs disseminated through the mass media in Canada and the United

States.

We now turn to Chapter 2, which presents key points in an overview of prevention in physical and mental health.

II. PREVENTION IN HEALTH PRACTICE

A. HEALTH CONCERNS

Securing health is an enduring human concern. It represents one condition of survival. Mankind has evolved two approaches in this endeavor: (1) a curative approach to relieve pain and restore functional capacities after the onset of sickness or injury, and (2) a preventive [1] approach to avert or forestall sickness or injury. Both approaches have roots extending into antiquity (Hobson, 1963; Sigerist, 1932).

Historical Notes on Preventive Health Practice

Archeological evidence indicates that the Sumerians (c. 2800-2000 B.C.) had provision in their settlements for the efficient disposal of human wastes (Wair, 1970:3). The ancient Hebrews (c. 1200-100 B.C.) developed strict health codes adjuring in such matters as quarantine, dietary practices, and cleanliness. Centuries later, the modern public health movement applied many of the same precepts (Ibid.:7-11).

To the Greeks we owe the rudiments of a scientific method in medicine and an exemplary conception of personal hygiene. Hippocrates (460-377 B.C.), one of the fathers of Western medicine, stressed the preventive approach in

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[1] Prevention derives from the Latin *praevenire*, meaning to anticipate.

medicine [5] (Morgan, [illegible]97[illegible]:1; Wain, 1970:16). Somewhat later, the Romans (c. 800-500 A.D.) undertook massive sanitary engineering projects such as the construction of aqueducts and sewers (Cartwright: 1972:8-10).

Graeco-Roman empiricism and scholarship declined in the Medieval period (c. 600-1400 A.D), a time when epidemics and pandemics of plague, leprosy, smallpox, diptheria, cholera, and other pestilential conditions ravaged the populations of Europe and the East (Wain, 1970:35-63).

Subsequently, in the foment associated with the industrial revolution, renewed scientific inquiry, and social upheaval in Europe, knowledge relevant to preventive medicine accumulated. By the latter nineteenth century, researchers had achieved pioneering breakthroughs in the identification of specific etiological agents and processes underlying many communicable and infectious diseases. [6] This provided public health practitioners with potent knowledge with which to devise "specific measures," such as immunization and dietary regimens, that controlled such conditions effectively (Park, 1972:9-10). These developments, coupled with the "great sanitary awakening" among urban populations in industrialized countries,

----

[5]The Greeks also supplied major figures in the mythology of Western medicine including the devine Hygeia, goddess of preventive practice, who viewed health as "a process of living which resulted in an expanding and enhancing of self" (Bower, 1977:24-25).

[6]The emergence of the "era of bacteriology" coincided with the validation of the germ theory of disease causation, which was accomplished by Pasteur and others (Park, 1972:9-10).

underlaid the public health movement which brought about dramatic improvements in their living conditions and health status (Ibid.:7-8; Heagerty, 1940:8; Hanlon et al., 1960:449-451). Preventive medicine has come to claim such successes as the eradication of smallpox in developed countries and the achievement c majo: reductions in the incidence of the basic infectious diseases (Park, 1972:31).

Among North Americans, overall death rates fell and life expectancy rose during this century. [7] The shifts were greatest for those age groups most vulnerable to infection--the young and newborns (Kalbach and McVey, 1971:48-55; Public Health Service, 1979:vii; Wilkens, 1979:12).

More people survived infancy and childhood but "the inescapable legacy of improved health in early and middle life is the increased prevalence of...less tractable forms of disease and disability in middle and later life" (Glazier, 1973:14). With an apt expression--"the onion principle"--epidemiologist J.N. Morris succinctly describes the process whereby one "layer" of diseases (smallpox, typhus, influenza, for example) are peeled away only to

[7] In Canada, the life-expectancy-at-birth figures for males increased from 56.9 years in 1926 to 70.2 years in 1976, a gain of 13.3 years. Life expectancy for females changed from 58.9 years in 1926 to 77.5 years in 1976, an extension of 18.6 years (Wilkens, 1979:18-28). It is noteworthy that the figures for life expectancy at age sixty indicate less dramatic improvement over that period: 1.4 years for males (from 15.8 to 17.2 years), and 5.46 years for females (from 16.5 to 21.96 years) (Ibid.:29). It appears we have done little to improve upon th Biblical span of "three score and ten" (Hobson, 1963:19).

reveal another set of diseases (the chronic-degenerative or so-called "Western diseases" [8] (Trowell and Burkitt, 1981:vii-xi)) which are prevalent today (1975:11).

Identifying Causes of Diseases

A key factor in the successes achieved by the public health "revolution," as it has been called (Public Health Service, 1979:vii), was gains in causal knowledge. Though often incomplete, this knowledge was effectively applied against *manipulable* bacterial agents and disease carriers, causes understood as *necessary* in the production of particular infectious and communicable diseases (Robertson, 1975:165-166).

In addition to clinical practice and the experimental sciences, the discipline of epidemiology contributed substantially to the creation and verification of this knowledge.

Epidemiology

Clark (1965:40) identifies the primary concerns of this area of study as "factors and conditions that determine the occurrence and distribution of health, disease, defect, disability, and death among groups of individuals." In short, epidemiology *classifies* and *counts* disease events among *categories* of whole

---

[8] The current first-and second-leading causes of death in both Canada and the United States are cardiovascular diseases and cancer, respectively (Public Health Service, 1978:31; Statistics Canada, 1981:146). Accidental deaths rank third in Canada (Statistics Canada, 1981:146).

populations (or samples) in different *locations of space and time* (MacMahon, 1967a:82-83). Through analysis of differential occurrence of sickness across categories, hypotheses relating presumed causes to diseases can be generated and tested (Ibid.).

Epidemiology focuses on the "natural history" of a disease and divides that span into a period of "prepathogenesis," when the disease process or "agent" is confined to the "environment," and a period of "pathogenesis," when the disease "agent" interacts with the person or "host" (Clark and Leavell, 1965:16-19). This interaction is resolved in the latter phase with the host experiencing recovery, disability, or death. Preventive actions typically aim at altering the course of the interaction or interposing barriers that operate to the host's advantage. (Payne, 1967:19).

Explaining the Chronic Diseases

Modern epidemiology shed the classical "germ theory of disease causation," with its narrow focus on single necesary causal agents, [1]

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[1] Such a view provides an oversimplified conception of disease production. Though all diagnosed cases of an infectious disease (tuberculosis, for example) show evidence of the *necessary* causal agent (tubercle bacillus), these agents (bacilli) are not in themselves *sufficient* to invariably produce sickness in all exposed individuals (Morgan, 1977:26; Morris, 1975:173-174).

This example illustrates Robertson's point that, like the chronic-degenerative disorders, the infectious diseases also reflect multiple influences (1975:165). For prevention purposes, however, they stand apart from the "chronic" conditions in that their natural histories frequently reveal

in favor of a broader conception of etiology. Researchers now cast their causal nets more widely to incorporate additional factors of potential explanatory power. The catch usually includes psychosocial variables such as social class, support networks, demographic characteristics, and personality traits (Berkman, 1980; Suchman, 1967b).

More inclusive causal thinking was needed to accommodate the chronic degenerative diseases which seldom display the operation of few singular causes. Instead, their natural histories demonstrate the influence of numerous, perhaps innumerable, factors of *sufficient* potency to produce illness, none of which are necessary singly (Morgan, 1977:6; Morris, 1975:174; Payne, 1967:19-20). For such degenerative conditions as heart disease and many types of cancer, for example, necessary causes are not presently known (Morris, 1975:158).

The study of chronic diseases and disorders reveals tangled causes and effects. Their natural histories include biological and environmental determinants that operate in life-long flows of interactions to form "chains of events" (Morris, 1975:174)[10] or "webs" of influence (Nettler, 1982a:154-155). A disease may eventually occur through the

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[9](cont'd)a limited number of *necessary* agents that are amenable to intervention. Robertson notes another overlap: some chronic diseases may also be communicable--tuberculosis, for example (Ibid.).

[10]Morris uses the following example as illustration: "In juvenile epilepsy: a family history, brain damage at birth, fever in infancy, aggravating perpetuating causes in a miserable home life and generally unsympathetic upbringing" (1975:174).

agency of a "precipitating" or "non-specific" (efficient) cause (Morris, 1975:175-176).[11] Moreover, the causes of disease entities, like the determinants of conduct, interact, cumulate and shift over time, often following nonlinear and unexpected patterns[12] (Greenhill, 1967:171; Nettler, 1982a:152-154).

Ecology

Embedded within this perspective is an ecological view of disease (and health) as dynamic processes arising in a "field" of forces established through the interplay of three environments: the animate, inanimate, and behavioral (psychological and social) environments (Berkman, 1980; Morris, 1975; Payne, 1967). The trend in prevention points to the behavioral environments (personal habits and styles of living, for example, as potentially the most efficacious points for intervention in degenerative processes[13] (Morris, 1975:182).

These brief points merely introduce the difficulties and vagaries that beset efforts to unravel

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[11]For example, inadequate nutrition can lower a person's resistance and thus serve as a precipitating or nonspecific cause for outbreak of infection.
[12]"Different combinations may be operative in different situations, as seen in dental caries and gout; they may add together as in cigarettes and air-pollution, or multiply--cigarettes and asbestos" (Morris, 1975:158).
[13]Lalonde, for instance, asserts "that improvements in the environment and an abatement in levels of risks imposed upon themselves by individuals, taken together, constitute the most promising ways by which advances in health status can be made" (1975:65).

causal processes in the health domain. They remind us of the complexities in the causal systems under consideration as well as their built-in constraints on prevention.

Complexities and Limitations

It would seem that because the chronic diseases and other pathologies have many causes, multiple opportunities exist for prevention specialists to intervene. The lively questions ask: "Out of the multiplicity of contingencies preceding a disease event, which one(s) should be singled out for attention?" "How and when do these workers intervene in the causal complex?"

Only limited scientific information is at hand to provide guidance in these matters[14] (Morgan, 1977:6). Of course, meliorative programs are still advocated and pursued on the basis of political motives, the intervenors' moral urges, and factors of convenience despite the shortage of "hard" data.

Averting the chronic disorders would be easier if they had unique and easily detectable causes. But the view that these conditions arise in *dense* causal systems argues against the likelihood of discovering such factors. It also suggests that prevention programs are constrained in their

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[14] There are exceptions. For example, a large body of evidence links cigarette smoking to the development of lung cancer; however, detailed knowledge of specific etiological agents and processes is still lacking (Lewy, 1980:60-65; Morris, 1975:183-185).

efficiency. MacMahon and Pugh (1967:17) point out several limiting factors:

1. The selected causes must be open to intervention. They may not be the most powerful ones, however.

2. Manipulation of the selected causes (reducing the availability of cigarettes or alcohol or imposing other life style restrictions, for example) may not be acceptable to the populations affected.

3. To prevent disease or any other undesirable event on a mass scale requires interference in the existing ecological order, disruption that carries the liabilities of additional, unintended, and possibly destructive effects.[15] *Iatrogenic* damage, injury inflicted by medical treatment, is one category of undesirable effects (Illich, 1975:22; Morgan, 1977:10-15).

4. Regarding psychosocial determinants, a multiciplicity of causal pathways connect these factors with disease outcomes (Berkman, 1980:62).

Reflection on these complexities and constraints gives little reason for optimism about conquering the degenerative disorders. At best, the mission proceeds with "the immediate hope...to learn enough of the pattern of causes for an acceptable regimen to be stated that will make good sense in terms of health and achieve some primary prevention, at a

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[15] In the aftermath of the "great sanitary awakening" that stirred industrialized populations during the 1800s, epidemics of poliomyelitis occurred. Evidently, environmental filth in earlier days had conferred immunity against the disease (MacMahon and Pugh, 1967:17).

known and *bearable cost*" (Morris, 1975:182, emphasis added).

B. **FROM DISEASE TO HEALTH**

The traditional way to assess health was through disease. Over time, physicians described the natural histories of the diseases they encountered. Descriptive taxonomies evolved from these observations. *The International Classification of Diseases, Injuries, and Causes of Death*, advanced by the World Health Organization, is a widely used nomenclature for coding the causes of death (Linder, 1967). Assorted vital statistics, such as mortality rates, and morbidity levels as measured by hospital admissions, recorded contacts with doctors, and community surveys, are the traditional indices applied by epidemiologists to assess the health status of populations (Chambers, 1982; Siegel, 1967).

Though death rates and the incidence and prevalence of disease reveal much about health, they do not represent health. Health is usually taken to mean more than the absence of disease (Greenhill, 1967:124; Kass, 1975:21; Payne, 1967:21). The terms themselves--"disease" and "health"--offer clues as to the wider meaning of health. The word "disease" carries the Old English referent "without ease" and the word "health" signifies "wholeness" (Clark, 1967:4; Kass, 1975:25).

In the view of Kass (1975:25), the expressions "wholeness" and "working-well" capture the essence of this

broad health concept. For an organism to be whole implies that it works well; thus, the standard of wholeness or health is "proper function" (Nettler, 1976:33). Medical practice incorporates this test to assess the operation of patients' bodily parts and systems.

Ecology of Health

The notion of health as wholeness fits into the ecological perspective referred to earlier. Life in an ecosystem is conceived to involve adaptive balance in a process of continuous adjustment (Park, 1972:17-18). Adaptive balance occurs along a gradient that admits of variations across time, place, and person.

In general, the individual's genotypic materials, a biogenetic endowment, develop through interaction with the animate, inanimate, and behavioral environments to produce unique phenotypic results, some of which are expressed through the distinctive "self" (Hoyman, 1975:513; Payne, 1967:20-21).

Health status, one long cluster of these interactions, occurs in degrees from idealized health to death. The codeterminants of health status include genetic and environmental factors and inputs from the self and experience (Hoyman, 1975:511). Disease signifies "ecological defect" which tips the balance in the negative direction, while health indicates "a dynamic expression of a favorable ecological balance" (Payne, 1967:4).

Ecological Balance

The cultivation of prevention in the fields of medical ecology yields conceptual gains, but not without costs. Regarding benefits, this broad "systems" approach makes it easier to think about the degenerative diseases with their long histories and multiple antecedents. It readily subsumes the traditional epidemiological model of "agent-host-environment" interactions as well as the more recent "health-field" variants of that model.[16] It also gives wide latitude for the development of preventive interventions.

This broad view emphasizes the connection between a population's health status and its way of life[17] (Kass, 1975:30). It points to domains in personal life in which individuals have power and responsibility to nurture and maintain their health (Begin, 1978:3; Greenhill, 1967:104a; Kass, 1975:31).

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[16] Laframboise (1973) and Lalonde (1975) detail a "health field concept" that represents diseases as interacting with four other elements: human biology, environment, life style, and health care organization. The attention accorded to this model in prevention circles is largely due to the emphasis it places on environmental conditions and social factors--chiefly the self-imposed risks--in the etiology of disease.

[17] This is supported by traditions going back as least as far as the Greeks and also by recent studies, such as that of Belloc and Breslow (1972), which found that the health status and longevity of a sample of Californian adults correlated with adherence to such mundane health routines as sleeping 7 to 8 hours per day, eating regular meals, exercising daily, and abstaining from cigarettes.

Thus, one mission of health promotion is to persuade people of the necessity for action and to convince them of their power and responsibility to achieve "favorable balance" in their own state of health.

As for costs, we note that the system is open-ended, a property encouraging the inclusion by well-meaning persons of a wide assortment of conditions and needs the fulfillment of which promise wholeness in health (Hoyman, 1975). The conditions frequently cited for the attainment of "favorable balance" in health status for a population are similar to the "positive assets" noted by Payne (1967:22): "education, an adequate diet, a controlled environment, wise living habits, good economic and working conditions, social stability, and adequate medical and dental services."

Other theorists, sensitive to human spiritual needs, stress the "search for personal fulfillment and meaning" (Hoyman, 1975:511). Here, at the top end the health gradient, discussion shifts entirely into the domain of values and considers health in the galaxy of other goods that comprise "worthy" human life (Kass, 1975:42).

These discussions explore what it means to be alive and human. From the viewpoint of conducting efficient prevention, however, a heavy load of plausible but vague, laudable but untestable,

prescriptions provides less guidance than matter for debate (MacMahon, 1967a:93; Payne, 1967:23).

Other drawbacks have been noted with conducting prevention in an ecological web where everything is related to everything else. One limitation, as indicated earlier, is the probability that prevention activities will have unintended effects. Some may do damage.

Several analysts caution that the implication of a wide array of factors in the etiology of disease runs the risk of "medicalizing" (with associated preventive efforts) large segments of what was once simply regarded as the human condition (Illich, 1975; Miles, 1978; Wikler, 1978:333). People may thus be encouraged to expect unbounded improvements in health and longevity [18] (Miles, 1978:36-37). They also argue that this expansion of the scope of medicine and prevention will encourage individuals to present at their doctors for "pastoral care," to seek advice on personal troubles that are better dealt with by others (Kass, 1975:14-18; Wildavsky, 1979:286).

Our discussion now advances to consider aspects of mental health. We shall see that difficulties compound

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[18] The idealism of the World Health Organization's definition of health is seen by Miles (1978) and others as fostering this trend. Developed by WHO in 1946, this vague but influential conception defines health as "a state of complete physical, mental, and social well-being and not merely the absence of disease and infirmity" (Ahmed and Kolker, 1979:113).

in efforts to prevent mental disorders and to [illegible]mote psychic well-working.

C. THE MENTAL DIMENSION OF HEALTH

The ecological concept provides a broad framework for conceptualizing health that does not draw a sharp boundary between the mental and physical dimensions of health. It recognizes that they are interpenetrating parts of the whole. This is consistent with the phenomenon of psychosomatic illness, for example, which suggests a strong but difficult to disentangle mind-body interaction (Cassel, 1974; Greenberg, 1977).

Inclusion of the mental health component leads to an "holistic" view which

> now becomes not only possible in public thought, it becomes imperative. It is one which views man's health, state of illness, response to environmental changes, feelings, beliefs, education and habits of lifestyle as integrally related (Burns, 1979:8).

At this idealized level, the province of health is seen to extend beyond the absence of disease to incorporate "a process, a way of life" dedicated to "growth and wholeness" and such valued human ends as "...joy in living and hope in the ultimate resolution of life's conflicts" (Bloom, 1979:189).

Though high-sounding, these words remain vague. For instance, we debate on which persons to emulate as models of

"holism."

Other old difficulties persist. As Price et al. (1980:11) point out, the definitional task is no easier (perhaps even harder) with health than with disease.[19] In addition, ideas of "high-level wellness," "positive health," and "favorable balance" elude efforts to operationalize and test them (MacMahon, 1967a:93; Panzetta, 1971:26-27). Panzetta argues that vaguely designated concepts offer little advantage in the prevention business, only adding to "the ever-growing mass of clutter" (1971:34).

The task of definition becomes even more problematic when mental health is considered and distinctions between the mental and physical components are sought. Moreover, it seems inappropriate to apply the label of "illness" and attribute disorder to mental states and behaviors that in some situations might be advantageous or considered normal (MacMahon, 1967b:325).

Classification of Mental Disorders

Many styles of feelings, thoughts, and behaviors have been defined as indicative of psychological dysfunction. One nomenclature widely used by mental health workers is the American Psychiatric Association's *Diagnostic and Statistical Manual-III (DSM-III)*. The *DSM-III*, emended and expanded in 1980, lists seventeen diagnostic categories as

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[19]Clinical practice has a far longer tradition and far more extensive procedures for reading the signs and symptoms of disease (Plunkett and Gordon, 1960:18-19).

having a complex of developmental, etiological, and symptomological frames of reference (American Psychiatric Association, 1980).

Our discussion need not consider the full range of these disorders. It will suffice, following the lead of MacMahon (1976b:325), to note five broad groupings of disabilities: (1) conditions of "Mental Retardation" such as Down's syndrome and phenylketonuria, (2) "Organic Brain Syndromes" such as acute alcoholic intoxication and senile dimentia, (3) "Psychotic Disorders" such as schizophrenia, paranoia, and other affective disorders, (4) "Psychoneurotic Disorders" such as the anxiety and phobic neuroses, and (5) "Personality Disorders" such as sexual deviations and alcoholism.

Locating Causes of Mental Disorders

Of main importance at present is the shift signified by these labels in the presumed causes of the psychopathologies from those with definite organic bases to those with less clear-cut physical origins (Gruenberg and Sanders, 1965: 394; Nettler, 1976:42). Specifically, disorders classed as mental retardation or organic brain syndromes appear either as a direct result of, or in association with, identifiable organic damage in the central nervous system or other tissues (Nettler, 1976:34). There is less certainty about the role of organic antecedents in the development of psychoses. However, twin studies have fairly convincingly

demonstrated a constitutionally based predisposition to schizophrenia (MacMahon, 1967b:336; Nettler, 1976:55).

The etiological picture of the psychoneurotic and personality disorders becomes fuzzier. Though all of the mental disturbances must operate on some physiological basis, the causes of these latter types remain unspecified and controversial (Nettler, 1976:34). Present knowledge does not attribute them to specific physical deficiencies or lesions and hence these "functional" disorders are assumed to more ambiguously involve the actor's "total personality" and an array of environmental factors (Ibid.).

In general, most analysts agree that the biogenetic factors diminish in direct (though not necessarily indirect [20]) etiological importance relative to psychosocial variables as we move from the organic syndromes and psychoses to consider the less severe personality impairments. They uniformly emphasize the multifactorial but obscure causal processes operating in these latter disorders (Caplan, 1964:11; Greenhill, 1967:165; Panzetta, 1971:110-112; Park, 1972:27; Plunkett and Gordon, 1960:28-32). The consensus breaks, however, regarding the confidence with which these observers prescribe action programs to avert psychpathology, given the lack of verified knowlege about etiology.

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[20]Constitutional factors may still dispose individuals to pathology, but they interact less strongly with other factors or from a more distant position in the web of influences leading to disorder (Morris, 1975: 155-158).

Moderate-to-heavy weight is usually assigned to variables rooted in living conditions, life style, and various sociocultural systems as significant causal agents for the personality disorders and, in particular, for maladjustments in social functioning (Albee, 1982:1044; Berkman, 1980:51; Gruenberg and Sanders, 1965:397-400; Morris, 1975:219-220). Such disturbances frequently surface on the community level as "social problems" such as absenteeism, alcoholism, drug dependence, accidents, suicide, divorce, delinquency, and criminality (Bjornson, 1971:81; Lalonde, 1975: 21; Roberts, 1968:12). These maladies of civil life are the targets of a growing battery of prevention programs.

Criteria of Mental Disorder

We judge persons to be mentally disordered when their behaviors violate our collective standards of how people ought to feel, think, and act (Nettler, 1976:34). As with physical health, the essential standard of wholeness is *efficient function* in the performance of life-supporting tasks (Kagan, 1975:4). As regards their mental health, persons are assessed on the pivotal standard of *efficiency* in their dealings with others and coping with reality (Nettler, 1976:35). The content of these standards varies from culture to culture. Applied in the task of identifying disorder, they yield judgments of greater certainty and agreement at the extremes of behavior than in the middle,

more "normal" part of the range (Morris, 1975:220; Nettler, 1976:34).

Frequency of Mental Disorders

Counting cases of psychopathology (either incidence or prevalence) in a population offers the important utility of estimating the group's risk of developing the disorders under study (MacMahon, 1976a:97-99). Precise tallies of the occurrence and distribution of psychiatric disabilities are unavailable, however, due to such factors as undetected cases, underreporting of mild cases, and the unavailability of refined measures (MacMahon, 1976b:325-329; Plunkett and Gordon, 1960:11-14).

Prevalence surveys suggest that manifest mental disorder occurs in anywhere from one per cent to twenty per cent of the general population in North America, depending on the sample, place, and time (MacMahon, 1967b:325-327; Roberts, 1968:12). Indices based on *reported cases* provide conservative estimates of the extent to which these disturbances come to the attention of health care professionals. For example, Lalonde (1975:25) reports that in 1971 approximately one-third of all hospital beds and hospital days in Canada were accounted for by mental care patients.

Summary Complications

The impediments that frustrate efforts to enumerate the mental disorders and to gain insights into their causal mechanisms are interlocking difficulties attributable in part to the limitations of measurement (Panzetta, 1971:34; Plunkett and Gordon, 1960:12). This directs attention once again to the taxonomies used to label disorders. As noted earlier, the available classifications work adequately to identify extreme behaviors but only imprecisely distinguish "slightly" deviant behaviors. Subdivision of this kind lets information "slip through," which increases measurement error.

It is desirable that a classificatory system specify to the highest degree possible the phenomena subsumed within each of its categories. This characteristic makes it easier to devise operational definitions with which to count these events, procedures indespensible for experimental and epidemiological study [21] (Clark, 1965:40-43; MacMahon and Pugh, 1967:13-14).

Definitions vary, of course, but they have power to specify aberrant behavior. For example, does homosexuality constitute a disorder or a sexual preference? Beyond what threshold does heavy drinking grade into alcoholism? This ordering of phenomena has implications for treatments

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[21] The importance of clear definition and clean measurement is underscored by Plunkett and Gordon's emphatic, if pessimistic, point "...that true progress toward a grasp of mental illness in the population, as in the individual, will not begin until the validation and universal acceptance of a precise diagnostic system" (1960:93).

devised, preventive actions undertaken, and, most certainly, for the numbers of people designated as disordered.

D. **Prevention in Mental Health**

Prevention, as related to mental health concerns, is no more a spontaneous development midway through the twentieth century than the rise of the public health movement was seventy-five years earlier. Though in their origins they concentrated on different aspects of health, the two fields have similar inspiration and interests.

Efforts to promote "mental hygiene" through educational means occurred in North America as early as 1843 (Roberts, 1968:14).

Prevention in mental health has been part of that pervasive and optimistic tradition within liberal social philosophy in the United States that the transformation of society, especially the amelioration of social problems, can be readily achieved through "social engineering" (Scott and Shore, 1979:7).

Rae-Grant et al. (1966) note the surge of interest in mental health set off by U.S. President Johnson's declaration of "war on poverty" amid the social activism of the mid-1960s. They describe these events as a national effort to consummate the New Deal goal of providing the industrious with the means to win a secure niche in American life; however, at this latter stage, members of minority groups, "the paupers, the multiproblem families, or the

culturally deprived" were to be the focus of attention (Ibid.:654).

The community mental health thrust inaugurated in 1963 by U.S. President Kennedy emphasized the prevention of mental disorders and the "strengthening of community" (Price et al., 1980:9).

Hobbs (1964) identified three developmental turning points, three "revolutions" in the history of mental health. The first centered on the provision of humane treatment for the insane; the second grew out of the work of Sigmund Freud; and the third, which he saw as imminent, signalled the application of public health techniques in the prevention of mental disorders.

The prevention movement in mental health drew elements from, but emerged in reaction to psychoanalytic psychiatry, which emphasized the phenomenal world of the individual and the resolution of conflicts ostensibly generated by repressed drives (Caplan, 1964: 11-12; Hobbs, 1964:823; Rae-Grant et al., 1966:656).

The fighters of mental health's third revolution believed that psychotherapy alone was ill-equipped to diminish the high prevalence of disordered and maladaptive behaviors seen among the underprivileged due to the limited volume of clients that could be assisted through time-consuming, one-to-one encounters [22]

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[22]In addition, mounting evidence indicated that clinical services were disproportionately used by the advantaged classes while the lowest income groups were overrepresented in the populations of state-run mental hospitals (Hobbs,

(Albee, 1982:1045; Hobbs, 1964:822). They envisioned alternative means that would avert *new cases* of disorder and, at the same time, might be delivered utilizing economies of scale. Such structures were ready-made within the public health framework. They found the public health ideas of "early detection, of prophylaxis, and prevention, or adequate treatment of all regardless of wealth or social position" suited for mass mental health initiatives (Hobbs, 1964:825).

Social-Adaptive Model

Assumptions

A *social-adaptive model* of prevention (McPheeters, 197_) arose from these circumstances. It has come to dominate primary prevention and health promotion activities in the mental health domain. The model rests on four interconnected assumptions.

1. The *assumption of psychogenesis* holds that the thought and behaviors associated with both healthy and unhealthy adjustment are *learned* and thus "...caused by antecedent interpersonal conditions and events" (Kessler and Albee, 1975:562).

2. The *assumption of the causal power of social conditions* attributes psychopathology to strain-producing environmental factors. In particular, it locates the major determinants of the social

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[22] (cont'd) 1964:824-825).

disabilities experienced by the poor within the "culture of poverty" (Albee, 1982; Kessler and Albee, 1975; Rae-Grant et al., 1966; Vance, 1973).

3. The *assumption of educability* reasons that cognitive processes, the contents of which are based on experience, affect the quality of mental life. It implies that undesirable or dysfunctional behaviors can be improved by modifying cognitive processes through new learning (Randall, 1981:3-4; Rae-Grant et al., 1966:660-661).

4. The *assumption of perfectibility* argues that human beings incline naturally toward self-fulfillment and, with provision of rational and just means, they can effectively improve themselves and their styles of living (Albee, 1982; Hoyman, 1975). (Assumptions one and four are introduced here but comment on them will be reserved for the discussion on primary prevention and health promotion in Chapter 3.)

Framework for Prevention

The social-adaptive model channels preventive activities according to two intertwining rationales: (1) competence building and (2) stress management (Randall, 1981).

Competence Building

Expanding people's competencies is a key element in the approach to prevention in mental health advanced

by Rae-Grant et al., (1966) and extended by Randall (1981) and others.

Briefly, Rae-Grant el al. developed their thinking in relation to the "culture of poverty." They observed its environmental correlates: in general, crowding, run-down housing, blighted and dangerous urban districts. The inhabitants were often members of minority groups and characteristically poor, with little education, and unemployed. They frequently experienced other troubles and privations: inadequate nutrition, social isolation, cultural disarray, broken homes, high rates of crime and delinquency, as well as alcohol and drug abuse. Rae-Grant et al. advocated competence-building strategies to "give persons formerly deprived or incapacitated the means to reach out now and grasp the opportunities which society is preparing itself to offer them" (1966:655).

Reflection on the material conditions of the "culture of poverty" and the characteristics of its inhabitants led Rae-Grant et al. to conclude that significant numbers of these individuals were deficient in the ego processes needed "to be competent in a symbol-laden, rapidly moving, technological world" (Ibid.:657-658).

A number of capabilities were seen to be in short supply in addition to the ego skills of *differentiation*, the "data-processing" functions of

personality which involve the retention and manipulation of ideas and images (Ibid.:658). Randall (1981:3-4) summarizes them as follows:

> 1. Developing and using new concept and symbol systems (processes of ego expansion),
> 2. Skills in assimilating data about oneself and the world so that these are connected to old data (processes of ego integration),
> 3. Skills in testing perceptions and mediation through action (processes of ego fidelity),
> 4. Skills in managing overloads or underloads of stress (processes of ego pacing).

Rae-Grant et al. regarded their approach as sharing with most mental health therapists the central concern of extending the social competence of their clients (1966:659). Pursuit of this end through community-based preventive actions held the added promise of elevating the poor and the disordered into middle-class security.

Stress Management

The competence-building rationale connects directly to the hypothesis of stress-strain-breakdown. Stressors exert their influence on individuals from external and internal sources. They may experience strain; beyond some variable threshold, they break. The existence of strain is typically inferred from its putative outcomes: physical disease, and disordered thoughts and behaviors.

In broad ecological terms, strain need not be a destructive force. Indeed, in its milder forms, labeled less malevolently as "stimulation" or "pressure," it is regarded as essential for the full development of the organism (Payne, 1967:22). Questions about optimal levels of stimulation for psychological and physical growth in human beings remain open to debate (Sandler, 1979:216).

Stressors are ubiquitous in [illegible]an environments. As Randall (1981:3) points out:

> There is no stress-free condition of human beings. There is continuous adaptation and coping, which may be more or less adequate.

As noted above, the rationales of competence-building and stress management interlock. In the Rae-Grant et al. formulation, persons who live in a "culture of poverty" are believed to face a double jeopardy. They encounter compound stessors in an environment of high risk and great deprivation. It is further believed that they are more likely than persons better placed in the social hierarchy to experience damaging levels of strain because they lack the cognitive machinery to manage the distress. Thus, the preventive imperative is to build competencies. For "increased social competence," Rae-Grant et al. write, "leads to increased ego strength and...this stronger

ego is inherently better able to cope with conflict and anxiety" (1966:660).

Other writers in the field of preventive psychiatry have broadened the stress-strain line of reasoning by focusing on "periods of adjustive crises" during adolescence, middle age, old age (Lazarus, 1969:28-29), and on trauma experienced through illness, divorce, aging, work, separation, and bereavement (Ibid.; Caplan, 1964). These "life stress events" have been observed to cluster and correlate with the onset of physical conditions such as hypertension and tuberculosis, for example (Cassel, 1974; Greenberg, 1977) and assorted mental and behavioral impairments: clinical syndromes involving depression and anxiety, multiple accidents, alcoholism, and delinquency, for example (Dohrenwend and Dohrenwend, 1974; Randall, 1981; Sandler, 1979).

The twin rationales of competence building and stress management combine to form the underpinnings of the social-adaptive model of prevention. Advocates of this model call attention to three pivotal "S's" of prevention: "Stresses, Skills, Supports" (Rae-Grant et al., 1966:661). Intervention dedicated to reducing environmental stressors, developing coping skills, and providing emotional supports are believed to encourage favorable adaptation and positive mental health (Randall, 1981).

Locating the Causes of Mental Disorder

Although the theorists who have contributed to an educative approach to prevention acknowledge the operation of organic factors in the etiology of certain psychopathologies, they uniformly place the burden of causality for the majority of disorders that beset society, and the disadvantaged in particular, within the actors' environments.

Caplan (1964:58) concedes the difficulties in specifying agents and processes in the living conditions of the poor that are responsible for psychic breakdown. But he adds that "there appears to be validity to the assumptions that adequate food intake, proper housing, and opportunities for sensory stimulation and recreation are conducive to mental health and that their lack favors increased vulnerability to mental disorders..." (Ibid.).

Rae-Grant et al. are unequivocal on this point. They situate the primary causes of mental disorder squarely in the social arena. "Significant numbers of people", they write, "live in circumstances which are incapacitating for those who grow up in them and that these circumstances are created and sustained by the dominant institutions of the larger society" (1966:655).

Albee (1982) agrees. He points to "environmental stresses that are responsible for the higher rates of

emotional disturbance among the poor, the powerless, the disenfranchised, and the exploited" (Ibid.:1043).

The evidence adduced by supporters of the social-adaptive model comes from studies such as that of Hollingshead and Redlich (1958) which found that the prevalence of certain mental disorders (schizophrenia, for example) was inversely related to social class. Such findings have led social-learning advocates to conclude that the causes of psychopathology reside in the social environment.

Another argument marshalled in support of this developmental hypothesis reasons that emotional and behavioral impairments among people *throughout* North American society occur as "...a result of dehumanization, powerlessness, and victimization by social cruelty" (Albee, 1982:1044).

Criticisms of the Social-Adaptive Model

The validity of this reasoning has been contested. Asserting that social conditions *cause* psychopathology involves, critics say, the error of mistaking correlation for causation (Lamb and Zusman, 1979:12; Panzetta, 1971:112). That the two are associated--like hospitals and death--does not mean that they are connected causally.

The assumption that the powerful causes run from social conditions to mental disorders has also been challenged. Some analysts maintain that this reflects a moral preference

that ignores two other sets of pathways: (1)that causal influences operate within people's constitutions, and (2) that psychic impairments can be produced jointly through the interaction of determinants from both sources (Miller, 1980:69; Nettler, 1982b:39-40; Starr, 1982: 28-31; Vance, 1973:498).

Conceiving of poverty as unidimensional is simplistic, and therefore misleading. Poverty exists on a gradient, not as an all-or-none condition, and the meaning of being "poor" varies among the unprosperous (Bjornson, 1971: 74; Nettler, 1982b:40).

The social-adaptive model posits a stress-strain connection between social deprivation and psychopathology. Insodoing, it faces the challenges of demonstrating that persons living in a "culture of poverty" face *more* stressors than people in the working-to-upper classes do, that they experience *more* strain, that this status places them at *higher* risk of derangement, and that emotional and behavioral deficits can be meliorated through cognitive-rebuilding strategies. To date, demonstrations verifying these points have not been forthcoming (Cumming, 1972:165; Lamb and Zusman, 1979:14).

A competing view holds that the social learning thesis overlooks the possibility that disordered emotions and behaviors occur as *contingent* events in an intricate causal complex. For instance, Nettler argues that a more accurate view considers poverty as a "broad covering concept" which

may include some of the "multiple and shifting *efficient causes* of conduct" (1982b:40, Nettler's emphasis).

In addition, causal analysis for prevention need not confine its search for agents of psychopathology in the social environment. As Chapter 4 notes in relation to certain types of alcoholism, precursors of breakdown operate through the constitutions of individuals (Lamb and Zusman, 1979: 16; Nettler, 1982b:91-92).

This alternative hypothesis better accords with historical experience and with the uniform record of failure generated by the early programs that attempted to eradicate poverty as the "root" cause of social marginality and mental disorders (Lamb and Zusman, 1979:13; Panzetta, 1971:31; Starr, 1982:31).

Clearly, as people who value material security, few of us would campaign against the elimination of poverty. As Cumming (1972:166) points out, "no one knows whether or not vile living conditions actually cause mental illness, but in a civilized society they should be found intolerable just because they are vile." However, this moral response has had limited utility as a guiding rationale for prevention.

Students of mental disorders sometimes conclude rather simplistically that stressors directly cause psychopathology because the two are observed to go together (Cassel, 1974:471-472; Lamb and Zusman, 1979:14). This notion does not apply as directly in the explanation of human conduct and health status as it does in engineering, where the

concept originated.

Even in laboratory research done with animals under controlled conditions, findings remain inconclusive and researchers disagree on the role of psychosocial stressors in the genesis of disease (Cassel, 1974). They have made little progress beyond establishing that changes in endocrine function accompany alterations in social milieu (crowding, for example), events interpreted to be strain-generating. These factors are also believed to contribute to assorted pathological outcomes.[23]

In this context, psychosocial stressors are classed as "conditional stressors," pressures contingent for their damaging effects on an array of other influences that include the individual's biogenetic endowment and experiences (Cassel, 1974:473; Sandler, 1979:214). Of particular importance for humans are such intervening variables as the presence and nature of sources of support and the disparate meanings that people assign to stress events.

The writing and research on stressors in mental disorders in human populations are bedevilled with weaknesses in the definition and measurement of both the dependent and independent variables (Sandler, 1979:213). These studies often fail to specify measures of strain *independent* of the disease and derangement allegedly caused

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[23]Examples include higher rates of maternal and infant mortality, greater frequency of arteriosclerosis, and reduced resistance to disease agents, noxious drugs, and x-rays (Cassel, 1974:473).

by this process (Nettler, 1976:57). They also leave unanswered the questions of "*who* becomes ill under stress, *why* th[illegible] same stressor will trigger different individuals, and *why* other persons remain unaffected and healthy under the same pressures" (Randall, 1981:4, Randall's emphasis).

Other concerns arise that bear on the feasibility of preventing mental disorders through "social engineering" efforts. Allowing that prevention workers might gather evidence revealing the causes of disorder, it does not follow that this knowledge equips them to intervene efficiently, that is, to produce desirable outcomes as net effects (Panzetta, 1975:112; Lamb and Zusman, 1979:14). This refers in part to the distinction between "knowing" and "know-how," two important but separate aspects of knowledge (Nettler, 1982b:91).

When prevention programs grade into political activism for social reform, the question arises whether mental health professionals have any more jurisdiction or expertise to carry out this work than educators, social workers, politicians, the clergy, the police, or other thoughtful persons do (Cumming, 1972:167). Advocates of such programs often counsel for the necessity of "social overhaul" (Albee, 1982; Randall, 1981). Critics, such as Panzetta (1971:112) and others, regard primary prevention without specification of causal variables as "benevolent gambling" with public funds.

The issues raised here remain lively throughout our review. They qualify efforts to prevent alcohol abuse and reappear in Chapter 3, which draws distinctions between primary prevention and health promotion.

III. PRIMARY PREVENTION AND HEALTH PROMOTION

A. LEVELS OF PREVENTION IN PHYSICAL AND MENTAL HEALTH

The discussion thus far has used the term "prevention" to broadly label efforts to anticipate and avert the occurrence of physical and mental disorders. The present chapter examines the concept more closely; in particular, it distinguishes three levels of prevention and differentiates between *primary* prevention and *health promotion* as they apply to physical and mental health concerns.

Hierarchy of Preventive Actions

The classical, public health formulation recognizes three orders of prevention: *primary*, *secondary*, and *tertiary* (Clark and Leavell, 1965). They apply at different phases throughout the natural history of a disease.

Tertiary measures attempt, through rehabilitation, to control existing disease during the latter stages of pathogenesis. With a focus on maximizing residual capacities, they assist the patient to adjust to disease-induced impairments (Ibid.:26).

Secondary prevention occurs when there are manifestations of disease, but early in the period of pathogenesis. It has two dimensions: *early diagnosis* and *prompt treatment*, which depend on case-finding surveys and examinations, and *disability limitation*, the medical

interventions that aim at arresting disease and preventing complications (Ibid.:24-26). By isolating disease and halting its progress, successful treatment also has preventive effects.

Secondary and tertiary prevention together subsume efforts to control manifest disease and, in the long run, to reduce its occurrence. They operate within the domain of curative medicine and affect disease *prevalence*, that is, the total number of cases at a point or over a period within a specified population at risk (Siegel, 1967:69).

Early detection of tractable disease combined with effective treatment and rehabilitation methods may diminish its prevalence. However, these methods cannot match the potential for gaining mastery over prevalence offered by strategies designed to reduce disease *incidence*, that is, the rate at which *new* cases occur within a specific population at risk (Ibid.). This is the promise and goal of primary prevention.

Primary prevention occurs before the onset of disease, in the prepathogenesis period. It consists of two categories: *health promotion*, which attempts to "promote general optimum health" through such measures as health education, nutritious diet, supportive family life, and adequate housing and working conditions; and *specific protection*, which comprises initiatives such as immunization programs, environmental protection, sanitary engineering projects, and protection from specific occupational hazards

(Clark and Leavell, 1965:20-24).

Park (1972:31) comments that the epidemiological model within this framework includes three core strategies for doing primary prevention: "(a) the removal of the noxious agent, (b) preventing contact between the agent and the host, and (c) the strengthening of the human host to increase his resistance to the noxious agent." Park further describes health promotion in this framework as "an ideal, a striving after perfection into which many practices fit"--such as the promotional measures cited above (Ibid.:29).

Leavell and Clark suggest that health promotion contributes to public health by its use of "community health education technics to persuade individuals to avail themselves of helpful procedures" (1965:8).

As a concluding point, the success of public health's specific measures (immunizations and sanitary controls, for example) in curtailing the incidence of numerous infectious diseases verified the efficacy of primary prevention techniques and validated the disease model. Chapter 2 noted, however, that the chronic-degenerative conditions and disturbances of mental health appear to be less amenable to prevention through specific measures.

