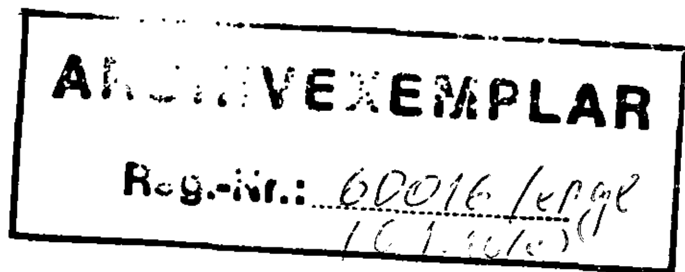

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Expert Report on Primary Prevention of Substance Abuse[1,2,3]

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[1] This report and the translation was funded by the Federal Center for Health Education, Cologne. The German version was printed in the publication series of the German Federal Ministry of Health, Bonn: Künzel-Böhmer, J., Bühringer, G. & Janik-Konecny, T. (1993). Expertise zur Primärprävention des Substanzmißbrauchs (Schriftenreihe des Bundesministeriums für Gesundheit, Band 20). Baden-Baden: Nomos Verlagsgesellschaft.

[2] Opinions expressed in this report are those of the authors and do not necessarily reflect the opinion of the Federal Center for Health Education.

[3] Translated by Carola Pauli Myers

Preface

The importance of primary preventive measures to stop the development of substance abuse, in particular with respect to illegal drugs, is something about which the experts are in full agreement. The national anti-drugs campaign thus emphasizes the necessity of concentrating on primary preventive measures, and the Federal Government has accordingly made more money available for use in this area. The question now is which primary prevention measures are the most effective and should form the basis of a long-term prevention strategy.

The present report offers a number of answers to this question. On the basis of a comprehensive scientific survey it has developed some important principles for effective substance abuse prevention.

This study can therefore be used as a means of evaluating existing concepts and measures as well as a basis for the planning of new activities.

It is gratifying to note that the results of the study basically confirm the prevention concept of the Federal Ministry of Health. The fundamental principle of the measures developed by the Federal Center for Health Education is an addiction-free life-style through the development of abilities and skills enabling the individual to cope with life and (self-)critical handling of addictive substances.

More than anything else, however, the results of the study should serve as encouragement, since although there are still considerable gaps in current knowledge and further research is necessary, it can be said definitively that prevention is effective and we should therefore redouble our efforts in this area.

Bonn, March 1993

Horst Seehofer
Federal Minister of Health

Preface

In recent years the experts have turned their attention increasingly to primary prevention of substance abuse, in particular the abuse of illegal drugs. Since the launching of the National Program on Drug Abuse Control in 1990, which attaches considerable importance to prevention, general awareness of this issue is growing.

The practical development of preventive measures in Germany and research into the scientific basis of such measures however bears no relationship at all to the high level of interest. While for years research into prevention has been a high-priority area in Anglo-American and Scandinavian countries in particular, where it is intensively promoted, it plays almost no part at all in Germany, especially for example with respect to preventive intervention programs in kindergartens, schools or youth centers. Lately we are at least seeing the rapid development of preventive measures in the Länder, so that it may be expected that the administrative and staffing requirements for a general prevention strategy in Germany will gradually be met.

This report, which was commissioned by the Federal Center for Health Education, attempts at least to lessen the gap between the level of research in Germany and that in other countries by laying the foundation for a modern primary prevention strategy. It demonstrates that primary prevention is effective when it is based on careful planning by experts and applied in a concentrated fashion. It also however shows that a great deal of research will be necessary in the future, on the one hand with the aim of improving results, and on the other to investigate whether the strategies of other countries could be applied to the situation in Germany. It is to be hoped that the more recent Addiction Research Funding Program of the Federal Ministry of Research and Technology will also help to promote research in the area of primary prevention.

Primary prevention cannot be left solely to a few experts or counseling centers, nor should it be limited to training programs and other educational measures, rather it is the duty of all citizens. Only when primary prevention includes (1) the commitment and model behavior of all adults, (2) the professional competence of those involved in the education of children and young people and (3) health policies such as limiting the availability of psychoactive substances to minors or improving the training of kindergarten staff will there be reason to hope that in the long term a widespread primary prevention strategy will reduce the problem of the abuse of all psychoactive substances.

The evaluation of the literature for this report was completed in autumn 1991, and the report itself in December 1991. In the meantime numerous new publications have appeared which must be evaluated as a supplement to this report.[1]

Munich, March 1993

Dr. Gerhard Bühringer
Director

[1] See for recent publications 1991 - 1993: Denis, A., Heynen, S. & Kröger, C. (1993). Fortschreibung der Expertise zur Primärprävention des Substanzmißbrauchs (IFT-Berichte Bd. 72). München: IFT Institut für Therapieforschung.

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1. Introduction

1.1 Initial Situation

In recent times, the subject of primary prevention of substance abuse, especially of illicit drugs, has again come to the foreground of public awareness and health policies. Several factors account for this. Following a period of stability or levelling off until about 1985, there are indications that substance abuse in the Federal Republic is on the rise again. The 1990 representative study on the use and abuse of illegal drugs, alcoholic beverages, prescription drugs and tobacco products showed, for instance, that the number of drug-experienced persons (lifetime prevalence) among 12-29-year-olds increased from 12.1% to 16.1% between 1986 and 1990, and the number of current users (over the last 12 months) rose from 4.5% to 6.2% (Simon, Bühringer, & Wiblishauser, 1991). This increase, however, remains confined to the higher age groups (the 18- to 29-year-olds), while numbers for the younger population continue to hold steady and are even going down.

Another reason for the increased attention to primary prevention may be the fact that the development phase of treatment facilities for both inpatients and outpatients has largely been concluded. Efficiency studies show that despite all therapeutic efforts, a certain percentage of clients treated eventually suffer an episodical or permanent relapse, and so the question of substance abuse prevention is becoming more acute.

The fact that experts have come to realize, most recently in connection with the introduction of the National Program on Drug Abuse Control, that primary prevention was being shortchanged in favor of expanded treatment efforts, has undoubtedly played a role in this. Indeed, the overall situation of primary prevention in Germany can only be described as bleak (Bühringer, 1990). This is true for nearly all areas: there is no structural framework to support facilities which actively engage in prevention, and the number of facilities and staff members trained in prevention is woefully inadequate. Many areas lack scientifically founded concepts and programs for preventive measures, and efficiency controls simply do not exist.

1.2 Tasks and Goals

The general purpose of this expertise is to recommend effective preventive strategies and measures, and to satisfy the requirements of the research community in light of current scientific knowledge on primary substance abuse prevention. Within the confines of these objectives, we will attempt to document what we currently know about the underlying causes of drug abuse, describe new explanatory models of how substance dependencies develop and maintain, and examine the effectiveness of preventive measures. In conclusion, we will describe and evaluate some of the newer preventive strategies. This current body of knowledge will form the basis from which we will draw conclusions and propose a course of action.

1.3 Remarks

To keep the scope of this report within manageable size, we used the following parameters in preparing this text:

— Focus on Psychoactive Substances
There is widespread agreement that primary prevention should largely be substance-unspecific. Nevertheless, a sizeable portion of the available literature was written from the viewpoint of a specific psychoactive substance, whether it is alcohol, illicit drugs, or tobacco. In discussing fundamental concepts and models, we have consistently sought to use a comprehensive approach. Still, the selected literature tends to focus on illegal drugs, particularly in the practical part. The emphasis of this report thus is somewhat at opposite to the available scientific literature, the overwhelming majority of which deals with the subject of smoking prevention.

— Limitation to Empirically Founded Materials
Speculation concerning the causes of substance abuse and its prevention has proliferated so much that compiling a comprehensive listing has become a virtually impossible task. Even a tentative attempt would fill several volumes, especially if we were to include empirical data from both Europe and abroad. As this expert report is chiefly concerned with more recent findings, we generally adopted empirically tested concepts and measures and the empirical-hypothetical method of concept formulation as a basis for selection. The incisive selection criteria caused a large amount of pragmatically developed or pseudo-scientific measures and models to be excluded.