B. PREVENTION AND PROMOTION IN MENTAL HEALTH

The three-level public health formulation of prevention has been applied in programs to avert mental-behavioral disorders. These efforts are comprised of tertiary or rehabilitative measures, secondary or cas detecting activities, and primary or incidence-control interventions. Our discussion will focus on specific measures and health promotion at the primary level.

The public health approach has proven successful in the prevention of a limited number of mental disorders. Not surprisingly, success depended on the *identification of necessary determinants* and reliable knowledge of the natural history of disorders with which to devise specific interventions. A partial list includes measures to control environmental toxins such as lead; dietary regimens to prevent nervous system damage associated with nutritive disorders such as pellagra and Wernicke's encephalopathy, systemic diseases such as cretinism and genetic-based disorders such as phenylketonuria (PKU); vaccination of females prior to pregnancy as a preventive measure against rubella in their offspring; and prompt treatment of syphilis to avoid the later development of general paresis (Bloom, 1979:181; Eisenberg, 1962:344; Goldston, 1977:20; Roberts, 1968:40-47).

Genetic counselling is receiving greater attention as a preventive response (Eisenberg, 1962:344). In addition, major targets for health promotion are healthy fetal

development and the provision of nurturing environments for the young (Ibid.:344-345). Points that receive emphasis include maternal diet and drug use, prenatal care, and economic security and family stability (Ibid.; Roberts, 1968:39).

Prevention Based on Social-Adaptive Model

The dominant approach among mental health workers in the primary prevention of psychopathology differs noticeably from the public health formulation outlined above. These departures can in part be attributed to limited knowledge of the etiology of mental disorders and a preferred conception of health that emphasizes wellness over illness and disease.

The majority of disorders that mental health personnel seek to prevent arise without discernable organic impairment (McPheeters, 1976:189). Existing evidence indicates that the most severe psychiatric disorders such as schizophrenia and the affective psychoses are constitutionally based, although their specific causes remain unknown. The less debilitating psychoneurotic patterns and behavioral disturbances are thought to depend to a greater extent on life experiences and to reflect variable gradings of psychosocial influences and biogenetic predispositions (Bjornson, 1971:81; Roberts, 1968:48). Psychopathology derives from a complex of causes and may implicate factors that in themselves are *neither necessary nor sufficient* to be considered unique causes (Nowlis, 1979:10; Robertson, 1975:166).

A question arises whether the entities of concern to prevention workers in mental health are disease processes at all. The ecological view suggests that many disturbances are not disease entities but *conditions of maladjustment* arising in an ecological field dominated by tensions and pressures (Bloom, 1979:183; Goldston, 1977:21; Kessler and Albee, 1975:571-572; Moser, 1980:2-3).

In contrast to the medical pathology model of public health, an alternative "social-adaptive" model conceives of health as a "process of being" beyond the mere absence of disease (McPheeters, 1976). It recognizes levels of adaptation which are capable of being adjusted (through appropriate interventions) along a continuum crested by "optimal well-being" and "positive mental health" (Gruenberg and Sanders, 1965; McPheeters, 1976:190; Randall, 1981:2-3). The main question prompted by this view, according to Goldston (1977:21) is, 'How well is the individual or community?' rather than 'How sick?'

The theory and practice of prevention in the mental health field is conditioned not only by the ecological view, but also by the leading assumptions of the social-adaptive model.

Assumptions

Four assumptions of the social-adaptive model were introduced in Chapter 2. Two of them--the hypothesis of the causal power of social conditions and the assumption of educability--were described and their

limitations assessed. We now consider the two remaining propositions.

According to the *assumption of psychogenesis*, behaviors are caused by environmental factors operating through life experience. Advocates of this view emphasize that the individual's emotional and personality adjustment largely depend, for better or worse, on *learning* that occurs *early* in life; consequently they draw attention to meeting the affectional needs of infants, maintaining consistent rearing patterns, and providing enriched learning environments (Kessler and Albee, 1975:562; McPheeters, 1976:159). These aspects were the focus of preventive efforts during the 1940s and 1950s.

Finally, the *assumption of human and community perfectibility* bears more directly on health promotion. This position holds that human nature can readily change through training, that people in general have untapped capacity for "self-actualization," and that, where necessary, they can be moved through promotional and persuasive strategies to strive for higher levels of functioning, tolerance, competence, and well-being (Albee, 1982:1049; Brandt, 1982:1042; Gruenberg and Sanders, 1965:408).

This set of assumptions combine in the twin rationales of competence building and stress management to form the social-adaptive approach to primary

prevention. McPheeters notes in this regard that two major strategies open for *both* prevention and promotion are:

> 1) to work with individuals to help them avoid stresses or better cope with them, and 2) to change the resources, policies, or agents of the environment so that they no longer put people in stress but rather enhance their functioning (1976:192).

Bloom (1979:184) identifies competence building as the means for individuals to secure power and control in their lives, to develop coping strategies, and to bolster self-esteem. He regards "competence building as perhaps the single most persuasive preventive strategy for dealing with individual and social issues in most communities" (Ibid.).

Prevention and Promotion

The distinction between specific measures and health promotion strategies blurs within the social-adaptive model. As noted above, specific measures exist for the comparatively few mental disorders of known etiology. In the absence of such knowledge, specific measures cannot be devised to intervene in the set of events that lead to a specific type of impairment (Bloom, 1979:183).

Interest in stress-strain-breakdown and a focus on precipitating critical events rather than on

predisposing variables has given further impetus to the development of general preventive interventions (Ibid.:180-181).

McPheeters (1976:192) distinguishes preventive from promotional interventions on the basis of the *risk status* of their recipients. In this view, preventive programs are suited for populations with elevated risk of disorder. Common examples include prenatal classes for prospective parents, cognitive enrichment programs for culturally deprived children, supportive interventions during illness or bereavement, birth control information for teens, and orientation on alcohol and drug abuse. Promotion activities take place with the general population or subgroups that face average or unknown risk of psychopathology. General types include recreational facilities and programs, community action groups, early childhood education, senior citizen clubs, and job creation programs, for example.

Hershfield et al. (1981:11-12) regard prevention and promotion as being essentially equivalent on the action level. They suggest that the two are but obverse sides of the same coin, with promotion accentuating the positive side, that is, "staying well" or "getting better," and with prevention concentrating on the negative side, that is, averting breakdown or disturbance. These writers anticipate that people will

be more easily swayed by health promotion than by preventive messages on the assumption that they generally prefer positive over negative statements. We will return in Chapters 6 and 10 to consider the varying influence exerted by mass messages, depending on the nature of their appeals.

The social-adaptive model, with the assumptions and distinctions noted above, forms the basis of the definition of primary prevention adopted with modifications from Goldston (1977) by the Canadian Mental Health Association (1981).

> Primary prevention encompasses: (1) those activities directed to specifically identified, vulnerable, high risk groups within the community who have not been labelled as mentally ill and for (2) those activities directed to groups about which no assumption of risk is entertained.
>
> Measures are designed and undertaken to avoid the onset of emotional disturbance and/or to enhance the level of positive mental health. Programs for the promotion of mental health are primarily educational rather than clinical in conception and operation, with their ultimate goal being to increase people's capacities for dealing with crises and for taking steps to improve their own lives.

Criticisms of Prevention, Promotion

The social-adaptive model can be criticized on both theoretical and empirical grounds. For instance, despite laboratory and clinical evidence of the importance of

consistent mothering and nurturing environments for childre 's normal development, preventives aimed at enhancing parent-child interactions and providing cultural enrichment have not reduced the rates of emotional disturbance in adulthood (Bjornson, 1971:84; Kessler and Albee, 1975:562; Roberts, 1968:55). Bloom (1979:183) comments that the failure of preventive programs to modify basic endowments and early psychosocial influences prompted mental health personnel to shift their attention away from predispositional factors to precipitating or critical events, some of which occur as crises.

But this does not rescue the model. As we argued in Chapter 2, it is unwarranted to leap from crises to psychopathology without specifying the intermediate mechanisms linking stress to strain to breakdown. This has not been done, even for high risk groups.

As Cumming (1972:165) emphasizes, "all that stresses is not strain." Furthermore, it is an oversimplification to believe that some unspecifiable majority of persons who encounter stress are strained to the point of damage.

We may justify, on moral grounds alone, the provision of clinical support to persons during crises. However, there is no compelling evidence that such activities as counselling for prevention or teaching coping skills are conducive for personality growth or that conducting lessons in stress management and "values clarification" reduce the probability of future emotional disturbances (Ibid.:163-164;

Toews, 1977:4).

As developed in the social-adaptive model, the concepts of primary prevention and health promotion overlap to such an extent that use of two labels is for practical purposes redundant. Following the reasoning of this model, virtually any primary preventive (even intervention and emotional support during catastrophe) may promote health in the long run. As Bloom puts it, such efforts can "have a generally salutory but unspecifiable effect on health..." (1979:181).

The model touches on the human condition in its enormity; thus it implicates practically anything and everything in the prevention of emotional disorders and the fostering of well-being (Kessler and Albee, 1975:560). Its scope, diversity, and vagueness provide an equally grandiose array of definitions. Rae-Grant (1979:2) provides a partial listing:

> Primary prevention is...
>
> that which aims at reducing the incidence of new cases of disorders, disabilities and dysfunctions in a population.
> ...reducing stresses in the environment.
> ...raising individual and group immunity to stress.
> ...the development of optimal potential.
> ...the promotion of competence in its broadest sense, or...'copeability'.
> ...things done with groups of people.
> ...improving the quality of life in targeted populations.
> ...raising the general health of the childhood population.

In general, we value many of these things anyway, irrespective of whether or not they enhance our mental health.

More to the point, programs launched from these premises face immense definitional and measurement problems. Unless their sponsors make clear what the terms mental health or "optimum well-being" and mental illness or "negative tolerance" mean, they will not be able to say *what* they are preventing or promoting or to know the *extent* to which they have succeeded or failed (Bjornson, 1971:83; Kessler and Albee, 1975:561; Toews, 1977:3; Weinberger, 1980:8). Finally, program designers have not adequately specified how these constructs relate to the powerful causes of derangement.

Clarification of our concerns might show that many of the entities targeted for prevention (occasional mild depression, adolescent rebelliousness, and anxiety associated with job loss, for example) are not "genuine" psychopathogies at all, but "normal" and expected travails of existence. If this were so, efforts to prevent "needless distress" and to carry out society-wide programs to elevate individuals' well-being would be little more than meddlesome overreactions.

The global nature of primary prevention and health promotion tends to diffuse their effects, making their "worthiness" difficult to evaluate and reducing their credibility (Bjornson, 1971:82; McPheeters, 1976:193).

As noted earlier, action undertaken for primary prevention often has political repercussions. That mental health personnel would press for their style of mending the social fabric presumes an arrogance on their part (Cumming, 1972:167) and demands ideological commitments beyond the professional ethics of objectivity and rationality (Lamb and Zusman, 1979:16; Weinberger, 1980:8). They might better pursue their aims as concerned citizens.

Whatever their platform, health promoters rely heavily on persuasion in their programs, that is, presentation of messages exhorting people to adopt health-enhancing practices, to act on a "practical prevention ethic" in daily affairs (Brandt, 1982), to drive defensively, to communicate sensitively with spouse and children, to give up cigarettes, to drink alcohol moderately, if at all, and so on. However, our thesis argues that the extent to which the public will be moved by such appeals is an open question.

Kessler and Albee acknowledge the difficulties in determining how to reach the vague and often idealistic ends of prevention when they write that "one is faced with examining programs that are aimed at conditions of uncertain identification, and of unknown distribution, in an area where objectivity is lacking or may be unobtainable" (1975:569). Their conclusion (p. 577) to carry on with the same faith and hope of beneficial results that buoyed the miasmists who, in an earler era undertook misinformed, if effective, sanitary reforms, hardly provides solid footing

for conducting prevention as it is presently understood. A miasmatic approach to prevention may well contain inefficiencies that we can ill-afford today.

The discussion thus far has been wide-ranging. Our objective was to sketch a background of preventive practice in the areas of physical and mental health. We emphasized classification and causal analysis as underwriting effective prevention in health practice and highlighted the assumptions and weaknesses of the "social-adaptive" approach to prevention. This commentary will provide a context for our ensuing examination of a specific type of mental health intervention: mass-media based information campaigns on alcohol abuse.

The immediate task, that of Chapter 4, is to investigate the substance, alcohol, and various manifestations of its abuse.

IV. CONCEPTIONS OF ALCOHOL USE AND ABUSE

A. INTRODUCTION

For many North Americans, consumption of beverage alcohol is an accepted, often routine, aspect of life. The majority of persons between adolescence and old age drink at least on occasion (Hammond, 1978:30; Brusegard, 1980:41-42).

Not all of those who drink cause or sustain injury, of course. Experience shows that the minority whose consumption of ethanol ranges beyond some threshold face increased risk of sustaining organic injury and developing a wide range of personal, family, and social disabilities (Moser, 1980:xi).

This suggests that a distinction be kept in mind between general drinking practices and alcohol abuse (Schuckit, 1979:37). It also sensitizes us to the liabilities and costs of the comforts that we secure from beverage alcohol.

Prevention programs are launched to avert or reduce the extent, severity, and duration of damaging outcomes in which alcohol is causally implicated. Our thesis considers the power of promotional efforts to persuade people to alter behaviors thought to be relevant in the production of these adverse effects. By presenting an overview of alcohol use and abuse, this chapter provides a major component of the information needed to complete this work.

Historical Notes on Alcohol

Stone Age tribes fermented wines, beer, and mead during the Paleolithic period (Goodwin, 1981:20). These relatively mild drinks (containing up to about 14% alcohol) came to acquire a great variety of medicinal, religious, and convivial uses in early civilizations (Anderson, 1978:3; Kinney and Leaton, 1982:4-5). Goodwin points out that alcohol has been the "intoxicant of choice in Judaeo-Christian culture" (1981:22).

About 800 A.D., the Arabs discovered how to distill alcohol from fermented brews (Ibid.:4). Liquors such as brandy (meaning "burnt wine"), with an alcohol content of greater potency than the traditional beverages, were concocted (Anderson, 1978:4). The medieval alchemists subsequently hailed such products as *Aqua Vitae*--"water of life" (Fort, 1973:44).[24]

Mankind's relationship with beverage alcohol has always been problematic. The historical record contains abundant evidence of efforts to prohibit or control its use: elaboration by the ancient Hebrews of religious doctrines in the Old Testament stressing moderate use of wine (Fort, 1973:46); circulation of a brochure by a Chinese emperor in 632 A.D. to inform his subjects on the dangers of drinking alcohol (Ibid.:48); enactment of laws by the early Greeks and Romans to control drunkenness (Anderson, 1978:3); and initiation by the United States government of National

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[24] Our word "alcohol" derives from the Arabic *alkuhl*, a reference to "essence" (Goodwin, 1981:4).

Prohibition in 1920, a fundamentalist-inspired "prevention" movement that ended thirteen years later as a failed attempt to enforce abstinence among the American population (Fort, 1973:52-63).

Mapping Consumption Patterns

Efforts to treat and prevent the personal and social damages associated with alcohol abuse focus attention on the general role of alcohol in society. This includes concerns about the extent of alcohol consumption in a populat[illegible], the distribution of various types of drinkers, and the nature of the process through which innocuous use of ethanol grades into excessive use with destructive consequences.

Various kinds of information bear on these concerns. Data from such sources as the assorted self-report consumption surveys, treatment agency registeries, law enforcement and corrections files, public health records, and alcohol tax and sales accounts compiled by government agencies (Kreitman, 1976:48; Madden, 1979:4).

Limitations

Though alcohol consumption is a prevalent activity throughout North America, it can only be imprecisely estimated. Surveys of self-reported consumption are subject to the usual limitations of design and execution (Warwick and Lininger, 1975:37-44). Evidence indicates that heavy drinkers moreso than moderate consumers systematically *underreport* their consumption

because of memory impairments associated with progressive drinking, or through deliberate efforts to conceal reprehensible styles of use (Madden, 1979:4; Moser, 1980:44; Schuckit, 1979:38; Smart and Jarvis, 1981:8).

In general, sales and tax-related data are considered more valid, especially on the national level, but regional figures may be boosted by tourist sales and the aggregate tallies exclude quantities of alcoholic beverages produced at home (Goodwin, 1981:23; Kreitman, 1976:49).

Other limitations hampering these studies revolve around the enduring difficulties of definition and measurement. What, for example, constitutes *normal* use of beverage alcohol? The task of definition requires that cutting points be set to distinguish nondrinkers, light, and heavy drinkers; however, the criteria are typically vague and relative (de Lint and Schmidt, 1976:276-278; Haglund and Schuckit, 1982:32-34; Kreitman, 1976:49-50). Virtually any of a myriad of life-problems can be alcohol related. Which ones should we include?

These limitations qualify the measures and summary statistics that describe the consumption patterns of the populations in Canada and the United States.

North American Drinking Patterns

Table 1 shows self-reported consumption for the populations in Canada and the United States along an abstainer-to-heavier-drinker continuum.

TABLE 1

SELF-REPORTED DRINKING PRACTICES OF CANADIAN POPULATION, 15 YEARS AND OLDER (1978-79)[1], AND U. S. POPULATION 18 YEARS AND OLDER (1979)[2]

TYPE OF DRINKER	CANADA		UNITED STATES	
	Definition	%	Definition[3]	%
Abstainer	never drank or did formerly but not in last 12 months	16	less than one drink/year or never	35
Lighter	less than 1 drink/month to 6 drinks/week	49	1 drink/year up to 3 drinks/week or 12 drinks/mo.	32
Moderate	7 to 13/ drinks/ week	13	4 to 13 drinks/ week or 13 to 58 drinks/month	22
Heavier	14 drinks and over/week	12	2 or more drinks/ day or 14 or more drinks/week	11
Missing Data		10		
		(100%)		(100%)

[1]SOURCE.--Adapted from Health and Welfare Canada. 1981b. *The Health of Canadians: Report of the Canadian Health Survey*. Table 1, p.28. Ottawa: Minister of Supply and Services.

[2]SOURCE.--NIAAA. 1981a. "Fact Sheet: Estimated Patterns of American Adult Drinking Practices:." Mimeographed. Rockville, Maryland: National Clearinghouse for Alcohol Information.

[3]A standard "drink" was defined as containing about 1/2 oz. of ethanol in the following kinds of beverages: one 12 oz. can of beer, one 4 oz. glass of w[illegible] or one 1 oz. shot glass of distilled spirits.

The surveys on which Table 1 is based found abstainers to be in the minority, accounting for 16% of the drinking-age population in Canada and 35% of Americans eighteen years of age and over. (The difference in percentages is mainly a function of the definitions used.) "Lighter" and "moderate" drinkers comprise the majority, with 54% of the U.S. group describing their consumption as occurring between one drink per year and thirteen drinks per week, and with 62% of the Canadian drinkers reporting their consumption as falling between less than one drink per month and thirteen drinks per week. The category of "heavier" drinkers, those who imbibe fourteen drinks or more per week, includes just over 10% of the American and Canadian drinkers.

Drinking practices fluctuate according to consumers' demographic and background characteristics. For example, about two-thirds of American males drink more often than occasionally, surpassing females in this regard by a io of 1.3 to 1 (Schuckit, 1979:45). In the "heavy" drinking category, males are from three to five times more common than females, regardless of age (Goodwin, 1981:24; Health and Welfare Canada, 1981b:23). Schuckit adds that heavier drinking is most prevalent among individuals between sixteen and twenty-five years of age and that " the chances of being a *drinker* (not an alcoholic) are higher for people with higher levels of education, higher socioeconomic status, and Italian or Jewish heritage" (1979:45, Schuckit's emphasis).

Studies carried out with the Canadian population identify a similar set of drinking correlates: male (86%) over female (76%), age between 25 and 39 years, income of $20,000 and over, postsecondary education, professional and white-collar occupations, and urban residence (Brusegard, 1980:52).

School surveys conducted during the latter 1970s indicate that alcohol use by adolescents in the two countries increases steadily with age. Between about 66% and 82% of students in the high school grades reported having had consumed ethanol during the year preceding the survey (Goodwin, 1981:24; Health and Welfare Canada, 1978:16-17; U.S. Dept. of Health and Human Services, 1981:21). Males predominate in the category of heaviest use[25] which, according to U.S. national survey results (1974 and 1978), includes about 14% of students in grades ten to twelve (U.S. Dept. of Health and Human Services, 1981:25).

Both the United States and Canada have experienced trends of increased ethanol consumption over recent years. Table 2 displays figures on these changes.

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[25] "Heavier drinkers" were those who reported drinking at least weekly and consuming five or more drinks per occasion (U.S. Dept. of Health and Human Services, 1981:25).

TABLE 2

ALCOHOL CONSUMPTION IN CANADA AND THE UNITED STATES, 1960, 1970, and 1976 PER PERSON, 15 YEARS AND OLDER, IN LITRES OF 100% ETHANOL

COUNTRY	CONSUMPTION PER PERSON			PERCENTAGE CHANGE
	1960	1970	1976	1960-76
Canada	7.85	9.58	11.7	+22
U.S.A.	7.83	9.74	10.7	+24

SOURCE.--Adapted from Moser, J. 1980. *Prevention of Alcohol-Related Problems.* Table 4, p. 54. Toronto: Alcoholism and Drug Addiction Research Foundation.

Following Table 2, consumption by Canadian drinkers fifteen years and older rose from 7.85 litres of absolute alcohol per person in 1960 to 11.7 litres in 1976, an increase of 22%. The corresponding American population experienced a similar increase of 24% from 7.83 litres per person in 1960 to 10.7 litres in 1976.

B. BEVERAGE ALCOHOL

The Chemical

The agent in spirituous beverages that is the focus of attention is, of course, alcohol. A member of a family of alcohols, chemicals consisting of groupings of carbon, hydrogen, and oxygen atoms, beverage alcohol is narrowly designated as ethyl alcohol or ethanol. The other types, which have assorted industrial and medical uses, include

propyl alcohol, butyl alcohol, methyl (wood) alcohol, and isopropyl (rubbing) alcohol (Hammond, 1978:13).

All the alcohols are toxic to humans. Only ethyl alcohol can, in small amounts, be consumed and metabolized with relative safety (Ibid.).

Ethyl alcohol (also referred to hereinafter as ethanol, beverage alcohol, and alcohol, for the sake of variety) is a by-product of *fermentation*, a process that occurs naturally under certain conditions in fruit, grain, and vegetables (Goodwin, 1981:3). During fermentation, yeasts metabolize sugar and excrete alcohol and carbon dioxide (Ibid.). This yields a mixture with an alcohol concentration of between 12% and 14%. The alcohol content of most wines falls in this range.

The *distillation* of fermented brews produces alcoholic beverages of greatly increased potency. These "hard" liquors typically have alcohol concentrations of 40% or more. Adding alcohol makes beverages stronger, as in the *fortification* of sherry and port, for example, which have alcohol contents in the 14% to 20% range. "Congeners" (various additives) impart distinctive characteristics to these beverages (Goodwin, 1981:3-4).

Metabolism

After ingestion, ethanol rapidly enters the bloodstream which transports it throughout the body. The chemical has a number of properties that condition its absorption, elimination, and range of

effects on the body.

Ethanol is highly water soluble. The blood (about 90% water) readily assimilates alcohol, then disperses it throughout the body. Tissues and organs such as the muscles (84% water), the liver (64% water), and the brain (75% water) absorb the chemical in proportion to their water content (Ibid.:19; Kinney and Leaton, 1982:26; Poley et al., 1979:20).

Ethanol is a food source, yielding about 210 calories per ounce (7.1 calories per gram) (Kinney and Leaton, 1982:26). Although they provide the body with energy, these calories are considered "empty" of essential nutrients (Ibid.). Alcohol also reduces the liver's ability to metabolize other foods and medications (Ibid.:30-31; Lieber, 1980:85-86).

Absorption

The major sites of absorption are the stomach and the small intestine (Kinney and Leaton, 1982:26-27). About 20% of the ingested alcohol passes through the wall of the stomach into the bloodstream while the remaining quantity gains access to the blood via the small intestine (Poley et al., 1979:19).

If the stomach is empty, absorption occurs rapidly. The blood alcohol concentration (BAC) rises sharply. Conditions that affect the rate of

absorption include the presence of food, the volume, character, and dilution of the beverage, length of the drinking session, and individual differences (Kinney and Leaton, 1982:27; Reed, 1978; Ritchie, 1980:382). Absorption from the small intestine takes place quickly and is unaffected by conditions in the stomach (Gaerlan, 1980:48).

Once absorbed, alcohol circulates with the blood throughout the body. Ethanol has a particular affinity for those bodily systems such as the brain and other components of the central nervous system (CNS) that require large volumes of blood (Ibid.:46).

Elimination

Virtually all (90% to 98%) of the ethanol in the body is oxidized, with the remainder (usually about 2%) being eliminated directly through sweat, urine, and other secretions (Ritchie, 1980:382-383). Initial metabolism of ethanol occurs at one site--the liver--in a multistage process through which the metabolites are eventually converted into carbon dioxide and water and excreted by the lungs and kidneys (Gaerlan, 1980:46; Ritchie, 1980:384). Ethanol dominates liver metabolism and continues to be that organ's preferred source of calories for as long as the chemical remains in the blood (Lieber, 1980:85).

Metabolism of ethanol occurs as a steady rate for each individual of between one-third and one ounce (7 to 10 ml) per hour, on average, depending on the drinker's body size (Ritchie, 1980:383; Schuckit, 1979:44). Consumption at or below this level has no impairing effects on the CNS.

C. OUTCOMES OF CONSUMPTION

If a drinker's intake of ethanol continues beyond the amount metabolized by the liver, the drug accumulates in the blood and the drinker begins to manifest signs and symptoms of impairment.

General Effects

Alcohol acts as both a depressant and an anaesthetic. With one or two drinks, it appears to depress the cortical centers that exert higher level inhibitory and integrative controls on behavior, thus inducing individuals to report feeling "stimulated" and to behave in an animated fashion (Hammond, 1978:17; Mc Collam, et al., 1980:224; Ritchie, 1980:377). The drinker's ability to judge his or her competence declines (Poley et al., 1979:18). As the drinking session continues, the person's behavior deteriorates as alcohol "downwardly anaesthetizes the brain until finally, in lethal dosage, it sniffs out life itself by depressing the respiratory centre at the base of the brain (Goodwin, 1981:16). However, the mechanisms through which alcohol

produces analgesia and euphoria are not well understood.

Small doses of alcohol have been found to improve performance of partially mastered tasks by lowering the interference exerted by inhibitory controls (Goodwin, 1981:17; Hammond, 1978:24). Larger doses, however, impair task performance, especially complex ones requiring careful attention or those ordinarily carried out with a high degree of proficiency (Goodwin, 1981:17).

Dosage is not the only variable that determines a drinker's blood alcohol concentration or BAC [26] and the degree of intoxication and behavioral liabilities experienced. Other codeterminants include rate of absorption, duration of drinking, the slope effect (drinking feels better as BAC ascends than it does as BAC descends), the drinker's tolerance (both acquired and, especially, differential innate tolerance) and physiological state, [27] set (the drinker's mood and expectations), and setting

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[26] To determine BAC, the weight of alcohol in a fixed volume of blood can be measured. In Canada, the legal limit defining impairment is 80 milligrams of alcohol in 100 millilitres of blood (80 mg%). A BAC of 80 mg% is often expressed as 8 parts of alcohol per 10,000 parts of blood or .08% weight/volume.

[27] Physiological differences related to the drinker's sex also operate. Females generally experience less of a dilution effect and attain higher BACs than males with an equivalent intake of alcohol due to lower body weight and higher body-fat-to-muscle ratios (given that fat absorbs little alcohol) (Kinney and Leaton, 1982:33). Changes in hormone production related to menstruation also condition the rate at which females metabolize alcohol as does the use of oral contraceptives (Farris and Jones, 1978:77).

In experiments, intoxicated females have exhibited more impairment than males in motor coordination, while male drinkers showed greater deficits in ability to attend (Kinney and Leaton, 1982:34-35).

(characteristics of the drinking environment) (Ibid.:12-15).

Table 3 illustrates the relationship between rising BAC levels and progressive deterioration in a drinker's cognitive and motor functioning and comportment in an extended drinking session.

TABLE 3

CONTINUUM OF ETHANOL CONSUMPTION AND EFFECTS
(FOR 150 POUND (68 KILOGRAM) MALE)

NUMBER OF DRINKS[1]	BLOOD ALCOHOL CONCENTRATION (%)	APPROX. ELIMINATION TIME (HRS.)	TYPICAL EFFECTS
1	.021	2	- no observable behavioral changes
2	.041	4	- slight relaxation - increased sociability
3	.064	6	- moderate impairment - lessened inhibitions - emotional lability
	.08--legal definition of intoxication begins		
4	.086	8	- impaired judgment and coordination
7	.15	14	- obviously drunk
14	.30	28	- stuporous
18	.40	36	- unconscious - possibly in coma - near death
24	.50+	?	- death may result

SOURCE.--Adapted from Alberta Alcoholism and Drug Abuse Commission. 1975. "Alcohol." Mimeographed. Edmonton: Program Development Division, Alberta Alcoholism and Drug Abuse Commission.

[1]A "drink" provides approximately .6 oz. (17 ml) of ethanol as contained in a 12 oz. (340.8 ml) bottle of regular beer, 1.5 oz. (42.6 ml) of spirits, 5 oz. (142 ml) of table wine, or 3 oz. (85.2 ml) of fortified wine.

As Table 3 shows, the effects of ethanol occur in a wide range from apparent "stimulation" at low BACs of about .041% to onset of coma and death at BACs of .40% and beyond. It should not be assumed, however, that all individuals display the same effects, or to the same degree, or that impairments augment in a unitary progression.

People vary greatly in their responses to ethanol. It makes some laugh and others cry, or it may invoke these disparate responses from the same individual on different occasions (Goodwin, 1981:16). For some drinkers, some of the time, it may have strong "placebo" effects, producing feelings that accord with their expectations (Ibid.:14). In some instances it seems to work primarily to produce happiness and elation while in others it appears mainly to reduce anxiety and depression. Thus ethanol may serve the drinker with a range of situation-specific functions (Mc Collam et al., 1980:224). Although ethanol clearly influences affect, research has yet to precisely specify the processes involved (Ibid.:224).

A flexible conception views the effects produced by alcohol for a given individual in a particular situation as *contingent* outcomes (that is, as depending on those factors that condition BAC levels), notwithstanding the general trend of deterioration in performance as intake increases [28]

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[28] However, there is enough continuity in this trend across individuals to permit observation of deficiency in driving skills at a BAC of .05%, and to justify establishment of the legal definition of impairment at a BAC of .08%, for example (Addiction Research Foundation, 1980a:4; Kinney and Leaton, 1982:34).

From Use to Abuse

Concern about the often damaging repercussions of alcohol consumption prompts enquiry into factors leading to its use and abuse.

It is clear that the ph[illegible]ical effects of alcohol only partially account for c[illegible]ption (Fort, 1973:85-89). Drinking practices are also contingent upon cultural, religious, and family traditions, situational factors, and an ambiguous array of the drinkers' own motives (Hammond, 1978:34; Moser, 1980:7). Such factors appear to operate differentially for men, women, teens, the elderly, and other subgroups in the population (Poley et al., 1979:6-10).

[illegible] number of epidemiological points qualify the [illegible]tion in drinking practices from use to abuse.

[illegible]rinking pre[illegible]nce surveys show that while most North Americans drink, [illegible] 50% or more of them fall in the lighter-to-moderate range of the scale (see Table 1). From 9% to 12% of the individuals comprising these groups drink in a "heavier" fashion, that is, at or beyond one ounce of absolute alcohol daily[2] (Hammond, 1978:34).

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[2] One (U.S.) fluid ounce (.8[illegible] Imperial ounce) is approximately equal to 2.9[illegible] of absolute alcohol.
The definition of "hea[illegible]r" drinker varies, as de Lint and Schmidt found in a review of six studies of retrospective drinking practices which reported the following criterion points: 4, 5, 5.6, 6, 10, and 12.5 cl of absolute alcohol daily (1976:280).

The categories of progress heavier use contain fewer and fewer drinkers. These diminishing numbers of drinkers consume disproportionately larger quantities of alcohol. Among North Americans, for example, it has been observed that 30% of the drinkers consume 80% of the beverage alcohol while 10% account for 50% of consumption (Goodwin, 1981:24).

This yields a distribution of consumption with a majority of consumers concentrated at the low end of the scale with diminishing proportions comprising the tail of excessive users. A number of investigators have plotted the distributions for numerous countries and populations and have found them to be characteristically unimodal, smooth, and negatively skewed (de Lint, 1975:5).

It would be a simplification, however, to equate heavy drinking with alcoholism. Writers such as Jellinek (1960) and Strachan (1968) distinguish subgroups among the heavy drinkers that have distinctive patterns of consumption and demonstrate varying degrees of control over their drinking. Schuckit adds the point that while up to one third or more of young men in the drinking age population encounter "transient difficulties" in the course of their drinking, "these young men usually do not go on to develop the persistent, serious alcohol-related difficulties that might be termed *alcoholism*" (1979:37, Schuckit's emphasis).

Defining Alcoholism

The discussion in earlier chapters has repeatedly noted the troubles involved in efforts to specify psychiatric disorders and impaired behaviors. Alcohol abusers similarly defy easy categorization and, not surprisingly, a universally acceptable definition of alcoholism is not available, nor is one likely to be devised.

A variety of definitions have been advanced over the years. In part, the definition one adopts depends on what one wants to do with it (a definition of heavier drinkers suitable for a community survey has limited clinical utility, for example).

As with other forms of disordered behavior, we can more easily agree on extreme cases (the skid row derelict) than on the middling examples (a heavy drinking friend who consistently over imbibes at parties).

Schuckit identifies four broad approaches that have furnished definitions of alcoholism (1979:38-39).

First, the *quantity-frequency-variability (QFV)* approach is commonly used in surveys of community drinking patterns and typically arranges consumption data in an abstinent-to-heavy drinker classification. Individuals who consume at or beyond a threshold level (15 cl of absolute alcohol per day, for example [30]

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[30] Fifteen centilitres of absolute alcohol is the equivalent of 14 oz of whiskey, 32 oz of fortified wine, 37 oz of wine, or nine 12 oz bottles of beer (Addiction Research Foundation, 1978:3).

However, it is difficult to specify the boundary of hazardous consumption since the drinker's BAC is mediated by

) may be regarded as "alcoholic" or at elevated risk of developing health and other problems related to their drinking (Addiction Research Foundation, 1978:3).

While studies utilizing this approach provide much useful information on drinking patterns, they are suscep[illegible] to biases stemming from incomplete enumeration of relevant populations and underreporting of consumption by "deviant" drinkers (Madden, 1979:5).

Second, the *psychological dependence* position considers the drinker's psychological discomfort when ethanol is unavailable and infers the subjective urge to drink on the basis of such behaviors as stockpiling liquor, sneaking drinks, and getting "primed" with a few drinks before a party (Schuckit, 1979:38).

Major difficulties with this approach involve establishing the existence of mental states such as craving independent of their effects, and distinguishing between physical and psychological dependence (Madden, 1979:38). In addition, not all drinkers who become impaired or experience problems develop a dependency on alcohol (Moser, 1980:2).

Third, the rubric focusing on *withdrawal or abstinence symptoms* falls within the traditional medical conception of alcoholism. It centers on the phenomenon of tolerance, which involves both CNS adaptation and limited metabolic adaptation to ethanol's depressant action after repeated exposure (Estes et al., 1980:26-29; Lieber, 1980:86). Thus,

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[30](cont'd)body weight, among other factors (Ibid.; Moser, 1980:44).

some people find that they must consume more drinks to feel the usual effects or to become drunk. With cessation of drinking, the BAC declines and a "rebound" effect may ensue in which the CNS and the autonomic nervous system become hyperexcited in the absence of ethanol [31] (Estes et al., 1980:29; Gaerlan, 1980:47). Physical dependence is inferred by the following major signs and symptoms: tremors, sweating, stomach palpitations, insomnia, and, among the severely addicted, delirium tremens ("D.T.s") (Madden, 1979:39-40). However, it has also been noted that as high as 85% to 95% of persons who undergo withdrawal display only mild signs and symptoms not readily distinguishable from those associated with hangover or flu (Schuckit, 1979:39).

This "addiction" concept applies most satisfactorily with extreme cases of chronic, excessive use. It grades into a pattern of "problem drinking" without apparent signs of physical dependence.

The fourth approach associates alcoholism with the occurrence of "serious" *alcohol-related problems* in the social or health areas. The clinically oriented definition favored by Schuckit, for example, suggests a diagnosis of alcoholism in the event "...of any major life problem related to alcohol, including a marital separation or divorce, or multiple arrests, or physical evidence that alcohol has harmed health (e.g., a cardiomyopathy,

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[31] The rebound reaction may occur if "an individual drinks 150 to 250 grams (approximately 10 drinks) of absolute alcohol daily for at least ten consecutive days then stops" (Gaerlan, 1980:47).

cirrhosis, etc.) or loss of a job or layoff related to drinking" (1979:39). Although this is clearly a less restrictive definition than others noted above, it permits debate on criteria for both the *nature* and *severity* of ethanol's repercussions that would warrant their inclusion in the definition (Goodwin, 1981:34; Moser, 1980:4). For example, how many impaired driving arrests or episodes of acute intoxication signify "serious" alcohol-related problems?

The elements of dependence and life problems combine in the concept of *alcohol dependency syndrome* which was developed by the World Health Organization (WHO) in 1977 and adopted by the American Psychiatric Association (APA) in 1980. It notes impairments and changes in the drinker's behavioral and psychobiological functioning, with progressive loss of control over drinking as the salient feature (Madden, 1979:43).

The World Health Organizaton defines alcoholics as

> those excessive drinkers whose dependence on alcohol has reached such a degree that they show a noticeable mental disturbance or an interference with their mental and bodily health, their interpersonal relations and their smooth social and economic functioning, or who show the prodromal signs of such development (quoted in Moser, 1980:1).

Disease Concept

The disease concept promulgated by Alcoholics Anonymous over the last three decades emphasizes the alcoholic's "loss of control" over drinking. It counsels that attempts to restrict the availability of alcohol are ineffective, as are efforts to intercede with verbal therapies which ignore the alcoholic's motivations, especially those roused by "hitting bottom" (Room, 1974:13). These efforts have done much to remove the stigma associated with alcoholism and to encourage alcoholics to seek treatment (Kinney and Leaton, 1982:44-45). Preventive efforts concentrate on assisting "hidden" alcoholics in the population through casefinding and treatment (Room, 1974:14).

The notion that alcohol-dependent persons are sick and suffering an illness beyond their control has promoted and legitimized medical interest in alcoholism. However, critics raise the points that this tends to place treatment of the disorder in the exclusive domain of the physician, that it encourages the false promise of "magic-pill" solutions, and that it affords alcoholics with a convenient rationalization to avoid admitting self-responsibility in managing the condition (Kinney and Leaton, 1982:43; Hammond, 1978:38).

The protean manifestations of alcoholism and the many definitions offered to account for them are

indicative of its complex character. An emerging view does not regard alcoholism as an unitary disorder but as a cluster of varying but related disorders that may arise from different causes (Kinney and Leaton, 1982:2; Tarter and Schneider, 1976:101-102). These conditions may be chronic and progressive in nature, following a fluctuating course of from five to twenty years duration (Estes et al., 1980:12; Schuckit, 1979:47).

Chafetz (1967:346) indicates that treatment efforts with alcoholism produces about the same rates of success as with other chronic conditions. Among about one-third of alcoholics the disorder goes into remission, even if left untreated (Schuckit, 1979:47).

Counting Alcoholics

A popular question asks "How many alcoholics are there?" The answer supplied depends in part on the definition and criteria employed. One widely used approach was devised by the pioneering alcoholism researcher E.M. Jellinek and is based on a population's rate of mortality from liver cirrhosis (Addiction Research Foundation, 1980b:211-212). According to this formula, Canada had an estimated 618,500 alcoholics in 1976, yielding a rate of 4,200 per 100,000 in the population 20 years of age and over (Ibid.:44). The population with alcohol-related impairments (including alcoholics) was estimated to be 1.4 million or about 10% of adult drinkers in 1978 (Health and Welfare

Canada, 1981a:13).

The Jellinek formula applied to the population of the United States yielded an estimate of 7.5 million alcoholic persons in 1975, for a rate of 5,634 per 100,000 in the population 21 years of age and over (NIAAA, 1981b:4). The number of problem drinkers (including alcoholics) in the U.S. adult population was assessed in 1978 to be between 9.3 and 10 million persons or about 7% of those 18 years of age and older (Estes et al., 19[illegible]:12).

Adverse Effects

Medical Complications

Ethanol is believed to operate as a direct or contributory agent in the production of numerous diseases and ailments (Brody and Mills, 1978; de Lint and Schmidt, 1976). The *gastrointestinal system* may respond to the toxic properties of ethanol, after sustained exposure to it, by developing ulcers or with inflammatory reactions in the stomach (gastritis) or pancreas (pancreatitis) (Estes et al., 1980:29-31; Ritchie, 1980:379-380). Long-term, heavy drinking can also lead to various kinds of liver pathology such as fatty liver, alcohol hepatitis, and cirrhosis (Gaerlan, 1980:48; Lieber, 1980:85-86).

Researchers have not been able to specify the precise role of heavy drinking in the production of liver damage. Goodwin (1981:7) estimates that only from 5% to 10% of "alcoholics" contract liver disease although about half of those in North America who manifest one form of it--"Laennec's cirrhosis"--tend to be heavy drinkers (Ibid.; Gaerlar, 1980:48). He cautions that the etiological processes in alcoholic cirrhosis are not clearly understood and that ethanol *alone* is not *sufficient* to produce liver damage (1981:7). In contrast, the twenty-five retrospective studies of patients with cirrhosis reviewed by de Lint and Schmidt (1976:281) implicated chronic excessive drinking in a range from 18% to 89% of the cases.[32]

Other evidence identifies alcohol as a risk factor for cancer at various sites in the gastrointestinal system as well as in the head and throat (Estes et al.,

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[32]Interestingly, a study of twenty countries found that ethanol consumption per person and cirrhosis death rates were highly correlated (r=.94) as did an investigation using Canadian data (r=.82) (Schmidt, 1976:25-26).

According to Schmidt (1976:23), cirrhosis ranks among the five leading causes of death among adults aged 25 to 64 years in most industrialized countries. Canada registered a total of 2,838 cirrhosis deaths in 1978, yielding a death rate per 100,000 (all ages) of 16.6 for males and 7.6 for females (Addiction Research Foundation, 1981b:46-49). The corresponding figure for the United States in 1976 was 31,453 deaths with a rate of 19.8 per 100,000 for males and 9.8 per 100,000 for females (Public Health Service 1978:31-32).

However, only 2.1% of all the deaths recorded in Canada in 1978 were attributed to three main causes "directly" involving alcohol: alcohol psychosis, alcoholism, and cirrhosis of the liver (Addiction Research Foundation, 1981b:50).

1980:29-30; Moser, 1980:48-49). Cancers may arise due to the direct effects of ethanol, to the additives (congeners) contained in alcoholic beverages, or due to synergistic reactions between alcohol and substances such as the constituents of tobacco smoke (Goodwin, 1981:18; Lieber, 1980:91).

Alcohol-related damage sustained by the *neurologic system* include "deterioration of both peripheral nerves to the hands and feet (a peripheral neuropathy seen in 5-15% of alcoholics) and temporary as well as permanent organic brain syndromes associated with both the effects of alcohol and specific vitamin deficiencies, such as the thiamine-related Wernicke-Korsakoff syndrome (seen in less than 5% of alcoholics)" (Schuckit, 1979:43).

In the *cardiovascular system*, ethanol has direct effects on pulmonary tissue and contributes to heart inflammation and hypertension, elevation of blood fats, and decreased cardiac and circulatory performance (Ibid.:47-48; Estes et al., 1980:35-36).

Patterns of heavy drinking and smoking often go together; thus, tobacco can be a contributing factor in the respiratory conditions that occur commonly among alcoholics: "chronic obstructive lung disease, pneumonia, pleurisy, bronchitis, emphysema, and pulmonary tuberculosis" (Gaerlan, 1980:47).

With regard to the *mental processes*, Schuckit summarizes the effects of alcohol as follows:

> With modest intake, at peak or decreasing blood-alcohol levels, most people (alcoholics and "normals") experience sadness, anxiety, irritability, insomnia, decreased sexual potency (for males), and a whole host of resulting interpersonal problems. At persistent higher doses, alcohol can cause almost any psychiatric symptom, including temporary pictures of intense sadness, auditory hallucinations and/or paranoia...and intense anxiety (1979:44).

Administrative data indicate that the number of first admissions for alcoholism and alcoholic psychosis to psychiatric wards and institutions in Canada increased 48% from 7,100 in 1966 to 10,486 in 1976 (Brusegard, 1980:43). These disabilities accounted for 17.5% of all diagnoses in such facilities in 1976 (Addiction Research Foundation, 1980b:60). A 1972 study in the U.S.A. found that 26% of all first admissions to psychiatric establishments were for persons with a primary or secondary diagnosis of alcoholism or alcoholic psychosis (Moser, 1980:45).

Surveys point to excess morbidity and mortality among alcoholic populations (Brody and Mills, 1978). Relative to the general population, alcoholics tend to die prematurely by eight to fifteen years at two and one-half times the expected rate (NIAAA, 1981b:1)"...with the leading causes of death (in

approximately descending order of importance) being heart disease, cancer, accidents, and suicide" (Schuckit, 1979:47).

This cursory review reveals something of the range of medical complications that may accompany a career of alcohol abuse. Ethanol's precise role in the etiology of many organic disorders (various cancers and types of cirrhosis, for example) remains unclear (Goodwin, 1981:38-39; Lieber, 1980:91). Instructive answers are not yet available for questions about "how much alcohol is harmful for which populations, and for which diseases" (Brody and Mills, 1978:462).

Drinking patterns reflect numerous confounding influences from a plethora of sources: physiological, personality, demographic, social, and cultural. In addition, many alcohol-dependent persons adopt abusive styles of living. Consequently, it is difficult to isolate the effects of alcohol from those of malnutrition, inadequate sleep and exercise, and general neglect (Goodwin, 1981:43; Madden, 1979:48-49).

Psychosocial Impacts

In addition to medical and psychiatric complications, a broader array of damaging "repercussions" in the drinker's general competency, relationships with family members, and functioning in the community often accompany excessive or inappropriate use of alcohol (Moser, 1980:3-4).

Regarding effects on the family, beverage alcohol is cited as an influence in approximately 16% of the 55,000 divorces granted in Canada in 1978 (Health and Welfare Canada, 1981a:22). About 3% of these dissolutions were on grounds of alcohol addiction (Ibid.).

A 1981 estimate for the U.S.A. placed the divorce rate for families with alcohol problems at 40% (NIAAA, 1981b:2).

It is speculated that alcohol may be a precipitating factor in up to one-third of reported cases of family violence and neglect (Moser, 1980:47; Health and Welfare Canada, 1981a:22).

Studies show that use of alcohol is strongly and consistently related to many categories of crime. Canadian law enforcement data implicate the drug in 41% of the 4,140 murders reported to the police between 1961 and 1974 (Brusegard, 1980:43).

A review of U.S. studies of violent crimes cited by Moser (1980:47) offered the following wide-ranging estimates of "alcohol involvement" for various offenses: 13% to 50% of rape offenders and 6% to 31% of their victims; 24% to 72% of those who committed assault and 4% to 79% of their victims; and 28% to 86% of homicides and 14% to 87% of the victims.

Drinkers and alcoholics are differentially prone to die in motor vehicle and other accidents. Highway

safety records in Canada, the U.S.A., and other industrialized countries indicate that from 30% to 50% of drivers killed in auto crashes were impaired (by alcohol or other drugs) (Brusegard, 1980:43; Moser, 1980:45). About one-quarter of adult fire deaths and 45% of fatal falls in the U.S. population are believed to involve alcohol (NIAAA, 1981b:2).

Unqualified presentation of summary statistics on alcohol's psychosocial impacts tends to oversimplify the complex histories of these events. We add the following points.

1. These indicators provide only rough estimates; most are subject to unknown degrees of error.

2. Researchers "implicate" alcohol in the production of personal and interpersonal disabilities but they cannot specify the position and relative power of the drug in the "web" of causes leading to these effects.

3. Although a popular view regards alcohol abuse as leading to family conflict, for instance, it might just as well be the effect as the cause, that is, heavy drinking can be occasioned by strained family relationships (Moser, 1980:3-4).

4. Different behavioral impairments may derive from the same causes. For example, the factors that underwrite the incompetent use of a motor vehicle may also lead to the incompetent use of alcohol (Wilde,

1975).

5. Many of the programs carried out under the banner of primary prevention attempt to address these ambiguous causes of alcohol abuse and related behaviors. But limited insight into the relevant causal systems mitigates against efficient intervention. In addition, the behaviors of interest in alcohol abuse prevention are not necessary conditions for the production of injurious outcomes; neither are they easy to manipulate (Robertson, 1975:169).

Economic Factors

Assessment of alcohol-induced damage can also be made in economic terms.

> They include such diverse factors as health and welfare costs associated with alcohol-related illness and disruption; industrial accidents and absenteeism caused by alcohol abuse; property losses due to fire and auto accidents; and the inceased demands on police, firefighting and court services (Health and Welfare Canada, n.d.:9).

Rough tabulations of these losses have been made. For example, a 1978 estimate reports that "severe" alcohol-related difficulties (lower morale, absenteeism, reduced productivity, and accidents) affected between 3.5% and 7% of Canada's active work force of 9.9 million at a cost to labor and industry of about $2 million per day (Health and Welfare Canada,

1981a:22). About 5% of the U.S. adult work force appears to be similarly afflicted (Kinney and Leaton, 1982:21). The reported value to the U.S. economy of lost production due to drinking-related causes was estimated to be $19.64 billion in 1975 (NIAAA, 1981b:2).

This brief assessment of selected costs associated with alcohol consumption in North America would be incomplete if some attendant benefits were not also mentioned.

In 1976-1977, the federal and provincial governments in Canada derived $2.4 billion from taxes and duties on alcohol (Addiction Research Foundation, 1980b:74). The corresponding U.S. authorities collected about $9.7 billion from such sources in 1975 (Hammond, 1978:51). The production of alcohol generated $322.1 million in salaries and wages among Canadian workers in 1977 (Addiction Research Foundation, 1980b:75). Among their U.S. counterparts, the 1976 figure was $9.7 billion (Hammond, 1978:53).

Finally, about $60.9 million was spent in Canada in 1978 for advertising of alcoholic beverages (Addiction Research Foundation, 1980b:77). In the United States, expenditures for the promotion of ethanol now exceed $1 billion per year (Whitehead, 1982:15).

D. EXPLANATIONS OF ABUSE

Our discussion has noted the many definitions of alcoholism. The concept of alcoholism as a single disease entity has given over to an increasingly favored view of it as a constellation of *alcoholisms*, variegated and interrelated disorders arising from numerous causes.

An assortment of theories to account for these disorders have been advanced over the years. They may be assembled under the broad headings of biogenetic, psychological, and sociological theories.

Biogenetic Theories

This set of explanations begins from the frequently made observation that alcoholism runs in families. It is hypothesized that the disorder arises due to biochemical or structural impairments that are components of genetic inheritance.

Various biochemical theories explain abusive drinking as manifestations of a glandular disorder involving adrenal insufficiency, metabolic disturbances such as hypoglycemia, allergic reactions to alcohol, or as different patterns of brain response (Schuckit, 1979: 48; Tarter and Schneider, 1976:84-85).

Explanations involving genetic factors draw support from twin studies that have examined the similarity (concordance) of alcoholism occurrence among twin pairs who share identical genetic endowments (monozygotic twins)

compared with the rates for nonidentical twin pairs (dizygotic twins). In general, monozygotic twin pairs display higher concordance rates of alcoholism than their dizygotic twin pair counterparts--54% versus 28% concordance, respectively, in a Swedish investigation cited by Schuckit and Haglund (1977:22).

Researchers in family studies have followed-up children of alcoholic parents who were separated from their biological parents at an early age and reared by adoptive families These investigators report that children (especially males) of alcoholic parents have a greater probability of becoming dependent on alcohol in adulthood than children of nonalcoholic parents (Estes et al., 1980:19).

According to Goodwin, predisposition to a form of alcoholism characterized by early onset (before age 30) and severe course is transmitted via the family (Payer, 1983:13). Schuckit concludes that "the best data to date indicate that alcoholism is a genetically influenced disorder with a rate of heritability...similar to that expected for diabetes or peptic ulcer disease" (1979:49). Goodwin's studies indicate that persons with alcoholic parents are about four times more likely than those without a family history of alcoholism to develop the disorder, even if raised apart from alcoholic relatives (Watterlond, 1983:76). To this probability we may add the enhancing or retarding influences of learning and sociocultural

contingencies that vary from group to group.

Studies also indicate that racial factors affect responses to ethanol. Such factors appear to account in part for variability in the rates of alcohol metabolism detected in some groups of North American Indians relative to Caucasians (Farris and Jones, 1978; Reed, 1978). Similarly, Orientals frequently display a "flushing" reaction after drinking that is probably reflective of a racially based sensitivity to ethanol not operative to the same degree among Occidentals (Seto, et al., 1978).

Major tasks confronting these theories involve specification of the biogenetic mechanisms through which sensitivity to alcohol and susceptibility to alcoholism are transmitted. They also have to incorporate the influences of psychosocial factors (Estes et al., 1980:20; Schuckit and Haglund, 1977:24-25).

Psychological Theories

A variety of explanations appear under this rubric. The "tension reduction hypothesis" attempts to account for both the onset of drinking and development of alcoholism on the grounds that alcohol induces relaxation among social drinkers and alcoholics, making them feel more at ease in stressful situations. Although drinkers from both groups report that such effects occur, the tension reduction hypothesis is contradicted by clinical observations and physiological tests that consistently show no reductions,

and frequently actual increases, in tension levels (McCollam, et al., 1980:224; Schuckit, 1979:48). Schuckit and Haglund comment in this regard that "the specific effects of alcohol on tension and mood appear to be related to the amount and time course of drinking as well as the specific circumstances in which alcohol intakes occurs" (1977:16).

In a related line of reasoning, the learning theories conceive of alcoholism as a long pattern of acquired responses. At the onset of drinking, the individual experiences the presumably tension-reducing properties and other psychological benefits of ethanol. The drinking pattern is then thought to be established "as a widely generalized dominant response to aversive stimulation (stress) as a result of its reinforcing qualities through differential reinforcement and modeling" (Tarter and Schneider, 1976:91). In the social learning formulation of Bandura (1969), social contingencies and excessive drinking bring stressors to bear on the individual and, with the development of physical dependence, further consumption to achieve "drive reduction" becomes deeply ingrained.[33]

A great deal of speculation and some testing has gone on in the hope of isolating the "alcoholic personality." Despite the fact that alcoholics in treatment frequently

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[33]At the same time, prevention theorists write about applying the social learning concepts of observational learning and schedules of social reinforcement to encourage people in the acquisition of behaviors that enhance health (Burns, 1979:8-10).

appear "(a) schizoid, (b) depressed, (c) dependent, (d) hostile, (e) sexually immature," these traits tend not to cluster consistently across individuals (Tarter and Schneider, 1976:92-93).

As was pointed out in earlier sections, the stress reduction position faces serious definitional and measurement difficulties. Moreover, even if it could be firmly established that ethanol can diminish stressful effects, it cannot be forthrightly assumed that people drink or become alcoholic only for these reasons.

Efforts to identify the alcoholic personality must contend with differentiating between causes and effects; the personality aberrations detected by psychometric test might just as well be the effects of a long drinking career as the causes of it (Schuckit and Haglund, 1977:18-19).

Sociological Theories

The sociological theories address the broader topics of accounting for variations in drinking patterns and aggregate rates of alcohol-related problems rather than explaining alcoholism with the individual as the unit of analysis. Three levels characterize these explanations: the (1) "supra-cultural," (2) "specific cultures," and (3) "substructural," which focuses on social institutions or specific demographic variables (Roebuck and Kessler, 1972:140).

These constructs share the assumption, for example, that relationships operate between social structures and alcoholism rates; indeed, in the words of researchers Cahalan, Cisin, and Crossley, "Whether a person drinks at all is primarily a sociological and anthropological variable rather than a psychological one" (quoted in Roebuck and Kessler, 1972:139).

An influential "supra-cultural" theory was advanced by Bales (1946). In this view, social ogranization may affect the prevalence of compulsive drinking and alcoholism in three general ways: first, "the degree to which the culture operates to bring about acute needs for adjustment, or inner tensions, in its members...[second,] the sort of attitudes toward drinking which the culture produces in its members...[and third,] the degree to which the culture provides suitable substitute means of satisfaction" (Ibid.:482). Basically, Bales proposed that societies with higher levels of culturally generated tensions among its members (conflict, suppressed aggression, sexual tensions) and with attitudes that encourage utilitarian use of alcohol to relieve tensions will have higher rates of alcoholism. Anthropological data provided modest support for Bales's position (Roebuck and Kessler, 1972:146).

"Specific culture" hypotheses attempt to connect compulsive and excessive drinking in North America to *ambivalent collective attitudes* toward alcohol (Ibid.:149-150; Room, 1974:13). Other formulations under

this rubric explain alcoholism as the expression of unmet religious needs brought on by "existential anxiety" or, in the structural "stress-strain" framework of Merton, as a "retreatist" adaptation by persons who have failed to reach culturally valued goals through legitimate means but whose morals prohibit the use of illegitimate means (Ibid.:148-153).

Cahalan's analysis of survey data on problem drinking among national probability samples in the U.S.A. revealed four demographic variables that provided better-than-chance prediction of problem drinking: sex (which exerted the most influence), age, city size, and social status (Ibid.:156). His construct implicated *favorable attitudes toward drinking* as a powerful intervening variable in the production of problem drinking (Ibid.:159-160).

"Substructural" or specific-variable positions (as well as the "higher-level" theories) invoke a wide range of explanatory factors. Tarter and Schneider (1976:95) conveniently summarize other variables of interest:

> (a) childhood exposure to alcohol and drinking models, (b) quantity of alcohol considered appropriate or excessive, (c) drinking customs, (d) type of alcoholic beverage used, (e) levels of imbibition considered safe, (f) symbolic meaning of alcohol, (g) attitude toward public intoxication, (h) the social group associated with drinking, (i) activities associated with drinking, (j) the amount of pressure exerted upon the individual to drink and continue drinking, (k) use of alcohol in social and private context, (l) the individual's mobility in changing drinking reference group, (m) the permanence of a deviancy label, and (n) the social rewards or punishments for drinking.

Considerable effort has been devoted to explicating the pattern and content of norms operating within Jewish and Irish groups, for example, that appear to protect the former and dispose the latter with respect to damaging, heavy use of ethanol. This line of reasoning will be examined in Chapters 5 and 6.

While the sociological theories are interesting and serve heuristic purposes, many of their constructs remain speculative and vague. Concepts such as "existential anxiety," strength of religious belief, social class, and informal group norms are not easily operationalized. The stress-strain hypothesis is subject to the same criticisms as those noted on this topic in Chapters 2 and 3. Clearly, most of us who have been frustrated in our efforts to attain valued goals do not "retreat" in alcoholism. This and other explanations among the sociological theories overlook important psychological, constitutional, and genetic factors in the etiology of alcoholism (Roebuck and Kessler, 1972:215-219).

This chapter has provided a framework of concepts about the properties of alcohol, the range and nature of its effects, repercussions of its excessive use, and explanations of how these damaging outcomes arise. We are now ready to consider approaches that guide programs in the prevention of alcohol abuse.

V. MODELS OF ALCOHOL ABUSE PREVENTION

A. INTRODUCTION

Ideas about the prevention of alcohol abuse in North America during this century have flowed from several distinctive traditions. Those who have reviewed developments in prevention, such as Blane (1976a; 1976b), Frankel and Whitehead (1981), and Whitehead (1975), identify four conceptual models: the "proscriptive," the "public health," the "distribution of consumption," and "sociocultural" models. Summary and assessment of these models occupies this chapter.

B. PROSCRIPTIVE MODEL

Rationale

The proscriptive model approaches questions about alcohol from a moral position. In its most unremitting form, the model prohibits and condemns *any* use of alcohol on the grounds that such use is "inherently and imminently distructive" (Low, 1978: 22). It counsels that individuals ought to abstain from alcohol and social policies ought to ban alcoholic beverages (Blane, 1976c: 181).

On this basis, the proscriptive programs in early public education on alcohol (and notably marijuana, among other intoxicants) stressed health hazards, psychological

impairments, and degeneration in social functioning (Low, 1978: 22). Religion-based campaigns in North America, in particular those of Protestant, fundamentalist inspiration, similarly believe that ethanol exerts detrimental effects on physical health and that by consuming alcohol an individual dishonors the God-given temple of the body. They advise that alcohol undermines a person's faith and reliance on God, "killing the soul," which entails forfeiting his or her salvation (Miller, 1971: 17-18).

The proscriptive model rests on the faith of its adherents and relies on persuasive appeals in which the physical, psychological, and spiritual hazards associated with beverage alcohol may be accented by "scare" tactics and distortion of information (drinking "hard" liquor leads to habitual drunkenness, marijuana use evolves into heroin addiction, for example) (Blane, 1976b: 532; Fort, 1973: 51; Low, 1978: 22-23).

Causal Assumptions

Blane (1976c: 181) characterizes the proscriptive approaches, especially those with a religious basis, as "ascientific" in that their proponents make little effort to systematically study the correlates and determinants of alcohol abuse. Such conditions are believed to be "caused by an inherent or acquired weakness in an individual's moral fibre" (Addiction Research Foundation, 1981a: 41).

Alcohol abusers are expected to take the initiative in their reformation; they are seen as principally in need of "moral and spiritual regeneration" (Ibid.).

Though the disease concept supplanted the predominantly moral postures regarding alcoholism during the middle decades of this century, many treatment approaches, such as Alcoholic Anonymous, articulate a moral responsibility on the part of alcoholics to make amends for earlier wrongdoings and affirm the need for spiritual renewal (Tarter and Schneider, 1976: 81).

Applications

National Prohibition in the United States, initiated with the passage of the Volstead Act in 1919, was a proscriptive response to alcohol and represented a political victory of the "drys" over the "wets" (Fort, 1973: 51-53). The Act prohibited the manufacture, sale, and transportation of spirituous beverages (Ibid.: 53). Prohibition rested on the belief that drinking beverage alcohol was immoral as well as unhealthy.

But the law proved unenforceable; the illegal production and traffic of ethanol by criminal interests escalated and widespread illicit consumption continued (Ibid.: 53-54).

In 1932 Prohibition was repealed. By most people's reckoning it had been a "noble experiment" that proved to be unworkable. As an effort to legislate an unpopular morality,

it was a disaster. It stands as a classic example of a social intervention with more damaging than helpful consequences[34] for

> it...had severely deleterious effects in religious divisiveness, in public respect for the law, in the integrity of all aspects of criminal justice and law enforcement, and in other ways; the program to prevent problems (irrespective of its particular degree of "success") itself became a societal problem (Bacon, 1978: 1128).

Criticisms

The moralists' all-or-none stance on alcohol, their conception that problems arise with the use of alcohol but do not occur with abstinence reflect extreme and simple-minded thinking.

Low (1978: 22) takes issue with the proscriptive model's naive view of causation. He allows, with the prohibitionists, that use of alcohol is a necessary condition for the production of alcoholism and other related problems but argues against their point that such use is sufficient for causing these difficulties. Low maintains that this erroneously implies that mere consumption, without the influence of other determinants, brings about personal and social troubles.

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[34] Nevertheless, Prohibition appeared to have some beneficial impacts. Health statistics reveal a decline in the incidence of certain alcohol-related disorders, such as cirrhosis of the liver, for example, during that period (Poley, et al., 1979: 11; Seixas, 1974: 1).

In general, approaches based on the proscriptive model have in practice generated adverse reactions, in Low's words, "poor positive balance," including "loss of credibility, promotion of alarmist reactions, alienation of groups of users, inability to understand relevant causal factors, misunderstanding and denigration of users by authorities" (1978: 22).

Though somewhat antiquated, the proscriptive model requires recognition as an entrenched element in the alcohol field, and represents an enduring response to alcohol abuse.

C. PUBLIC HEALTH MODEL

Rationale

As discussed in Chapter 2, the public health model evolved through efforts to study and control infectious diseases. It conceptualizes disorders as arising through complex interactions among the disease agent, host, and environmental conditions. Public health investigators attempt to describe the course of a disease throughout its natural history. They apply epidemiological and ecological methods to compile data on its characteristics and distribution across space and time in populations at risk (Blane, 1976b: 532; Clark, 1965; MacMahon, 1967a).

The model generates disease control and prevention measures (which, ideally, are both efficient and socially acceptable) to interrupt the disease process, to structure

the agent-host-environment relationship in ways that protect the host (Clark, 1965: 61-65; MacMahon and Pugh, 1967: 17; Plunkett and Gordon, 1960: 16-19). Classical public health techniques such as sanitary reforms and immunizations have proven effective against many of the formerly deadly infections.

Causal Assumptions

The public health model implicates organic agents in causation. It holds that individuals are in varying degree susceptible to disease after exposure to harmful microorganisms (various bacteria, for example) or toxic materials (lead or mercury, for example) or environmental hazards (radiation, for example) (Plunkett and Gordon, 1960: 28-29). The model assumes that host-damaging agents and processes are explicable and amenable to intervention; in particular, where major causal power can be assigned to one or a few factors--the necessary condition(s)--the possibilities appear most favorable for targeting those factors in prevention programs (MacMahon and Pugh, 1967: 16-17; Morris, 1975: 173-76).

Chapters 2 and 3 noted that current knowledge permits effective control of many infectious disorders.[35]

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[35] Chapter 1 indicated that effective prevention measures can be accomplished without knowledge of causation. Much of the work that presaged modern public health occurred on this basis. However, when scientific advances in the eighteenth century yielded insights into disease processes, the efficiency of public health programs grew correspondingly (Park, 1972: 9).

Specification of the causal mechanisms at work in the production of the chronic conditions such as heart disease and various cancers remains incomplete. Plunkett and Gordon add that "it is so inadequate in the field of mental disease that practical control programs are no more than conjectural" (1960: 16-17).

Applications

Workers following the public health perspective have had only limited success in devising control and prevention programs against alcoholism. To date, much of the activity has been confined to secondary and tertiary efforts concerned with case-finding and arresting further medical complications at the advanced stages of alcohol addiction through such measures as the provision of nutritional supplements during detoxification.

Investigators with medical and public health backgrounds have undertaken work on the "postulate that the weakest link in the chain of events might be found by exploring the biochemical events that take place between the organic chemical, alcohol, and the living brain" (Seixas, 1974: 2). This rubric includes an expanding volume of studies into the psychopharmacology of alcohol and other intoxicants (Ibid.: 3).

Researchers and prevention workers also pay a great deal of attention to the liver, the organ in the body responsible for the metabolism of ethanol and which often

sustains damage over the course of an alcoholic career. Lieber (1978: 724), for instance, outlines the logistics of a public health strategy, operating on the secondary prevention level,

> based on early detection of alcoholism (utilizing, in part, biochemical markers of heavy drinking), screening among heavy drinkers for signs of medical complications such as liver damage (through the use of improved blood tests) and reducing the task of treatment to a manageable size by focusing major therapeutic efforts on susceptible sub-groups....

Public health workers have had the least impact on averting alcoholism on the primary prevention level. They have been stymied in this regard by the conceptual confusion in the field, by the complex, multifactorial nature of alcohol-related disorders, and by the relative lack of verified knowledge on etiology (Ibid.: 724; Plunkett and Gordon, 1960: 101-2).

Public health's continuing focus on the biochemical bases of alcoholism has not required it to make explicit use of persuasive messages in health promotion campaigns.

Criticisms

Despite its legacy to the mental health movement, the public health model occupies a secondary position in alcohol abuse prevention circles today. The model fails to duplicate its early successes against many of the infectious and communicable diseases. In addition, the

social-science-trained prevention specialists of the present era show little interest in thinking about alcohol abuse along the lines of an infectious disease; indeed, the appropriateness of the infectious disease model has been challenged (Blane, 1976b: 533-5).

As noted, public health interventions against alcoholism have usually been secondary and/or tertiary programs undertaken in treatment settings. Three major contentious points arise: first, despite their semantic connections (Hershfield et al., 1981: 11-12), treatment and prevention remain as separate and distinct domains; second, concentration on treatment to reduce the prevalence of alcoholism is an erroneous strategy for dealing with the larger question of the production of new cases (incidence) of the disorder; and third, the levels conception of prevention has minimal utility in light of the recent emergence of primary prevention, or simply prevention, as the dominant conception in the mental health and alcoholism fields (Ibid.: 533-4).

Elements of the public health approach of leading current interest include its emphasis on whole populations and its focus on the manipulation of environmental variables, aspects contained in the distribution of consumption model approach to prevention (Ibid.: 535).

D. DISTRIBUTION OF CONSUMPTION MODEL

Rationale

The distribution of consumption or "single distribution" theory considers alcoholism and its prevention from an empirical perspective. At the core of this perspective lie a set of observations, the compilation of which was begun by the French mathematician Sully Ledermann during the 1950s, concerning the statistical characterization of aggregate drinking practices. Using data from the literature, Ledermann confirmed the expected finding that the frequency distributions for various populations were asymmetrical, containing some abstainers, many moderate drinkers, and progressively diminishing proportions of heavy drinkers in the tails of the distributions (Schmidt, 1976: 34). These consumption curves took the same general shape--hence the "single distribution" idea--of the lognormal type and were "continuous, unimodal, and positively skewed" (Parker and Harman, 1978: 380).

These distributions displayed the interesting property of relative constancy between their means and measures of dispersion (that is, the standard deviation of the logarithms of consumption) (Schmidt, 1976: 35). Ledermann found that this relationship generally held regardless of the population's social practices regarding drinking (Whitehead, 1975: 433).

Knowledge of a distribution's mean permits calculation of the dispersion and also, of more practical significance, estimation of the proportion of excessive drinkers located beyond some critical value (often taken as 15 cl of absolute alcohol per day) in the tail (de Lint, 1975: 8-9). Most importantly, this correspondence implies that if mean consumption of ethanol per person rises, the prevalence of heavy users also increases (Schmidt, 1976: 35). The statistical properties of these distributions and the validity of making inferences from them are subjects of continuing debate (Parker and Harman, 1978: 380-383).

Canadian investigators at the Addiction Research Foundation in Toronto and a group of Scandinavian researchers have extended the work of Ledermann in their study of mortality and morbidity associated with alcohol use. They have articulated a preventive approach to alcoholism based on their findings (de Lint, 1975; Schmidt, 1976; Schmidt and Popham, 1978; Skog, 1980). With data from Canada and other Western countries, they have concentrated on the epidemiology of liver cirrhosis in relation to consumption levels and the relative price of alcohol (de Lint and Schmidt, 1976). Blane (1976b: 527) offers this assessment of their position:

> The empirical evidence offered in support of the distribution of consumption model is incontrovertible. The relationship between cirrhosis mortality rates and high chronic alcohol intake is beyond question. It is clear that the greater the per capita consumption of alcohol, the

> higher the alcoholism rate as measured by physical indices. It is similarly evident that per capita consumption rises and falls with variation in relative price.

Again, however, the position faces challenges regarding both its findings and its preventive proposals.

Causal Assumptions

In its basic formulation, the single distribution model makes no attempt to explain *why* individuals adopt a drinking style; rather, it shows aggregate distributions of drinkers over various consumption levels (Schmidt and Popham, 1978: 405).

Schmidt (1976: 35) comments that the observed stability of the consumption distributions provide "the empirical basis for the conclusion that the overall consumption is a determinant of the rate of heavy use." Of course, it does not follow with logical necessity than an increase in average consumption will produce an increase in the prevalence of heavy consumption.

Speculating on the nature of this process, Ledermann suggested that individuals conceive of their drinking as "other-oriented behavior" and invoked a *boule de neige* ("snowball") or contagion idea whereby drinkers influence and in part determine each other's drinking practices (typically in the direction of lighter drinkers increasing their intake) (Schmidt, 1976: 35).

Skog (1980) and others have extended this reasoning along the lines of a "social interaction" explanation where drinking practices are believed to diffuse throughout a population via social networks through the mechanisms of "contagion between persons" (modeling effects, for example) and "contagion by situation" (when previously alcohol-free situations become accepted occasions to imbibe--drinking with meals, for example) (Skog, 1980: 74-75). An assortment of variables is hypothesized to qualify the diffusion process: (1) behaviors of other drinkers in the immediate environment, (2) "endogenous factors" related to biological and psychological make-up, and (3) "exogenous factors" such as "availability of alcoholic beverages, prices and other economic aspects, advertising and other aspects of mass media, as well as general norms and traditions..." (Ibid.: 75).

Applications

The central preventive thrust of the distribution of consumption model argues against the initiation of alcohol policies that would raise mean consumption levels in a population. The model's principles derive from the apparent stability of the distribution curves and from observations that rates of cirrhosis of the liver vary directly with alcohol consumption but inversely with the relative price of beverage alcohol. The findings are interpreted as recommending such macrolevel responses as price manipulation

and measures to control the availability and accessibility of alcohol (Addiction Research Foundation, 1981a: 46; Blane, 1976c :179). In short, distribution theorists advocate control or reduction of average alcohol consumption per person, aiming their countermeasures at the mass of social drinkers in the population who are more likely than heavier drinkers to modify their consumption (Whitehead, 1975: 435).

Schmidt and Popham (1978: 415-416) outline three major recommendations for a preventive alcohol-control policy based on "single distribution" theory. In overview, they are:

> 1. A taxation policy which maintains a reasonably constant relationship between the price of alcohol and levels of disposable income (income after taxes)...
> 2. A moratorium on further relaxation of alcohol-control measures and the adoption of a health-oriented policy with respect to such measures...
> 3. An education program designed to increase public awareness of the personal hazards of heavy alcohol consumption, the economic and other consequences for society of high consumption levels, and the potential public health benefits or appropriate control measures (Ibid.: 415-416).

Criticisms

Critics of the distribution of consumption model focus on the nature of the mathematical properties of the consumption curves and on the predictive performance of Ledermann's formulations (Parker and Harman, 1978). In general, the model provides only gross estimates of the size

of alcoholic subpopulations (Ibid.: 385-386; Moser, 1980: 47; Skog, 1980: 71). Evidently, there is sufficient variability in the relationship between the mean and dispersion that the model only imperfectly "fits" the available data. Schmidt and Popham counter that this does not invalidate the model since a degree of variation is to be expected, and the model's only requirement is "an absence of major variation" and that consumption data still confirm that the distributions are "approximately one-parametric" (1978: 405).

The preventive proposals advanced by the distribution theorists have stimulated numerous critical responses which Blane encapsulates as follows:

> a) the model has a narrow definition of alcohol problems, confining them to alcoholism and associated physical pathologies; b) restrictive pricing policies may increase explosive drinking...; c) moderate drinkers who could not afford increased prices would reduce consumption and sacrifice pleasure, whereas problem drinkers would continue to drink and divert income from needed goods and services; d) general consumption would be supplemented by an increase in illegally-produced alcoholic beverages...; e) general consumption would also be supplemented by increases in legal, home-production of alcoholic beverages; f) attempts--legal or illegal--to subvert the pricing policy would reinforce the ambivalent mystique that surrounds the use of alcohol in many Western societies...; g) unifactorial approaches to complicated, multiply determined health and social problems are unlikely to be effective (1976c: 180-181).

E. SOCIOCULTURAL MODEL

Rationale

The sociocultural model includes concepts and findings from psychiatry, epidemiology, and other social sciences. Its theory and research on varying drinking practices and differential rates of alcohol-related damage frequently involve broad comparisons made along national, ethnic, or religious lines (Blane, 1976b: 521). Finer-grain analyses of drinking behavior typically consider such variables as "the customs of drinking, how these customs are learned, the nature and source of social controls, the functions of alcohol use, the pressure for and against drinking...among others" (Frankel and Whitehead, 1981: 7).

This perspective leads to an emphasis on "normative patterns," group-generated definitions and expectations believed to channel the behavior of its members (Greer, 1955: 24-25; Larsen and Abu-Laban, 1973:88-91; Room, 1980a: 2-3). It postulates that drinking behaviors are culturally mediated events and that norms, therefore, bear on the production of damaging outcomes arising from a group's use of ethanol (Room, 1975). Alcohol-related problems appear in this view as a class of mental illnesses of disordered or compulsive behavior (Room, 1974:13).

The model draws attention to "the structure and quality of social norms," focusing on their *structure*, or the ways in which drinking rules are created, disseminated, and acted

upon within a population, their *prescriptive* qualities or (formal and informal) rules that say "do this" when it comes to drinking, and *proscriptive*[36] qualities, or rules that say "don't do this" when it comes to drinking (Frankel and Whitehead, 1981: 7).

Frankel and Whitehead (1981) assess four normative configurations in the sociocultural model that are thought to be implicated in alcohol-induced damage. First, the *proscriptive environment* concept explains that individuals who drink despite being affiliated with a group (typically a religious organization) that strongly censures ethanol consumption will, once they start drinking, adopt a more damaging style of consumption than other similar individuals exempt from an abstinence rule. However, research conducted in this vein with drinking Mormons does not support this hypothesis convincingly (Ibid.: 8-10). Second, the *prescriptive environment* concept refers to the situation in France, for example, where use of alcohol is deeply enmeshed with other social activities, but where few proscriptive rules operate. Thus, the indulgent and permissive French demonstrate high rates of alcohol consumption as well as related medical complications and other social problems (Ibid.: 11-12). Third, the *ambivalent environment* concept ostensibly applies to the Irish and Irish-Americans, for instance, whose drinking frequently occurs in isolation from

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[36] This indicates a broader referent of "proscriptive," which permits drinking but precludes excessive use, than the narrowly prohibitionist meaning of the "proscriptive" model reviewed above.

other events, whose attitudes toward alcohol are accepting of its instrumental use and expectations about alcohol consumption according to age and sex are contradictory and ambiguous, and among whom public intoxication (by young males, in particular) is common. However, despite its image as a "nation of drunkards," Ireland maintains a low cirrhosis rate. [37] Fourth, the *unambiguous environment* concept claims to reflect the experiences of such groups as the Chinese and Orthodox Jews who display highly integrated use of alcohol, drink frequently, consume ethanol on occasions and in ways unambiguously defined by ceremonial and traditional practices, but which forbid with equal clarity immoderate use of alcohol. In short, it is thought that exposure to such norms through training and social controls enable individuals to exercise "discipline of all appetites." On the other hand, Frankel and Whitehead point out that these groups drink limited volumes of ethanol. Consequently, as near-abstainers, they suffer few alcohol-related disabilities (Ibid.:14-18).

These points and the rationale of the sociocultural model are succintly expressed in the Ullman-Blacker hypothesis:

> ...in any group or society in which drinking customs, values and sanctions--together with the

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[37] Ireland's crude mortality rate for cirrhosis of the liver was 3.7 deaths per 100,000 persons in 1975. This was well below such leading countries as Italy with 31.9, France with 32.8, and Portugal, which had the highest rate: 34.5 deaths per 100,000 population (Moser, 1980:78).

> attitudes of all segments of the group or society are well established, known to and agreed upon all, consistent with the rest of the culture, a[illegible] are *characterized by prescriptions for mo[illegible]rate drinking and proscriptions against exc[illegible]ve drinking, the rate of alcoholism will be* [illegible] (quoted by Whitehead, 1975: 432, emphasis in the original).

Causal Assumptions

The causal assumptions of the sociocultural model parallel those underlying the social-adaptive formulation outlined in Chapter 3. Both point to social conditions and the cultural milieu as loci of causes of disordered behavior. They also share an emphasis on *learning* and *socialization.*

Sociocultural theorists regard socialization as the mechanism involved in the acquisition of attitudes and behaviors toward alcohol by the young (Blane, 1976b: 524). These attitudes and behaviors are assumed to be subject to modification by further learning in adulthood.

Blane notes the attention accorded by these thinkers to the role of schools and mass media as major socialization agents (Ibid.). As regards the media, this reaches the present work's main interest: assessment of the efficacy of mass commumications programs that employ promotion and persuasion to inculcate new ideas about drinking, to manipulate the "normative structures" that channel attitudes and behaviors in ways thought to protect against the damaging effects of alcohol.

Applications

The sociocultural model has furnished the conceptual underpinnings for much of the mass-scale prevention programing against alcoholism undertaken in the United States and Canada during the 1960s and 1970s. Blane (1976b: 522) suggests that the main thrust of these efforts has been "to create a set of ideal norms that proscribe excessive drinking but prescribe moderate drinking, while attempting to allow room for the acceptability of nondrinking."

Prevention ideas and policies emanating from this perspective cluster around distinct themes. In brief, these themes recommend "integration of drinking practices" to make alcohol use an *incidental* part of routine and familial activities (such as partaking of wine or beer during meals) (Whitehead, 1975: 435). They recommend "removal of the mystique and ambivalence" associated with beverage alcohol by introducing children to its use in the home environment (also through the lowering of legal age drinking laws, for example) (Schmidt, 1976: 38). They recommend "establishment of national drinking norms" and efforts to teach the population about which drinking styles, behaviors, and circumstances are acceptable and which are not (for instance, labeling impaired drivers as "stupid" and "irresponsible") (Blane, 1976b:522; Room, 1974:13). They also recommend the "ethic of responsible drinking" to assist people in making informed choices about alcohol and to bring their drinking under normative controls for moderation

(which assorted "life style campaigns" frequently attempt to do) (Addiction Research Foundation, 1981a: 45).

In general, proponents of policies derived from this position favor the adoption by North American populations of "continental drinking practices" like those followed by the Italians, for example (Frankel and Whitehead, 1981: 21).

Criticisms

The sociocultural model of prevention has faced strong challenges regarding both its conceptual and empirical bases, and its ability to produce desired results. Again, Blane presents the highlights:

> First, it misconstrues much of what is known about cultural organization and social change when it proposes to borrow bits and pieces from different cultures and somehow integrate them into an entirely different social context.
> Second, while the model's tone of moderation may be publicly embraced, it runs counter to deeply held values about the virtues and pleasures of drinking that determine many American drinking practices.
> Third, depending on how alcohol problems are defined, some of the evidence upon which the social science model is based is in doubt. Italy, for instance, has one of the highest mortality rates attributable to cirrhosis of the liver among Western nations....
> Finally, the model's emphasis on attitude change in relation to behavior has, for the most part, not been carefully thought out, and the operational implementation of many of its proposals has not been adequately addressed (1976c: 178).

Other criticisms might be noted. Supporters of the distribution of consumption model argue that higher aggregate consumption of alcohol carries dire health

consequences (increased mortality from cirrhosis of the liver, for example) (Schmidt, 1976: 39). They emphasize that such countries as France and Italy have not escaped the liabilities of increased alcohol consumption despite national styles of "integrated" use. Finally, advocates of the sociocultural model, true to their sociological orientation, have tended to downplay evidence of biogenetic influences in the production of at least some forms of alcoholism.

Specific prevention proposals derived from the sociocultural position are examined in detail in Chapter 6.

VI. PERSUASION IN MASS PROGRAMS AGAINST ALCOHOL ABUSE

A. OVERVIEW

This chapter contains the material that bridges the preceding discussion on models of prevention and the forthcoming review of mass campaigns employing persuasive strategies against alcohol abuse. The chapter has several aims: to demonstrate the theoretical importance of persuasion in the preventives of the sociocultural model, to review aspects of persuasion, to highlight the communication process, and to review the marketing framework through which, it is thought, persuasive messages on prevention of alcohol abuse can be most effectively disseminated.

B. PERSUASION IN THE SOCIOCULTURAL MODEL

Although the four models reviewed in Chapter 5 display variation (and opposition) in their conceptual and action approaches to alcohol abuse prevention, they all contain elements of public information and education. In varying degree, all make use of persuasive messages aimed at consumers of alcohol as well as funders, lawmakers, and others.

The sociocultural model, which has dominated the field of primary prevention of alcohol abuse in North America since the 1960s (Blane, 1976c:178; Moser, 1980:171), makes most explicit use of strategies intended to inform and

motivate individuals to refrain from alcohol abuse. Therefore, programs emanating from this approach will be the focus of attention for the remainder of our study.

The sociocultural model stresses the broadcasting of information and exhortative appeals as a result of the scope of its concerns and the causal mechanism it invokes to account for variations in drinking patterns and the incidence of alcohol-related damage. Prevention theorists who use this model, such as Chafetz (1967, 1974), Plaut (1967), and Wilkinson (1970), call attention to a wide range of behavioral disturbances beyond clinical alcoholism and its associated health impairments. They take a broader, "problems" perspective, focusing on alcohol-related difficulties arising in family and work settings, in interpersonal relations, and with the law. The gravest problem is what they regard as the prevalent pattern among North Americans of drinking to excess, reaching a state of intoxication, often causing or sustaining injury to self and others, and experiencing guilt, confusion, and ambivalence afterwards (Chafetz, 1967:346; 1974:6; Plaut, 1967:126). The measures these writers recommend for averting such liabilities involve altering consumption practices in the direction of moderate use and articulating guidelines that would inform people on how to drink "sensibly" in accordance with "healthy" patterns of use (Chafetz, 1967:346; Wilkinson, 1970;120). This can only be achieved, Chafetz explains, "by changing attitudes toward alcohol and the

social significance of drinking in a culture" (1967:347).