This drastic restriction was prudent not only in view of the daunting amount of material to be reviewed, but the very vastness of available documentation demanded a close focus on empirical, hypothesis-based methods if we were to reduce the numerous and often conflicting preventive theories in favor of a sound basis of established findings. Only an empirically-based course of action will allow us to add to our current knowledge. Since very few such studies are available for Continental Europe, the emphasis on empirically supported material led to the inclusion of studies primarily from the Anglo-American sphere.

Concepts and measures which went beyond empirically supported data were included only if they were deemed significant based on similar information from other areas and made a meaningful contribution to the subject by adding to existing knowledge. Whenever this was the case, we have pointed out the speculative nature of the data.

— The Life Skills Approach
The Life Skills approach, as an alternative or supplement to the risk factor concept favored in the Federal Republic up to now, formed the central premise of the grant proposal for this expertise. In contrast to the idea of substance abuse risk factors which has become so popular over the last few years that its value in formulating preventive measures has increasingly come into question, the life skills approach seeks to explain what actually prevents substance abuse in the majority of young people. We are not so much concerned here with one-time or short-term drug use within the scope of youthful experimentation, but rather with factors which prevent long-term adolescent substance abuse and all its attendant consequences. Based on various theories and investigations discussed in this report, the concept postulates that adolescents who do not develop a long-term substance abuse problem possess certain skills which allow them to shape their lives in an independent and satisfying

manner, and to cope actively with crisis situations. The description and empirical analysis of this concept, along with pertinent conclusions, takes a central position within this report.

The life skills approach represents neither a specific idea from the publications we reviewed, nor is it a specific program. Rather, the authors of this report consider it a guiding principle for a number of preventive approaches which, unlike earlier theories, are not concerned with reducing or avoiding risks, but with the active and determined encouragement of certain skills believed to reduce the likelihood of substance abuse. Some of these concepts are employed in their "pure" form, while others combine concepts of different theoretical foundations, such as for example creating a lifestyle alternative to drug use. For this reason, they have not been discussed in a chapter of their own, but within the context of their genesis and use.

In Chapter 3, which deals with models for the development of abuse behaviors, they are contained in the section entitled "Addiction Protective Models" (3.4). In Chapter 4, on the effectiveness of abuse prevention models, they are found chiefly under the "Life Skills Approach" heading (4.3). In Chapter 7, "Areas and Strategies of Intervention," they are described in detail in several sections, including their extensive application in Peer Group Work (7.3).

— Timeframe of Bibliographic Survey

Over 500 magazine articles, books and manuscripts were reviewed and evaluated for this report. While the emphasis was on the more recent empirical literature starting from about 1980, we went back to 1970 for some important topics, and occasionally to even earlier periods if relevant to the theoretical foundations of current programs. This documentation was obtained through literature search systems and personal contacts within the scientific community, which yielded not only the latest publications, but also some of the so-called "grey" literature.

All publications consulted have been listed in the bibliography. However, even when the contents of the quoted works were evaluated as comprehensively as possible, not all have been described and quoted in the text of the report. In no small measure, this was due to reasons of manageability and space constraints. In addition, since some of the theoretical approaches and programs closely resemble each other, we selected and quoted only the approach most amply described and empirically tested.

2. An Overview of Empirical Knowledge on Substance Abuse

Empirically oriented models on the causes of substance abuse and preventive concepts require a solid foundation of data on both the abuse behavior itself and its precursors and preconditions. Based on preventive and theoretical research, it is a relatively well-established fact that each specific abuse behavior, age group, lifestyle, and to some extent even each individual substance, requires a set of preventive measures and explanatory models of its own. But numerous concepts and measures fail to take empirical evidence sufficiently into account. Because they are distributed across numerous publications and are still controversial in some cases, we intend to provide an overview of all available data on abuse behavior and its antecedents thought to be on solid footing by current consensus. This report was compiled primarily to benefit preventive measures in the Federal Republic, and so the overview has been limited to this area. While considerably more empirical data exist for the United States, the scope and cultural integration of alcohol and illicit drug use there is so different from the Federal Republic that empirical data cannot be easily transferred.