What adherents of the sociocultural model of prevention have in mind, of course, is the elaboration of rules and expectations, acceptable to alcohol consumers and abstainers, that bring a range of informal and formal sanctions to bear on drinking situations. It is belived that, once disseminated throughout the population, these rules and expectations would furnish drinkers with the contextual meanings and with the proscriptions and prescriptions needed to help them avoid injurious drinking behaviors. In short, the model recommends development of drinking norms and guidelines paralleling those operating in Jewish, Oriental, and Italian cultures, which accept alcohol use but reprove drunkenness, which contain drinking codes that unambiguously signify acceptable and inappropriate use of ethanol, and which ostensibly direct drinkers away from damaging consumption patterns (Plaut, 1967:127).

The centrality of drinking norms in the rationale of the sociocultural model requires that alcohol abuse prevention be geared into *socialization processes*, thus implicating the family. Sociocultural theorists point out that the family has served historically as the prime socializing agency. They argue, however, that in recent decades this role has been increasingly preempted by the school system and the mass media of information and entertainment (Chafetz, 1974:10). They also consider the family as harboring much of the ambivalence that surrounds

North American drinking practices (Plaut, 1967:150). In view of these developments, the sociocultural theorists nominate the schools and mass media as alternate institutions for conveying messages that would inform and motivate people in the creation of responsible drinking habits (Chafetz, 1974:10; Plaut, 1967:151).

This approach, emphasizing the socialization of youth into consumption norms of moderation via mass media, is consistent with the sociocultural model's fundamental assumption that major determinants of behavior reside in actors' environments. Drinkers' attitudes, beliefs and behaviors, whether or not they result in injury, are believed to be culturally derived and transmitted through learning; therefore, they are regarded as amenable to change by exposing people to new information.

Learning would be enhanced, Wilikinson suggests, if alcohol educators fashioned mass messages along the design of "salting public health advice with interesting information, and avoiding a tone of preachment" (1970:120).

Plaut (1967) makes four broad recommendations regarding practices that he believes should be changed. The role of public education and information in each area is highlighted below.

Sociocultural Preventive Proposals

1. "Reduce the emotionalism associated with alcoholic beverages (p. 138)."

Policies suggested under this heading include reducing social pressures to drink, emphasizing the responsibilities of good hosts to supply nonalcoholic beverages, and modifying the current image of alcohol, which connotes excitement, mystique, and prowess, to include elements portraying its useful but dangerous properties (Plaut, 1967:136). Plaut suggests that these points could become topics of public discussion by their inclusion in the agendas of "service clubs, PTAs, health and welfare associations, youth organizations, and church groups" (Ibid.:139). He adds that various print and electronic media can disseminate information on drinking practices, beliefs, and attitudes.

Promotions and advertising are expected to play vital roles in these efforts to review and rebuild North American drinking practices. The position recommends that restrictions on the scope of advertising be removed without relaxing the standards against exaggerated claims (Ibid.:140; Wilkinson, 1970:122).

Wilkinson (1970:123-124) advises alcohol educators to employ commercial sales promotions and advertising techniques for two main reasons: first, these procedures connect with some potency to "cultural motivations" in North

American society and, second, "commercial promotion can mesh injunctions to restraint and responsibility with attractive inducements to self-interest more closely than can government education programs." Thus, the position suggests that alcohol messages be devised which contain emotional appeals. This has direct application in efforts to contrive an image of the "control hero"--a doctor, astronaut, or other prominent person(s)--with whom the concept of moderate, controlled use could be linked (Wilkinson, 1970:129-130).

> 2. "Clarify and emphasize the distinctions between acceptable drinking and unacceptable drinking (p. 142)."

Major aims in this context are to encourage people to censure drunkenness and such potentially dangerous behavior as driving while under the influence of alcohol. A key element is the gradual elaboration of consumption guidelines that would specify appropriate drinking behaviors and conditions (that is, in positive terms) rather than, as at present, citing details of unacceptable use and deleterious consequences (that is, in negative terms) (Plaut, 1967:145).

Prevention measures envisioned under this point include the creation of a tax structure providing incentives to distillers, for example, to produce beverages of lower

alcohol content (Ibid.:143). Also suggested are magazine and television advertisements reminding hosts of their responsibility to serve nonalcoholic beverages at parties (Ibid.:145).

> 3. "Discourage drinking for its own sake and encourage the integration of drinking with other activities (p. 146)."

The sociocultural position considers it urgent that North Americans redefine the significance of alcohol in their way of life and reach agreement on how to use the drug along the prototypical lines of Chinese, Jewish, and Italian drinking patterns. Under these cultural conditions, "drinking becomes an incidental part of routine activities" (Plaut, 1967:146).

Advertisements, illustrative of this theme, would present "realistic, attractive drinking scenes with children, and depictions of alcohol and food being consumed together" (Wilkinson, 1970:122).

> 4. "Assist young people to adapt themselves realistically to a predominantly 'drinking' society (p. 148)."

The sociocultural thinkers contend that individuals should be introduced to alcohol under circumstances that would not tempt or challenge them to abuse the substance (Wilkinson, 1970:129-130). Youth should have occasion to experience ethanol early in life; opportunities should be made available in "measured, uneventful circumstances" outside the home--in conjunction with church, school, and recreational activities, for example (Chafetz, 1967:348; Plaut, 1967:151).

Various policies are suggested to further these ends. Chafetz proposes that hygiene curricula containing objective information on the nature of alcohol and its health and social effects be developed for the schools (1974:10). Plaut mentions the importance of stimulating disc[illegible]on on alcohol topics through radio, television, and print media (1967:166). Wilkinson recommends, among other things, that drivers in training receive "hard-hitting information" on impaired driving (1970:121).

The sociocultural theorists conclude that the type of measures outlined under Plaut's four points would, if instituted, underwrite an ethic of "responsible drinking."

C. RESTRICTIONS ON THE DISCUSSION

The proposals emanating from the sociocultural camp frequently entail legislative changes, legal controls, tax measures, and other elements associated with the public health and distribution of consumption models (Plaut,

1967:122). However, it is beyond the scope of the present work to investigate the "mix" of these elements.

A further restriction applies. A principal recommendation of the position reviewed above is that prevention programs be carried out in schools and that students be provided with didactic information on alcohol use. Consideration of this formal education dimension also lies outside of our analysis. Reviews on this topic have been prepared by Blane (1976a, 1976b), and others.

Main Focus

The topic of interest requires examination of public education and information messages carried through the channels of mass communication: electronic media, print, and visual display media, in particular. Relationships among the nature of these offerings, the characteristics of receivers, conditions of exposure, and changes in indices of drinking and alcohol-related damage lie at the centre of this analytic focus.

As a qualifying point, the sociocultural theorists recognize full well that their proposals implicitly advance a program of social change (Plaut, 1967:137). This program aspires to create a uniform set of drinking concepts and norms, a development that depends on shifting and homogenizing a complex of drinking values and customs which are deeply ingrained in North American culture. Critics are far less sanguine about the possibilities of effecting such

a shift (Blane, 1976b:539; Hiltner, 1967:349). Success further requires that unknown numbers of people be roused from apathy, inertia, and indulgent-but-destructive life styles--heavy demands to place on persuasive appeals.

D. ELEMENTS OF PERSUASIVE PROCESS

A major grouping of alcohol abuse prevention strategies advanced by the sociocultural model recommends the transmission of facts about ethanol and images depicting both the destructive consequences of alcohol abuse and preferred styles of consumption to North American populations. This approach reasons that the presentation of symbolic input will influence recipients in several ways: it will deepen their knowledge of alcohol, modify the meanings and feelings they attach to it, and channel their behaviors toward the ideal of responsible use.

This rationale rests on the presumed power of the mass media to inform and persuade. Several points in this rationale require elaboration.

Mass Media

The major vehicles of mass communication in North America include the electronic media (television, radio, and films), print media (newspapers, magazines, and books). In a more global sense, following Janowitz (1968:41), "mass communications comprise the institutions and techniques by which specialized social groups employ technological devices

(press, radio, films, etc.) to disseminate symbolic content to large, heterogeneous and widely dispersed audiences."

Influence and Persuasion

To influence others is to move them in preferred ways. Simons (1976:20) suggests that influence operates along a continuum from "unintended messages" at one pole to "raw, physical coercion" at the other. In between these extremes persuasion operates which, in varying degrees of penetration and clarity, comprises a major part of human communication.

The concepts along this range do not form discrete entities but blend into each other. Analysts debate the criteria needed to distinguish persuasive from nonpersuasive messages and to separate persuasive from coercive elements in human discourse and action (Simons, 1976:42). For instance, most people would agree that mathematical constructs and expressive responses of a reflexive nature are devoid of persuasive content. However, there is apt to be less agreement on other forms of communication. Consider, for example, the subtle intrusions of ideology in "factual" news reporting. In other signals, the leading content could be detected easily by most of us. The pitch of the adman and the rhetoric of the politician we recognize as patently persuasive in intent.

Some messages imply threats of coercion overlaid with persuasive appeal (Simons, 1971:390). This brings to mind the example of the poster depicting a magistrate or police

officer warning the viewer not to drink and drive.

Given the scope and ambiguities of this area, multiple definitions of persuasion exist. Simons's broad conception seems well suited for present purposes. He defines persuasion as "human communication designed to influence others by modifying their beliefs, values, or attitudes" (1976:21). In most communication contexts, persuasion can be distinguished by its "extralogical," "extrafactual," and "manipulative" character but, he adds, it leaves open, implicitly if not explicitly, the possibility of choice (Ibid.:20).

Although our culture upholds persuasion in most areas of routine interaction, the term carries connotations of manipulation, deceipt, and selfishness. Other "devil" words that often serve as synonyms for persuasion include "rhetoric," "indoctrination," and "propaganda" (Simons, 1976:26). Though these terms may excite emotional responses, Simons points out that the persuasive process remains fundamentally the same across applications; this push and pull of others is an integral and perennial part of human communication (Ibid.:30-36).

Attitude and Behavior Change

A traditional approach to persuasion holds that changing actors' behaviors depends on prior modification of their beliefs, values or attitudes (Simons, 1976:18).

Social psychologists conceptualize attitudes as "internal, private events whose existence we infer from our own introspection or from some form of behavioral evidence when they are expressed in word (i.e., opinions) or deed" (Zimbardo et al., 1977:20). Briefly, attitudes are believed to consist of beliefs (a cognitive component), values (an affective component), which interact to produce a readiness or *predisposition* to act (a behavioral component) (Simons, 1976:80-85; Triandis, 1971:2; Zimbardo et al., 1977:20-21). While values are seen to derive from both biogenetic and psychosocial factors (Simons, 1976:83), beliefs are attributable to learning (Zimbardo et al., 1977:21).

In this social-psychological view, beliefs and values codetermine attitudes, suggesting that shifts in attitude might be achieved by targeting messages on these components. As Simons (1976:87) points out, however, an attitude is not reducible to its elements; consequently, changing one or both of its parts does not necessarily alter the attitudinal whole. Moreover, it is not legitimate to assume an equivalence between changing an attitude, or "predisposition" to act, and actually changing behavior (Ajzen and Fishbein, 1977:914). These points apply to preventive efforts to change drinking behaviors through information and persuasion.

In simplified form, this paradigm assumes that attitudes and behaviors correlate (Simons, 1976:87). It holds that behavior change begins with education.

Information leads to concept formation; over time and with reinforcement, the new beliefs take on emotional color. New or different predispositions (attitudes) arise from the synergy between these two sets of elements (Iverson and Portnoy, 1977:132; Triandis, 1971:2-3).

In terms of the present topic, the model says that, given information about alcohol and its "sensible" use, people will understand and adopt nondamaging drinking practices. In the long run, as they experience the benefits of this style of usage, they will socialize their children into the ways of moderate drinking, and the incidence of alcohol-related problems will decline. A normative consensus on responsible alcohol use will have been achieved and drinking will come more effectively under informal social controls.

Qualifications

A number of complications accompany this line of reasoning.

1. We cannot locate attitudes, values, beliefs (and norms, for that matter) in three dimensional space; we must infer that they exist from their putative effects. Their conceptual and operational definitions typically remain vague, leading to measurement error (Ajzen and Fishbein, 1977).

2. Contentious questions remain about which attitudes are critical in the process of behavior change, the extent to which these attitudes may be

manipulated by mass communications, and the nature of the messages needed to effect change.

3. None of the existing approaches can fully explain the persuasion-influence process. A number of theories have been advanced--perception theories, functional theories, learning theories, and "balance" or "consistency" theories--to account for this process but they tend to concentrate on selected categories of variables and thus perform "...only moderately well in supporting predictions unique to them" (Simons, 1971:388). Traditionally, experiments to test hypotheses from these theories have been carried out in university laboratories with students as subjects. Such studies produce results of limited or unknown generalizability to uncontrolled field settings (McGuire, 1974:2-3; Triandis, 1971:150).

4. The linkage between attitudes and behaviors remains ambiguous. Although it is popularly assumed that attitudes *cause* behaviors, this connection can permute in other ways: behaviors may cause attitudes; they may cause each other in reciprocal fashion; or they may be unrelated (Bentler and Speckart, 1981:226; McGuire, 1974:20-21). A definitive conclusion does not seem likely, given that *all* of the above-noted relationships have at least limited empirical support (Kahle and Berman, 1979:315-316).

5. Under some conditions, verbal measures of attitudes may predict behaviors with increased accuracy. Crespi (1971) describes research suggesting that improved prediction of behavior occurs when (1) the attitudes of interest address specific behaviors (Crespi uses the examples of voting, movie attendance, and brand-of-product preference), (2) the sample consists of persons most likely to perform the behavior, (3) measurement of attitudes and behaviors are closely connected in time, and (4), the behaviors are "highly institutionalized," that is, they are defined by consistent and well-understood role expectations.

6. A related topic concerns the complexities of inducing behavioral change within the knowledge-attitude-behavior construct (Iverson and Portnoy, 1977). As noted, attitudes do not consistently serve as reliable predictors of what people will do. Ajzen and Fishbein comment that "the emerging position seems to be that attitude is only one of many factors determining behavior" (1977:888). Jaccard (1981:262) expands the point: "in principle, there are hundreds of dimensions and characteristics of the source, message, and audience that could be relevant in a change situation."

Communication-Persuasion Process

The issues raised in the preceding paragraphs apply broadly to the study of human communication on all levels: from individuals engaged in conversation to a remotely stationed sender conveying messages through impersonal means to a mass audience.

In prototypical form, communication requires "conceiving" and "encoding" the message (i.e., putting it in a form understandable to others) on the part of the sender, and "decoding" and "evaluating" the message on the part of the receiver (Berlo, 1960:40-70; Simons, 1976:64-69). This simple formulation can be expanded to cover more complex instances with two or more receivers, two or more messages, in either one way or reciprocal interaction with two or more senders situated face-to-face or in distant locations.

Extending this communications engineering analogy further, Simons explains that

> Communication always involves at least one *message*, transmitted by a *source*, via a *medium*, to a *receiver*, within a *situational context*. In more complex situations, there may also be *channels* intervening between the initial source of a message and its final destination (Ibid.:48, Simons's emphasis).

Other aspects bear on the mechanics of message transmission: distortion factors such as "noise" in the system and perceptual "filters" that operate within receivers, and "feedback" effects which, in the human

communications context, can be used to "fine tune" subsequent messages (Berlo, 1960:40-41; DeLozier, 1976:22-24).

A major body of mass media research has concentrated on these communication factors, along the lines of Lasswell's (1960) famous query: "Who" (the source) "says what" (the message) "in which channel" (the medium) "to whom" (the receiver) "with what effect"? Each of these factors signifies an important area of analysis. Such an analytical approach is included in the "information-processing paradigm" elaborated by McGuire (1973, 1974), Robertson (1982), and others.

Information-Processing Paradigm

While not a theory proper, this paradigm proposes that people are moved by positive and negative reinforcement and that in responding to persuasive communications they apply a calculus designed to maximize their rewards and minimize their energy expenditures (Berlo, 1960:98; Zimbardo et al., 1977:56). The model focuses broadly on attitudes, which McGuire (1973:219) refers to as "intervening variable(s) that mediate between generalized reception and reponse tendencies." It assumes that attitudinal and/or behavioral change can occur through the agency of persuasive communications operating on an individual's belief and value structures (McGuire, 1974:1-2; Triandis, 1971:144).

This paradigm features two main sets of variables. One set subsumes the communication factors identified above: source, message, receiver, channel, and destination (McGuire, 1973:221). The set of nominated dependent variables includes five states or "mediational events" in the receiver that are expected to change following exposure to a persuasive communication: "*attending* to it, *comprehending* its content, *yielding* to it, *retaining* this new position, and *acting* on the basis of it" (Ibid., emphasis added).

This rationale holds that the communication process entails learning that begins when the receiver pays attention to the message. It also argues that he or she is more apt to be influenced by the message if it is understood, to yield to its images, assertions, or implications (where yielding may be inferred by self-reported measures of attitude change), and to retain the effects for a long enough period to formulate intentions and to carry out actions (McGuire, 1973:221-223).

The sequence presents a set of "mediational" targets for persuasive messages. It makes the further point, however, that behavior change does not automatically result from attending to a message; indeed, alterations in behavior can be expected as a joint probability of the occurrence of the preceding steps (Swinehart, 1980:22; Triandis, 1971:144).

Weaknesses and Strengths

As a theoretical position, the model is incomplete (Zimbardo et al., 1977:61). Disagreement ensues over the relative importance and positioning of different variables in the sequence of outcomes (DeLozier, 1976:28). The model also suffers from the problematic assumption that attitudes are a consistent and major class of behavioral determinants (limitations acknowledged by at least some of its proponents) (McGuire, 1974:20).

The information-processing paradigm also has strengths and utilities. Its matrix of communication factors and outcome variables provides a broad framework within which to study the multiple determinants involved and the contingent relationships that connect these two sets of variables. In particular, it draws attention to such complexities in bringing about attitude and behavior change as nonmonotonic relationships between variables (where neither low nor high values on a communication factor produce the desired effects) and higher-order interactions (Ibid.:9-10; McGuire, 1974:224-225; Triandis, 1971:144). This approach alerts program planners to consider a broad set of communication factors when developing persuasive campaigns.

Though the model's empirical support derives from laboratory studies, its findings and principles have

been extrapolated to various applied settings: business promotions (DeLozier, 1976), drug education (McGuire, 1974), and dissemination of health information through mass media (Robertson, 1982). Campaign planners may use the framework noted above to consider the potential impact of each communication factor on the behavioral steps thought to underlie the persuasive process (McGuire, 1974:3). This framework can also be applied in an analysis of a mass media campaign's components in conjunction with findings from an evaluation of its outcomes. Such investigations should illuminate communication contingencies through which mass programs alter recipients' attitudes and behaviors.

Chapters 8 and 9 will be devoted to such an exploration of the communication components of selected mass media campaigns against alcohol abuse. To lay the basis for this analysis, major independent variables and relevant relationships in the information-processing paradigm are outlined below.

Communication Factors

Exposure

For an individual to be influenced by a message it is necessary, though not sufficient, that he or she be exposed to it. Optimally, program planners arrange exposure factors to attract the maximum number of

people.

A widely followed strategy, which focuses on meeting audience interests and needs, defines categories of recipients that are homogeneous with respect to key demographic, attitudinal, or behavioral characteristics (a segment of high risk drinkers, for example), then deploys specific messages through a combination of channels geared for these subgroups (DeLozier, 1976:43; McGuire, 1974:13-14). This "segmenting" of diverse populations into target groups constitutes a major activity in the fields of commercial and "social" marketing, as the discussion in the next section of this chapter indicates.

Source

Whether this entity takes the form of a person delivering a speech, an organization sponsoring a campaign, or a character in an advertisement, the source can potentially exert strong influences upon audience members. Much of this influence hinges on receivers' *perceptions* of the source.

Scholars of persuasion have singled out three broad categories of influence-conferring source characteristics, after the work of Kelman (1969). Briefly, as sources are perceived to have *power* (capacity to dispense rewards and punishments), they may influence receivers toward *compliance* (Robertson, 1982:4). As sources are perceived to be *attractive* (by

such criteria as similarity, familarity, and likeability), they may move receivers toward *identification* (McGuire, 1974:5). As sources are perceived to demonstrate *credibility* (implying believability based on trustworthiness and expertise), they may stimulate *internalization* of the persuasive communication (Ibid.; Robertson, 1982:5).

Accordingly, advertisers often seek credible sources to communicate their messages since receivers are then apt to incorporate persuasive appeals among their enduring values (DeLozier, 1976:83). However, people's perceptions of credible sources vary widely; adolescents assess believability quite differently from adults, for example (Robertson, 1982:5).

A noteworthy limiting factor appears to work on the credibility variable. Given that receivers tend to be highly susceptible to the suggestions of people with characteristics and ideas similar to their own, the credible source's expertise can become a negative factor, restraining receivers from yielding by undercutting trustworthiness, as it becomes more distinguished (McGuire, 1974:5).

Message

While message most narrowly means "what is said or implied by communicators through words, gestures, and inflections," in practice it incorporates all of the signals and cues, verbal and nonverbal, intended and

unintended, that comprise their "total presentation" (Simons, 1976:48-49). From among this multiplicity of message elements three broad groupings have been identified--*structure*, *frequency*, and *appeal*--which bear on present interests (Robertson, 1982:7).

Major considerations under message structure concern the most effective *positioning* of key points in the message (primacy or recency effects), the inclusion of *counterarguments* (sidedness), and the *saliency* with which conclusions are drawn (DeLozier, 1976:90-100).

Experience and research have shown that messages' persuasiveness interact with such receiver factors as degree of interest or hostility, as well as the type of medium used (Ibid.:90-95; Robertson, 1982:7-8). By way of illustration, messages in print media typically state important points early (often through headlines) in an attention-getting fashion (Robertson, 1982:7-8). Messages pertaining to health and drug topics appear to be more easily comprehended and accepted when they fit the receivers' frame of reference, and explicitly state critical points and conclusions (McGuire, 1974:7) in a "serious, simple, straightforward approach" (Robertson, 1982:11). Messages directed to hostile audiences may become more persuasive if arguments both for and against the favored position are given (DeLozier, 1976:95); and, messages on controversial, interesting, and familiar topics tend to produce primacy results

(Ibid.:111).

Frequency concerns the number of times that recipients are exposed to the message. While repeated presentation of the message to receivers enhances learning and retention, *overexposure* can occur, resulting in decay effects and the gradual fading of the message into background "noise" (McGuire, 1973:235; Robertson, 1982:8; Triandis, 1971:163).[38]

Regarding appeals, the relative efficacy of rational over emotional content has yet not been demonstrated; however, marketing convention favors emotional inducements (DeLozier, 1976:105).

It has been observed that fear is an effective motivator, with power to induce yielding in the direction of both compliance and avoidance (Triandis, 1971:191).

Although some health campaigns have had success with fear appeals, it remains a volatile variable (Robertson, 1982:10). This derives from the apparent relationship between persuasive impact and apprehension which takes the form of a curvilinear function of the inverted U-shaped type. While mild degrees of fear tend to move receivers toward attending and yielding to a persuasive message, beyond some intermediate level anxiety-generating appeals interfere with their

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[38] According to Swinehart (1980:24), messages in campaigns against alcohol have typically not achieved the extent of coverage needed to induce overexposure.

comprehension and retention of it. The probable results are that the receiver "defensively avoids the source, denies vulnerability, distorts the message or derogates the source" (Robertson, 1982:9-10).

In a summary of this topic Karlins and Abelson (1970:9-10) suggest that

> strong appeals should be superior to mild ones in modifying behavior when they: (1) pose a threat to the subject's loved ones; (2) are presented by a highly credible source; (3) deal with topics relatively unfamiliar to the subject; (4) aim at subjects with a high degree of self-esteem and/or low perceived vulnerability to danger.
>
> It is also possible to draw some general conclusions concerning fear appeals. It seems that fear appeals are most effective in changing behavior when: (1) immediate action can be taken on recommendations included in the appeal; [and] (2) specific instructions are provided for carrying out recommendations included in the appeal.

McGuire recommends against the use of fear appeals in drug education on the grounds that emphasizing dangerous outcomes could alienate high-anxiety users from the program and may, through a "boomerang" effect, inadvertently promote drug abuse among risk-taking youth (1974:24).

Receiver

The attributes of receivers also provide for differential persuasibility. Major correlates of susceptibility to influence include sex, intelligence,

self-esteem, cognitive style, and social affiliation (McGuire, 1974:10; Robertson, 1982:18; Triandis, 1971:161-165).

An assortment of complexities emerge. Personality variables often exert *opposing* effects at different stages in the persuasion sequence (Robertson, 1982:16). A higher level of intelligence, for example, enhances attending and comprehension, but it reduces yielding (McGuire, 1973:238). As noted above, elevated levels of anxiety render the receiver more persuasion prone through increased yielding, but with a reduction in attention and comprehension (Ibid.:239).

These and other personality characteristics appear to operate in such a fashion that extreme values in *either* direction (relationships depicted by inverted U curves) mitigate against persuasibility (Ibid.; Triandis, 1971:167). In addition, *interactions* frequently operate between receiver, source, and message factors (McGuire, 1974:9-10).

Given these swirls in the communication flow, a popular strategy advises program designers to delineate segments within the audience at large and to devise offerings containing combinations of message and other communication factors that match the predispositions of the subgroups (DeLozier, 1976:43; Karlins and Abelson, 1970:95; Robertson, 1982:18).

This approach reasons that specialized messages can more ably penetrate a receiver's system of protective "filters"--in short, to "...overcome a host of individual defenses, including selective exposure, selective perception, selective memory and selective distortion" (Karlins and Abelson, 1970:87).

Channel

Channels serve as conduits connecting the source with receivers. Important considerations in the choice of media channels relate to message factors (type of information to convey, for example) and receivers' characteristics (Robertson, 1982:11).

The media vary with respect to the degree of prestige and credibility they exhibit. Television, currently rated by receivers as the most credible medium, is regarded as a particularly effective channel for reaching audiences with lower education, while print media are indicated for more complex materials aimed at readers with higher education (Ibid.).

Program planners frequently use multiple channels to deliver their persuasive messages, thus increasing the intensity of their campaigns.

A channel may also be a person who serves as an intermediary, someone who receives then sends the message(s) on to others. Although such channels as *opinion leaders* may distort incoming information, they have the potential of eventually converting many others

to the message by virtue of the influence they exert in the community of persons who value their views (DeLozier, 1976:155-160; Shoemaker, 1980:4). These direct exchanges within groups of similar and familiar people, which provide instantaneous feedback, are regarded as the premier vehicles for applying persuasive messages and procuring behavioral change (DeLozier, 1976:160; Robertson, 1982:11; Triandis, 1971:157).

Destination

Major points included under this heading include the "type of issue" that persuasive communications address (a health concern or a political topic, for example) and "type of response urged" (whether increased awareness about a product or issue, attitude change, or alterations in behavior) (McGuire, 1973:241). Destination effects require clear specification for the purposes of program evaluation.

In research, measurement of persuasive impact usually takes place immediately after receivers are exposed to the messages on the assumption that retention will then be highest, with decay effects setting in thereafter. However, a curious "delayed-reaction" effect sometimes operates in which the full extent of persuasive impact is achieved only after the passage of a "sinking-in period" (Ibid.:242). McGuire (1974:11) indicates that "this is particularly

likely to happen when the communication is subtle, qualified, requires active cogitation by the recipient, is intended to spread to beliefs and actions beyond its immediate explicit content, or contains a discounting cue such as transmittal by a suspect source."

The implication for program evaluation is to develop a research strategy that takes this phenomenon into account by staging both immediate and follow-up measurements of the campaign's impact.

Situational Context

This includes the multiplicity of "atmospheric" features that may impinge indirectly and ambiguously in the communication flow. Major factors cited by Simons (1976) include: the *"historical context"*, which may incorporate previous source-receiver interactions, the *"occasion"* at hand, *"temporal-physical"* aspects, *"contemporaneous events"*, *"impending events"*, and *"sociocultural norms"* operative in the family, reference, and other social groups (p. 53).

Communication Barriers

Cf course, adoption of new ideas may entail personality changes and therefore be resisted by receivers (Schmeling and Wotring, 1980:33). Other barriers include distractions or competing "noise" in the system (Deniston, 1980:13) and the very fact that the communication process occurs in a context admitting of options. Shoemaker (1980:3) comments in

this regard that "in a free choice situation, individuals generally tend to expose themselves to those ideas which are in accord with their interests, needs or existing attitudes and to consciously or unconsciously avoid messages which conflict with their predispositions." In the commercial sector, advertisers prepare communications on the assumption that consumers tend to be selective in the messages they expose themselves to as well as being biased in what they perceive and retain of them (Engle et al., 1979:25; McCarthy, 1978:150-151).[39]

Influence Models

A post-World War II image held that the communication process worked like a "hypodermic needle," delivering a massive, direct effect to a passive audience in a "one-step" fashion (Addiction Research Foundation, 1981a:81). This view proved to be misleadingly simple and was replaced by a more complex "diffusion of innovation" model that envisioned a "two-step" process through which "opinion leaders" (early adopters of new products or ideas) induce others to emulate them (DeLozier, 1976:155-162; Shoemaker, 1980:1-8).

Many communications scholars currently recommend adoption of "macroscopic" perspectives (Simons, 1971:391) and elaboration of "information-processing" models of the

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[39] However, McGuire (1973) counters that the importance of these factors has been exaggerated. He argues that "while there may be a selective avoidance tendency, there seems to be an equal or greater opposite tendency to seek out surprising and discrepant information" (p.240).

influence process (Roberts and Bachen, 1981:318). They are becoming increasingly cognizant of the reciprocal influences linking sender and receiver and the array of factors that impinge on the communication flow.

A major implication of the diffusion of innovation model is that advertising alone has limited capacity to alter people's attitudes and to "cause" their behaviors. Thus, the early suppositions (and fears) that advertising could powerfully direct behaviors appear, in light of research conducted in recent decades, to be largely exaggerated; indeed, rather than determining people's beliefs and actions, advertising seems confined to mirroring and reinforcing existing attitudes (Esslin, 1983:77; Janowitz, 1968:41; Mendelsohn, 1968:135; Roberts and Bachen, 1981:326; Sutherland and Galloway, 1981:25).

This more circumscribed view of advertising is one taken by "social marketing," an offshoot of commercial marketing that attends to the promotion of social issues, ideas, and causes.

E. MARKETING CONSIDERATIONS

Social marketing provides a broad framework within which to plan and execute campaigns to promote ideas. Application of this framework, which represents a broadening of the commercial marketing perspective, has been described in connection with nonprofit organizations (Kotler, 1975) and with the promotion of social causes in the "concept

sector" (Fine, 1981; Kotler and Zaltman, 1971).

Commercial Marketing

Business marketing begins with careful consumer analysis and directs its practitioners to carry out "...those activities which seek to accomplish an organization's objectives by anticipating customer or client needs and directing a flow of need-satisfying goods and services from producer to customer or client" (McCarthy, 1978:7-8).

A central concept in marketing is that of *transaction*, a voluntary exchange of proferred goods or services for money (typically) where the two or more parties to the exchange interact through communications and distribution links (Kotler, 1975:5; Kotler and Zaltman, 1971:4-5). In conjunction with locating new business opportunities, the *marketing management process* involves the creation and execution of a set of marketing strategies that offer the most "attractive marketing mix" possible to a selected target market (McCarthy, 1978:35). Following Kotler and Zaltman (1971:4)

> Marketing management is the analysis, planning, implementation, and control of programs designed to bring about desired exchanges with target audiences for the purpose of personal or mutual gain. It relies heavily on the adaptation and coordination of product, price, promotion, and place for achieving effective response.

In general practice, *market segmentation* depicts relatively homogeneous target markets with distinct profiles of attitudes, habits, and apparent needs. The broad goal is to blend a "marketing mix" around a product that maximizes its appeal, given the target market's demand characteristics. This calls for the development of interlocking strategies for the four "Ps" or control variables of marketing: *product* (assembling a product or developing a service that matches the consumers' interests and wants), *place* (considering various "channels of distribution" and the role of various middlemen), *promotion* (employing, alone or in combination, the techniques of "personal selling," "mass selling" (mainly advertising), and "sales promotions"), and *price* (setting the "right" price to make a profit or meet other goals, regulations and demands of the environment, yet not subverting the product's consumer appeal) (Engle et al., 1979:10-16; McCarthy, 1978·38-43).

On the basis of the exchange mechanism, the marketing process has been interpreted as providing a kind of problem-solving framework (Fine, 1981:20), a means for "sensitively serving and satisfying human needs" (Kotler and Levy, 1969:15). Consumer compliance, that is, repeated purchases, is understood to be mainly contingent on the reinforcing properties of the marketing mix (Rothschild, 1979:14; Rothschild and Gaidis, 1981:71). This view assumes that consumers respond to a combination of forces: rational, "cost-benefit" discriminations, and irrational,

unpredictable impulses (Fine, 1981:20-21). The relative importance of the latter set of factors increases when we consider social marketing.

Social Marketing

During the 1970s, marketing broadened to include "social" applications. This expansion involved the broad transfer of the marketing perspective, concepts, and techniques to a new set of "products" (Crosier, 1978:34; Kotler and Levy, 1969:11).

Some marketing scholars question whether sender and receiver in social issue campaigns come together in a genuine marketing transaction (Luck, 1974:71). Others affirm that the conditions of an exchange relationship are met (Fine, 1981:28). Indeed, social marketers regard exchange processes as pervasive catalysts of change in social life (Ibid.:20-21; Kotler and Zaltman, 1971:3).

Following one widely recognized definition,

> 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 marketing research (Kotler and Zaltman, 1971:5).

Numerous social issues and causes exist to which the principles and techniques of social marketing might (or already have, with varying degrees of completeness and success) be applied. A partial list includes population

control, energy conservation, environmental protection, civil rights, anti-littering, child protection, smoking cessation, safe driving, and responsible drinking (Bloom and Novelli, 1981:79; Fine, 1981:28-29).

A forerunner of social marketing was the use of marketing practices to assist nonprofit organizations in fund raising and recruitment, for example (Kotler and Levy, 1969:11). Fox and Kotler suggest that social marketing developed from *social advertising*, an approach that relies heavily on mass advertising in social information campaigns (1980:25). These writers attribute the variable success of social advertising campaigns to such factors as inadequate message development and failure to make use of personal selling (Ibid.). They propose that social marketing can overcome these deficiencies by developing a full range of marketing strategies. Four supplementary elements added in this broader approach include "marketing research," "product development," "use of incentives," and "facilitation," that is, the provision of resources that encourage adoption of new behaviors (Ibid.:25-26).

Some analysts express concern over the persuasive elements of social marketing, contending that these practices manipulate and propagandize (Laczniak, et al., 1979:32-33). Fine (1981:39) argues, however, that propaganda is not inherently "bad," despite its pejorative connotations. He adds that "propoganda is a marketing transaction because it is a process in which a product is

promoted, delivered, and paid for..." (Ibid.).

Elements of Social Marketing

Market Segmentation

As in the mercantile area, the social marketing process begins with the delineation of target markets for whom the agency can attempt to develop products according to recipients' interests and characteristics.

In terms of alcohol abuse prevention, these markets might include all adult drinkers or consist of narrower segments such as adult drinkers who drive motor vehicles, or specific high risk targets such as adolescent drinkers, women who drink during pregnancy, or young Native people, for example.

Programs initiated by helping agencies lose efficiency when their egalitarian philosophies work against segmenting, or against ignoring those segments that would be least receptive to the organization's messages (Bloom and Novelli, 1981:81).

Product

Despite the intangible character of social "causes" and ideas, there seems to be substantial agreement among marketers that ideas are but one kind of "product" which may be moved through exchange transactions (Fine, 1981:26; Kotler and Levy, 1979:12).

The "products" in alcohol abuse prevention can range from the ideational (images and concepts of responsible drinking) to the physical (a low-alcohol beer).

Given that ideas lack concreteness, the marketer's task of developing distinctly different products for various markets becomes complicated (Bloom and Novelli, 1981:82). Drinking in moderation and other complex behaviors acquired over a long period of time tend not to be easily expressed in "simple, meaningful product concepts" (Ibid.).

Price

Fine (1981:82-83) maintains that the concept of social price is entirely analogous to the concept of monetary price in economics. He identifies four categories of social price: "time," "effort," "lifestyle," and "psychic" costs. He also notes, for example, the psychic cost of merely "paying attention" to advertising.

Similarly, the "price to pay" for the adoption of ideas promulgated through prevention campaigns can involve these currencies: time, pain, discomfort, and risk.

A major challenge to prevention programs is to induce people "to pay the price." Unlike their counterparts in commercial marketing, however, social marketers are frequently not in a position to

manipulate the costs (Bloom and Novelli, 1981:83).

Promotion

The focus here is on the development of a marketing communications strategy that has the greatest likelihood of overcoming the barriers of receivers' selective exposure, attention, comprehension, and retention (Engles et al., 1979:63). Fine outlines the broad goal of concept marketing as "appropriate symbol manipulation" (1981:92). This requires attending to such communication factors as "objective, source, message, channel, audience and effect" in order to fashion "a community of convinced adherents" (Ibid.).

In general, marketers attempt to produce a refined promotional "mix" consisting of stylized communications directed at specific segments of the population. This hedges against the vagaries inherent in the persuasion process and is based on the recognition that attitude and behavior change accomplished through persuasion are highly contingent events (Karlins and Abelson, 1970:3; McGuire, 1974:9).

Though universal "laws" of persuasion have not been identified, advertising practice has developed a flexible conceptual apparatus drawn from the theories of behavioral learning, perception, and group processes (DeLozier, 1976). Applying theoretical insights from these sources, advertisers devise persuasive messages according to experience, creative impulse, and a body

of general persuasion principles that focus on "getting attention," "holding interest," "arousing desires," and "obtaining action" (McCarthy, 1978:468-469).

Place

Social marketers now assign more importance to providing distribution systems and contact points where motivated individuals can obtain the product (Kotler and Zaltman, 1971:8).

In a prevention program concerned with alcohol use among expectant mothers, for example, target audiences might be instructed to ask their doctor for information or to visit agency offices for further details.

Failure to provide for behavioral closure by ignoring place factors has been found to reduce the impact of social advertising campaigns (Ibid.:9).

Complications in Social Marketing

Reviewing the first ten years of social marketing's existence, Fox and Kotler (1980:31) cite eight factors th act as "major hurdles" and make marketing practice mo difficult in the social area than in the commercial sector.

First, the market is usually harder to analyze.

Second, target market choice is more difficult.

Third, formulating product strategy is more difficult.

Fourth, social marketers have fewer opportunities to use pricing and must rely more on other approaches that would increase or decrease the cost to consumers of certain behaviors.

Fifth, channels of distribution may be harder to utilize and control.

Sixth, communication strategies may be more difficult to implement.

Seventh, cause organizations are more backward in their management and marketing sophistication.

Eighth, the results of social marketing are often difficult to evaluate.

Despite such complications, these authors suggest that social marketing can be used with some degree of success to disseminate new information and practices, to carry out counter-marketing, and to provide the motivated with directions on how to act (Ibid.:26-27).

F. SUMMARY

This chapter supplied the ideas needed to proceed with the analysis of mass media based campaigns against alcohol abuse.

Examination of the sociocultural model showed its concern with "responsible drinking" norms inculcated in part through the socializing influences of the mass media. Aspects of persuasion were considered, with an emphasis on the nature and complexities of achieving knowledge-attitude-behavior change through communication processes. An information-processing model specifying key communication variables--source, message, receiver,

channels, and destination--was outlined. Finally, social marketing was described as a framework within which to plan and execute social cause campaigns.

The discussion in the following chapters will analyze the interplay among these factors within specific mass media programs against alcohol abuse that have been initiated in the United States and Canada. Chapter 7 begins by considering the theoretical foundations of these campaigns.

VII. THEORETICAL BASES OF SELECTED MASS MEDIA CAMPAIGNS

A. OVERVIEW

This and the following chapters comprise the analytic section of the present work. The analysis is divided into three parts. Chapter 7 focuses on the theoretical bases of selected programs. It considers their guiding assumptions about how to effect change toward their goals. Chapter 8 examines the content of the communication elements and the manner of their execution in an effort to judge the adequacy of the campaigns' persuasive designs. Chapter 9 reports the more technical aspects of program execution and evaluation. Together, these chapters illustrate contingencies of persuasion in mass media that bear on changing what people think and do regarding use of beverage alcohol.

B. CORE PROGRAM ELEMENTS

Although mass media programs against alcohol abuse vary as regards themes, modes of delivery, and audiences, they share several important features: Like other community-based strategies, according to Wallack (1981:221), "they have a theory or theoretical model of how to attain their goal (behavior change) and a method of implementing a program rooted in this theory or model (message or service delivery) to get the presumed causal process in action." Wallack argues that achieving desired outcomes depends in part on

the validity of the model and its proper delivery, either of which (or both) may be wrong. Add to these uncertainties the design and measurement weaknesses that characterize field evaluations and the chances of the programs producing measurable behavior change decline (Ibid.:222).

In varying degrees, program designers attempt to use the most efficient means available in the planning and execution of their mass information campaigns. Their programs typically have the explicit objectives of inducing cognitive changes rather than altering behaviors, although these latter outcomes are frequently assumed (Ibid.:219). As the theoretical and conceptual elements move in the direction of clear expression and systematic delivery, programs become amenable to test.

Media campaigns are usually evaluated, even if only in a cursory or subjective manner (Ibid.:220-221). As Chapter 9 explains, evaluation designs that eliminate or control confounding of the communication with other factors, and meet other conditions, permit assessment of the causal power of the programs to bring about observed changes (Haskins, 1970; Logan, 1972).

It has been noted that, among the various schools of thought on alcohol abuse prevention, the sociocultural approach has provided the dominant theoretical framework for campaigns conducted in North America since the 1960s, particularly those sponsored by government (Blane, 1976c:178; Moser, 1980:171-177; Room, 1974:12-13). As we

observed in Chapter 5, this model seeks to extend a "responsible drinking ethic" among North Americans. It recommends the presentation of persuasive and informative messages to stimulate public discussion on beverage alcohol. This will lead, it is believed, to the establishment of consistent, normative controls on drinking behaviors and patterns of moderate, integrated use.

The critical change mechanism is presumed to be the *learning process*, which exerts its deepest effects through the socialization of the young. The direction of causality is assumed to run from knowledge acquistion to altered behaviors. Wallack notes that

> This is an important belief of contemporary public information campaigns: increases in knowledge will affect attitudes which in turn predict subsequent behavior change. In other words, the model posits that knowledge increases or attitude shifts are acceptable targets of public information campaigns *because* such changes are strong predictors of behavior change (1981:219, emphasis added).

Both the sociocultural model and the assumption of the knowledge-to-behavior change mechanism are open to challenge. Following the discussion in Chapter 6, the latter belief is incomplete for its failure to take alternative causal sequences into account (Blane, 1976b:562; Wallack, 1981:237-240; Whitehead, 1978:4-5).

The analysis in the present chapter will attempt to identify the broad theoretical orientation of specific programs and to isolate their guiding principles and goals.

Aspects of program design, implementation, and outcomes will be taken up in subsequent chapters.

C. PROGRAM SELECTION

Something of an anomaly can be seen with regard to the systematic study of campaigns against alcohol that used mass communication strategies. Such campaigns have a long history. For example, during the late nineteenth century the American Temperance movement made extensive use of print communications on a mass scale (Wallack, 1981:210-211). Many prevention campaigns were launched during recent decades, as indicated by the plethora of mass messages against drunk drivers that were disseminated between the 1940s and the 1960s (Ibid.:212; Blane and Hewitt, 1980:3-4). However, few of these early programs were evaluated with sufficient rigor to permit definitive judgment of their effectiveness (Blane and Hewitt, 1977:18).

Data gathered during the 1950s and 1960s suggested that alcohol and drug programs using persuasion were confined in their effects to producing small increments in knowledge and minor attitude change. On the whole, such efforts were thought more capable of reinforcing existing tendencies in a population than of causing wide behavioral shifts (Addiction Research Foundation, 1981a:102; Blane and Hewitt, 1977:15-17; Wallack, 1980:19-20).

Criteria

During the 1970s, methods of evaluating alcohol-related public education programs improved. Still, Blane and Hewitt cite in their 1977 "State of the Art" review of public education on alcohol through mass media *only four programs* that incorporated control groups as well as pretesting and posttesting in their research designs (p.17). These programs form part of the present analysis.

Blane and Hewitt's review also includes national survey evaluations of two alcohol-related media campaigns undertaken by federal agencies in the United States (Ibid.:21-17). Despite their methodological flaws, these efforts are noteworthy for being of national scope and presenting a view of campaign development over a number of years.

Besides these six programs, three others from the U.S. and Canada were selected to add to the examples cited by Blane and Hewitt on the basis of (a) their similarity and (b) salience in the literature.

Representativeness

The present work does not purport to have exhausted the field of descriptive or evaluative studies on mass media campaigns against alcohol abuse. However, the selected programs may be taken as representative of those that incorporate evaluations designed to permit controlled comparisons, and have broad scope. Finally, we argue that

these efforts would furnish the best-available evidence of contingencies of persuasion in mass media programs against alcohol abuse.

Completeness of Information

In general, original reports containing information on the programs of interest tend not to be published in the mainstream academic literature. They are often prepared by the agency sponsoring the campaign or conducting the evaluation and are not generally available. Nevertheless, a search carried out through various channels[40] yielded primary information on eight of the nine programs under review. For that remaining case, a campaign concerned with drinking and driving among male youth in Vermont, secondary sources will be used.

With one or two exceptions, the available documents also tend to provide only limited details on conceptual development and on the theoretical assumptions that inform the programs.

Programs

Nine programs are enumerated below in approximate chronological order: first, media-based campaigns by federal

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[40] Information was obtained from the following sources: The University of Alberta Libraries, the Alberta Alcoholism and Drug Abuse Commission (AADAC) Library, the Ontario Addiction Research Foundation (ARF) Library, and the National Technical Information Service (NTIS) and the Educational Resources Information Center (ERIC) data bases, which were searched by computer for relevant entries.

agencies that relied mainly on survey evaluations, and second, regional or local programs incorporating various experimental controls in their evaluation designs.

The national programs include:

1. 1972-1975. United States National Institute on Alcohol Abuse and Alcoholism (NIAAA) Public Information and Education Program

2. 1971-1974. United States Department of Transport, National Highway Traffic Safety Administration (NHTSA) Public Information and Education Program

3. 1976-1981. Health and Welfare Canada "Dialogue on Drinking" Campaign

The regional/community programs include:

4. 1972. Edmonton Campaign on Drinking and Driving

5. 1972-1974. Vermont Project Crash ASAP Program, "Beer and Consequences"

6. 1973. Ontario Campaign Against Drinking and Driving

7. 1975-1976. Ontario Alcohol Education Program

8. 1974-1978. Saskatchewan "Aware" Program

9. 1976-1979. California "Winners" Demonstration Project

D. THEORETICAL BASES OF NATIONAL CAMPAIGNS

The three mass media programs for national audiences are considered first.

1. **NIAAA Public Information and Education Campaign**

The National Institute on Alcohol Abuse and Alcoholism undertook an ambitious advertising program between 1972 and 1975 to identify and prevent alcohol problems. According to Dr. M. E. Chafetz, then director of the NIAAA, the campaign attempted to make the point that "...while responsible use is accepted in our society, the abuse of alcohol is unacceptable " (Alcohol and Research World, 1973:18). In addition to supplying information and encouraging responsible decision-making among users of alcohol, the campaign also aimed to validate the alternative of abstaining from alcohol (Kurtz, 1972:95).

Over the course of the campaign, numerous advertisements were created in TV, radio, and print formats and sent to communications outlets for broadcast as public service announcements (PSAs) throughout the United States (Cook, 1976:1135). For the most part, the messages were intended for general audiences.

Early NIAAA presentations sought to increase awareness levels. As Blane and Hewitt note, "ads have covered a wide variety of specific topics, such as the epidemic proportions of alcoholism in the United States, the fact that beer is equivalent to other alcoholic beverages, the effect of parental alcohol abuse on children, the fact that the 'typical alcoholic' is not a skid row bum, and the idea that drunkenness is neither humorous nor a sign of sophistication, but a cause of concern" (1980:3).

Many advertisements were designed to correct apparent myths held by the public regarding alcohol. Some focused on the responsibilities associated with good hosting; others highlighted the dangers of relying on alcohol to solve personal difficulties (Alcohol and Research World, 1973:19-20).

As a "consciousness-raising" , the NIAAA effort was predicated on the assumption that desired behavior changes (early entry of problem drinkers into treatment and the emergence of moderate, responsible styles of alcohol consumption, for example) would follow from gains in information. The subsequent survey evaluations concentrated heavily on measurement of these cognitive precursors (Cook, 1976).

2. NHTSA Public Information and Education Program

The National Highway Traffic Safety Administration (NHTSA) of the U.S. Department of Transport launched its information program on drunk drivers in 1971, at a time when the American public appeared generally oblivious to such mass media messages as "don't drink and drive" (Blane and Hewitt, 1980:3; Grey Advertising, 1975a:7).

The NHTSA initiative drew attention to problem drinkers who drove on the premise that "excessive, abusive use of alcohol among a relatively small segment of drivers...causes most alcohol-related fatalities, rather than normal, moderate use" (Fee, 1975:789). National surveys showed,

however, that the public held cor[illegible]y beliefs and uncertainties (Fee, 1975:789; Grey Advertising, 1975a:38-39). Many citizens assumed that "social drinkers" mainly caused auto crashes involving alcohol. Many also found it difficult to detect mild intoxication in others and did not know how to effectively prevent a drunk person from driving.

The work of the program thus required

> a) convincing the public, key officials and professionals of a new definition of the problem; b) motivating them to take new and different kinds of action to identify, control and [illegible]t the problem drinker-driver; and c) of raising [illegible] hope that something could be done about this age-old problem (Fee, 1975:789).

The program contained a variety of goals and themes embedded in four "waves" of advertising through electronic and print media. "First Wave" advertisements sought to inform adults and youth on such aspects as the prevalence and recognition of problem drinking and driving and to dispel myths about alcohol (Ibid.:780; Grey Advertising, 1975a:7; 1975b:72). "Second Wave" spots provided "persuasion...aimed at professional and official groups to recognize the problem drinker and direct him or her into treatment" (Fee, 1975:790-791). "Third Wave" messages attempted to focus public attention on the topic of heavy alcohol use and driving "to get it out into the open so that it could not be deliberately or inadvertently ignored"

(Ibid.:791). "Fourth Wave" materials advocated creation of "social sanctions for the kinds of behaviors we were seeking to stimulate," for example, responsible hosting, calling a taxi and paying the fare to get an intoxicated person home (Ibid.:792).

The rationale of these ads holds that people carry out damaging behaviors or fail to respond constructively in alcohol-related situations out of ignorance and, when informed, they will change in preferred ways. In particular, such a campaign suggests that its recipients will actively promote development of informal controls to steer drunken persons away from their cars. The mechanism of persuasion is given cogent summary in a "Second Wave" ad:

> if you know someone who's killing himself with alcohol--but hasn't yet killed anyone with a car--sit him down. Get into his head. Talk with his doctor, clergyman, whoever he's close to (Fee, 1975:790).

3. Health and Welfare Canada "Dialogue on Drinking"

Health and Welfare Canada, a federal government department, initiated "Dialogue on Drinking" in 1976 in collaboration with provincial and territorial agencies dealing with alcohol abuse. Developed "in response to public concern about increasing alcohol use," the "Dialogue" program incorporated both multimedia public information and community projects aimed at Canadian drinkers from 25 to 49

years of age (Layne, 1981:2). The program attempted to place the topic of alcohol use in the context of general health, with the [illegible] of encouraging people to adopt health-preserving "life style" practices (Moser, 1980:171).

"Dialogue on Drinking" had three explicit goals:

> 1. to encourage individual and collective self-examination of drinking behavior;
>
> 2. to encourage individual and collective examination of responsible decision making about drinking;
>
> 3. to assist willing and able jurisdictions in their effort to stimulate preventive community involvement in alcohol issues. (Layne, 1981:1-2).

The work of this program centered on disseminating messages and images on the theme of "Know When to Say When" across the country through print, electronic, and visual display media. A sequence of four "Dialogues" occurred between 1976 and 1981: the first presented "messages stressing personal responsibility in familiar situations involving alcohol;" the second supplied supplementary messages; the third added the community projects component; and the fourth featured the distribution of a recipe book of nonalcoholic beverages (Ibid.:2-4).

In order for the program to encourage responsible decision making and moderate use of alcohol, it relied explicitly on the power of dialogue, "...the belief that talking about drinking problems is a step toward solving them" (Health and Welfare Canada, n.d.:3).

E. THEORETICAL BASES OF REGIONAL CAMPAIGNS

In addition to nation-wide campaigns, regional and community-based prevention programs have also been launched. The discussion throughout the remainder of this chapter will consider six of these efforts.

4. Edmonton Campaign on Drinking and Driving

Concern over accident statistics indicating the half or more of drivers in fatal crashes were impaired with alcohol prompted the Canadian Safety Council, along with its Alberta and Edmonton counterparts, to launch a media "blitz" over the 1971-72 Christmas holiday season in Edmonton. This

> public information campaign for responsible drinking and driving aimed at changing knowledge, attitude and behavior by: (a) alerting the public to the seriousness of the traffic accident problem related to the irresponsible use of beverage alcohol; (b) outlining the action of beverage alcohol and the dangers when related to the driving task; (c) reviewing the penalties for impaired driving; and (d) suggesting changes in drinking-driving behavior.
>
> The ultimate objective of the campaign was to...have motorists drive less after drinking and not to drive at all after heavy drinking... (Farmer, 1975:832).

The program was not directed at people with drinking problems who drive, but at the general population of social drinkers. The Edmonton public was thus exposed to factual information and behavioral recommendations on the theme of "If You Drive After Drinking..." in campaign materials presented through such diverse media as placemats,

pamphlets, payroll stuffers, billboards, and radio and TV advertisements (Ibid.:832-834).

The campaign's objectives expressed the originators' theoretical position: raising the level of public awareness of "facts" about alcohol would initiate the cognitive restructuring thought to preceed reduction in the frequency of driving after drinking.

5. Vermont Project "Beer and Consequences"

The Vermont drinking and driving program (Wordem, Waller, and Riley, 1975), as described in secondary sources (Blane, 1976a; Blane and Hewitt, 1977), had several features that distinguished it from the Edmonton campaign: longer duration (running from 1972 to 1974), a narrowly defined target group (young males at high risk of driving while intoxicated (DWI)), and a tighter evaluation design (incorporating two prevention exposure areas and a control area). Law enforcement countermeasures were added in one area (Blane and Hewitt, 1977:20).

The objectives of "Beer and Consequences," however, paralleled those of the Edmonton project. It, too, sought to make young males more knowledgeable about ethanol, to shape counterveiling attitudes to driving while intoxicated and, ultimately, to reduce the incidence of such behaviors among members of the target group (Ibid.:19). Regarding the first step, the acquisition of knowledge, the campaign emphasized four points: "(1) the serious consequences of getting caught

and arrested while driving 'under the influence'; (2) how to avoid getting caught (having someone else drive, taking time to sober up); (3) that drink for drink, beer contains as much alcohol as liquor; and (4) how to identify behaviors indicative of problem drinking" (Blane, 1976a:274).

Though "Beer and Consequences" incorporated an educational approach, it derived its primary impact through fear. Its designers explain.

> The major motivating influence in the campaign is the arousal of mild fear regarding arrest and problem drinking. Information..is...presented in campaign messages as alternatives to arrest and problem drinking, with the intention that audience members will retain such information in an effort to overcome the threat (quoted in Blane, 1976a:274).

6. Ontario Campaign Against Drinking and Driving

In 1973, the Ontario Ministry of Transportation and Communication collaborated with the Alcoholism and Drug Addiction Research Foundation of Ontario in implementing a pilot drinking-driving campaign based on mass communications. The design incorporated nine test cities from across the province, which were exposed to campaign messages, and nine matched, nonexposed control cities (Pierce et al., 1975:870-871). In overview,

> the campaign media material featured a positive approach to the drinking-driving problem, encouraging the use of alternate transportation and

> suggesting drinking limitations for those who will continue to drive after drinking. In addition, much of the material that was disseminated informally or prepared locally was concerned about the laws, penalties and consequences of impaired driving (Ibid.).

As with the previous examples, the persuasive efficacy of the campaign was assumed to derive from the rational, informative content of its messages.

7. Ontario Alcohol Education Program

As authorities in other jurisdictions have done, the Ontario government responded in 1975 to the recent trends of rising consumption of alcohol and its associated personal and social costs by initiating a public education program through the mass media.

This multi-year campaign was developed mainly for a general adult audience in the province and broadly sought "to increase public knowledge, awareness and understanding of the hazards and consequences of heavy alcohol consumption" (Goodstadt, 1977:1). Attention was also directed to other targets: the youth segment and groups in business and industry.

During the campaign's initial phase (1975-1976), messages were conveyed through posters, pamphlets, and electronic media and related specific information on the effects of alcohol, the web of relationships in which alcohol use is embedded, and the choices individuals have to reduce their consumption (Ibid.:1-2).

In the same manner as the other campaigns reviewed above, the Ontario program operated on the assumption that consumers can be moved toward responsible use of ethanol through rational and persuasive appeals.

8. Saskatchewan "Aware" Program

When the Saskatchewan government decided to foster community involvement in alcohol-related issues, its ensuing strategy recommended, as a first step, the execution of a media campaign to increase public "awareness."

A program of mass communications was embarked upon, aimed at the general adult population in Saskatchewan, which had the standard objectives: "1) to raise the level of public awareness of drinking patterns that are harmful; and 2) to reinforce social attitudes that will have a positive effect in changing such drinking patterns" (Whitehead, 1978:5).

The advertisements, many of which attempted to portray damaging drinking practices and inappropriate attitudes, were disseminated mainly through radio and television during the project's four year span (1974-1978). A set of four attitudes became the focus of attention during the latter stages: attitudes toward intoxication, heavy drinking, drinking as a coping mechanism, and impaired driving (Ibid.:8).

Evaluation of the "Aware" program proceeded on the assumption that individuals must develop the appropriate set

of attitudes before changing drinking behaviors; nevertheless, the evaluators draw attention to the theoretical debate on the consistency of the awareness-to-behavior link and express skepticism of the mass media's power to induce substantial attitude change (Ibid.:53-54).

9. California "Winners" Demonstration Project

The state government of California, with funding from the NIAAA, carried out an extensive alcohol-abuse prevention project between 1976 and 1979 in the San Francisco area.

Fashioned after the Stanford Heart Disease Prevention Program, the California demonstration was designed to compare three exposure areas: a media-only treatment, a media-plus-community-activities treatment, and a nonexposed control (Wallack and Barrows, 1981:42-43).

The project's planners articulated a set of short-term objectives (awareness change) and long-range objectives (a trend of reduced alcohol consumption extending beyond the life of the project, for example) (Ibid.:8-9). Its overall goal was

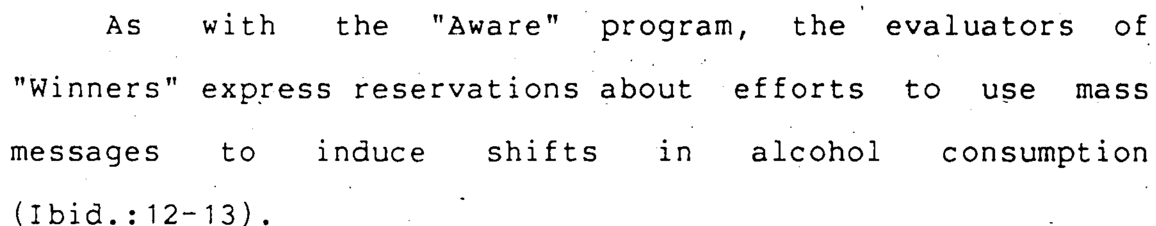
> to prevent individuals from developing drinking behavior that is detrimental to their health, or causes family, social, or economic problems, or creates a financial burden upon the government (Ibid.:1-2).

These outcomes were expected to occur through the mechanism of the familiar knowledge-attitude-behavior model "...which assumed that changes in cognitive and affective structures precede and predict desired behavior changes" (Ibid.:1).

Campaign ads, developed primarily for young male and female audiences, presented positive messages and images around the "Winners" and "Caution" concepts to demonstrate the themes of "self-control, camaraderie, and drinking moderation" (Ibid.:17).

The campaign also incorporated a community education/development component following the thesis that mass messages have greater impact on individuals when supported by face-to-face interactions and community involvement (Ibid.:25). Major effort in this component was devoted to the preparation of discussion materials for presentation to various groups with the aim of making participants "think more about their own drinking" (Ibid.:vii). These presentations followed a "values clarification" approach and addressed such topics as "unhealthy behavior or situations in which alcohol was the focus rather than a complement to the situation" (Ibid.:29).

As with the "Aware" program, the evaluators of "Winners" express reservations about efforts to use mass messages to induce shifts in alcohol consumption (Ibid.:12-13).



F. SUMMARY

Several critical points apply to this roster of prevention programs.

1. Campaigns against alcohol abuse delivered through mass media tend *not* to be systematically derived from distinct theoretical frameworks. This contributes to conceptual weakness which is frequently compounded by vague objectives and communication materials developed through trial and error after the campaigns have been launched (Addiction Research Foundation, 1981a:109-110).

2. In varying degrees, the programs cited above appear to share the general orientation of the sociocultural model, stressing such key concepts as knowledge of alcohol's effects, recognition of drinking problems, moderate use of alcohol as an incidental part of other activities, and responsible decision-making on alcohol matters. The majority of the campaigns employed these ideas selectively; only the NIAAA program, the "Dialogue on Drinking" campaign, and the California "Winners" project attempted to incorporate a wider set of concepts from the model.

3. A major deficiency of the sociocultural model (and thus of the campaigns) is the general failure to specify the mechanism(s) that alter(s) normative controls on drinking. Room (1980b:42) makes the point as follows: "We are often told that Americans would be better off if we all drank like Italians or drank like Jews, but there is not much guidance on how we get from where we are to a new cultural norm." The

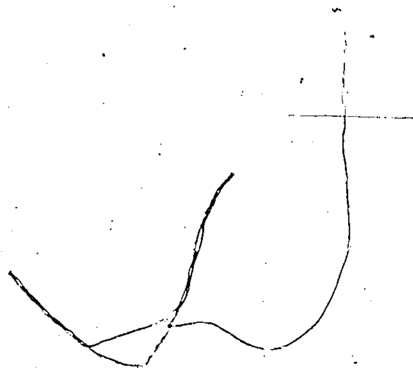
strongest conclusion that can be drawn is that these mechanisms work through "dialogue."

4. As executed, the campaigns reflect the naive view that audiences can be induced to reach consensus on "responsible drinking" norms, for example, despite living in a society with heterogeneous and conflicting values regarding ethanol. Campaign planners frequently employ what Blane (1976a:275) calls "melting pot" communications that persistently ignore sociocultural differences. They further weaken the campaigns by offering "mixed messages" with contradictory import (Who, for instance, should be singled out in drinking and driving campaigns: "problem" drinkers or "social" drinkers?) (Ibid.:280-281).

5. It is uniformly assumed that behavioral change begins with the acquisition of knowledge. *All* of the programs that disseminate mass messages subscribe to the position that increases in knowledge and attitude change precede and bring about the new, preferred behaviors. But the consistency of this relationship has no logical necessity and to date has only limited and inconsistent empirical support (Blane and Hewitt, 1980:7-8; Wallack, 1981:236-240; Wallack and Barrows, 1981:10-12; Whitehead. 1978:4-5).

6. Prevention planners have shown a persistent faith in the power of the mass media to instill ideas and in the persuasiveness of informational messages. However, evidence from field research recommends a circumspect view of these

matters.



VIII. ELEMENTS OF PERSUASIVE DESIGN

A. OVERVIEW

This chapter continues with the second segment of a three-part analysis of nine mass communication programs against alcohol abuse. It serves as an intermediate link between an examination of the campaigns' theoretical foundations, the work of Chapter 7, and an assessment of their outcomes, the work of Chapter 9.

Consideration of persuasive design is required in light of the importance accorded by the sociocultural approach to providing the ·blic with information on alcohol and stimulating discussion and debate on this topic in an effort to create normative controls over drinking.

Chapter 6 pointed out that persuasive impacts are contingent events. Some of the relevant conditions are contained in the situational context in which the communication takes place. We also reviewed an information-processing paradigm containing several categories of communication variables that are understood to affect the "mediating events" in the influence process: attention, comprehension, yielding, retention, and action. The major groupings of variables include (after McGuire, 1973, 1974; Robertson, 1982):

1. Exposure
   (a) marketing considerations

2. Source
   (a) credibility
   (b) attractiveness
   (c) power

3. Message
   (a) structure
   (b) frequency
   (c) appeal

4. Receiver
   (a) demographics
   (b) personality factors

5. Channel
   (a) multiple channels
   (b) face-to-face contacts

6. Destination
   (a) immediate or delayed effects
   (b) knowledge, attitude, and/or behavior change

This model provides a framework of communication factors to guide campaign development. But prevention planners have no science of persuasion at hand indicating the precise weights to assign to the various contingencies of persuasion so that their programs will achieve maximum influence. Further, it is expected that planners vary in the degree to which they address these factors when designing campaigns. Accordingly, it is the work of this chapter to comment on the nature and adequacy of the persuasive designs embodied within the campaigns' communication materials.

Following the pattern established in Chapter 7, we will first consider three national-scale alcohol abuse prevention campaigns and then review six local/regional programs.

B. UNITED STATES NIAAA PUBLIC INFORMATION AND EDUCATION PROGRAM

Design and Development

A major thrust in the NIAAA's efforts to alter attitudes toward alcohol and drinking behaviors was the development of a series of advertisements for its public education campaign. Through these advertisements, the NIAAA aimed

> to inform and educate all Americans about alcohol, to give them facts upon which they can base their own decisions of whether or not to use alcohol. We want non-drinkers to be respected for their decisions not to drink, and we want those who decide to drink to be able to handle their drinking in a responsible manner (Kurtz, 1972:95).

Grey-North Advertising of Chicago undertook the design work with concepts and materials from previous campaigns (Alcohol Health and Research World, 1973:19). Messages, concentrating on the theme "If you need a drink to be social, that's not social drinking," were developed for a general audience. The agency intended to make them "as interesting and entertaining as possible" and stressed informational content over scare tactics (Ibid.).

Though the campaign had a prestige spokesman in actor Herschel Bernardi, the advertisements portrayed "average" individuals in commonplace situations. The ads were to convey information on such points as the nature and prevalence of abusive consumption patterns, signs of emergent problem drinking, health hazards, and myths related to the use of ethanol (Ibid.). Each of them exemplified an NIAAA theme: "Good Old Harry...The Neighborhood Pusher" (responsible hosting), "The National Drinking Game" (alcohol dependence), "Bill and Helen" (solitary drinking as an inappropriate response to loneliness), "Drunk Tank" (alcoholism as an illness), and "Does Your Child Have a Drinking Problem?" (consequences), for example.

This roster of advertisements presented other appeals besides "facts" to influence audiences. Drawing a parallel to the reprehensible "drug pusher," a print ad for "Good Old Harry" reads, in part, as:

> If good old Harry is such a great host, how come
>
> ...nobody remembers what happened at the party?
> ...Ron and Jean had a terrible fight?
> ...Charlie drove into a tree on the way home?
> ...everybody felt so lousy the next day?
>
> Maybe there's more to being a great host than pushing drinks. Maybe good old Harry is not a good host. Maybe good old Harry is
>
> THE NEIGHBORHOOD PUSHER...(Kurtz, 1972:100).

The "National Drinking Game," a message for TV, used a quiz-humor format to encourage viewers to evaluate their

drinking behaviors according to a series of questions on the danger signs of problem drinking (Alcohol Health and Research World, 1973:19).

"Funny Drunks," another ad for television, employed a contrast effect in an effort to reveal the inappropriateness of laughter as a response to alcohol abuse.

> After some film clips from movies which get laughs from drunken behavior, the scene is quickly changed to the unfunny reality: sickness, loss of control. A man barely able to stand in the mess of his own kitchen hears the question, 'Are you all right, Daddy?' A silent fadeout leaves the viewer to reflect that his laughter at 'funny drunks' is laughter at a grave human problem (Ibid.:20).

The broadcast materials came in print, radio, and television formats. Of the seven advertisements prepared initially, four were retained throughout the campaign; new ones were introduced at later stages.

Implementation

The NIAAA campaign was executed between 1972 and 1975 as the advertising component of a public education and prevention program that involved the preparation and distribution of resource materials and curricula on alcohol-related topics.

The anti-alcohol abuse advertisements were distributed nationally to print, radio and television outlets for placement as public service announcements (PSAs).

Comments on Persuasive Design

1. In general, the NIAAA advertisements probably gained in persuasiveness by portraying credible characters in believable circumstances. Despite the efforts of those who designed the ads to avoid sensational headlines and a sermonizing tone, advertisements such as "Good Old Harry" and "Does Your Child Have a Drinking Problem" retained strong elements of judgment and censure, though expressed more subtly than in earlier anti-alcohol abuse advertisements.

2. The fourth in a series of evaluation surveys conducted (1974) with a sample (N=1,590) of the U.S. population found that 64% of the subjects remembered having seen at least one NIAAA ad (Louis Harris and Associates, 1974:25). Respondents were presented with "storyboard" versions of the ads and asked to rate them. Among those with previous recall of the ads, 63% rated them as 'very eye-catching,' 60% said 'very interesting and informative,' 67% said 'very clear and easy to understand,' but only 36% rated them as 'very personally meaningful' (Ibid.:30). This suggests that while many respondents attended to the ads and believed that they understood them, they may not have regarded the messages as providing a "meaningful" basis on which to act.

3. In keeping with accepted marketing practice, the designers of the NIAAA campaign incorporated field-tested materials into the advertisements. But they *did n* llow

the marketing principles of segmenting target groups and crafting messages accordingly, a criticism supported by the evaluation finding of differential awareness by such receiver characteristics as abstention from alcohol and heavy drinking (Ibid.:26).

4. As public service announcements, the ads were aired according to the convenience and policies of the individual media outlet. Audience exposure to the messages was not maximized, thus reducing the campaign's effectiveness to an unknown degree.

5. The Louis Harris data revealed a tendency among abstainers to evaluate alcohol abuse in a moral frame of reference while drinkers were inclined to rationalize their drinking and to deny damaging consequences (1974:140-141). The evaluators describe the contradictory elements required by an "all-purpose" ad if it is to sway such disparate target groups: "Its message covers the moralism-rationalization scale; it defines consequences of alcohol abuse in a personally meaningful way while it describes the kinds of behavior to which drinkers must be alert; and it has an appeal to the media outlets to encourage them to use the ad" (Ibid.:143).

C. NHTSA PUBLIC INFORMATION AND EDUCATION PROGRAM

Design and Development

The National Highway Traffic Safety Administration (NHTSA) ran the first phase of a mass information campaign during the early 1970s as part of a program with multiple components focusing on the "problem drinker-driver."

In its conceptual development the campaign sought to isolate this category of individuals with destructive styles of drinking and driving and to convey information on the nature and scope of drunken driving (Grey Advertising, 1975a:7). It aimed to first educate the general public and then to solicit the support of public officials and "key influentials," individuals working in the legal, law enforcement, and medical professions who could divert the problem-drinker drivers into treatment (Ibid.:8; Marder, 1972:112-113).

Grey Advertising of New York supplied the main persuasive materials which consisted of print, radio, and television commercials, posters, and informational brochures (Marder, 1972).

It is reported that the ads were concept and copy tested prior to production (Ibid.:113). In addition, a portion of the advertisements were designed for placement in specific media: specialty books, brochures, men's magazines, trade journals of relevant professional groups, and for presentation to youth and ethnic segments (Ibid.:116).

Consistent with the campaign's objectives, materials were developed for presentation in four "waves" of

advertising (Fee, 1975; Marder, 1972). "First Wave" messages attempted to stimulate awareness through arresting headlines on print ads such as "TODAY YOUR FRIENDLY NEIGHBOR MAY KILL YOU..." and "BY THE TIME YOU FINISH THIS MAGAZINE A DRUNK DRIVER WILL HAVE KILLED SOMEONE..." (Fee, 1975:790). Actor Dana Andrews, a recovering alcoholic, introduced several of the ads, including the 1972 radio spot "Freeway."

> Andrews: It's 5 o'clock in the afternoon on the Santa Monica Freeway, and one out of every 50 drivers is drunk at 5 o'clock in the afternoon. Does that surprise you? It doesn't surprise me at all. I'm Dana Andrews and I'm an alcoholic. I don't drink anymore, but I used to and I know much better than you do that most drunk drivers are not coming home from a night on the town and a couple of drinks. They're heavy, serious problem drinkers...(Marder, 1972:110).

"Second Wave" messages continued with hard-hitting titles as they portrayed the consequences of drunk driving. This phase also introduced ads that solicited the support of professional and official groups.

"Third Wave" messages focused on heavy drinking and endeavored to persuade the public that drunken driving was an issue requiring discussion and debate.

"Fourth Wave" messages attempted to evoke a sense of responsibility and directed audiences to take such direct actions as being a responsible host, or calling a taxi or driving an intoxicated person home (Fee, 1975:791-792). An award winning ad in the series read, in part, as follows:

> He killed himself. He didn't mean to. But he had lost control of his drinking. And after the party, he lost control of his driving and killed himself.
>
> Now his friends shake their heads and stare at the ground and wonder why. But the sad fact is his friends weren't his friends. His friends let him die....
>
> [So] if you are really his friend, don't help him drink. If he has been drinking, don't let him drive. Drive him yourself. Call a cab. Take his car keys. Everything you think you can't do, you must do.

The NHTSA campaign also received additional publicity through news and television broadcasts (Marder, 1972:116-117).

Implementation

The NHTSA mass information campaign was conceived as a national program to be executed between 1971 and 1974 with federally funded Alcohol Action Safety Projects (ASAPs) conducted on the local level. The ASAPs contained both educational and informational components but made greater use of fear appeals and law enforcement countermeasures (Blane and Hewitt, 1980:3)

NHTSA materials were introduced for placement as strictly public service announcements in one hundred radio and television markets in the United States (Fee, 1975:790). By the end of the second year, the campaign had garnered $32 million worth of nonprime time exposure (Ibid.:792).

Comments on Persuasive Design

1. The designers of the campaign implemented at least a minimal marketing plan by delineating subpopulations of interest, pretesting messages, and choosing appropriate channels for different segments. Ads presented during the latter stages recommended specific actions for intervening with drunk drivers. Yet the main thrust of the campaign was directed to the undifferentiated general public without drinking problems.

2. Despite their blunt headlines, the NHTSA messages represented an improvement over the aversive "Scream Bloody Murder" appeals and preachy "Don't Drink and Drive" injunctions to which the American public had long been exposed (Donovan, 1972). The ads continued to take "moralistic" positions, of course, and some (such as "Today Your Friendly Neighbor May Kill You") tried to stimulate at least mild anxiety while others (such as the last ad excerpted above) relied for its persuasive force on the invocation of guilt.

3. The extent to which the appeals to fear and mixed motives employed by the local ASAPs reinforced or undercut the persuasive power of the national campaign remains unknown.

4. Since the commercials in the national campaign were distributed to the media as public service announcements, NHTSA could not specify the time slots for broadcast and was thus unable to control the intensity of receivers' exposure

to the messages.

5. A tension can be anticipated between the NHTSA's exhortations to intervene with drunken drivers and the widely accepted values in North American society of individual choice and self-responsibility and a reluctance to interfere in the lives of others, especially strangers. Evidence of a limit imposed by this incongruity appeared in the evaluation survey conducted by Grey Advertising with a national sample of adults. The self-reported countermeasures found to have the highest probability of occurrence were relatively subdued (make an offer to drive an intoxicated person home, suggest that he or she stay over, or call a taxi) and were most likely to be applied with immediate associates: "close friends or relatives *only*" (Grey Advertising, 1975a:153, emphasis added).

D. HEALTH AND WELFARE CANADA "DIALOGUE ON DRINKING"

Design and Development

From a concept and design standpoint, "Dialogue on Drinking" shared commonalities with both the NHTSA and NIAAA efforts. Like the NIAAA campaign, "Dialogue" attempted to encourage discussion of alcohol-related topics among members of the general public and to move them toward making more responsible decisions in their use of beverage alcohol. Like the NIAAA campaign, "Dialogue" was aimed at a general audience of adult users and, like the NHTSA program, it had

a community action component, though it did not incorporate drinking-and-driving countermeasures.

"Dialogue on Drinking" followed four phases of development, focusing on the theme "Know When to Say When." "Dialogue One" introduced the program through six print ads that stressed taking personal responsibility in routine drinking situations. "Dialogue Two" presented the first prime-time television commercial, "The Grandfather," which portrayed the pattern of increased consumption of ethanol over several Canadian generations. "Dialogue Three" supplemented existing media billboards and transit cards, added new television spots, and included commencement of the community activities component. "Dialogue Four" featured the distribution throughout Canada of "The Great Entertainers," a recipe book of nonalcoholic beverages (Layne, 1981:2-4).

The thematic content of the commercials and campaign materials was developed jointly by the federal and provincial authorities.

Implementation

Planned as a five-year program (1976-1981), the "Dialogue" advertisements were presented as paid messages for national exposure.

Under the community activities component, regional programs were started in Nova Scotia and Ontario in 1978 (Ibid.:2; Addiction Research Foundation, 1981a:119).

Comments on Persuasive Design

1. Although it is reported that "Dialogue on Drinking" was based on a "needs assessment" survey (Layne, 1981:1), the ensuing marketing plan remained relatively unsophisticated: presentation of messages with broad appeal for a general audience through the most widely used channels. Thus, there was minimal targeting of messages.

2. The designers of "Dialogue on Drinking" expected local authorities to organize thematically consistent and supportive programs; however, these linkages remained undeveloped. With only two such efforts nation-wide, there appeared to be little translation of campaign concepts into concrete community action.

3. The distinguishing feature of the "Dialogue" campaign was the purchase of media time and space, permitting prime time exposure in the electronic media. The campaign's communications budget between 1976 and 1981 totalled $4.25 million (Layne, 1981:3).

Interestingly, survey evaluations of "Dialogue" and the NIAAA campaign with respective national probability samples found roughly equivalent proportions of respondents (about 55%) who said they recalled seeing moderation or other ads on alcohol abuse (Ibid.:15; Louis Harris and Associates, 1974:24-25).

E. EDMONTON CAMPAIGN ON DRINKING AND DRIVING

Design and Development

This Safety Council campaign sought to make Edmonton drivers more knowledgeable about alcohol and to behave more responsibly in terms of drinking and driving as would be evidenced by an aggregate reduction in the frequency of impaired driving after exposure to a mass communications program. This campaign was geared toward the social drinker rather than drivers with multiple alcohol-related problems.

Campaign messages persuaded through argument, invoking mild apprehension, by outlining such potentially disagreeable outcomes "If You Drive After Drinking..." as being arrested and fined or jailed, suffering public disclosure, hurting others, paying higher insurance rates, and so on (Farmer, 1975:832-833). Factual information on the effects of alcohol were also provided.

Among the channels and materials used were placemats, pamphlets for home distribution, insertions in pay envelopes, outdoor billboards, radio tapes and TV clips, a press kit, an essay contest, and a "breath-alyzer reception" for local media notables (Ibid.:833-834).

Implementation

The campaign ran in Edmonton for a month-long period from December 6, 1971 to January 5, 1972.

Comments on Persuasive Design

1. Safety Council strategy called for a short, intense information "blitz." As a saturation campaign, one based on multiple channels, it appears to have been well designed and executed. Message structure and appeal, stressing potential negative consequences in a nonhysterical fashion, seems warranted.

2. A major critical point concerns the limited duration of the campaign. Though it would be expected that members of the audience would attend to the messages and show increases in pertinent knowledge (as they did), it is far less likely that large numbers of them would revise their drinking-and-driving behaviors, especially in the long run. Unfortunately, the evaluation made no provision for assessing long-range effects, and did not include measures to determine the audience's level of exposure to the campaign, or to compare particular elements within it for differential impact.

F. VERMONT PROJECT "BEER AND CONSEQUENCES"

Design and Development

The Vermont program, also offered as a preventive against drunken driving, shared the same set of objectives as those of the Safety Council effort in Edmonton. However, other features distinguish it from the Edmonton campaign.

In their review of "Beer and Consequences," Blane and Hewitt (1977:19-20) indicate that the campaign was developed for a specific target group: young males at high risk of driving while intoxicated (DWI).

"The program design...included pretesting of campaign concepts with groups of male DWI offenders, gas station attendants, and high school students representative of the target group" (Ibid.:20).

Radio, television, and film segments at drive-ins were among the channels used.

Implementation

"Beer and Consequences" was in operation between 1972 and 1974 in two of three test areas in Vermont, which featured the campaign "treatment" alone in one and the campaign plus other countermeasures such as law enforcement in the other (Ibid.). The third area served as a control.

Comments on Persuasive Design

1. Indications are that the campaign was executed according to a marketing strategy that called for the selection of a high-risk target group, use of message concepts of interest to that group, and the inclusion of channels favored by the youth segment.

2. Given the popular view that fear appeals should be generally avoided on drug issues with youth (McGuire, 1974), a major concern arises that design might produce "boomerang

effects," or be ignored by the target group. According to the evaluation, however, these negative results did not materialize.

3. A project having the duration of "Beer and Consequences" could have used community action and direct interpersonal encounters to advantage to reinforce campaign materials. There is no evidence of this as a significant element of the campaign.

G. ONTARIO CAMPAIGN AGAINST DRINKING AND DRIVING

Design and Development

This mass information program was a co-operative effort between the Ontario Ministry of Transport and the province's Addiction Research Foundation to educate the public and to reduce the occurrence of impaired driving (Pierce et al., 1975).

Unfortunately, the published account provides few details on the developmental aspects of the campaign; instead, its authors concentrate on describing the project's design and reporting evaluation results.

They do indicate, however, that the campaign promoted citizen involvement with the impaired driving issue on a community level (Ibid.:870). The authors add that

> in general, the campaign media material featured a positive approach to the drinking-driving problem, encouraging the use of alternative transportation and suggesting drinking limitations for those who

> will continue to drive after drinking. In addition, much of the material that was disseminated informally or prepared locally was concerned about the laws, penalties and consequences of impaired driving (Ibid.:870-871).

Print and electronic media were the principle channels used.

Implementation

The campaign ran in nine test cities throughout the more densely populated regions of Ontario over the 1973-1974 Christmas holiday season.

Comments on Persuasive Design

1. The available information suggests a number of weaknesses in the campaign's persuasive design. It does not appear that a comprehensive marketing plan was followed to define population segments or to guide message development. Questions about consistency between the general and community-specific messages and themes also arise. Local production of assorted materials almost assured heterogeneity of messages (some of which may have been highly potent) but with unknown effects on the campaign's overall impact. The evaluation does not provide information on the extent of audience exposure to the persuasive materials.

H. ONTARIO EDUCATION PROGRAM

Design and Development

Unlike the short-running Ontario Drinking and Driving program, this campaign was an effort to achieve province-wide coverage with a multi-year program focusing on the hazards and consequences of heavy use of beverage alcohol.

The campaign was directed primarily at adults in the general public although narrower audiences of young people and groups in business and industry were considered (Goodstadt, 1977:1).

Campaign messages made low-key, moderation-oriented presentations on the theme of "You Are Your Own Liquor Control Board." The main content areas were:

> (i) the immediate and long term effects (physical, mental, social and economic) of alcohol consumption;
> (ii) the degree to which outside forces influence an individual's drinking behavior;
> (iii) the individual's ability to alter the trend towards increased per capita consumption through personal action and influence on others (Ibid.:1).

It is indicated that some message pretesting occurred (Ibid.:2). The communications inventory included "three twelve-minute films, fourteen posters, eleven pamphlets, five television 'spots' and eleven radio 'spots'" (Ibid.:31).

Implementation

The campaign began in April, 1975 and was evaluated over its introductory period which extended to February, 1976.

Messages were disseminated mainly through radio and television with paid and public service placements, in both prime and fringe time slots, at an approximate cost of $182 thousand (Ibid.:2).

Comments on Persuasive Design

1. A major strong point of the campaign was that it used paid media time, assuring more uniform exposure of the audience to its messages.

2. The campaign can be criticized for its "scattergun" approach by trying to appeal to numerous, diverse audiences--youth, industry and business groups. The goal of reaching such segments suggests the need for a communications strategy offering stylized content conveyed through specialized channels.

I. SASKATCHEWAN "AWARE" PROGRAM

Design and Development

The Saskatchewan government's "Aware" program was an attempt to mold less destructive drinking practices by promoting responsible attitudes about ethanol among its citizens. During the campaign's third year, when it was

subject to a major evaluation, the primary concern was with changing attitudes toward intoxication, excessive drinking, coping through use of alcohol, and impaired driving (Whitehead, 1978:9).

To make the point about "awareness" and "responsible attitudes to alcohol," Dunsky Advertising of Regina developed several advertisements over the three year program depicting characters in situations illustrating the opposite of what the message intended (Ibid.:59-67). For example, the audio component of the TV ad "Mask" goes, in part, as follows:

> There's Harry. Great guy, Harry. The life of the party.
> A real power at the office.
> To look at him, you wouldn't think he has a problem.
> But he does.
> Harry doesn't like himself. And he thinks his friends don't like him, either.
> So Harry wears a mask.
> The kind of mask he gets from a bottle.
> You know--a little primer before a party, an extra shot before those big business deals.
> Harry's always got his mask on. Depends on it.
> Just doesn't feel real without it.
> Too bad, too.
> Because the real Harry, would probably be a really good friend, even with his faults.
> If only he'd take his mask off...(Ibid.:60).

Another ad employed the technique of animation to transform heavy-drinking party guests into "pigs" to illustrate the theme of "overconsumption" (Ibid.:64).

Other ads addressed the topic of drunken driving.