2.1 Use Patterns[4]

Illicit Drug Use

The data provided in the following pages refer exclusively to the previously existing "old" states of the Federal Republic; the prevalence of illicit drug use in the "new" states is still too insignificant.

A current representative population poll (N = 18845) shows that 4.8% of the population in the "old" states between the ages of 12 and 39 currently use illicit drugs (i.e., used illicit drugs during the last 12 months).[5] Clearly dominant are the 18-29 year-olds, with the highest number of substance abusers in their age groups (9%); this has been confirmed by other studies (Institut für Jugendforschung,[6] 1990). This reflects a trend which has also been observed abroad, namely the ongoing shift of the largest block of chemically dependent persons into the upper age groups (Hanel, 1991). This is not to say that illicit drug use no longer plays a role for the lower age groups. Even in the 12-14 age group, 0.3% of those questioned already are current users of illicit drugs, and a total of 1% of the 12-14 year-olds have tried them (i.e., have used drugs at some point in their life).

Of the illegal drugs consumed, the use of hashish (3.9%) predominates; this is especially strident in the lower age groups (5.7% of the 12-24 year-olds). Cocaine use (0.3%) outstrips heroin (0.2%) in all age groups. Across all substances, current use patterns of individual drugs tend to reflect a somewhat infrequent use of no more than five times per year, which is especially true for hallucinogens and cocaine. For heroin, hashish and stimulants, we frequently find more than 40 uses per year.

Women, with a proportionate share of 3.3%, generally use fewer illicit drugs than men who account for 6.2%. A similar ratio applies for illegal drug use over an entire lifespan

[4] Unless otherwise indicated, the data cited in Chapters 2.1 and 2.2 were taken from: Simon, R., Bühringer, G., & Wiblishauser, P. (1991)
[5] Unless a different age group is indicated, the data always refers to the 12-39 age group
[6] Institute for Youth Research

(women 12.8%, men 19.7%).

Table 1: Distribution of First Illicit Drug Use by Age and Gender (N = 2745).

	Age at First Use				
	<10	10-15	16-18	19-25	26-39
All	0.1%	13%	49%	35%	3%
Women	0.1%	21%	46%	29%	4%
Men	0,0%	9%	50%	37%	4%

The predominant age when illicit drug use begins is between 16 and 18 years (see Table 1); almost half of all those who had already tried drugs, first used either hashish or another substance during this period. For 13%, the first use occurred between the age of ten and fifteen. For women, there is a tendency to start sooner: 22% of all women with drug experience first used drugs before they reached 16, while this is so in only 9% of the men.

Tobacco Use

In the old Länder, 39.4% of the 12-39 year-olds currently smoke. Another 15.5% used to smoke in the past but were able to stop, while 45.5% never smoked cigarettes or anything else. Most smokers consume between 10 and 29 cigarettes a day (61%), 11% smoke occasionally, and 12% smoke more than 30 cigarettes a day. It is striking that the heavy smokers are found primarily in the older age groups.

Table 2: Distribution of First Tobacco Use by Age and Gender (N = 10507).

	Age at First Use				
	<10	10-15	16-18	19-25	26-39
All	0.4%	37%	48%	13%	2%
Women	0.4%	35%	49%	13%	3%
Men	0.5%	37%	48%	12%	2%

The age at which regular smoking began (even if only in small amounts) is lower than the age at first illicit drug use: most smokers (75%) take up smoking between the age of fourteen and eighteen (Table 2). In 10%, the age when regular smoking began is younger than 14; in no fewer than four cases, it was as early as six years. There are no differences between men and women in terms of the age at which they started smoking.

Alcohol Consumption

Some 11% of the population (ages 12-39) in the old Länder claim they have never touched alcohol. This compares with 8% who drink beer or other kinds of alcohol almost daily. 56% drink alcohol several times a week to several times a month.

Drinking beer or wine and spirits, regardless of whether it occurs daily or only once a

month, is primarily a matter of the "older" age groups (ages 25-39). Still, 20% of the 12-24 year-olds drink beer daily to several times per week, while 4% drink wine and 1% drink spirits with the same frequency. Men more often drink beer than do women, while women more frequently drink wine (overall, however, more men drink wine than do women).

Table 3: Distribution of First Alcohol Consumption by Age and Gender (N = 6261).

	Age at First Use				
	<10	10-15	16-18	19-25	26-39
All	0.2%	16%	54%	26%	4%
Women	0.2%	12%	46%	37%	5%
Men	0.2%	18%	58%	22%	2%

The onset of alcohol consumption occurs at a very early age in some cases; in some cases it was below age five (Table 3). But the majority (70%) of those with alcohol experience had begun drinking alcohol regularly between the ages of 16 and 20. Men tend to start consuming alcohol regularly at an earlier age than women: 18% of the men were 15 or younger when they started; this applies for only 13% of the women.

2.2 Preconditions of Substance Abuse

The findings discussed below are not intended to explain why people start or keep using drugs. They merely characterize, and in some cases compare with abstainers, the drug-using portion of the population, regardless of what triggered the abuse or what was the result. Some hypotheses and theories regarding the relationship between the various factors are discussed in Chapter 3.

The Family

In dividing the group of individuals questioned by Simon et al. during the 1991 representative survey into abstainers (i.e., not a single drug use in their entire life), experimenters (less than ten uses in their lifetime), and frequent users (more than ten drug uses), some interesting differences regarding family background come to light. While the significance of these differences remains to be examined, we may certainly assume that each is important, especially in view of the available sample size (N = 18845).

Of the non-users, 89% grew up with their biological parents, while this was true for only 81% of the more frequent users. Five percent of abstainers and 5% of light users grew up in a single parent household; for frequent users, this number is somewhat higher with 8%. No differences were found for survey participants of all three groups raised in an orphanage or by foster or adoptive parents.

In each of the three groups, the overwhelming majority (72%) of fathers held daytime jobs. In 43% of the non-users and in 35% of the frequent users, the mothers were full-time homemakers. Virtually no one in all three groups (0.4% - 1%) indicated that one

of the parents was unemployed. As for the financial status of the family, the differences are slight. Most considered their background to be average (64% in all groups), while 31% of abstainers and nearly 32% of light/frequent users indicated their family lived rather modestly. Only 3% (spread over all groups) came from affluent homes.

When questioned about their relationship with both parents, 66% of non-users reported a good to excellent relationship with the father; only 3% had a very poor relationship. But this picture gradually begins to change for infrequent users: only 56% had an excellent to good relationship with the father; 6% assessed it as very poor. Still worse is the way frequent users depict the father-child relationship: only 47% attest to a very good to good relationship with the father, while 7% said it was very poor. Similar differences exist with regard to the mother, although the relationship with the mother generally receives higher marks. Eighty-three percent of abstainers, 76% of light users, and 68% of frequent users describe their childhood relationship with their mother as very good to good. One percent of abstainers and 1% of light users had a very poor relationship with the mother, while this was true for 3% of the frequent users.

There were no fundamental differences in parenting styles of fathers; as a rule, the method most often quoted by the abstainers was identical to that mentioned by the frequent users, etc. Still, the three groups listed the individual methods with varying frequency. A calm, laid-back approach to parenting predominates in each of the three groups (43% of abstainers, 40% of light and 38% of frequent users). Of all three groups, the fewest respondents considered the paternal approach to have been stimulating and encouraging. The second most often mentioned method points up a striking difference between abstainers and light and frequent users. While the former remembered the father as approving and considerate, the other two groups listed a strict and demanding style as the second most frequent method. An attitude of approval ranked only third. We may conclude, on principle, that positive child-rearing methods expressed by an understanding, supportive and relaxed style was most often found in the childhood of those who had never used drugs, while strictness and rejection predominated in that of the drug-experienced groups.