During the first two years of the campaign, personnel experimented with different ads and themes, and various media. "This resulted in less targeting on particular sets of attitudes than persons connected with the program thought to be desirable" (Ibid.:8).

The planned community development component in the program did not materialize and the program came to rely exclusively on radio and television to disseminate its messages.

Implementation

"Aware" operated as a series of three "media flights" between 1974 and 1977. It achieved province-wide coverage through radio and television and was rated as having superior "audience reach" to that of the Ontario program cited immediately above (Ibid.:10).

Administration and production costs plus expenditures for the purchase of media time was approximately $450 thousand during the 1976-1977 operation (Ibid.:10).

Comments on Persuasive Design

1. With the purchase of air time, the program designers were able to achieve wide and controlled coverage with large audiences.

2. "Experimentation" during the early stages of the campaign may have reduced its persuasive power. The designers can be criticized for not having undertaken the

campaign with pretested concepts and messages aimed at specific audience segments.

3. The architects of "Aware" lost opportunities to extend the thrust of their program by neglecting the community activities component.

4. Advertisements that attempt, through low-key presentations, to promote an "awareness" of a particular view (promoderation) of alcohol use presuppose that audience members *already* have an "awareness" which leads them to recognize and reprove over-consumption. This suggests that the message will be lost on those individuals who lack such "awareness." It further recommends that messages be crafted according to the characteristics and suggestibilities of relevant subgroups in the population.

5. Reflecting on the limited impact demonstrated by the program, evaluator Paul Whitehead suggests that "perhaps what we have witnessed is that cartoon and other stereotypical characters that have been used as part of the "Aware" campaign are identified, liked and even remembered, but that the message is missed or quickly lost because the source of the communication was not persuasive [or credible, perhaps?] enough" (Ibid.:56).

J. CALIFORNIA "WINNERS" DEMONSTRATION PROJECT

Design and Development

The California government conducted this project in three counties in the San Francisco Bay Area over a three year period. It had the short-range objectives of making audiences more knowledgeable about the hazards of alcohol use and changing their attitudes toward drinking. In the long term (three years and over), the objectives were to reduce consumption levels and to lower the incidence of personal and social problems related to alcohol (cirrhosis deaths, auto crashes, and crime, for example) (Wallack and Barrows, 1981:8-9).

This project was designed to compare the relative effectiveness of two prevention "treatments"--a media-only treatment and a media-plus-community-activities treatment--against a nonexposed control area.

Mass Media Component

Pacificon Productions, a San Francisco advertising agency contracted by the State to prepare the media campaign, initially planned to concentrate on "opinion leaders" among males between 18 and 35 years of age; however, the agency could not delineate such a group clearly enough for the purposes of a campaign (Ibid.:14). The primary audience for the first year of the campaign was specified as males aged 18 to 35 years, a group with high risk for alcohol-related problems. In subsequent years the list of target groups expanded to include women aged 25 to 40, Hispanics,

teens, and parents of teens (Ibid.:14-15).

The ad agency is reported to have conducted "focus group" sessions[41] to test and develop communications materials (Ibid.:19). Two slogans expressing campaign themes emerged: "Winners Quit While They're Ahead," and "Caution: Too Much Drinking Can Be Harmful to Your Health and Happiness."

On the basis of this preparatory work, "the scripts selected for development were all tied to specific game images (football, baseball, backgammon, poker) which implied competition--and winning" (Ibid.). Of the three television advertisements prepared, two were cancelled as a result of an eleventh hour intervention by the Governor; the ads were judged to be "inappropriate" for inclusion in a State sponsored campaign (Ibid.:20). The remaining ad, "Otis and the Count," presented local football star Otis Sistrunk and John (Count) Montefusco, a baseball player, in a barroom scene. Its dialogue was revised "so that when offered another drink, the athletes reply that they've 'had enough' instead of 'had one'," thereby eliminating the interpretation that the State was telling people how much to drink (Ibid.:21).

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[41] Focus groups are widely used in research for marketing and advertising. They typically consist of a small group of individuals (from eight to twelve), selected to be roughly representative of a target population of interest, who are led through a semi-structured "focused" discussion by a "moderator" to broadly assess their understanding of a campaign's concepts or their beliefs about the suitability of its appeals (Green and Tull, 1978: 138-139).

The two offending ads were replaced by others of similar thrust: "Wrasslers," depicting young males arm wrestling in a tavern, and "Darts," which portrayed a dart game at a house party. Presumably, the appeal of these commercials derived from the presentation of desirable characters--the winners--who dominated others in a competitive situation but, in a show of moderation, declined opportunities to continue drinking.

Ads included in the second and third year segments of the campaign continued to promote the moderation concept, but more subtly. For example, a second year television ad entitled "Profile," for women from 25 to 40 years of age, is described as portraying "a woman who is obviously successful and accepted and, yet, is not afraid to refuse the offer of more wine" (Ibid.:22). The ad contained no verbal exchange, only music and lyrics. Similarly, "Rock Dreams," introduced during the third year, attempted to underscore the virtues of restraint in drinking with the primary audience of teenage girls. It presented a teenage rock band practicing for an upcoming performance.

> Sarah, the lead singer, urges getting looser and is tossed a six-pack of beer from the refrigerator. Other band members say that they've had enough-too much booze interferes with performance. "Let's stay cool." Sarah is convinced. The final shot cuts to the evening's competition with the band playing and singing 'Winners quit while they're ahead'

(Wallack and Barrows, 1981:23).

The television advertisements were augmented by radio spots, billboards, and transit cards. Print media were not used in the broadcast component.

In preparing these communications, the advertisers consciously avoided presenting "dissonance-producing" images of ethanol's destructive consequences. This "positive" approach, based on marketing psychology, sought "to unsell a product, i.e., drinking"; thus "the 'Winners' ads, like most commercial ads, showed happy people being happy; the ads like good commercials promised rewards" (Ibid.:18). The apparent objective was to make the point that people can become successful, have fun, achieve "happiness" without relying on alcohol.

Community Component

The project design called for community participation (in the primary test area) in which volunteers would convey information on the hazards of alcohol abuse and other topics thematically consistent with the broadcast component to people through door-to-door canvassing, school and church groups, and other public gatherings (Ibid.:25).

Although the community component incorporated the "Winners" and "Caution" slogans, it also contained a diversity of other elements with only vague connections

to the mass media efforts (Ibid.:28).

One major element consisted of the community presentations, designed in a thirty second introductory format or a two-hour discussion package. Ten of the two-hour discussions were prepared for use with an assortment of audiences and in a range of situations: "human service agencies, churches, Blacks, Hispanics, youth, women, family and parent groups, social settings, and industry settings" (Ibid.:27).

Following a "values clarification" approach, these discussions explored alcohol use in the context of global health mainly with audiences of nonproblem drinkers. Their objectives involved attempts "...to provide certain basic information about alcohol and its effects, to raise questions about attitudes toward alcohol, and to encourage people to think about their attitudes toward alcohol and about their drinking behavior" (Ibid.:29).

During the demonstration's third year, efforts were concentrated on other promotional techniques such as mailings, door-to-door contacts, promotions through information booths in malls, tee-shirts, and posters, for example, as well as "mass contact strategies" such as festivities during an official "Winners Week" and a conference on prevention (Ibid.:30-31).

Implementation

The campaign was executed through three waves of advertising between 1978 and 1980. With the purchase of media air time, the broadcast campaign was designed to be of saturation intensity, penetrating about 95% of the households in the target areas to obtain 35 exposures per individual (Ibid.:90).

Regarding the community component, an estimated 12,000 persons attended 179 stagings of the two-hour discussion groups and about 12,500 individuals were exposed to the introductory sessions over the first two years of the project (Ibid.:28).

... nts on Persuasive Design

1. A limiting factor on the power of "positive" appeals to change people's attitudes and behaviors is the differential between the pull of such rewards as "happiness" presented in the abstract by the ads and the push of experiential rewards derived from established, possibly immoderate, patterns of alcohol use.

2. Entertaining ads with subtle messages may be artistic but they are apt to be misunderstood. An interim "Winners" survey found that between 35% and 40% of respondents who reported seeing a television ad interpreted "Darts," "Otis," or "Wrasslers" as *prodrinking* messages; indeed, according to the final survey, 25% of the individuals who saw "Wrasslers" (the only TV ad to be aired

in the three waves of advertising) misconstrued it as a commercial ad *for* drinking (Ibid.:111).

3. The project's design was also susceptible to a dilution effect when, over the three year period, the campaign addressed a growing number of target groups until it became a "general audience" production. On the other hand, the community programs followed a much broader orientation from the outset; the crucial difference was a slippage in the definitions of primary audiences.

4. The connection between the broadcast campaign and the community component was weakened for other reasons in addition to disparate target groups. A key deficiency was the absence of a mechanism to *specifically* reinforce and extend t messages of the overarching media campaign. The community presentations appeared to serve mainly as forums to review and debate alcohol issues and concerns rather than as intense gatherings with the content and atmosphere to "clinch" the audience's commitment to moderate drinking and to equip them with the skills to practice it and convert others.

5. The primary test site in Alameda County, which subsumes about one-half of Oakland and the city of San Leandro, did not conform well with the usual notion of "community," if that is taken to mean a relatively homogeneous collectivity of people who share a common way of life. Wallack and Barrows caution that "...Oakland and San Leandro have very different populations and can be

considered a single 'commun y' only by straining the concept of community" (Ibid.:14). Although the presentations generated moderately large attendance totals, indications are that the discussions attracted pockets of assorted groups in a heterogeneous population rather than mobilizing the mainstream of the "general community."

6. Despite these reservations, "Winners" is the most impressive of the prevention programs reviewed in our study, with long term, well-funded, and reasonably extensive communications components. With the aid of a rigorous evaluation design, it stood in a favored position to demonstrate the potential efficacy of a mass prevention approach.

K. SUMMARY

These many persuasive efforts are criticized as regards their design. Our criticism addresses the major categories of independent variables assumed by the information-processing model.

Exposure

1. If audiences are to be persuaded, they must first be exposed to the campaign's messages. Commercial and social marketing offer systematic strategies to maximize audience exposure. A basic marketing premise is that people are differentially open to influence according to their demographic, personality, and motivational attributes (Fine,

1981:147-148). Promotion strategies typically require that large, diverse populations be partitioned into smaller segments and that a "mix" of communications elements be devised to match the characteristics and predispositions of each segment, thus potentially maximizing overall exposure (DeLozier, 1976:34-53; Engle et al., 1979:165-183).

2. A major weakness in the group of campaigns under review arose from the *underutilization* of marketing strategies. Of the nine campaigns considered, *only three* were conceived, in whole or in part, for specifically defined target groups: NHTSA ("key influentials," youth, and ethnic segments), Vermont "Beer and Consequences" (young males at risk for impaired driving), and California "Winners" (young adult males and females, teens, parents of teens, and Hispanics).

3. Marketing theory remains incomplete and lacks the precision needed to specify that communication "X" will have effect "Y" on persons in segment "A" under conditions "B" through "F" (DeLozier, 1976:124-125; Vaughn, 1980:27-29). Consequently, the work of message refinement takes place in empirical fashion, by trial-and-error, which often begins with concept and ad "copy" testing in focus group interviews, for example. As outlined throughout this chapter, indications are that campaign designers typically undertook minimal, rather than extensive, preparatory work of this nature.

Source

1. With respect to source factors, these campaigns tended, in their "creative" direction, toward presenting believable characters in commonplace circumstances. This seems warranted given the finding that people in general are apt to be attracted to and swayed by others with whom they share a likeness in beliefs, actions, and physical appearance (DeLozier, 1976:81; McGuire, 1974:5).

2. Three of the nine campaigns--NIAAA, NHTSA, and California "Winners"--made use of actors and athletes in an effort to add prestige and credibility to their messages. The fact that one actor-spokesman was a recovering alcoholic ostensibly added expertise. The campaigns are open to criticism for proceeding on the untested assumption that these individuals were *uniformly* perceived as attractive, credible, or expert by members of *all* relevant subgroups in the population. Such sources may have the effect of enhancing the messages with one segment, but derogating their influence with another.

Message

1. Program designers tended to assign major priority to message factors. The campaigns reflect a continuing emphasis on devising messages that audience members find interesting and understandable, as revealed by "focus group" interviews, for example. It bears mentioning, as a cautionary note, that the focus group does *not* approximate the campaign under

naturalistic conditions and that, for generalization, the validity of the interviewees' opinions are limited by the representativeness of the group and demand characteristics of the interview situation.

2. Fear appeals have in general been superseded; analysts strongly recommend against their use in highway and general safety campaigns (Haskins, 1969) and in mass programs on alcohol and drug abuse (McGuire, 1974). But people *are* motivated by fear and, according to such studies as the Vermont "Beer and Consequences" evaluation, young men exposed to mass media messages inducing concern about arrest and its consequences reported (25% versus 5% at baseline) such effects as major reasons that would deter them from driving after drinking (Blane and Hewitt, 1977:20). The discussion noted earlier that advertisements broadcast in the NIAAA and NHTSA campaigns contained headlines and contents that attempted to generate concern and mild apprehension. The Edmonton campaign featured messages that combined fear appeals and information.

3. The challenge, of course, is to specify the conditions under which fear appeals exert desirable effects. To repeat two of Karlins and Abelson's points (Chapter 6), "fear appeals are most effective in changing behavior when: (1) immediate action can be taken on recommendations included in the appeal; [and] (2) specific instructions are provided for carrying out recommendations included in the appeal" (1970:9-10). Except for certain NHTSA ads that

recommend various actions to counter drunken drivers and the Vermont messages on avoiding arrests for impaired driving, the antialcohol abuse ads as a group lacked this instrumental orientation. Instead, they used fear appeals mainly in an effort to attract attention and induce yielding.

4. Messages that rely for their appeal on being "positive," "low key," and "interesting and entertaining" also have liabilities. As the evaluators of the California "Winners" demonstration discovered, a substantial proportion of the public not only missed the point of their subtle advertisements, but misconstrued them as commercials *for* alcohol beverages.

5. For prevention messages to work, their designers must imbue them with appeals that engage the motives that move people to action (in the manner of such inducements as prestige, social acceptance, or sex appeal, for example, as promised in commercial messages) (Engle, et al., 1979:69-70; Fine, 1981:147-148).

People are drawn to advertisements that convey immediacy and personal relevance and that appeal to their emotions (Blane, 1976a:275). For example, Louis Harris and Associates attribute the impact of the NIAAA ad "Does Your Child Have a Drinking Problem?", which received highest ratings by respondents in the evaluation survey, to its portrayal of "poignant *consequences* of drinking" (1974:32, emphasis in the original). The ad struck a responsive chord.

But no manual of prevention communications exists that says which "responsive chords" are activated by what messages.

Receiver

1. It is difficult, on the basis of the evaluation reports, to judge the extent to which formative work on the campaigns included efforts to delineate demographic and psychological profiles of intended recipients. Given the evidence of minimal segmentation of target groups, we suspect that receiver attributes remained a neglected area.

2. An exception is the Grey Advertising (1975a) report which, on the basis of the survey data collected with a national sample of adults (N=1,600) for a NHTSA evaluation, describes four target groups segmented according to the kind of intervention they reported being likely to take with a drunk person about to drive.

Two segments accounted for the majority of persons. "Social Conformers," consisting about equally of males and females with higher-level educations, incomes, and occupations, favored driving an intoxicated person if not a friend or a relative , inviting the person to stay over, or calling a taxi (Ibid.:81). "Aggressive Restrainers," the other major segment, consisted principally of young men with strong group affiliations who were prepared to intercede aggressively with intoxicated comrades to protect them (Ibid.:100).

Channel

1. The campaigns under review relied heavily on the broadcast media to convey their messages. In general, it is expected that mass prevention programs would have need for specialized channels in proportion to the number and specificity of their target groups. Considering the present campaigns, the NHTSA effort made use of print channels to reach professional groups of interest, the Vermont "Beer and Consequences" project in part presented persuasive materials to young male drivers at drive-in theatres, and the Edmonton campaign reached a portion of the driving public with insertions in pay envelopes and other particular channels.

2. Prevention personnel who designed early campaigns operated on the simple faith that information conveyed through mass channels alone had power to alter entrenched behaviors (Haskins, 1969:58). Although vestiges of their beliefs remain (Whitehead, 1978:2), program planners are becoming more cognizant of the importance of face-to-face contacts to strengthen persuasive effects. Among the campaigns under review, all but two--the Edmonton campaign and the Vermont "Beer and Consequences" program--made reference to some level of planned "community education/development" activities that involve the dissemination of campaign content through interpersonal exchange.

3. The notion of "community" embedded in these campaigns reflects well-meaning motives but remains vague.

Program elements were ill-defined, their impacts remained diffuse, and the "community" components typically operated on the rudimentary level (from a persuasion standpoint) of public information presentations. Other deficiencies include lack of thematic consistency with broadcast components and the absence of organizational structures to reinforce and extend, on a behavioral level, major prevention concepts. The California "Winners" demonstration, which made the most concerted effort of all the campaigns to establish neighborhood-level exchange, encountered repeated difficulties with "coordination, content, and conceptualization" of its components (Wallack and Barrows, 1981:176).

Destination

1. These campaigns typically focused on making receivers more knowledgeable about alcohol and on reinforcing attitudes toward responsible, moderate drinking. To a lesser degree, the campaign materials addressed specific behavioral outcomes. The designers of these programs assumed, whether explicitly or implicitly, that changes in drinking practices would occur--if not immediately, then in the future.

2. Other measurement-related points, which will be taken up in Chapters 9 and 10, bear mentioning here. Most of the evaluations included indices of self-reported drinking to assess changes in ethanol intake before and after the

campaign. Only two of them (Vermont "Beer and Consequences" and the Edmonton campaign) made use of behavioral measures independent of self-reported consumption, namely, breathalyzer readings of blood alcohol concentration. Furthermore, only two of them (Vermont "Beer and Consequences" and California "Winners") attempted to strengthen their evaluations by adding supplementary indicators based on administrative data (accident statistics and cirrhosis mortality rates, for example) that were capable of monitoring long-term changes.

Concluding Points

1. Communications personnel in prevention have given only limited consideration to combinations of message, audience, and channel factors that bear on the influence process. For example, animation in film or on TV may communicate effectively with children, but the technique may lose credibility with adult audiences, especially on a topic as serious as the use of beverage alcohol.

2. Although the creators of media campaigns have an interest in eventually changing their audiences' behaviors, their communications programs have been geared toward the short-term effects of getting attention and imparting information. Anticipating a point that will be emphasized in our concluding chapter, persuasion only *begins* by focusing someone's attention. A wide gulf separates that event from the more distant goal of modifying his or her behavior in

some preferred way.

3. Finally, we conclude from the the foregoing analysis that, if program designers have been aware of the contingencies that affect persuasion, they have had only moderate success in employing them.

IX. ASSESSMENT OF CAMPAIGN OUTCOMES

A. OVERVIEW

Prevention campaigns delivered through mass channels operate in complex situational contexts and interact with numerous social, economic, and other potentially relevant variables. Evaluation studies are needed to untangle the strands of effects emanating from these diverse sources. When properly conducted, such investigations provide a basis for assessing the degree to which observed outcomes can be attributed to the campaign's persuasive materials.

A focus on outcomes raises questions about campaign effectiveness. The task of answering these questions begins with an understanding of the prevention campaign's supporting assumptions. It continues by noting the explicit or implicit expectations (hypotheses and predictions) of effects derived from the underlying "theory" which are expressed in the objectives of the campaign (Suchman, 1967a:21). To determine effectiveness "is to measure the effects of a program against the goals it sets out to accomplish as a means of contributing to subsequent decision making about the program..." (Weiss, 1972:4). This work of measuring the causal power (in the present case) of mass media prevention campaigns falls within the bounds of "summative," or outcome evaluation research (Ibid.:16-17).

B. EVALUATION OF OUTCOMES

Testing Campaign Effectiveness

Data to serve as the basis for making judgments on effectiveness can be collected in various ways, including casual observations and unsystematic sampling of records, opinions, or "gut" feelings. (Suchman, 1967a: 31-32). The strongest evidence, however, is furnished by the scientific method, which specifies design procedures (experimental and statistical) for controlling or minimizing the myriad of potential factors that could bring about the observed outcomes (Ibid.; Goodstadt, 1974:115). By thus applying a design that simplifies the causal process (leaving campaign elements as independent variables), the evaluator can rule out (with known probabilities of error) alternative explanations of observed effects, and may reliably and validly attribute them to program elements (Campbell and Stanley, 1963:35; Goodstadt, 1974:115; Karlins and Abelson, 1970:148; Kazdin, 1980:33).

Giere (1979) discusses the sufficient conditions for a scientifically adequate test of a prediction or, in the present context, of the expectation that the program will have its intended effects. The test incorporates a first condition that the prediction be unambiguously derived from a hypothesis (given initial conditions in the system and certain auxiliary assumptions supplied by the theory) and a second condition that the prediction, when confirmed by test

results, could not have been reasonably accounted for by another explanation (pp. 91-92). Evidence thus gleaned supports not only the program but the theory on which it is based.[42]

Giere adds the point that "the notion of a good test is defined solely in terms of the design of the experiment" (Ibid.:219). In the case of evaluation research, the "design of the experiment" is built into the campaign and executed in the course of campaign delivery (Bloom, 1980; Lau et al., 1980; Wallack, 1981).

Reviews of evaluations conducted with mass communication campaigns on such topics as health information (Lau et al., 1980), drug education (Goodstadt, 1974), alcohol abuse (Blane and Hewitt, 1977), assorted social marketing programs (Bloom, 1980), and occupational and highway safety (Haskins, 1969) consistently cite methodological deficiencies, noting that the inclusion of a research design providing an adequate test of campaign effectiveness is only a "recent and still rare phenomenon" (Blane and Hewitt, 1977:15).

Results of research on campaign effectiveness are mixed, with those researchers inclined to draw conclusions offering a judgment of indirect and limited effects (Lau et al., 1980:58). A dominant view parallels the assessment of

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[42]To illustrate, given the learning assumptions of the sociocultural model, the hypothesis that behavior change follows knowledge gains and shifts in attitude might generate the prediction that the incidence of impaired driving will decline after broadcast messages remind drivers of the deterioration in driving skills caused by alcohol.

Kinder (1975:1045): "as yet there is no valid and reliable data which either proves or disproves the usefulness of the mass media in inducing drug-and/or alcohol-related attitude change."

More recently, Wallack (1981:230) recommends that readers maintain a "healthy skepticism" of the efficacy of alcohol and drug abuse prevention campaigns mounted through the mass media, but advises that "this skepticism...be...tempered because of the flawed evaluations which have generated the body of effectiveness data." As we pointed out in Chapter 7, Blane and Hewitt found only four alcohol abuse prevention campaigns that embodied the evaluation requirements of control groups and testing before and after the campaign.

Criteria of Adequate Designs

Haskins (1970) reviews the controlled field experimental design, a research structure containing four sets of standards which, if incorporated into mass communication campaigns on such preventive topics as safety and alcohol abuse, provide a rigorous test of their effectiveness. Haskins emphasizes the following categories:

> *"1. Naturalistic communication conditions should prevail during the research" (p. 87).*

This requires that the campaign be developed and disseminated as unobtrusively as possible. "Normal representatives of the target audience should get normal messages through normal media in their normal surroundings" (p. 87). It is expected that receivers experience customary levels of "noise" from competing messages and ambient stimuli and that they follow their characteristic patterns of selective attention and perception.

"2. The relationship between cause and effect should be clear" (p. 87).

The experimental method meets this requirement through two procedures: random assignment and use of control groups. Allocating subjects on a random basis to different exposure conditions distributes potentially relevant differences unsystematically to all treatments (Kazdin, 1980:52). Ideally, only one group is systematically exposed to causally relevant variables---those embedded in the campaign. Random assignment, inclusion of no-treatment control groups, and pre-exposure and post-exposure measurement with reliable and valid instruments provide methodological support for the inference that observed differences between exposed groups and nonexposed controls were caused by the prevention program, "everything else being equal" (Campbell and Stanley, 1963:6; Hutchison,

1967:46).

"The experimental design should permit elimination of uncontrollable influences, such as historical and measurement effects " (Haskins, 1970:87), along with other known biases that threaten the design's internal validity (Campbell and Stanley, 1963:5; Kazdin, 1980:34-40).

In evaluations of public service programs, ethical issues about withholding services frequently override the criterion of randomization (Suchman, 1967a:104; Weiss, 1972:103). Such moral concerns tend to recede in assessments of mass media prevention campaigns, but other factors emerge to vitiate against random assignment: the physical impossibility of assigning *individuals* to experimental conditions and the difficulties of assigning *communities/cities/regions* to exposure and nonexposure conditions and then ensuring that control areas remained uncontaminated by campaign materials.

In lieu of *direct* control through random assignment, *indirect* control may be introduced at the analysis stage through statistical procedures (analysis of covariance, for example) (Goodstadt, 1974:115; Logan, 1972:382; Suchman, 1967a:104).

"3. Measurement should be unobtrusive and valid" (p.87).

Evaluations of campaigns promoting social causes often experience difficulty in measuring outcomes, a major source of which is vague definitions of program objectives (Bloom, 1980:460). Valid measurement requires specification of "indicators" that move consistently with dependent variables and which, when "operationalized," can be reliably and easily obtained (Ibid.; Suchman, 1967a:120-121; Weiss, 1972:35).

An optimal research design employs unobtrusive measurement, where receivers do not come into contact with test instruments and remain ignorant of their status as subjects, thus avoiding "Hawthorne" and other reactive effects (Webb et al., 1966:13-15).

However, few field studies approximate this ideal (Wallack, 1981:251). The vast majority of investigations engage subjects directly and gather data based on their verbal responses. Measures based on such self-reports are susceptible to bias from numerous sources, including

(1) vague conceptual links to the characteristic or behavior under study. As mentioned above, this concerns the *validity* of a measure, that is, the accuracy with which it approximates or "captures" the meaning of a concept. For example, a valid measure of alcohol consumption excludes other forms of drug-taking. A necessary condition for the validity of a measure is *reliability*, that is, its ability to produce consistent results upon repeated application

(Suchman, 1967a:116-126).

(2) respondent-induced distortions. Whether intended or not, inaccuracies arise due to the failings of memory. The acuity of memory changes over time and answers vary depending on how memory is engaged (recollection or recall, for example), motivational factors in remembering, personality characteristics, and the emotionality of the topic (Nettler, 1978:114). Respondents may lie about their behavior to create the appearance of conformity to popular norms (social desirabilty bias) or shape their responses to win the interviewer's approval, or give answers that minimize their investment of time and other costs associated with the interview (Green and Tull, 1978:114-115; Warwick and Lininger, 1975:202).

(3) interviewer-induced distortions. The interrogator may introduce error into self-report data by ineptly administering the questionnaire or by incorrectly recording the answers. Furthermore, the demeanor of the interviewer and such factors as the interviewer's sex, age, race, and socioeconomic status may interact with characteristics of the respondent to produce systematic changes in the results (Warwick and Lininger, 1975:199-203).

(4) interview-induced distortions. Respondents' disclosures may vary according to the "demand characteristics" of the interview, whether it occurs

face-to-face in the home, or over the telephone, or in a clinic's assessment area. Ambiguities frequently arise from the content and structure of the questionnaire; the wording and ordering of items as well as the nature and pattern of response categories carry different meanings for individuals (Green and Tull, 1978:118-129; Nettler, 1978:113-114).

In general, researchers cannot specify the degree of error emanating from these sources. Investigators may attempt to minimize bias by carefully constructing and pretesting their questionnaires, by training inteviewers and supervising them closely, and by following standardized interviewing procedures (Warwick and Lininger, 1975). They can take additional steps such as "having [respondents] complete tests under conditions of anonymity, ensuring confidentality, providing incentives for candor, or conveying to the [respondent] that his or her best interests will be served by honest self-evaluation..." (Kazdin, 1980:231). Optimally, their research will incorporate multiple measures not sharing the same sources of error; these can be used to corroborate self-reports (Goodstadt, 1974:143; Wallack, 1981:252; Webb et al., 1966:3). The use of numerous indicators justifies our being more confident of an evaluation's validity as a test of campaign outcomes (Wallack, 1981:245-253).

As with all programs intended to change people's beliefs and actions, sufficient time should pass after the

intervention to permit the capture of delayed-action effects at follow-up (Logan, 1972:379). Supplementary measurement of unintended or indirect effects may also be required (Weiss, 1972:32-33).

"Random sampling of subjects from the target audience, a high recovery rate of data from the chosen sample, and a large enough sample size to detect expected small changes are among the sampling requirements" (Haskins, 1970:87).

"4. The total communications and research design should be accurately executed" (p. 87).

Adherence to an experimental design, with random assignment, between-groups comparisons, and careful control of confounding factors, provides the basis of an internally valid design; it can potentially yield the most convincing evidence (if any can be detected) of campaign effects.

Execution of the evaluation study with valid, reliable measures under naturalistic conditions preserves external validity. The findings may then be generalized to other similar situations (Campbell and Stanley, 1963:5-6; Kazdin, 1980:42-49).

Of course, the barriers and complications that confront practical evaluation efforts are often formidable, necessitating adjustments and compromises in research practices away from the ideal (Suchman, 1967a; Weiss, 1972).

A variety of experimental and quasi-experimental designs have been devised to fit different research questions, types of programs, and situational demands and constraints (Campbell and Stanley, 1963; Haskins, 1970; Lau et al., 1980; Weiss, 1972). In general, as these designs depart from the criteria outlined under Haskin's headings, they relinquish the control needed to prevent other factors from clouding the causal picture.

Chapter 7 indicated that the nine programs selected for this analysis feature some of the more advanced designs available in the domain of mass prevention against alcohol abuse. As our review will note, to the degree that these programs sacrifice the controls reviewed above, they supply correspondingly vague answers to questions about campaign effectiveness.

Our analysis will proceed according to the format used in the preceding two chapters. Evaluations of three national campaigns will be reviewed first, to be followed by studies of six regional/community programs.

C. UNITED STATES NIAAA PUBLIC INFORMATION AND EDUCATION PROGRAM

Implementation of Evaluation

Evaluation of the early NIAAA program took the form of a series of surveys conducted between 1971 and 1974 (Louis Harris and Associates, 1972; 1973a; 1973b; 1974). In each of

the four main surveys, interviews were conducted with a probability sample of approximately 1,600 individuals representative of the American adult population 18 years of age and older. This evaluation followed the standard research strategy of comparing distributions of respondents on a standard set of items across surveys.

The design of the first two surveys (1972; 1973a) had provision for parallel surveys to be conducted in control cities that were to remain unexposed to NIAAA advertisements. Significant "spillover" of information occurred in the control areas, however, rendering these attempts "basically unsuccessful" (Louis Harris and Associates, 1973b:1).

The 1972 survey also included an effort to obtain details on ad usage from a national sample of media outlets. But the evaluators could only develop crude estimates of exposure due to incomplete logging of dissemination data by the majority of outlets (Louis Harris and Associates, 1974:1-2).

Objectives and Measures

The NIAAA program was centrally concerned with informing and educating the U.S. population on alcohol matters, with bringing about increases in knowledge and creating shifts in attitudes rather than inducing major behavioral changes (Kurtz, 1972:195). But the designers of the campaign expected that it would also exert such effects

as directing problem drinkers into treatment and, ultimately, modifying American drinking patterns toward moderate, responsible use of alcohol (Alcohol Health and Research World, 1973:18). Specific behavioral objectives were not defined for the campaign.

The evaluators thus concentrated on obtaining information on the campaign's cognitive penetration. They applied a broad set of "awareness" measures in an effort to tap such dimensions as recognition of the advertisements, comprehension of their themes, increases in knowledge about alcohol, and alteration in attitudes toward alcohol consistent with the NIAAA position. The specific measures took the form of "unaided recall," "aided recall," knowledge and attitude items, and questions about self-reported behaviors.

Main Findings

1. For "unaided recall," the most general measure of "awareness," respondents in all surveys were asked if they 'recall(ed) seeing any advertisements in the past few months, or hearing any messages on radio or TV, about the use of alcoholic beverages or problems connected with drinking' (Louis Harris and Associates, 1974:6). Except for a dip at Survey 3, the proportion of people who answered in the affirmative remained stable: 58% in Survey 1, 67% in Survey 2, 60% in Survey 3, and 68% in Survey 4 (Ibid.:7). The Louis Harris group comment that since interviewing for

the last survey occurred during January, "...just after the holiday season had ended, we would expect to find an increase in advertising awareness, and this, indeed, is the case" (Ibid.:6).

2. According to a further query on the "ideas or themes from alcohol ads," respondents tended to remember drunken driving themes (Ibid.:9). Similarly, 25% of the respondents in Survey 4 who recalled ads identified the theme of "don't drink and drive" as the "idea or message that seemed important...personally" over the 2%, for example, who spontaneously cited "important not to overdrink, drink in moderation," (Ibid.:11). Drunken driving was *not* an NIAAA theme.

3. When asked to name the sponsor of the alcohol ads, 35% of the group that recalled ads in Survey 4 identified the NIAAA, compared with 29% who gave that response in Survey 3 (Ibid.:14).

4. For the more specific measure of "aided recall," "each respondent was shown a storyboard of the ad and asked whether he/she recalled having seen or heard it and, if so, how many times...and at what time of day" (Ibid.:14). Across the series of samples, the proportion of respondents who were "not aware (recalled no ads)" declined from 45% in Survey 1 to 36% in Survey 4 while the proportion of respondents subsumed by the "highly aware (recalled 4-10 ads)" category rose from 8% in Survey 1 to 22% in Survey 4 (Ibid.:25).

5. In these surveys, which considered only TV ads, the frequency with which ads were mentioned was strongly related to their duration in the campaign and the time spent by respondents watching TV (Ibid.:19). Of the four ads that ran throughout the length of the study period, the two most frequently cited in Survey 4 were "Good Old Harry" (35%) and "If You Need a Drink to be Social" (28%) (Ibid.:15). From among the ten advertisements presented in "storyboard" form to respondents, "Does Your Child Have a Drinking Problem?" received the highest overall rating in the final survey.

6. The evaluators employed other items in an effort to discern the salience of the alcohol abuse issue among respondents. When asked to identify "2 or 3 major problems facing your community today," a consistently *small* proportion of individuals (7%, 8%, 11%, and 6% in the respective surveys) named "alcoholism, drinking" (Ibid.:51). These were far smaller figures than those for the most frequently cited category, "high cost of living, inflation, high taxes, food prices," which garnered between 21% and 25% of responses over the four time points (Ibid.).

7. Similarly, only 2% to 3% of respondents considered alcoholism as a serious personal problem for people in general (Ibid.:56). Yet, contrarily, "while not volunteered as either an important community or personal problem, when asked directly, 2 out of 3 (67%) said they feel 'heavy drinking of alcoholic beverages is a very serious problem in the country today" (Ibid.:57). The corresponding Survey 1

figure was 64%.

8. Another area of interest was the extent to which respondents agreed with NIAAA themes. The findings on this topic are mixed, however. For example, about one-third of respondents across surveys consistently agreed with the description of "the host who encourages heavy drinking among his guests" as a "drug pusher" (although 62% in Survey 4 agreed that he is a "bad host") (Ibid.:63). Curiously, the proportions of respondents in agreement with the theme that "people who need a drink to be social have a drinking problem" declined steadily across surveys: 72% (Survey 1), 68% (#2), 63% (#3), and 61% (#4) (Ibid.:63).

9. There was evidence of differential agreement if respondents recalled the corresponding ads. For example, the proportion of individuals in agreement with "people who need a drink to be social..." was 8% larger than the group of respondents who agreed but did not remember seeing the ad (67% versus 59%) (Ibid.:67). Similarly, the group that agreed with the social drinking item and saw "National Drinking Game," the other ad on the social drinking theme, was larger by seven percentage points than the segment that agreed but had no recollection of that ad.(66% versus 59% in Survey 4)(Ibid.).

10. Respondents who used alcohol were asked to indicate how frequently they participated in sixteen "drinking activities" (Ibid.:104). According to their self reports in Survey 4, no more than 8% engaged *"frequently"* in any of

these behaviors. Between one-fifth and one-third of the drinkers said they "frequently or sometimes" engaged in the following activities: "drinking alone" (23%), "talking a lot about drinking" (27%), "going several weeks without taking a drink, and then having several drinks at one time" (30%), and "taking 2 or 3 drinks at one sitting" (33%) (Ibid.). The respective Survey 2 figures are 22%, 24%, 37%, and 39%.

11. Patterns of self-reported drinking showed considerable stability over the study period. Classification of respondents in the evaluation's consumption index revealed only one significant change: a reduction in the size of the abstainer category (from 43% in Survey 1 to 35% in Survey 4) while the categories of light and moderate drinkers increased slightly and the category, "heavy drinkers," *remained unchanged* (Ibid.:47-48).

Factors of Differential Influence

1. The Louis Harris surveys showed a persistent set of correlates of higher awareness of NIAAA advertisements (i.e., recalling 4 or more ads): having greater exposure to TV and radio, being young, white, a drinker, having more schooling, and being likely to report "someone close drinks too much" (1972:26; 1974:8).

2. The Louis Harris group cautiously imputes causal power to NIAAA advertising by stating that "the fact that those with a high awareness of NIAAA ads in most cases are more sensitive to possible signs [of

problem drinking] than the public at large would seem to indicate that the advertising campaign has contributed to public awareness" (1972:85).

Comments on Evaluation

1. Louis Harris and Associates conclude that the NIAAA campaign obtained "good exposure" and that the ads "Good Old Harry" and "If You Need a Drink to be Social" showed considerable effectiveness in penetrating public awareness (1974:142). These analysts suggest that prevention ads require refinement if they are to be effective at persuading viewers to regard alcoholism as an illness, and at countering abstainers' tendencies to be judgmental as well as drinkers' tendencies to react with rationalizations when confronted h the topic of excessive drinking. They further recommend that ads be improved to broaden their appeal, to make them more topical as public service announcements, and to strengthen them in competition with the powerful drinking and driving theme that dominates public awareness (Ibid.:140-143).

2. Although Louis Harris and Associates followed accepted survey research practices, their studies lack the control data needed to determine the campaign's efficacy. They cannot rule out the possibility that apparent gains in public awareness of problem drinking could reflect a self-selection process.

3. Other weaknesses have been noted, namely, "lack of data on spontaneous recall of ads, lack of statistical analysis, and the use of such measures as ratings from storyboards to evaluate the actual impact of the NIAAA campaign" (Blane and Hewitt, 1977:23).

4. Measures based on storyboard presentations are widely used in evaluations of media campaigns. Such measures may *overestimate* the *strength* of the ads's impact. Being able to identify ads from a storyboard does not require that the image be deeply held to be "recalled"; rather, these responses would seem to depend on "recognition," a psychologically "shallower" process (Ibid.:24).

D. NHTSA PUBLIC INFORMATION AND EDUCATION PROGRAM

Implementation of Evaluation

During June and July of 1974, Grey Advertising Inc. collected data for a survey-based evaluation of the NHTSA campaign, three years after it was initiated. In-person interviews were conducted with a national probabilty sample of adults aged 18 to 55 years (N=1,512 adults and 148 college students) (197[illegible]a) and with a representative sample of high school students between 14 and 18 years of age (N=397) (1975b).

Objectives and Measures

The NHTSA campaign concentrated on creating "awareness" of the threat posed by alcohol to highway safety; it singled out the "problem drinker" as the major instigator of alcohol-related auto crashes and attempted to encourage the public to take various kinds of interventions to prevent intoxicated persons from driving (Davis, 1972:13; Fee, 1975:789; Marder, 1972:112). Thus, although the campaign was primarily a public education effort, its communications also promoted behavioral responses to be applied with drunken drivers.

The Grey surveys were intended to assess the campaign's effects and to supply information for strategic planning purposes. They had the multiple objectives of determining respondents' characteristics and recording their self-reported attitudes and experiences in relation to drinking and driving (Grey Advertising, 1975a:9). The adult sample was also tested for attitude change in relation to drunk-driving compared with findings from a baseline survey conducted in 1970 (Ibid.:17).

The primary measures used in the evaluation consisted ...owledge and attitude items on alcohol topics and self-report measures of behavior.

Main Findings

1. The public appeared to regard drunken driving as a salient issue during the early 1970s, as suggested by the

large percentage of respondents (75%) who rated it as an 'extremely' or 'very important' social problem in the 1974 survey (1975a:17). The 1970 baseline figure for this item is not reported.

2. The survey showed that the percentage of respondents who implicated problem drinkers in fatal accidents increased between 1970 (47%) and 1974 (59%). Similarly, the proportion of respondents who felt that taxpayers should provide more funding for law enforcement rose from 58% in 1970 to 85% in 1974 (Ibid.).

3. The evaluators delineated a subset of respondents (54%) in the sample who reported having been in business or social situations involving alcohol which occurred at least once a month during the three months preceding the survey (Ibid.:26). Several characteristics differentiated this "ARS-Involved" group: being young, male, college educated, in professional or managerial occupations, and heavy drinkers (Fee, 1975:795). On the last point, whereas 65% of the respondents in the overall sample described themselves as current drinkers, 85% of the "ARS-Involved" group and only 40% of the "Non ARS-Involved" group consumed alcohol (Zylman, 1975:1685-1686).

4. Given their elevated exposure to alcohol-related situations, the people in the "ARS-Involved" group were considered as prime candidates to avert drunken driving or to be in need of such interventions themselves (Grey Advertising, 1975a:23). Although only 43% remembered being

in a situation with a drunken driver during the year preceding the interview, about three fourths (74%) of those with that perception reported that they took preventive action (Ibid.:43). Other findings indicate, however, that their potential to intercede was limited by lack of knowledge about how to identify the potential drunk driver and how to respond effectively in such situations (Ibid.:38-39).

5 Analysis of reported and hypothetical countermeasures with drunk drivers indicated that two direct actions had highest potential: (1) offering to drive a relative or close friend or (2) suggesting that such persons stay at the respondent's home. However, only one preplanned countermeasure--planning to serve food at parties--showed significant popularity (Ibid.:60-72).

6. To aid in message development, the evaluators developed profiles for various segments among the "ARS-Involved" respondents by correlating their characteristics with the kind of countermeasures they would be most apt to perform. A segment of "Social Conformers" emerged, representing 43% of the base group, comprised of individuals of above-average social status who appeared "willing to offer to drive (not just close friends and relatives), invite someone to stay over, or call a taxi--if it is the socially acceptable thing to do" (Ibid.:81). This procedure also depicted a segment of "Aggressive Restrainers" that included 27% of the base group. Young

males predominated in this segment, individuals who were inclined to physically restrain friends from driving when intoxicated on the basis of camaraderie and feelings of affiliation (Ibid.:99-100). Two other groups, "Cautious Pre-Planners" and "Legal Enforcers," were also delineated but their limited numbers (18% and 12% of the "ARS-Involved" group, respectively) did not warrant, in the evaluators' judgment, the creation of specific messages.

7. The study advances as its major conclusion the need to develop messages aimed at young drinkers, their peer groups, and influential adults with the view to correct misconceptions about alcohol and to sanction intervention with intoxicated drivers (Ibid.:72).