The picture is similar for the child-rearing style of the mother. Here, too, we find that the mother's "positive" attitude is mentioned more frequently by the abstainers than by the group with drug experience. The opposite is true for "negative" behavior patterns. When parenting styles were ranked, the three groups differed little, but differences did show up in the paternal approach. Warmth and tenderness, followed by an approving, cheerful and relaxed nature, was quoted most often for the mother, while calmness, even-temperedness and firm discipline were the salient features of the father.

Social Class

Results regarding the various social classes represented in the survey are not yet available. However, an analysis of several German studies by Hanel (1991), based only on random samples of substance abusers, found that parents come from every social class, and their distribution roughly corresponds to the national average. This means that more than half of the parents are members of the broad middle class. The fathers most commonly are skilled workers or mid-level employees, while the mothers tend to be unskilled or office workers performing simple duties. Still, a not insignificant number of parents also hold upper echelon positions.

As for the educational levels of the users themselves, there were very few differences

when compared with the national average. Only the proportion of graduates having completed the *Abitur*[7] is notably smaller. Females usually have completed more years of formal education than their male counterparts, but have had comparatively less professional training which they frequently did not complete. Of the addicts overall, 15% are unskilled workers and 63% are not gainfully employed.

Social Environment

The 1991 study conducted by Simon reveals that 8% of those who have never used drugs, have friends who use soft drugs; 1% have friends who use hard drugs. This percentage changes dramatically when the respondents themselves also have drug experience: While some 54% of those who have experience with hashish have friends who use soft drugs, only 3% have friends who use hard drugs. Both ratios are even higher for consumers of hard drugs such as cocaine (78% have friends who use soft drugs, 23% have friends using hard drugs).

The proportion of alcohol-using friends is even more telling. Nearly 96% of respondents said there were at least some alcohol users among their friends and acquaintances; 13% indicated that all of their friends drank, while 51% said most of their friends did.

A 1990 survey conducted by the Institut für Jugendforschung among adolescents and young adults aged 12 to 25 shows very similar patterns for smokers. 73% of habitual smokers reported that most of their friends also smoke. The number of smoking friends drops in proportion to the amount or frequency of the smoker's own tobacco use: only 59% of occasional, and 44% of former smokers have friends who smoke.

Psychological Variables

None of the extensive population surveys conducted addressed questions regarding psychological variables, such as the lack of self-confidence or the degree of depression which, according to well-known theories, may have some bearing on substance abuse. To shed light on the psychological make-up of substance abusers, we must refer to studies which have specifically examined this population group.

A 1988 study of drug addicted patients conducted by Hanel & Herbst at several established treatment facilities clearly showed that patients suffered from severe depression at the beginning of treatment, and this to an extent quite unlike that found among the general population. In women, these depression levels were higher than in men. Other studies (Ellgring & Vollmer, 1992) have reached similar conclusions. Here, too, researchers encountered increased depression at the beginning of therapy, accompanied by a high degree of emotional instability.

While no up-to-date data on the lack of self-confidence among substance users is presently available in Germany, these and other psychological variables are now under study in conjunction with the epidemiological projects of the Institut für Therapieforschung.[8]

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[7] Graduation certificate qualifying for university admission
[8] Institute for Therapy Research

3. Models for the Development and Maintenance of Substance Abuse

Renn, in his 1990 report on the theoretical foundations of substance abuse prevention, concluded that there is still no definitive theory to explain addiction. On the one hand, there is a proliferation of theories whose explanatory usefulness is quite limited in scope and which are not or cannot be empirically proven. On the other hand, there is an overabundance of mostly anecdotal case descriptions which are difficult to weave into a coherent theoretical pattern, not least because they occasionally contradict each other. The 1983 summary published by Lettieri & Welz alone lists thirty-eight causative concepts, each of which was included only as representative of a specific theory group (psychological, physiological, sociological, etc.). These inconsistencies notwithstanding, it is indispensable for preventive measures to be based on a scientifically sound and verifiable concept to avoid costly trials and errors.