Comments on Evaluation

1. The NHTSA subsequently attempted to incorporate the findings of the Grey evaluation into advertisements directed at "ARS-Involved" adults. Blane and Hewitt review the follow-up research on these efforts and note an increase in awareness of advertising against drunk driving, but with only 48% of a 1975 sample associating the messages with the new ads (1977:26).

2. Several deficiencies in this research have been noted: "...lack of data on actual exposure to the campaign and the relationship between exposure and attitudes, knowledge and behavior; variations in questionnaires across different surveys of the campaign which decrease

comparability of data; and lack of statistical analysis of data (Blane and Hewitt, 1977:26).

3. Grey Advertising interprets the favorable findings obtained on the attitudinal measures with the adult sample between 1970 and 1974 as reflecting the influences of the NHTSA campaign. Although the researchers used accepted sampling and interviewing procedures, the evaluation design lacked the data from control samples needed to support that inference.

E. HEALTH AND WELFARE CANADA "DIALOGUE ON DRINKING" CAMPAIGN

Implementation of Evaluation

As a campaign promoting moderate, responsible use of alcohol, "Dialogue on Drinking" can be seen as a smaller scale version of the NIAAA program. Like the NIAAA effort, "Dialogue" was also evaluated by means of surveys conducted with samples representative of the national population.

Four major surveys were carried out in sequence with "Dialogue" advertising: Survey 1 in December 1976, Survey 2 between December 1977 and March 1978, Survey 3 in February 1979, and Survey 4 , which formed the basis of the major evaluation, was conducted in February 1981 (Layne, 1981:1-4).

Survey 4 was based on the sample used in a Gallup Omnibus Survey. The sample included 2,112 adults 18 years of age and over and 205 teens from 15 to 17 years of age (total

N=2,317). The report does not specify whether interviews were conducted in-person or via the telephone.

Objectives and Measures

"Dialogue on Drinking" had three main goals:

> 1. To encourage individual and collective self-examination of drinking behavior.
>
> 2. To encourage individual and collective examination of responsible decision making about drinking.
>
> 3. To assist willing and interested jurisdictions in their efforts to stimulate preventive community involvement in alcohol issues (Ibid.:1-2).

The evaluation report based on Survey 4 primarily addresses Goals 1 and 2. Comparing results over time, it focuses on "...exposure to public information media, program awareness and visibility, accuracy in program identification and, to some extent, attitudes toward others" (Ibid.:4). The "visibility indicators" used in the evaluation included aided recall of moderation advertising, identification of the sponsor, and attitude and behavior items based on self-reports.

Main Findings

1. For the most general "visibility indicator," respondents noted if they "recalled any type of advertising on moderation in drinking" (Ibid.:13). Comparisons of

results across surveys shows that the reported "awareness" level of moderation advertising fluctuated (50%-70%) in Canada over recent years. The trend between 1979 and 1981 reveals a decline in awareness levels from about 70% to under 65% of respondents (Ibid.:13-14). Concurrent with these changes, Canadians reported generally rising levels of exposure to such media as TV, radio, newspapers, and magazines (Ibid.:5-7).

2. The next "visibility indicator" attempted to ascertain, on the basis of aided recall, the extent of Dialogue-specific awareness. Such awareness was exemplified by "a positive response to the direct question whether a respondent had heard of the "Dialogue on Drinking" campaign (Ibid.:18). In contrast to the previous findings, comparative data reveal a pattern of increased recall: 37% in 1978, 48% in 1979, 47% in 1981 (Ibid.:20).

3. An open-ended question asked respondents about the organization sponsoring "Dialogue on Drinking." Nationally, 13% of the 1981 sample correctly identified the campaign's sponsor (Ibid.:22).

4. Those respondents who indicated that they had seen moderation advertising were further queried to learn if they could provide "a positive *specific* response to an open-ended question requiring...them to identify any contents of moderation advertising over the past month" (Ibid.:29, Layne's emphasis). The evaluators then classified them into two categories: "definitely Dialogue" responses and

"possibly Dialogue" responses. The "definitely Dialogue" category incorporated 22% of the respondents surveyed in 1978, 27% in 1979, and 31% in 1981 (Ibid.:30). Respondents reported "general themes" with more than twice the frequency of "specific" ones (the most frequently cited themes, nationally, were "Know when to say when" (8.7%) and "Hand turns glass upside down" (6.6%) (Ibid.:32).

5. A supplementary measure to the "visibility indicators" attempted to establish degrees of "concern" among those who gave positive responses to the aided recall questions. "These measures of concern refer...to the extent to which Canadians had thought about or discussed alcohol use since viewing Dialogue ads" (Ibid.:36). Contrary to expectation, however, the proportion of individuals reporting thoughts about personal use and discussions on alcohol *declined* over the most recent surveys: for "thoughts," 27.1% in 1978, 22.6% in 1979, and 22.5% in 1981; for "discussions," 25% in 1978, 22.4% in 1979, and 21.1% in 1981 (Ibid.:37).

6. Tabulation of responses showed a concentration of themes about "non-problem drinking" (22%) and "drinking less" (30%) in "thinking" situations while in overt "discussions" the predominant themes concerned "dangers of alcohol abuse" (22%), "drinking and driving" (17%), and "self-examination of drinking" (12%) (Ibid.:38).

Factors of Differential Influence

1. Individuals most likely to demonstrate positive recall of Dialogue-specific advertising had the following profile of characteristics: living in Atlantic or Quebec regions (13% and 20%, respectively), being in younger age groups (18 to 29 years--62%, 15 to 17 years--59%), having sales/clerical backgrounds (59%), being university educated (56%), having a reported income above $30,000 (53%), and residing in urban centres (50%) (Ibid.:22-28).

2. The evaluators point out, however, that the primary group of interest, "older adults" between 30 and 49 years of age, demonstrated lower recall than youths aged 15 to 17 years (47% versus 59%, respectively) and lower sponsorship identification than people in the 18 to 29 age category (14% versus 18%, respectively) (Ibid.:21).

Comments on Evaluation

1. In general, the "Dialogue on Drinking" study was susceptible to the same set of weaknesses that affected the survey designs of the NIAAA and NHTSA evaluations.

2. The strongest conclusion that can be reached from this report is that, according to interview data with representative samples, Canadians evidenced a moderate level of "awareness" of "Dialogue" concepts and themes. Since these elements originated from the campaign only, unprompted

recollection of such themes as "Know when to say when," or the image of the overturned glass can be reasonably attributed to this source.

3. But the evaluation cannot determine the extent to which the "dialogues" anticipated by Goal 1 should be uniquely attributed to the campaign given the absence of control data and the evaluation's exclusive reliance on self-report measures.

4. The analysis remains incomplete since the investigators did not carry out further statistical tests on their findings. For example, can the modest increases of Dialogue-specific awareness be confidently accepted as nonchance outcomes or should they be attributed to sampling fluctuations? We do not know. The evaluators also weaken their report by failing to make explicit its implications for the "Dialogue on Drinking" program. Do the increases in recall levels and self-reported "thoughts" and "discussions" constitute reasonable evidence of the campaign's efficacy? We are not told.

F. EDMONTON CAMPAIGN ON DRINKING AND DRIVING

Implementation of Evaluation

This Safety Council campaign ran in Edmonton, the test city, over the Christmas holiday season in 1971-1972. Calgary was utilized as a control city. It received customary exposure to safety and impaired driver programs

through the initiatives of the Calgary Safety Council and the Alberta Motor Association as well as through the Calgary Police Department's enforcement campaign aimed at drunken drivers (Farmer, 1975:832-834). The evaluators indicate that "to a great extent information spillover (between the two cities) was avoided" (Ibid.:832).

Data were collected in roadside surveys before the campaign at six study sites in both Edmonton (N=2,230) and Calgary (N=2,162) which were revisited, in the same order, after the campaign had concluded (N=2,780 for Edmonton and N=3,122 for Calgary).

Objectives and Measures

The main objectives of the campaign were to impart information and to alter the public's attitudes on alcohol and traffic safety and to reduce the number of Edmonton motorists who drove while impaired (Ibid.:832). Drivers directed into the study site were interviewed, a screening test was applied to detect drinkers among them, and this subset of individuals was then requested to provide a measure of their blood alcohol concentration (BAC). The evaluation questionnaire included knowledge and attitude items while the BAC readings were obtained from a breathalyzer unit.

Main Findings

1. Knowledge gains were detected over the course of the study. The analysis indicated that the proportion of respondents who cited ".08%" on the measure "knowledge of legal limit" increased significantly[43] in *both* cities between tests although Edmonton's pre-post gain (from 54.3% to 63.2%) exceeded Calgary's (from 45% to 48%) (Ibid.:838).

2. Subjects were asked to estimate the number of drinks a driver could safely consume within a three hour period. Prior to the campaign, about the same proportion of drivers in the Edmonton sample (32.7%) as in the Calgary sample (30.7%) gave the correct response: "three drinks." According to the postcampaign data, *both* cities experienced statistically significant changes on the measure--mainly a *reduction* in the number of estimates above the "three drinks" category. In addition, while the percentage of drivers in Calgary who gave the "three drinks" response rose to 34.3%, the corresponding figure among Edmonton respondents was 50.1% (Ibid.:839).

3. On the measure "knowledge of culpability even below .08%," the Edmonton samples demonstrated higher recall on this point than the Calgary groups did both before and after the campaign. But the Calgary data revealed a significant

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[43] A sample result reaches "statistical significance" when it deviates far enough from the expected value of [illegible] relevant sampling distribution (difference between proport[illegible]s, for example) that the probability of it being caused [illegible] sampling fluctuations, and thus falsely accepted as a true difference, is relatively small (often fixed at the .05 level) (Blalock, 1979:157-159).

pretest-posttest increase in the proportion of respondents who answered that item correctly (from 69.1% to 73.3%) (Ibid.:840).

4. The questionnaire contained an item to elicit drivers' views on the adequacy of the drinking-driving laws. In both cities the drivers who felt that the laws were "inadequate" *declined* in significant numbers between test points. Further, the percentage of subjects in Calgary who viewed the laws as "too tough" increased from 4.2% to 9% over the evaluation period while the proportion of Edmonton respondents who described the laws as "adequate" rose from 33.1% to 41.3% (Ibid.:840). The evaluators speculate that these disparate patterns between cities might be accounted for by the stepped-up enforcement by the Calgary police during the study period (Ibid.).

5. Regarding the behavioral measure of driving while legally impaired, the percentage of drivers with BACs above .08% was slightly higher in the Edmonton sample (3%) than in the Calgary sample (2.5%) at the pretest, but appeared in reversed rank order in the posttest (1.4% and 1.7%, respectively). Where the Calgary samples registered a nonsignificant decrease in the proportion of impaired drivers detected across the test period (from 2.5% to 1.7%). The Edmonton samples demonstrated a significant decline (from 3% to 1.4%) (Ibid.:838). The evaluators conclude on this basis that "the Edmonton campaign was effective in reducing the number of impaired drivers (BAC greater than

.08%) on the road" (Ibid.).

Comments on Evaluation

1. The evaluation of the Edmonton campaign, which included a control group and pre-post testing, comes much closer than the survey designs to meeting the criteria of the field experiment. Nevertheless, the modest behavioral changes detected in the Edmonton evaluation cannot be attributed unequivocally to the campaign since these results are confounded by a reduction in drinking that is known to occur normally after the Christmas and New Year festivities (Ibid.:838). It should also be pointed out that, when large samples are involved, even minor deviations can appear as statistically significant differences (Giere, 1979:227).

2. Other methodological concerns arise with this evaluation. There appears to be considerable overlap in the content of the campaigns presented in the two cities. It is not made clear whether the roadside surveys furnished representative samples of Edmonton and Calgary drivers. Finally, the use of the same survey sites may have included some individuals twice, thus introducing test reactivity effects (Blane and Hewitt, 1977:19).

G. VERMONT PROJECT "BEER AND CONSEQUENCES"

Implementation of Evaluation

The evaluation component of "Beer and Consequences" was integrated into the structure of the campaign. It called for the execution of a series of roadside surveys prior to, during, and after the campaign in three test areas: (1) campaign alone, (2) campaign-plus-countermeasure, and (3) a no-exposure control area (Blane and Hewitt, 1977:19). Test areas consisted of counties in Vermont that were assigned to the three conditions according to their geographic location. Law enforcement was the main countermeasure used in the second test area.

Objectives and Measures

The Vermont project was conceived primarily for an audience of young, beer-drinking male drivers. It had the educational goals of informing this target group about the hazards that can arise when alcohol use and driving are combined and the behavioral goals of effecting a reduction in the incidence of heavy beer consumption, especially in conjunction with driving (Blane, 1976a:274).

Data were obtained through roadside surveys. As Blane and Hewitt (1977:20) explain,

> The first survey was conducted in May, 1972, a month before the campaign began, the second a year later, and the final survey after the end of the campaign. Each survey involved roadside interviews with 15 young males (aged 16 to [illegible] years) and 15 older males (aged 30 years and over) at each of six sites in each of the campaign and comparison areas.

Instruments included a questionnaire, which contained items on knowledge and attitudes on alcohol and driving topics, indicators based on traffic safety statistics, and a breathalyzer to obtain readings of blood alcohol concentration (BAC) from subjects in the roadside surveys.

Main Findings

1. According to the data from the knowledge items, subjects in the campaign ar demonstrated significantly higher levels of knowledge of ways to prevent driving while intoxicated (DWI) and of the consequences of DWI than their counterparts from *either* the campaign-plus-countermeasure or the control areas (Blane and Hewitt, 1977:20).

2. A major demonstration of attitude change occurred in the campaign area where the proportion of individuals who reported that being arrested for DWI was the 'one thing' that would constrain them from driving after drinking rose from 5% to 25%. The comparison area experienced a lower increase (Ibid.).

3. Regarding behavioral change, the evaluation found a significant decrease in the number of high risk subjects (persons who had three to four drinks per occasion, at least once a week) with BAC readings of .05% or higher detected in the campaign area, a slight decrease in the campaign-plus-countermeasure area, and an increase in the control area (Ibid.). A substantial decrease in the ratio of alcohol-related fatal crashes to total crashes was observed

in the campaign-plus-countermeasure area between 1972 and 1973 but only slight reductions occurred in the other test conditions. By the end of the campaign in 1974, however, the relative number of alcohol-related crashes exceeded 1972 levels in *all* three areas.

4. It is concluded that

> the campaign was most effective wh combined with countermeasures, although the campaign alone was more effective than no campaign. The use of messages inducing mild fear of arrest was found to be effective, since respondents cited arrest and its consequences as the major occurrence that would deter them from drinking and driving (Ibid.).

Comments on Evaluation

1. The evaluators would have stre[illegible]ened the study had they randomly assigned counties to test conditions and had they ensured that the control area remained uncontaminated by information from the campaign.

2. Blane and Hewitt note other problems encountered by the Vermont project: "...undetermined enviornmental factors which may have partially accounted for increases in the proportion of alcohol-related fatal crashes to total fatal crashes found in the second year of the campaign... differences between the wording of campaign messages and questionnaire items designed to determine the impact of those messages, and the limitations of the roadside survey as a measure of campaign effectiveness" (Ibid.).

H. ONTARIO CAMPAIGN AGAINST DRINKING AND DRIVING

Implementation of Evaluation

This public education campaign on alcohol and driving was conducted by the Ontario Ministry of Transportation and Communications as a pilot study in nine Ontario cities during the Christmas holiday season in 1973. It featured an integrated evaluation involving "before" and "after" testing of samples from these cities and from nine "matched" control cities (Pierce et al., 1975:870-871).

Selection and matching of cities followed four general criteria: (1) "total population" (defining the recipient population to be about equal in size to the total control population), (2) "geographic distribution" (including a sufficient number of cities to provide representative coverage of the heavily populated regions of the province), (3) "radio overlap" (minimizing overlap of broadcast areas between test and control cities), and (4) "rate of drinking-driving collisions" (delineating the two groups such that their rates for these categories of accidents were about equal, on a per person basis) (Ibid.:871-872).

Data were collected through telephone surveys preceding the campaign during November, 1972 with a sample from the campaign cities (N=1,222) and with a sample from the control cities (N=1,053) and also after the campaign during January, 1973 with another campaign sample (N=1,120) and another control sample (N=1,054) (Ibid.:872). The four samples

included persons selected at random from the file of licensed drivers maintained by the Ministry of Transportation (Ibid.).

Objectives and Measures

This Ontario project was directed at motorists and the general public. It provided information on the nature and consequences of impaired driving and made such recommendations as reducing intake for those who drive after drinking and using alternative means of transportation (Ibid.:870-871).

As a study based on the telephone survey methodology, this evaluation relied exclusively on knowledge and attitude items and measures of self-reported behaviors concerning alcohol use (Ibid.).

Main Findings

1. The samples drawn from the campaign cities revealed a slight change in awareness regarding possible penalties for impaired driving. Specifically, the percentage of respondents who correctly indicated that impaired driving carries the possible penalty of imprisonment increased significantly between the precampaign (74.1%) and postcampaign (80.1%) tests. The "pre-post" results for the control cities remained almost the same at 77% and 76.8%, respectively (Ibid.:878).

2. As an indicator of public misconception in this area, however, large numbers of respondents also identified nonexistent penalties "planted" in the list of choices. For example, fully 95% of the interviewees indicated erroneously that demerit points--a nonexistent penalty--might be assessed following an impaired driving conviction. This figure remained virtually constant for *both* the test and control groups across the campaign (Ibid.).

3. Another knowledge item asked "What is the maximum legal breath-alyzer reading for a driver?" (Ibid.:876). The campaign cities registered a statistically significant increase in the proportion of respondents who gave the correct response of ".08%" between the pretest (34.7%) and the posttest (44.7%). The respective results for the control cities remained practically invariant at 33.6% and 33% (Ibid.:877).

4. On the question "Did you talk to anyone in the past month about drinking and driving?", respondents from test cities who reported such conversations grew in statistically significant numbers between measurement points (42.5% before versus 57.6% after). However, the proportion of individuals in the control cities who gave that response also increased significantly (from 43.5% to 50.7%, respectively) (Ibid.).

5. The evaluation found that the proportion of individuals answering in the affirmative to the question "During the last month have you encouraged someone not to drive home because he or she had drunk too much?" increased

significantly in *both* the campaign and control cities over the course of the project. The campaign samples changed from 18.9% to 25.3% and the control samples changed from 19.2% to 24.9% (Ibid.:875).

6. A behavior-related item posed the question "During the last month have you not driven home because you had drunk too much?" (Ibid.). The proportion of interviewees who said that they had refrained from driving increased from 4.2% to 8.5%, a small but statistically significant difference, while the corresponding results for the control cities indicated a slight shift from 5.3% to 6.6% (Ibid.:876). Despite the small magnitude of these changes the evaluators "...feel encouraged that apparently we were able to make some inroads in this very difficult area of changing behavior" (Ibid.). Basic drinking patterns, however, remained fundamentally unchanged; the analysis detected no reliable differences in the distributions of cases in the consumption index across the set of four samples (Ibid.:874).

Comments on Evaluation

1. Although the researchers applied a quasi-experimental design and took steps to minimize test reactivity and instrumentation effects, their evaluation encountered other difficulties.

2. The campaign was broadcast throughout the province in an attempt to "average out any historical or seasonal

influences" (Ibid.). But the design lacked the means to partial out seasonal influences from those effects exerted by the campaign. Other aspects also qualify the inference that the campaign caused the modest self-reported changes in such behaviors as "...not driven home because...had drunk too much." The factors of differential law enforcement and other preventive campaigns operating in *either* or *both* of the experimental areas remained outside of the evaluators' control. Another question concerns the degree to which "radio overlap" between campaign and control areas was actually avoided.

3. The exclusive use of interviews and verbal measures of relevant behaviors also limit the validity of the data collected (Blane and Hewitt, 1977:19).

I. ONTARIO ALCOHOL EDUCATION PROGRAM

Implementation of Evaluation

The introductory phase of the Ontario Alcohol Education Program, which ran from 1974 to 1977, was evaluated by the Addiction Research Foundation of Ontario using a probability sample of Ontario adults in the Gallup Poll Omnibus Survey (Goodstadt, 1977:3-4). The evaluators limited the scope of their study "...to an assessment of radio and television campaign recall and recognition, together with tentative measures of impact" (Ibid.:3).

The base sample consisted of 1,000 adults 18 years of age and older who provided data through in-person interviews conducted during February, 1976. A system was devised to weight the responses of individuals least likely to be at home on the assumption that they best represented those persons missed in the survey (Gallup Polls did not use callbacks). For the purposes of analysis, the weighted sample size was 1,606 cases (Ibid.:5).

Objectives and Measures

The Ontario Alcohol Education Program represented an effort to provide information through the mass media about the consequences of alcohol abuse and to foster "responsible" attitudes and patterns of consumption. It addressed the general adult public and, to a lesser extent, the segments of young people and business and industry groups (Ibid.:1).

The evaluation was based on nine items in the Gallup Omnibus Survey, eight of which probed exposure and penetration of the campaign and one that concerned self-reported frequency of alcohol consumption (Ibid.:13).

Main Findings

1. The evaluation first attempted to determine the public's "general awareness" of mass media communications on alcohol abuse relative to other kinds of messages. Such awareness appeared to be widespread, with 83.4% of

respondents reporting that they had heard messages on "the consequences of drinking alcoholic beverages" (Ibid.). The only category from the list of option [illegible] attracted a greater percentage of responses was the t[illegible] "buckling seat belts in cars" (94.4%) (Ibid.:14). T[illegible]ner finding, however, that 61.1% of the sample also had recollections of a fictitious campaign fostering "good eating habits" raises concern about the relative salience of the prevention messages.

2. Two open-ended questions, one pertaining to radio and the other, to TV, asked respondents to identify the messages the[illegible]d heard "dealing with consequences of drinking al[illegible] beverages" (Ibid.:19). Despite the high level of "genera[illegible]wareness," [illegible]espondents frequently did not report *any* relevant elements; 50% demonstrated "no recall" of TV messages. A minority of cases for both radio (12.5%) and TV (15.9%) cited messages that could be classified under "correct program recall." Far more individuals recalled radio messages (37.5%) and TV messages (43.3%) that related to other programs or campaigns (Ibid.:20). In addition, the proportion of respondents who spontaneously reported the campaign's principle message "'You are [illegible] liquor control board' (or an advertisement saying 'We must control our own drinking' which was the campaign's principle theme)" remained the same, at 9.4%, for both the radio and TV items (Ibid.:20-21).

3. Other exposure-related items prompted respondents to recount how often they had heard the campaign message "You are your own liquor control board" and a fictitious message ("Drink less, live better") over the preceding twelve months (Ibid.:23). Regarding the true message, 80.1% said they recollected it, with 64.7% claiming to have heard it more than five times. Regarding the fictitious message, 35.7% of the sample remembered it, with 16.7% answering that they had heard it five or more times (Ibid.:24).

4. Finally, a behavior-oriented item asked respondents "How do you think these messages will affect your drinking during the next twelve months?" (Ibid.:27). About three-fourths of the *drinkers* (75.5%) who comprised 81% of the sample) said they anticipated *no change* in their drinking patterns while 11.7% believed that they would drink less (Ibid.).

Factors of Differential Influence

1. The evaluators carried out additional tests and report that statistically significant results emerged, in the desired direction, for selected characteristics--being male, being between 18 and 30 years old, living in Northern Ontario, and living in Toronto--on some or all of the dimensions of awareness, understanding, and potential impact of the antialcohol abuse messages (Ibid.:40).

Comments on Evaluation

1. This evaluation produced a mixed set of results. While respondents demonstrated a high *general* unassisted awareness of media messages on the consequences of alcohol abuse, they were not able, in large numbers, to spontaneously recollect *specific* messages sponsored by the Ontario Alcohol Education Program through the channels of radio and television. When prompted with a specific campaign message, however, two-thirds or more recognized it and appeared to understand its meaning.

2. In a cautionary fashion Goodstadt describes the project as "at least superficially successful" (Ibid.:42), while emphasizing its apparent positive impact among young males, an age group understood to be at higher risk for alcohol problems, and that its overall results compare favorably with those achieved by other mass media campaigns on alcohol abuse (Ibid:37-38).

3. Unfortunately, design weaknesses greatly limit the incisiveness of this evaluation. Major concerns involve the absence of data from a control group and the lack of precampaign and follow-up measures, without which a determination of the program's efficacy cannot be made. Goodstadt also adds a caveat that the use of a small number of verbal outcome measures further limits the adequacy of the evaluation (Ibid.:43).

J. SASKATCHEWAN "AWARE" PROGRAM

Implementation of Evaluation

The Saskatchewan government's "Aware" program, in operation from [illegible] to 1978, had a number of elements in its evaluation design. As described by Whitehead (1978:6-7), this design first involved conducting a province-wide survey of attitudes on alcohol topics in 1974, as a baseline measurement, to be followed by a similar, postcampaign survey in 1978. In the interim, panel studies based on samples of individuals interviewed in-person from one year to the next furnished data for preliminary assessments.

The most intensive evaluation effort was launched during the campaign's third "media year." It incorporated an urban panel of adults 18 years of age and older (N=132) from Regina who were interviewed in 1976 and 1977, a "control" group of respondents drawn from the same sampling frame but interviewed only in 1977 to enable detection of possible testing effects, and a "comparison" panel from Fredericton, New Brunswick, also interviewed during 1976 and 1977, which was not exposed to the "Aware" materials (Ibid.:41-42).[44] In addition, a rural "comparison" panel was also selected, comprised of 60 residents of the communities of Indian Head and Qu'Appelle in Saskatchewan, which provided information

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[44] The match was made on the basis that both cities were comparatively small provincial capitals that maintained alcoholism treatment programs, both had restrictions on alcohol advertising, and both would be similarly exposed to preventive communications from federal government campaigns (Ibid.:15).

at both the 1976 and 1977 interviews (Ibid.:33).

Objectives and Measures

The "Aware" program sought to make the Saskatchewan public more "aware" of damaging patterns of alcohol use in the hope of supporting those attitudes that might ultimately lead to responsible drinking behaviors (Ibid.:5-6).

The mass media materials disseminated during the third broadcast year focused on four broad attitudes: "attitudes toward intoxication; attitudes toward heavy drinking; attitudes toward the use of alcoholic beverages as a means of coping; and attitudes toward impaired driving" (Ibid.:9).[45]

Main Findings

1. According to the 1976 data, respondents already appeared to be generally committed to many of the beliefs being promoted by the "Aware" campaign. Regarding "attitudes toward intoxication," members of the urban panel became slightly more disapproving as indicated by the change in average scale scores from 3.2 (80%) in 1976 to 3.4 (85%) in

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[45] For each of these attitudinal dimensions the evaluators devised a composite scale consisting of multiple items from the questionnaire. A coding scheme assigned the value of "2" to "correct" responses, a value of "1" to "uncertain" responses, and a value of "0" to "incorrect" responses. Being additive scales, larger scores indicated greater "awareness." Results are presented as mean scale scores, the highest possible value of which depended on the number of items making up each scale. To make scores from different scales comparable, the scores for individual scales were divided by the maximum possible score for that scale and expressed as a percent (Ibid.:21-22).

1977 (Whitehead, 1978:22). This difference is not statistically significant. Females, however, displayed a significant increase in disapproval of intoxication, registering a change in average scores from 3.3 (83%) to 3.7 (93%) over this period (Ibid.:23). Among members of the rural panel, the average score remained unchanged at 3.0 (75%) at both time points (Ibid.:35).

2. Regarding "attitudes toward heavy drinking," the urban panel achieved an average score of 5.1 (85%) in 1977 which was not significantly different from their 1976 score of 5.0 (83%) (Ibid.:23). The rural panel also appeared to become slightly less appproving of heavy drinking. The analysis detected a change in average values from 5.0 (83%) in 1976 to 5.3% (88%) in 1977, but the increase did not reach significance (Ibid.:35).

3. Regarding "attitudes toward the use of alcoholic beverages as a means of coping," the figure for the urban panelists' level of disapproval was 5.1 (85%) in 1976 and 5.3 (88%) in 1977, which is not statistically significant (Ibid.:24). Among members of the rural panel, however, the corresponding scores *increased* significantly from 4.7 (78%) in 1976 to 5.2 (87%) in 1977 (Ibid.:35).

4. Regarding "attitudes toward drinking and driving," the average score representing the urban panel's censure of operating a motor vehicle after imbibing remained unchanged: 4.4% (73%) in both years (Ibid.:25). However, the rural panel's attitudes toward impaired driving appeared to

soften, as indicated by a significant *decrease* in scores between 1976 (4.7; 78%) and 1977 (4.3; 73%) (Ibid.:35).

5. Seven items in the interview schedule tested respondents' agreement with various "myths" about drinking and alcohol abuse, a topic that the "Aware" program did not address directly but which the sponsors believed might show "spillover" effects. Results indicate that the average score among urban panelists remained essentially the same between 1976 (9.8; 70%) and 1977 (10.0; 71%) (Ibid.:25). Members of the rural panel were somewhat less well informed on these matters than their urban counterparts, as indicated by their 1976 average score--8.1 (58%). By the following year their score *increased* significantly to reach 9.0 (64%) (Ibid.:36).

6. The evaluation found little change in self-reported alcohol consumption over the study period. The amount that the urban panelists said they consumed during the seven days preceding the interview remained the same at .76 drinks in both years (Ibid.:31). Results for the rural panel indicate a decline in consumption from .47 drinks in 1976 to .37 drinks in the following year (Ibid.:38). This reduction does not reach statistical significance, however. Further, there was no evidence that any significant shift had occurred over the third broadcast year in the distributions of drinkers in the evaluation's consumption index (Ibid.:31,38).

7. Results indicate that the "Aware" program attained extremely high levels of exposure among members of the panels. In 1977, 99% of the respondents in the urban panel

indicated that they had heard of the "Aware" program and 99% claimed to have seen or heard the ads. Similar results were obtained from the rural panel; 95% said they had heard of the program and 97% reported having seen the ads (Ibid.:47). Of course, these high percentages also reflect an effect of testing since, by the time of the 1977 contact, respondents would have become sensitized to the campaign through previous interviews.

8. Finally, when asked to gauge the program's impact, 46% of the urban panelists compared with 25% of the rural panelists indicated that their "attitudes have changed as a result of the AWARE program" (Ibid.:48). Similarly, 30% of the urban group stated that the program had helped to change their own drinking practices while only 9% of the rural panelists made that assessment (Ibid.:49).

Comments on Evaluation

1. Whitehead (1978:39) concludes from this evaluation that

> The results are mixed and the absence of a rural control community makes it impossible to sort out all of the important matters. In favor of an inference that the AWARE program had its intended effects is the fact that there is an increased level of awareness manifested relative to the use of alcoholic beverages as a means of coping and a decrease in the acceptance of myths about alcohol. Mitigating against an inference that the AWARE program had a positive effect is the fact that on the three other sets of items where an impact of the program would be expected there was no comparable change and, on one scale, even a significant change in the undesired direction. The

> fact that the urbah panel did not register significant changes on any of the critical set of items further reduces any confidence that we may have about the possible success of the AWARE program.

Findings based on data from the control group and the comparison community were not presented since "...their value is in being able to test alternative hypotheses when significant changes are found" (Ibid.:44).

2. The evaluation of 'Aware" is superior to most others presently under review both in terms of its conceptualization and execution. Nevertheless, some difficulties remain. In principle, the panels of respondents and comparison groups included in this study served adequately to ascertain test reactivity and to assess the campaign's efficacy. In practice, these elements provided only a limited basis from which the results can be generalized to the provincial population. Limitations arise due to small sample size, but a more serious restriction concerns attrition of respondents over the years of the study, as Whitehead acknowledges (Ibid.:13). Regarding the urban panel, the 132 individuals interviewed in 1977 represented 68% of those who supplied data the year before; with the rural sample, 60 of the 97 persons (62%) were reinterviewed in 1977 (Ibid.:17, 13). In addition, both panels experienced higher rates of attrition among young males. Thus, the representativeness of these groups declined.

3. From a measurement standpoint, the reader of the "Aware" report can only assume that the scale items served as valid indicators of the respective attitudes they were intended to measure. Further, the study had no provision for collecting supplementary data on self-reported drinking levels.

K. CALIFORNIA "WINNERS" DEMONSTRATION PROJECT

Implementation of Evaluation

The California "Winners" demonstration, a primary prevention program undertaken by the state government between 1977 and 1980, incorporated a field experiment design modeled after the Stanford Heart Disease Prevention Program.[44]

The "Winners" demonstration, developed with assistance from evaluation researchers at the Social Research Group, University of California at Berkley, was broadly intended to present media messages and activities on prevention of alcohol abuse through two modes of delivery: the mass media and via direct-contact (Wallack and Barrows, 1981:5). The project made use of three study areas in the San Francisco Bay Area: (1) Alameda County, the primary site, which received mass media exposure plus the community education

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[44] The Stanford Program made use of two experimental communities and a control community in Northern California. This frequently cited initiative produced promising results in reducing risk factors for heart disease utilizing mass media messages combined with face-to-face instruction among high risk subjects (Maccoby et al., 1977).

and development activities, (2) adjoining Contra Costa County, the secondary site, which received the mass media exposure only, and (3) the city of Stockton, the comparison area, which received no prevention efforts (Ibid.:13-14).

Data for the evaluation came from a baseline survey (fall, 1977), an interim survey (summer, 1978), and a postcampaign survey (summer, 1980). In-person interviews were conducted with three independent samples of adults (aged 18 to 59) selected through probability methods from the populations in each of the three study areas (with samples ranging in size from 447 to 532 persons). In addition, three independent, probability samples of youth (aged 12 to 17 years) were also obtained at the same time points in each study area (with samples ranging in size from 78 to 111 individuals) (Ibid.:65-70).

Objectives and Measures

This prevention program attempted to direct moderation messages through mass media channels, community discussion meetings and related activities to a variety of target groups in the general population. The sponsors sought to bring about an eventual decline in alcohol consumption levels and to lower the incidence of alcohol-related problems. The immediate objectives, however, those that the evaluation addressed, were directly connected with their efforts "to increase knowledge and awareness of the dangers of alcohol abuse and to change attitudes about alcohol

abuse" (Ibid.:9).

The questionnaires for the surveys contained exposure and awareness measures, attitude and knowledge items, and indicators of self-reported drinking patterns and alcohol-related problems. In addition, the evaluators report that they attempted to obtain supplementary social indicator data for such variables as cirrhosis mortality, and arrests for drunken driving and public drunkenness, for example (Ibid.:39-41).

Main Findings

1. Presented with a list containing the campaign slogan "Winners Quit While They're Ahead," a fictitious slogan "Better Health with Better Food," together with three other slogans, 79% of the adult respondents in Alameda said in Survey 3 that they had seen or heard the "Winners" slogan. This is a statistically significant increase over the Survey 2 figure of 44%. In Contra Costa, the secondary site, the proportion of adults who recognized the "Winners" slogan more than doubled from 32% in Survey 2 to 72% in Survey 3. In fairly consistent fashion, between 32% and 40% of adults across surveys and study areas reported recognizing the fictitious slogan (Ibid.:85-88).

The corresponding figures for the youth samples generally paralleled the adult results. Recognition of the "Winners" slogan in the primary site increased from 63% among the youth sample in Survey 2 to 86% in Survey 3 and

from 54% to 86%, respectively, in Contra Costa (Ibid.:92). Some "spillover" of the "Winners" message occurred in the Stockton site, as indicated by substantial recognition levels by adults in Survey 2 (14%) and Survey 3 (19%) and by the youth sample in Survey 2 (24%) and in Survey 3 (21%) (Ibid.:88,92).

2. According to Survey 3 results, adults in Alameda identified the *major* sources through which they "often" came into contact with the "Winners" slogan as television (58%), billboards (49%), radio (35%), and buscards (22%). A different pattern emerged for Alameda youth: television (76%), radio (59%), billboards (60%), and buscards (55%). Comparatively fewer adults (19%) and youth (44%) said they came into contact with the "Winners" slogan as a result of activities and materials in the community component, although these figures did increase significantly from the Survey 2 values (6% and 20%, respectively). In general, all the findings on major sources of contact represent significant positive changes from Survey 2 results. The findings from the secondary site also conform to this general pattern while the control data from Stockton reveal minimal contact through these sources (Ibid.:Table 1, Appendix 3).

3. After viewing still photos of the TV ads for the measure of "aided recall," about two-thirds of the adults at Survey 2 from the combined Alameda and Contra Costa sites said they remembered at least one commercial. At Survey 3,

just over three-quarters gave that response. Among youth samples, aided recall levels rose from about 85% to just over 90% between surveys. At the same time, the recognition levels in the Stockton site dropped from about 50% to less than 40% for both age groups (Ibid.:100). "Wrasslers," the only TV ad that was aired over the duration of the project, achieved highest exposure as indicated by the findings that 31% of the adults and 49% of the youth sample in Alameda reported viewing it four or more times at Survey 3 (Ibid.:102).

4. In an effort to test comprehension, the evaluators included an item that asked respondents who claimed to have seen or heard the "Winners" slogan 'What do you think the slogan, "Winners Quit While They're Ahead," is trying to say?' (Ibid.:104). "Correct" responses were those that "...linked the slogan to a moderation in drinking or an abstinence idea" (Ibid.:105). Results indicate that, for adults in the Alameda site, the proportion providing "correct" answers increased significantly from about 31% in Survey 2 to 70% in Survey 3.

The corresponding figures for youth also increased significantly from 45% to 83% between surveys. In Contra Costa the figures rose from 25% to about 61% for adults and from about 33% to 80% for youth. The results for the control community of Stockton reveal an increase from 5% to 10% for adults and from 5% to 12% for youth (Ibid.:106).

5. One measure of "concern" required respondents to rate the seriousness of a set of five community problems. Adult responses in the category of "one of the most serious" problems at Survey 3 from Alameda were distributed as follows: crime (22%), drug abuse (23%), unemployment (20%), excessive drinking (9%), and, in last place, health problems (4%). This pattern was representative of the findings in the other sites; the analysis failed to detect any significant departures from it across time or between sites (Ibid.:125-126). From a roster of alcohol-related community problems, "drunk driving" was designated as "very important" by the largest proportions of respondents, although there was a slight downward shift in salience among Alameda respondents between the baseline survey (49%) and Survey 3 (41%) and also Contra Costa (49% to 42%, respectively) while the Stockton results remained fairly constant (53% and 56%, respectively) (Ibid.:128). According to another "concern" item, between 28% and 37% of adult respondents across time and study sites considered themselves as "very concerned" about drinking in their communities (Ibid.:129).

6. A knowledge measure consisting of 13 true/false items incorporated four broad categories of "social facts" (involvement of alcohol in various social and health problems) and "legal facts" related to alcohol use and abuse. There was little evidence of improvement in knowledge of "social facts," as indicated by the lack of significant increases across time or between sites in the proportions of

adult respondents who correctly answered two of three items in that category. The relevant results fluctuated between about 30% and 38%.

Regarding awareness of "physical facts," the Alameda site demonstrated a statistically reliable increase in the proportion of adults able to correctly answer five of six items between Survey 1 (43%) and Survey 3 (53%), as did the Contra Costa site between Survey 1 (45%) and Survey 3 (58%), while the Stockton data showed minimal change between Survey 1 (50%) and Survey 3 (52%) (Ibid.:136). These findings are somewhat anomalous in that, by design, the community component was to concentrate on the knowledge elements while the media component was to deal with the "affective" aspects. The evaluators attribute the observed change to the mass media since "both Alameda and Contra Costa showed *similar* significant increases and not the graded response that was hypothesized" (Ibid.:139, Wallack and Barrows's emphasis).

In the area of "administrative facts" adult respondents were not significantly better able to correctly answer three of three items correctly, whether results are compared across time or by experimental sites (Ibid.:139). It appeared that respondents were highly knowledgeable in this area given that between 81% and 94% of them in the *three* sites answered the individual items correctly in the baseline survey (Ibid.:Table F, Appendix 3).

At Survey 3, about 63% of the Alameda adults correctly answered two of two items in the "legal facts" category. This represents a statistically significant increase over the baseline figure of 49% (Ibid.:136). The evaluators further report that this result was superior to those obtained for both Contra Costa and Stockton (Ibid.:139).

The main findings of interest with the youth samples concerns the statistically reliable increase in the proportion of respondents from Alameda who could correctly answer three of four items under "legal facts" between Survey 1 (35%) and Survey 3 (55%), a change that did not occur at either of the other two sites (Ibid.:134).

7. A scale comprised of 13 items was used to assess respondents' attitudes with respect to five categories: "tolerance of drunkenness," "functional aspects of drunkenness," "social aspects of alcoholic beverages," "advertising" of beverage alcohol, and "attributes of drinkers" (Ibid.:142-143). Apart from some minor shifts (usually in the desired direction) in response patterns on these indicators, only *one* comparison produced a difference of sufficient magnitude to reach statistical significance. This concerned a decline in the proportions of respondents who agreed with the item "It is all right for a woman to get drunk once in a while" in the Alameda results (Survey 1 (40%), #2 (37%), #3 (37%)) relative to the Stockton findings (Survey 1 (36%), #2 (38%), #3 (42%)) (Ibid.:144-145). This result did not appear with the Contra Costa data. In

addition, other findings suggest that, even at baseline, the vast majority of respondents held similar attitudes to those that the program attempted to cultivate. At Survey 1, for example, only 10% of the Alameda adults, 9% in Contra Costa, and [illegible] in Stockton indicated that they "basically agreed" with "people who drink have more fun than people who don't" (Ibid.:150). Finally, no major reliable variations emerged for the youth samples; in general, the same patterns were observed in both the youth and adult data (Ibid.:148).

8. In the behavioral area, results show that a fairly consistent number of adults (25% to 30%) across surveys and sites reported "drinking to intoxication at least once a month over the previous year" (Ibid.:162). Somewhat lower percentages of youth (between approximately 15% and 20%) also gave that response across surveys and study sites (Ibid.).

On the other hand, 15% of adult respondents in the experimental sites who drank and understood the campaign claimed that they "drink less now as a result of 'Winners' or might change later" (Ibid.:153). At the end of the demonstration, however, the evaluators found no evidence of a downward shift of cases to the categories of lighter drinking in the quantity-frequency classification based on self-reported consumption (Ibid.:158). The proportions of heavier-drinking adults, "those who had five or more drinks in one sitting at least once in the past 6 (12) months" remained virtually constant at about 33% in *all* three study

sites throughout the surveys (Ibid.:158-159).

The evaluators defined a category of "high tangible consequences" for heavier drinking adults who experienced drinking-related problems in their work, marriage, health, and other areas. On the basis of self-reports, between 4% and 8% of respondents from *all* sites were classified in this category (Ibid.:Table I, Appendix 3). Similarly, the category of "high intensity consumption" included between 8% and 12% of respondents over *all* sites (Ibid.). These results cover the study's three time points. Finally, the limited social indicator data on alcohol problems collected by the evaluators over the course of the project provided no evidence of changes that could be attributable to the "Winners" demonstration (Ibid.:4).