The most popular models and the most convincing empirical findings are described in the following chapters. There were some inherent problems with arranging the existing concepts for a clear overview. As a result, the models were grouped into one-dimensional concepts (3.1), interactive and process-oriented concepts (3.2), risk factor concepts (3.3), and protective factor concepts (3.4). The models contained in the first two sections share a certain commonality in that, to a greater or lesser extent, they are based on causative concepts, i.e., they point toward a cause-and-effect relationship. The only distinction is that most of the concepts in the "one-dimensional model" section are based on only one or very few causes.

Common to the models of the risk factor concept and the addiction protective concept is that, rather than being built on a concept of cause and effect, they point to single factors as indicators of the probable risk for substance abuse. The two conceptual areas are mirror images in that Section 3.3 depicts risk factors for potential substance abuse, while Section 3.4 discusses protective factors which reduce the probability of substance abuse. The difficulty involved in describing and ranking them lies in the fact that over the years, many models ceased to be developed in a conceptually "pure" form and often include disparate aspects. Historically, the order in which the various categories in this chapter are arranged roughly corresponds to the sequence in which the various concepts were developed. But a *caveat* is in order even here: A recently completed study with what can only be termed sensational conclusions on the relationship between early childhood personality disorders and later substance abuse, for example, is founded on a concept best grouped with the one-dimensional models.

The existence of fluid transitions also posed problems when models were placed into one-dimensional or process-oriented and interactive (multi-dimensional) categories. As a result, personality-oriented psychological concepts appear both in this segment if they fit the "addictive personality" criteria, and in the next section if certain personality traits were determined to be risk factors within the scope of a more complex model. This division also reflects the historical development, since one-dimensional concepts originally predominated.

3.1 One-Dimensional Concepts

Personality-Based Psychological Concepts

One approach to tracing the causes of addiction is to try to establish a link between personality traits and substance abuse in an effort to ultimately determine what constitutes an "addiction-prone personality" (Schenk, 1979). Not only have these efforts been unsuccessful to date (Ellgring, 1990), but published studies also reveal a broad range of contradictory findings.

This approach is aimed at the early detection of addiction-prone individuals based on personality traits, in order to stave off the threatening dependency with appropriate preventive measures. The problem with this approach is that most of the surveys of personality variables involved persons whose addiction was already an established fact, so that the original personality make-up was no longer discernable (Schmerl, 1984). The range of eligible personalities runs the gamut from the non-adaptable type who cannot cope with his environment and therefore turns to drugs; to the psychologically dysfunctional individual who, unable to solve his inner conflicts, seeks relief in drug use; to the adventure-loving "sensation seeker" (Zuckerman, 1978; Schenk, 1979) ever in pursuit of greater thrills.

In this approach, empirical studies commonly involve putting subjects through an extensive battery of tests to determine the cross-sectional presence of certain personal characteristics. They are usually classified by "abstainers," "experimental users" and "users," and based on test results, some studies were indeed successful in correlating these groups with specific personality traits. In this context, we should mention the 1990 longitudinal study by Shedler & Block, in which 101 individuals aged 3 to 18 were tested a total of seven times within a period of 15 years. The results revealed clear personality differences between the above-mentioned three user types which were in evidence at a very early age. While abstainers tend to be timid, passive and excessively regimented individuals, regular users are characterized by emotional unstability, low self-esteem, relationship problems, and lack of focus. The experimenters, on the other hand, have harmonious personalities which occupy the middle range of the personality spectrum. These findings must be interpreted with great caution since, among other reasons, the sample size was quite small for the methodology used. Still, results from earlier studies (Brook et al., 1985; Kellam et al., 1980) tend to support some of these findings.

Psychiatric Concepts

The basic premise is that an underlying personality disorder, possibly genetic, eventually becomes syndromic and triggers the substance abuse (Schmerl, 1984). We may also include here the predisposition and vulnerability concepts discussed in Section 3.3 "Risk Factor Concepts," which see substance abuse as an attempt of self-therapy (Battegay, 1972; Greaves, 1983), or as a natural consequence of inherited and developmental character flaws (Battegay, 1972).