Comments on Evaluation

1. In their assessment of the "Winners" project evaluators Wallack and Barrows comment that "there are no clear-cut answers to the question of whether the demonstration on the whole succeeded or failed" (1981:xvi). Indeed, their report provides a number of answers to that question depending on which segment of the outcome data are considered.

Analyses based on information from the Bay Area experimental samples compared with responses from the Stockton control samples over the course of the demonstration show that it had definite, even impressive,

effects in the areas of exposure, recognition, recall, and comprehension. In general, superior impact was observed in Alameda, which received the mass media and community development "treatment," than in Contra Costa, which received the media-only exposure.

Between 50% and 75% of adults and youth from Alameda interviewed at Survey 3 recognized the "Winners" slogan, recognized at least one television commercial, correctly recalled the main idea of the "Winners" slogan, and correctly recalled the central idea or theme of at least one TV ad. These patterns were absent from the Stockton responses. The evaluators report that "at the completion of the demonstration, adults in Alameda were two and a half times more likely than those in Stockton to recall 'fairly often' alcohol-related messages from at least three of the four main program sources" (Ibid.:xii). Thus, the program demonstrated relatively strong effects at the general "awareness" level.

When the evaluation considered the other major outcome goals, it found progressively less evidence of positive impact. Relative to Stockton, adults and youth in Alameda achieved minimal knowledge gains and shifts in attitude on alcohol-related topics. Regarding respondents' expressed concern about alcohol use and abuse, their drinking patterns, and problems encountered, the data suggest that the project's effects were minute, or nonexistant, in these areas.

2. Except for the element of randomized assignment, the "Winners" evaluation contained the basic features of the controlled field experiment. Although the absence of randomization weakened the design, this evaluation provided one of the most rigorous tests of a large scale, mass media prevention program on alcohol abuse conducted to date in North America.

3. A major weakness of the "Winners" evaluation concerns various aspects of measurement. Questions on the adequacy or validity of the indicators employed remain moot; in particular, the relationship between the attitude items and anticipated behaviors is problematic. In addition, the evaluators relied strictly on respondents' self-reports of drinking behaviors and problems encountered through drinking, although they did attempt to monitor social indicator data for the test areas.

L. SUMMARY

To conclude this chapter, broad answers will be developed for two basic questions. (1) "What can be concluded from the foregoing nine evaluations about the power of mass media campaigns on alcohol abuse to reach their objectives in the population?" (2) "What judgments can be made with respect to the adequacy of these evaluations and the degree of confidence that can be placed in their results, keeping the general requirements of a rigorous test in mind?"

Leaving questions of adequacy to the last section, the summary first presents the main trends in the evaluation results.

General Conclusions

Taken as a whole, the body of findings produced by this group of studies supports the conclusion that the campaigns demonstrated a *gradient of diminishing effects*. That is, within the framework of the underlying "knowledge-attitude-behavior" model, they exhibit a pattern of declining efficacy as the dependent measures moved along the continuum from cognitive outcomes to behavioral outcomes. The most obvious demonstrations of impact occur in the areas of exposure, recognition of campaign slogans, prompted recall of ads or slogans, and apparent comprehension of their themes. Although the indicators touching these areas in the various campaigns differed in their intent and wording and are not strictly comparable, they broadly show that the majority of respondents surveyed (68% in the NIAAA campaign, 70% in "Dialogue on Drinking," and 83% in the Ontario Alcohol Education Program) claimed to have an "awareness" of the antialcohol abuse or moderation advertising. Further items that mentioned the program by name or provided photos of specific ads yielded results similarly indicating that large proportions of respondents reported "hearing about" the program or "seeing one" (or more) of the ads (47% for "Dialogue on Drinking," 64% for

NIAAA, and up to highs of 75% and 90% for the adult and youth samples, respectively, in California "Winners"). Results for the follow-up samples in the California "Winners" evaluation further demonstrate that many youth (83%) and adults (70%) understood the campaign slogan.

However, data from several of the other evaluations suggest a pattern of attenuating influence, namely, that evidence of impact declines as respondents receive *less* prompting (being shown storyboards or hearing the slogan) and supply *more* precise answers. For example, only 9% of the individuals polled in the Ontario Alcohol Education Program *spontaneously* recalled the campaign's specific theme or slogan and 31% of the respondents in the final "Dialogue on Drinking" survey volunteered descriptions of moderation advertising that could be classified as "definitely Dialogue."

Additional findings that substantial numbers of individuals from various surveys had recollections of nonexistent campaigns (61% in the Ontario Alcohol Education Program) or claimed to recognize fictitious slogans (30% in the Ontario Program and 40% in California "Winners") generate suspicions about the care with which the public differentiates among sources of information and the relative salience of the messages from these sources.

The evaluations produced mixed findings regarding the campaigns' power to impart knowledge and to induce shifts in people's attitudes on the use and abuse of beverage alcohol.

Some of the earlier programs (the Edmonton campaign, Vermont "Beer and Consequences" and the Ontario campaign) were found to have produced significant increments in knowledge, particularly on the legalities and other facts associated with impaired driving.

Parallel improvements in the area of debunking "myths" about alcohol appear to be harder to accomplish, as suggested by such recent efforts as the Saskatchewan "Aware" and California "Winners" programs. In the first case, no significant improvements registered in the data from a seven-item scale and, in the second case, significant changes occurred by the end of the project in two of four composite categories tested among adults while improvements by youth appeared in only one category.

A similar assessment applies to the topic of attitude change. Early studies with the NIAAA campaign, for example, found steady support (at about the 33% level) for the perception of the overzealous host as a "drug pusher" while the view that "people who need a drink to be social have a drinking problem" declined in popularity. On the other hand, surveys of the NHSTA campaign revealed an increase in the percentage of people between 1970 (47%) and 1974 (59%) in agreement with the position that mainly problem drinkers cause auto accidents.

Data collected over the course of the Vermont "Beer and Consequences" project revealed a five-fold increase in the percentage (5% to 25%) of respondents in the primary site

who expressed the view that fear of arrest would effectively deter them from driving after drinking. Analysis of the Saskatchewan "Aware" program, which was instituted for the expressed purpose of promoting responsible attitudes in the area of alcohol use, revealed no evidence of reliable change among members of its urban panel and two instances with its rural panel, one of which was in the wrong direction. In the California "Winners" program, another major initiative to alter attitudes, adults in the primary test site demonstrated significant changes in the desired direction on only one of thirteen attitude items. No reliable changes emerge from the attitude data for the youth samples.

Surveys in several of these evaluations found that the public assigns problems associated with excessive drinking to a position well back of economic concerns and personal safety issues.

Efforts to gain public recognition and acceptance of the concepts of moderate, responsible use of beverage alcohol encounter a high degree of entrenched recognition of the drunken driving messages.

Prevention interests are ultimately focused on modification of drinking-related *behaviors*, the "pay-off" variables of mass media campaigns. In general, however, data accumulated by the evaluations reveal the *consistent absence* of variation in behavioral indices as assessed by successive surveys or pre-post campaign tests.

In only two campaigns among those presently under review--the Edmonton campaign and the Vermont project--were significant positive changes in target behaviors recorded through the use of measures *independent* of respondents' self reports. Their respective evaluations found significant decreases in the number of drivers detected in the campaign areas with BAC readings at or above the legal limits according to a baseline and post-campaign comparison. It is also reported that the campaign-plus-countermeasure area in the Vermont campaign experienced an initial decrease in the ratio of alcohol-related fatal crashes to total fatal crashes relative to the other test areas, but that the figures exceeded baseline levels by the end of the campaign.

We observed earlier that the influence of the Edmonton campaign was confounded by seasonal effects. The magnitude of the reduction in drunken drivers was small (from 3.0% to 1.4%) representing a relatively minor change that reached statistical significance by virtue of the large samples involved. It was also suggested that the erratic pattern displayed by the Vermont crash statistics reflects extraneous influences in addition to the factors contained in the prevention campaign.

Several evaluations found that small minorities of persons surveyed expressed the belief that campaign messages helped to reduce their alcohol consumption (9.8% in the Ontario Alcohol Education Program, 30% of the urban panel and 9% of the rural panel in Saskatchewan "Aware," and 15%

of adults in the Alameda/Contra Costa sites in California "Winners"). In general, the evaluations were *unable* to confirm these assertions; indeed, the data provide a record of *uniformity* in self-reported drinking patterns across time, as measured by quantity-frequency consumption indices.

In sum, the evaluation findings reviewed in this chapter support the general conclusion that the mass media prevention campaigns were restricted in their effects. The campaigns demonstrated strongest influence in being able to draw people's attention to their communications; to a lesser extent they appeared capable of inducing degrees of knowledge and attitude change with certain groups and with some kinds of information. But *none* of the evaluations provide persuasive evidence of the power of mass prevention programs to cause substantial and lasting changes in drinking customs or consumption levels. Most indicators reflect *no measureable effects* in altering individuals' behaviors.

Adequacy of Evaluations

It remains to comment on how adequately these evaluations served to test the campaigns' effects and how much confidence can be placed in the findings they have generated.

The first requirement under Haskins' (1970) four headings of adequate design criteria is that "naturalistic communication conditions should prevail during the

research." Since these evaluations were conducted as part of the campaigns, they typically met this condition with little difficulty.

The second requirement specifies that "the relationship between cause and effect should be clear." Major points include random assignment of subjects to different test conditions, and use of pre and posttests.

Review of the present roster of nine evaluations indicates that five of them (the Edmonton campaign, Vermont "Beer and Consequences," the Ontario campaign, Saskatchewan "Aware," and California "Winners") incorporated treatment (comparison) and control groups while none utilized random assignment of individuals or communities to experimental conditions.

It was pointed out earlier that practical considerations generally preclude the use of random assignment in mass communications research conducted outside of the laboratory. But randomization provides the surest means to control extraneous causal factors by distributing them arbitrarily throughout the experimental groups. Since these five evaluations lack this crucial element of the controlled field experiment, they *cannot* make *definitive* statements about the causal efficacy of their respective campaigns.

Despite this weakness, these evaluations are still superior to those studies--NIAAA, NHTSA, "Dialogue on Drinking," and Ontario Alcohol Education Program--that made

no provision for control groups and relied exclusively on survey methods to test for campaign effects. While these latter efforts serve usefully to canvass the public for its awareness and attitudes on alcohol topics, they are *insufficient*, in however many numbers, to determine the unique impact of mass media campaigns.

All of the evaluations were deficient in respect of the point that "measurement should be unobtrusive and valid," the third of Haskin's headings. Major shortcomings included vague statements of objectives, lack of specification between campaign elements and anticipated outcomes, and exclusive reliance on obtrusive, and possibly reactive, measures of uncertain validity and reliability to assess outcomes.

Only two campaigns in our review--Vermont "Beer and Consequences" and California "Winners"--made use of independent and supplementary data sources needed to corroborate survey results.

Under the fourth heading, "the total communications and research design should be accurately executed," the difficulties inherent in this area were underscored by both of the longer running campaigns, Saskatchewan "Aware," and California "Winners." In the first case, experimentation in the development of materials and selection of target groups brought about changes in the campaign over time while the latter effort experienced political intervention and was likewise subject to modifications due to unresolved

difficulties in "conceptualization, co-ordination, and content."

We conclude that all of the evaluations under consideration suffered major weaknesses. None of them provided the definitive test of antialcohol abuse campaigns delivered through mass channels. Yet data superior to that provided by the Saskatchewan "Aware" and California "Winners" programs, in particular, will not be easy to obtain.

Clearly, these studies have not yielded dramatic or unexpected insights into the efficacy of prevention campaigns. Limitations in design and measurement among these studies preclude accurate assessment of the campaigns' impacts; however, our reading of the evidence supports the tentative conclusion that, under general communication conditions, there is little probability that such campaigns will substantially alter the behaviors of their recipients.

X. SYNOPSIS

A. OVERVIEW

The preceding three chapters have focused at length on one aspect of alcohol abuse prevention programming in North America: information campaigns delivered through mass media. The theoretical bases, persuasive content, execution, and outcomes of nine campaigns were assessed.

The work of this, the final chapter, is to provide a synthesis of the findings and draw pertinent conclusions. A broader set of implications can be drawn if these summary points are presented within the prevention perspective developed in Chapters 2 and 3.

B. PREVENTION HIGHLIGHTS

Chapter 2 recognized that efforts to anticipate, plan, and carry out actions to avert damaging outcomes to health are rooted in long and common experience. Traditions of preventive medicine have developed throughout the history of Western civilization. In the present century, public health practitioners achieved an unprecedented degree of control over a wide range of infectious and communicable diseases, virtually wiping out smallpox and cholera, for example, in Western countries. Their breakthroughs rested on the identification of the microorganisms *necessary* for the production of these diseases that could be *efficiently*

controlled or destroyed by such interventions as immunization, dietary regimens, and sanitary reforms.

Although the health status of Western populations improved dramatically, another order of maladies--chronic degenerative conditions such as cardiovascular disease and cancer--have become dominant causes of mortality. However, unlike the health problems they supplanted these latter diseases appear to arise in extremely *dense* systems of causes and cannot be traced to a few necessary factors; instead, they display complex multifactorial etiologies with multiple *sufficient* causes, none of which individually serve as effective entry points for prevention.

Another noteworthy development concerns the trend away from using criteria of disease to assess health in favor of applying an ecological concept of health as "adaptive balance" between positive and negative forces. In this "holistic" view, one's health status is understood to reflect influences from numerous environments and behavioral patterns. Positive "life style" factors include the health-sustaining practices of adequate rest, regular eating habits, and routine exercise. Negative aspects refer, for example, to the health risks that attend careers in the use of such chemical comforts as nicotine and alcohol.

Since the 1950s, the mental health field has experienced a broadening of prevention practice, of which media campaigns on alcohol abuse represent one small part. Like the chronic degenerative diseases, the

psychopathologies also arise from a tangle of causes. Only a minority of the mental disorders have known organic antecedents; a widely followed conception accords greater causal significance to psychosocial factors as consideration extends from the psychoses to the personality disorders and psychoneurotic disturbances.

Prevention efforts in mental health based on the public health model have demonstrated the *strongest* and most *efficient* effects with only a limited number of disorders--certain nutrition and genetically related conditions, for example--about which more complete causal knowledge exists. The majority of prevention programs directed at the mental disorders are limited in their efficacy by a variety of factors, including vague taxonomies of derangement, ambiguous measurement criteria, shifting definitions of pathology, and limited knowledge of etiological factors and processes. They are further constrained by the relative inaccessibility of the "root" causes of derangement and the fact that intervention almost always carries risks of inflicting injury on the recipient population.

The ecological view offers a conception on many mental disorders, especially those of lesser se erity, as behavioral "maladjustments." A popular social-adaptive model of prevention shares that perspective and locates the critical causal variables within the *social environment*.

This model favors an educational approach to prevention and recommends, in particular, the twin strategies of competence building and stress management.

Chapters 2 and 3 presented major assumptions and limitations of the model. A major point warrants repetition here. It is not necessary for prevention practitioners to specify causal factors in order to inhibit the psychopathologies. However, their interventions become more efficient as etiological agents and processes are understood (Morgan, 1977:6).

A focus on efficiency raises questions about the costs of intervention, an aspect of major importance in preventive medicine and public health (Ibid.:10-15). This goes beyond calculation of the balance between the value of resources committed to these projects and, however measured, the value of benefits that accrue from them; an accounting of unintended and possibly detrimental effects must also be included. There may be "iatrogenic programs" as well as iatrogenic diseases.

C. PREVENTION OF ALCOHOL ABUSE

A theme of our review has been that how one proceeds to prevent an undesirable event from happening depends in part on the definition of that event and the explanation invoked to account for its occurrence. Chapter 4 reviewed four definitions of alcoholism that stress the quantity-frequency-variability of consumption, indications

of psychological dependence, the abstinence syndrome, and the presence of alcohol-related life problems. Similarly, an assortment of explanations locates the relevant causal factors in the psychological domain, biogenetic sources, and sociocultural conditions.

That a diversity of definitions and theories should arise is understandable given that alcoholism does not appear to be a *unitary* disorder but rather a *constellation of conditions* of chronic and fluctuating course. Existing knowledge indicates that this grouping of disorders arises from multiple antecedents that produce complex and interrelated effects in the physical, psychological, and behavioral areas.

As Chapter 5 explained, a number of prevention models have emerged to provide guidance in the design of programs that attempt to address the causes and contingencies of alcoholism and to avert destructive consequences of excessive or inappropriate consumption.

The sociocultural model, with its emphasis on the learning of normative controls over drinking behaviors, provided the core set of assumptions for the nine media prevention campaigns considered in our review.

Following our discussion in Chapter 6, this model pays greatest attention to the life problems associated with alcohol abuse and recommends educational programs to inform and exhort audience members to develop patterns of integrated, responsible drinking. Information campaigns

mounted through the mass media typically apply persuasive materials in an effort to increase the audiences' knowledge, to shift their attitudes, and ultimately, to influence their styles of drinking toward moderate, "responsible" use.

Comments

We presented a conception of alcoholism and alcohol abuse as multidetermined, with factors emanating from several sources. It is evident, however, that the sociocultural model addresses only a subset of those causes. (It discounts biogenetic factors, for example.) In addition, empirical research suggests that public education programs and information campaigns do not induce major shifts in drinking patterns because they do not affect the multiple, powerful causes of alcohol abuse.

Nevertheless, prevention personnel continue to carry out mass information campaigns despite the intractability of the "root" causes of alcohol disorders and "problems." In varying degree these promotional efforts have been found to impart knowledge and to move attitudes which, it is popularly believed, act as precursors of change in behaviors related to alcohol use. Small proportions of respondents also usually claim in postcampaign tests or surveys that the messages convinced them to drink less or that they expect their consumption of beverage alcohol to moderate in the future.

No prevention manual yet written specifies with precision which combinations of individuals and communications elements yield the anticipated cognitive and behavioral outcomes. However, practical experience and research have identified a number of conditions that appear to enhance the persuasive impact of mass media campaigns.

Contingencies of Persuasion

The following categories describe major factors associated with differential influence that operate in most naturalistic communications situations.

Target Groups

Development of a mass communications strategy typically begins with the identification of the general audience of interest. A widely followed marketing approach recommends *segmentation* of this audience into smaller target groups that are homogeneous with respect to demographic and psychological attributes (age, sex, ethnic status, personality traits, for example) and the behavioral variables of interest (drinking patterns, leisure pursuits, for example) (Engle et al., 1979:165-184; McCarthy, 1978;70-74).

This delineation of segments, each with relatively similar profiles of characteristics, interests, and concerns provides a basis for the subsequent production of specialized messages that attempt to address the group's unique qualities and to satisfy its needs

(Deniston, 1980:10-12; Mendelsohn, 1973:50-51).

This approach argues against efforts to prepare "universal messages." It postulates that superior persuasive effects can be obtained by identifying groups of individuals from whom stylized appeals are likely to evoke the reaction "This is meant for me!" (Swinehart, 1980:23), even if the messages are ignored by other groups.

It is reasonable to assume that those who designed the campaigns of present interest had some notion of their primary audience(s). However, the campaigns varied widely in the depth to which these groups were profiled. The tendency was to address *general* audiences (typically adult social drinkers) rather than narrowly specified target groups (although California "Winners," Vermont "Beer and Consequences," and, to a lesser extent, the NHTSA campaign directed specialized materials at selected groups).

In general, the "shotgun" approach exemplified by a majority of these campaigns can be expected to yield small returns from large investments.

Exposure

According to the persuasion model outlined in Chapter 6, the first of the "mediational events" in the persuasion process involves "attending" to the message. Clearly, for a campaign to demonstrate persuasive effects, large numbers of relevant people must pay

attention to its materials. This requires that campaign organizers should attempt to maximize the extent of coverage by giving careful consideration to the *timing* of the broadcasts (purchased space is desirable over public service placements), their *intensity* (ensure multiple exposures through waves of communications that reach saturation intensity), and their *duration* (which involves the "consistent, articulated presentation of a varied campaign with the same messages over a period of time that extends over years" (Blane, 1976a:276)).

The broad objective is to mount a campaign with a target group in mind for whom the messages are properly designed and placed. If the campaign is to produce measureable and lasting outcomes, it must proceed with sufficient intensity and duration to saturate and penetrate the target audience's awareness.

Though these variables are known to affect the persuasive impact of mass communications, prevention theorists can only speculate on the number of campaigns needed and the exposure levels required to bring about detectable shifts in people's beliefs and actions concerning alcohol. The time dimension may stretch over decades (Blane, 1976a:277-280).

All of the campaigns under review were weak in one or more of the areas cited above. Messages offered as public service announcements, such as those of the NIAAA and NHTSA programs, tended to be broadcast at

"fringe-time" hours. Consequently, the messages may have been inappropriately timed to reach appropriate audiences. Campaigns with purchased placements overcame this limitation but, with the exception of the Saskatchewan "Aware" and California "Winners" programs, they lacked the intensity to "flood" the media and reach saturation-levels of exposure.

Source Factors

The strongest persuasive effects tend to be demonstrated by attractive and credible sources with whom audience members indentify and regard as believable. Briefly, these sources "should be *seen* as knowledgeable, unbiased, likeable, noncontroversial, similar to the audience in some respects, and having the best interest of the audience at heart" (Swinehart, 1980:22, emphasis added). Of course, the burden is on campaign designers to utilize source figures matching these criteria for particular segments.

Only three of the nine campaigns made use of prestigious sources, typically athletes and entertainers (one of whom was a reformed alcoholic). However, celebrity status alone does not guarantee influential promotion of a particular product (Abrams, 1983:31; Addiction Research Foundation, 1981a:105). In general, the credibility of a campaign's communications varies with the authority of the source, the content of the message, and segments of the population (O'Keefe,

1974:35).

These contingencies should be addressed at the pretesting stage. It is difficult to judge the amount of attention devoted to these aspects in the present roster of campaigns. One can infer, however, that they were of secondary concern, given that most of the programs were oriented to general audiences.

On a content-related note, messages may *lose* credibility if they state or imply that destructive consequences *always* follow excessive use of alcohol when, in fact, such outcomes are rare in the audience's experience (Blane, 1976a:280; Wilde, 1975:822). Campaigns against impaired driving, which emphasize high probabilities of arrest or collision after drinking, are especially vulnerable to this effect.

Channel Factors

Several points under this heading warrant consideration. Campaign designers need to be aware of the relative strengths and weaknesses of each type of channel. For example, television is well suited for multiple presentations of simple, attention-getting messages; print, on the other hand, is superior for the presentation of long, complex materials (Deniston, 1980:19).

Program planners are advised to employ multiple channels in a *combination* adapted to the needs and interests of each segment. In the long term, a number

of mutually supporting channels are most likely to amplify awareness through synergistic action (Ibid.:16-17; Solomon, 1983:116).

A related point emphasizes that while the mass media are *efficient* in reaching large numbers of people, they are not, in themselves, particularly *effective* as propagandists (Swinehart, 1980:24). Thus the recommendation is made to reinforce these vehicles with various forms of *personal contact* and "community activities" which stimulate collective action and adoption of a new idea by bringing the persuasive influence of opinion leaders to bear on receivers (DeLozier, 1976:156-160; Shoemaker, 1980:4-7).

The campaigns included in our review were typically multimedia efforts with major commitments to television and radio. However, these favored channels may be of limited utility in the presentation of information on alcohol and health. Caution against overreliance on them seems warranted given that the public's first expectation of television and radio is that they be entertaining (O'Keefe, 1974:28) and that people view commercials with a degree of skepticism (Deniston, 1980:17).

Although a majority of campaigns attempted to incorporate community programs or to somehow foster dissemination of campaign messages through the direct interaction of people, these elements remained largely

underdeveloped. Moreover, the single campaign that combined mass media messages and a major community-action effort--the California "Winners" Demonstration--provides ample evidence of the practical difficulties involved in orchestrating these elements with manifestly "synergistic" results.

Message Factors

While careful development and testing of messages can add to their persuasive effects, this complex area has not been well researched in relation to health and alcohol abuse campaigns (Solomon, 1983:119).

Available information indicates that antialcohol abuse messages, like other mass communications, derive influence from the broad dimensions of *immediacy*, *instructiveness*, and *personal relevance* (Blane, 1976a; Crespi, 1971; O'Keefe, 1974; Wilde, 1975). Of these three aspects, the instructiveness and personal relevance of messages depend most directly on their *content*.

Immediacy is an exposure-linked condition indicating that the receiver is likely to encounter the message at about the same time that the behavior of interest occurs. Given that the campaigns reviewed here were communicated mainly through television and radio, they would be expected to reach receivers only on those few occasions when they combined drinking and exposure to the channel carrying the message. We thus conclude

that this tended to reduce the immediacy of the campaigns' elements.

An *instructive* message conveys concrete information that directs the receiver unambiguously toward the sought-after view or action. Among the campaigns studied, those concerned with impaired driving tended to have the most instructive content. Some of their materials provided specific information on limiting consumption to prevent impairment and taking action to avoid arrest and other undesirable consequences of driving while intoxicated. In general, evaluations of these campaigns also report evidence of significant knowledge gains and indications of relevant behavior change among respondents who attended to these programs.

In contrast, the diffuse images presented in the Saskatchewan "Aware" and California "Winners" programs were far less conspicuously instructive. Neither were they indicative of immediacy. While recognition levels of these ads was high, the respective sets of respondents did not display substantial gains in knowledge or changes in attitude.

The quality of *personal relevance* concerns the *power* of a message to direct its contents and implications at the receiver rather than applying only to others (in the receiver's judgment). Of course, what people regard as "relevant" varies with their needs and

psychological attributes. This is consistent with the rationale of market segmentation.

We observe that, except for California "Winners," Vermont "Beer and Consequences," and the NHTSA program, the present set of campaigns tended to address general audiences. This suggests that their designers did not attend closely to aspects of personal relevance.

As a further note on relevance, Blane (1976a:276) comments that the NHTSA program's focus on problem drinkers as the main cause of alcohol-related crashes did little to encourage social drinkers to identify with that group or to take a measure of responsibility for road accidents. Instead, Blane maintains, the messages worked toward "reinforcing and maximizing denia " (Ibid.).

The *content* of a message is yet another contingency of its effectiveness. One aspect refers to the *organization* of the message's content. According to Schankula (1980:32-33), antialcohol abuse messages that are based on widely familiar patterns and proceed from general to specific statements facilitate learning and retention of the material by receivers, but the effects on their attitude remain indeterminant. Nevertheless, a message organized in some contrary fashion may be extremely effective as an attention-getting device.

Another point concerns the *ordering* of elements in the message. Should the main points appear at the

beginning, in the middle, or near the end? Following available evidence, messages that reserve their main argument for the end generally have superior persuasive impact. However, effects are variable, depending on the message's relevance for the audience and their levels of commitment and arousal (Ibid.:33).

A third consideration involves *sidedness*, the issue of whether or not to present only the favored position or to include counterarguments. While the decision would in part depend on receivers' attitudes and level of commitment, "it appears...that two-sided messages are preferable for audiences with higher educational levels, or are preferable when the audience initially disagrees with the communicator's position" (Ibid.:32). The advantages are twofold: first, the source gains credibility by appearing to be more "open-minded," and second, two-sided messages provide an "immunization" effect on receivers to help counteract future acceptance of opposing views (Karlins and Abelson, 1970:139-141; McGuire, 1973:242-243; Schankula, 1980:33).

A final set of concerns involve the type of *appeal* conveyed by the message. Designers of many early prevention campaigns, most notably those on the topic of highway safety, showed a marked tendency to use "blood-and-warped-steel-on-the-pavement treatments" (Mendelsohn, 1973:56). The trend has reversed in recent

years and, based on the limited success of the early programs and evidence of "boomerang" effects with certain types of individuals, various writers advise against employment of fear-generating messages in safety campaigns and drug education programs (Haskins, 1969:64; McGuire, 1974:8,24).

However, apprehensiveness may dispose audiences to change their attitudes and behaviors in certain circumstances. A substantial body of research indicates that strong fear appeals exert greatest influence under the following conditions:

1. The topic is relatively new to receivers. Novelty reportedly enhances acceptance of statements from a knowledgeable source (Swinehart, 1980:23).

2. The source is perceived as being highly credible.

3. The threats are directed at those with whom receivers have close emotional ties. According to some experimental studies, intimacy discourages avoidance of threatening messages (Powell, 1965:106). As point 4 below indicates, threats differ in their powers depending on their targets, and propagandistic threats directed toward receivers themselves often produce a "kick-back," a denial of the message.

4. Recipients do not see themselves as actually vulnerable to danger, a condition that inhibits the tendency to distort or deny the message or denigrate

the source (Robertson, 1982:9-10).

5. Receivers have high self-esteem, a variable believed to make them less likely to withdraw from the threat (McGuire, 1973:234).

6. The message recommends immediate action and provides clear instructions on how to carry it out (Karlins and Abelson, 1970:9-10; Swinehart, 1980:7).

Studies by McGuire (1973:234) and others suggest that the relationship between persuasibility and fear takes the form of an inverted U-shaped curve. According to this hypothesis, moderate levels of apprehension maximize yielding by receivers while minimizing interference with the steps of attending to and comprehending the message which typically occurs as their anxiety mounts (Ibid.; Triandis, 1971:191).

These studies also report a similar pattern in the relationship between receivers' self-esteem and persuasibility. In this case, though, receivers with high self-esteem will more likely resist yielding to the message but will be better at attending to and comprehending it. The level of self-esteem that optimizes persuasion has been found to vary positively with the message's complexity (McGuire, 1973:238-239).

It should be emphasized that mass messages on alcohol abuse need not concentrate on dire consequences; other inducements might be promoted, including "...parental or professional role

responsibilities, acceptance by friends, identification with respected persons, and social costs" (Swinehart, 1980:21) as well as such moral postures as "disgust, shame, and superiority" (O'Keefe, 1974:48).

The major difficulty, of course, is to specify "synergistic" combinations of source, channel, and message factors and receiver characteristics that exert the desired effects on the thoughts and actions of people in the target group. Little systematic work, particularly in relation to alcohol abuse prevention, has been done in this area.

Regarding the campaigns at hand, fear appeals were used with some success in Vermont "Beer and Consequences" and the Edmonton campaign in which the risks of impaired driving and countermeasures were clearly specified; however, such efforts were less efficacious in the NHTSA program.

There is little evidence that the architects of the campaigns under review carried out analyses of content factors to the depth suggested by the preceding discussion. They concentrated instead on the production of messages that receivers would *attend to* and *understand*. But these steps, of course, constitute only the *beginning* of the persuasion process.

Our assessment is borne out with particular clarity in the evaluation of the NIAAA campaign in which large majorities of viewers rated the ads highly

in terms of "eye-catching" appeal and comprehensibility. However, only minorities of these respondents regarded the communications as "very personally meaningful " (Louis Harris and Associates, 1974:26-31). This reflects a shortcoming among the campaigns: a general failure to affect receivers more deeply so that they would *yield* to the messages' import and *retain* the ideas as a basis for *action*. In short, the messages did not powerfully engage receivers' *motivations*.

Receiver Factors

As noted above, receiver factors are given major consideration during the market segmentation and message-testing stage. These efforts attempt to identify patterns of characteristics which, when exposed to messages with appropriate "creative" content, render receivers susceptible to influence (DeLozier, 1976:119).

The point requiring emphasis here concerns the aspect of "susceptibility" in relation to messages encountered. Though much of the nature of this relationship remains ambiguous, it has long been known that prior interests guide receivers' responses and that they tend to expose themselves to information that accords with their interests (Berlo, 1960:92-99; Hyman and Sheatsley, 1947:413; Mendelsohn, 1973:50).

Appeals to receivers' *self interest* and to their *feelings* appear to underwrite much of commercial advertising's success in prompting purchases. Rather than attempting to create new behaviors, modern marketing operates on several key premises: identifying consumers' needs and desires, channeling, through informational and affective appeals, their existing tendencies toward the purchase of a product, and providing satisfaction of those needs through consumption of the product (Engle et al., 1979:121-123; Fine, 1981:147-148; McCarthy, 1978:468-469).

The analog of this engagement of self-interest displayed in the commercial sphere does not operate vigorously in the majority of prevention communications. More to the point, the "responsible-use" messages have the difficult task of convincing people to forego short-term pleasure for long term gain.

Such communications attempt to alter receivers' perceptions of both their *susceptibility* to damaging consequences and to the *severity* of these outcomes (Mendelsohn, 1968:133). They prompt a weighing of the benefits and advantages of alcohol consumption, which are predominantly immediate, personal, and subjective, against the costs and disadvatages, which are remote, objective, and affect others as well as oneself (Low, 1978:19). The challenge is to create messages capable

of persuading receivers to carry out a recalculation of these proximate and distant values and to act upon it.

The scope of this work should not be underestimated. Much of mass communication's role in the process of social change remains mysterious. Furthermore, the behaviors implicated in the consumption of alcohol take the form of diverse, deeply ingrained, and rewarded patterns which will resist simple transformation into the normative structure of "integrated, responsible use" preferred by some prevention authorities (Blane, 1976a:280; O'Keefe, 1974:37; Wallack, 1981:234-235).

Other means besides exhortation through the mass media are available to impinge on receivers' self-interests. It is known (with the Vermont "Beer and Consequences" campaign as a case in point) that the contingencies of fear and threat of punishment (traffic accidents and the penalties imposed for impaired driving, for example) can successfully mold attitudes and deter individuals from performing the undesired behavior--*temporarily at least.* However, the efficiency of these measures declines due to such factors as the financial costs of maintaining ongoing law enforcement and alienation of the public (Low, 1978:19; Wilde, 1975:816-817).

The upshot of these comments is that the persuasive efficacy of mass messages can be expected to

increase as they specify genuine, palpable rewards (or costs) that the receiver can acquire (or avoid) by adhering to their preventive prescriptions. The absence of such inducements appeared to contribute to the failure of advertisements in the Saskatchewan "Aware" program, for example, to demonstrate significant impacts.

The knowledge-attitude-behavior-change model that informs most mass media prevention efforts continues to face unresolved difficulties. Its primary assumption that knowledge acquisition consistently leads to attitude shifts which then cause behavior changes has not been well validated under naturalistic conditions. Alternative positions cite evidence suggesting that behaviors occurring in novel circumstances may reform attitudes, that attitudes and behaviors influence each other reciprocally, and that they respond to unrelated sets of causes (Bentler and Speckart, 1981:226; Jaccard, 1981:260; Kahle and Berman, 1979:315; McGuire, 1974:20-21). In any event, as Wallack (1981:240) and others have noted, if expectations continue among prevention practitioners that these campaigns should alter people's behaviors, then a critical reassessment of the model's utility in such efforts is in order. Those working in various fields of prevention may have asked more of the mass comunications approach than it is generally capable of delivering (Ibid.:234;

Whitehead, 1982:18-19).

Efficacy of Mass Media Campaigns

Attempts to provide definitive statements on the efficacy of mass media campaigns have been hampered by the poor quality of research conducted in this area over recent decades (Cohen and Cohen, 1978; Haskins, 1969; Kinder, 1975). Program evaluations have been weakened by a variety of deficiencies in their design and execution, the most serious of which involved the absence of comparison data from control groups, lack of testing before and after exposure to the campaign, and incomplete and possibly invalid measurement (Blane and Hewitt, 1977:17; Bloom, 1980:460-461). With few exceptions, these investigations failed to apply the methodological controls needed to support inferences about the causal efficacy of mass media campaigns (Campbell and Stanley, 1963; Haskins, 1970).

To date, findings from studies of the influence of mass communications (Klapper, 1960; Roberts and Bachen, 1981) and from evaluations of mass media prevention programs in the health, alcohol, and safety fields suggests that mass persuasion programs are generally confined in their effects to reinforcing existing attitudes and behaviors (Blane and Hewitt, 1977; Bloom 1980; Lau et al., 1980; Swinehart, 1972). Conversion from established patterns rarely occurs (Mendelsohn, 1968:135). Taken together, this evidence adds weight to the hypothesis that the mass media by themselves

are generally incapable of directly producing major and lasting changes in people's beliefs and behaviors (Addiction Research Foundation, 1981a:100-105; Wallack, 1981:224).

Efficiency of Mass Media Campaigns

Evaluation in its broadest usage extends beyond assessment of program outcomes to consideration of their *efficiency* (Suchman, 1967a:64; Wortman, 1983:246). This permits rational comparisons to be made between alternative programs.

Determination of efficiency can follow either the "cost-benefit" approach of calculating a ratio, expressed as a dollar figure, of tangible and intangible costs over the direct and indirect benefits attributable to the program, or it can follow the complementary "cost-effectiveness" approach which provides a summary figure of benefits derived from the program expressed in a nonmonetary metric ("years of life gained" or "quality of life years," for example) (Weiss, 1972:84-85; Wortman, 1983:247).

In the prevention area such accounting efforts are relatively rare and provide general estimates only. As in other evaluation studies, problems of measurement arise. As regards benefits, major difficulties include, for example, the need to count events that would not materialize if the intervention had an impact (Morgan, 1977:5) and the problem of specifying pain or anguish quantitatively.

Costs include more than the financial, material, and human resources committed to these ventures. Assessment of cost also takes into account debits arising from unanticipated consequences and inadvertent damage (Wortman, 1983:247).

Alcohol abuse information campaigns mounted through the mass media are presumed to remain relatively harmless if they go awry. Of course, they may still produce serious "counterprevention" effects, as was the case with the California "Winners" demonstration where many receivers misunderstood certain ads as encouraging consumption of alcohol.

D. CAMPAIGN ANALYSIS: CONCLUSIONS

In their 1977 "State of the Art Review" of alcohol education programs conducted through the mass media, Blane and Hewitt cite four evaluations that met the minimal criteria of the field experiment plus three survey-based evaluations of national campaigns in the United States.

The present inquiry incorporated five studies from the Blane and Hewitt review (three of the former and two of the latter) and added two studies with quasi-experimental designs plus two others in which surveys were utilized, for a total of nine prevention campaigns and their evaluations. A synthesis of the results from this research yields the following conclusions.

1. Overall, the campaigns exhibited a *gradient of diminishing effects.* They demonstrated greater power in securing general "awareness" of communications among receivers but appeared to decline in efficacy as the measures of outcome addressed basic learning processes and behavioral changes.

2. Large majorities of receivers displayed high *spontaneous* recognition of moderation messages and specific campaign advertisements, themes, and slogans, well as *aided* or *prompted* recognition of these elements. *Unassisted* recall and comprehension of these elements was evidenced by small to large *minorities* of individuals.

3. In isolated cases, increments in knowledge and shifts in attitude were detected. In general, many segments of the general public already possessed much of the knowledge and held many of the attitudes regarding beverage alcohol that the campaigns were attempting to promulgate. In short, *the instructive value of these campaigns was low.*

4. The evaluations seldom included measures of change in drinking-related *behavior* that were independent of respondents' self-reports.

Part of the trouble with verbal reports is that respondents' statements depart, by degrees, from their deeds in respect of drinking practices and other behaviors after imbibing (Smart and Jarvis, 1981:8). Like other indicators, verbal measures may lack clear conceptual specification. They are also subject to biases introduced by the

respondent, the interviewer, and the interviewing situation (Green and Tull, 1978:112-131; Suchman, 1967a:115-128; Warwick and Lininger, 1975:109-115).

Data from these studies suggest that behavioral changes in the recipient populations were infrequent and of small magnitude. For instance, the investigations consistently failed to detect reliable shifts among respondents toward moderate drinking or abstinence, according to indices of self-reported consumption.

Only two studies included supplementary measures of drinking and driving behaviors. Both reported limited, but statistically significant, decreases in the proportions of people found driving with blood alcohol concentrations above legal limits in postcampaign surveys. In one campaign, though, the finding was of marginal interest since the change was of such small magnitude (1.6%) that it may have reached statistical significance due to the large samples involved. In addition, the other evaluation found evidence of a significant reduction in the proportion of alcohol-related fatal crashes among total fatal crashes in one exposure area. The results from both investigations remain ambiguous, however, because of confounding seasonal and environmental factors. The time-series analyses were incomplete.

5. An untested hypothesis reasons that, although mass media campaigns appear to have little or no direct effects on individuals' alcohol-related behaviors, they may exert

indirect effects by influencing the climate of opinion about alcohol abuse such that excessive use or irresponsible drinking patterns will come to invoke strong public censure. Support for this view comes from the observation that the social environment has become more restrictive and intolerant of smoking and from research suggesting that thirty years of publicity against smoking has had cumulative effects. These include antismoking legislation, segregation of smokers, and tax-induced increases in the relative price of cigarettes which, in turn, have led to reductions in consumption (Addiction Research Foundation, 1981a:116-117; Wallack, 1981:226-227).

The analogy may not apply, however, since alcohol abuse and smoking probably arise from different causes. It is questionable whether thirty years of propaganda against alcohol would have the same effects in stigmatizing drinking as it has had on the use of tobacco.

6. At bottom, our conclusions remain tentative. Current evaluations suffer from poor design and weak measuring instruments and thus are not able to specify the nature, degree, and duration of the effects of persuasive campaigns. Moreover, these studies cannot indicate how *intense* a campaign must be for it to exercise a measurable effect, where "intensity" refers to (a) the frequency with which a message is broadcast during a period of time, (b) the breadth of the message, that is, the size of the audience it reaches, (c) the timing of presentations to specific target

groups, and (d) the duration of the campaign.

Progress toward the production of more useful results depends in part on a broadening and refinement of research practice. Recommended changes include:

(1) use of quasi-experimental designs to supplement the controlled experiment (Campbell and Stanley, 1963; Lau et al., 1980). For example, lacking randomized assignment of message recipients to experimental and control conditions, the researcher may achieve partial equivalence by matching these groups on important demographic variables, levels of ethanol intake, and incidence rates of health problems or alcohol-related arrests. Nonexposed control groups may be added to assess testing effects.

(2) employing several levels of analysis in testing campaign effectiveness. Investigators should note whether individual and aggregate data yield parallel findings. When data from different units of analysis converge, we have more confidence in the results.

(3) stronger measurement. In addition to the popular polls of audience information, attitude, and practice, which suffer from the many limitations mentioned in Chapter 9, researchers should employ multiple indicators of drinking behavior. These indicators include police records of arrests for public inebriation, for impaired driving, for alcohol-induced

accidents as well as public health and treatment records, and liquor sales. Again, researchers are looking for convergence among these many indicators (Swinehart, 1972:150-154; Wallack, 1981:242-253; Weiss, 1972:36-37). Where such plural indicators give divergent results, we remain uncertain about a campaign's efficacy. Where results converge, we become more confident of its impact.

In brief, our review of mass media programs intended to prevent abuse of alcoholic beverages shows that these campaigns

(1) have been instituted with inadequate knowledge of the causes of alcohol abuse,

(2) have relied on incomplete assumptions about the relationship between gains in knowledge, shifts in attitude, and changes in behavior,

(3) have not attended well to the major contingencies that permit persuasion,

(4) and, according to available measures, do not serve as potent agents of behavior change.

We speculate that mass prevention campaigns might one day be shown to have small, but detectable effects on a

target group's drinking patterns or other alcohol-related outcomes. However, assessment of the import of such changes will depend on cost-benefit analysis.

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