Psychoanalytical Concepts

The psychoanalytical approach to addiction explains drug abuse as symptomatic of a neurotic personality disorder in conjunction with a "premorbid" personality, i.e., the individual is thought to be especially susceptible to addiction (Bäuerle, 1989; Wöbcke,

1987). This premorbidity is thought to be caused by a developmental impairment in the individual, which usually signifies a troubled mother-child relationship. As a consequence of this impaired relationship, the child feels insecure in his reliance on the mother, which generates both an excessive need for gratification and security, and a constant fear of new disappointments (Bäuerle, 1989). A significantly impaired capacity to tolerate stress is the result. The individual has problems coping with tension and frustration, and when stressed becomes highly susceptible to regressing to a developmental stage of early infancy, where his needs are satisfied through instant gratification.

The notion of the narcissistically impaired substance abuser (Grond, 1989) examines a different aspect of the psychoanalytical concept of addiction causes. It assumes that the individual's incomplete separation from his mother's "apron strings" causes him to remain narcissistic. This personality type is marked by low self-esteem, fear of disappointments, vacillation between delusions of grandeur and feelings of inferiority, unreasonable demands on himself, diminished sense of reality, problems with handling aggression, and fear of relationships. Turning to addiction is viewed as an act of self-realization and self-therapy.

The psychoanalytical approach suffers mainly from the absence of a solid empirical foundation. As a rule, it is based on case studies whose interpretation is made to serve as evidence (Schmerl, 1984) and is colored further by the limiting thought patterns of the researcher. Additionally, the theory offers no definitive explanation for the gap between the predispositions created in early infancy and the substance abuse which appears much later in life.

3.2 Interactive and Process-Oriented Concepts

The Triad Concept

The triad concept was formulated by Kielholz and Ladewig in the early seventies (Kielholz & Ladewig, 1973). It is based on the assumption that drug abuse results when various personal factors interact with the environment and the drug. We can thus regard this concept as a framework suitable to accommodate a great variety of models of diverse origins. Since it is couched in very general terms, without exhibiting a particular causative, conditional or interactive structure, we have only listed the variables which fit the three main elements.

The "personal factor" can be divided into physical (i.e., genetic traits) and psychological variables (i.e., personality traits). The "environmental factor" includes such societal and cultural influences as use patterns, attitude toward drug use, social class, general living conditions, family structure, employment situation, and the influence of social groups (Nöcker, 1990). The "drug factor" is conditioned by specific drug effects and the method, frequency and amount used.

Psychological Learning Concepts

These concepts are rooted in the basic assumption that the same principles of learning govern the acquisition of both normal and deviate behaviors (Wöbcke, 1977). Their principal tenets hold that, while addictive behavior is determined by external conditions, cognitive and emotional aspects also play a role. The onset and persistence of drug use, as well as relapses into addiction after periods of abstinence, are explained chiefly by

means of the accepted principles of learning, such as classical and operant conditioning, as well as observational learning (Bühringer, 1990).

A person's initiation to drug use is viewed as a decisive factor on the road to addiction. Since first-time drug use for most people is not associated with any pleasurable, i.e., positive reinforcing effects, both in pharmacological and physical terms, but has rather unpleasant side effects such as nausea or a bad taste in the mouth, the user's surroundings and expectations play an important role. According to the principle of learning by seeing, the novice user discovers the positive effects of drug use by watching others in the act. The more accepted and admired the person observed, the stronger the positive impression.

A secondary reinforcement for the new user can be the expectation that drug use will provide access to socially attractive groups or, if he already belongs, the approval and encouragement of the members. It is interesting to note in this context that the overwhelming majority of heroin users were not alone during their first drug experience, but were instructed in it by friends or acquaintances (Revenstorf, 1986). The previously mentioned positive results can be decisive in determining continued use, which at least for a time produces pleasant pharmacological effects (stimulation/sedation). Before long, however, a physical tolerance for the drug develops and is followed by withdrawal symptoms if the required amount is withheld. Thus, the elimination of withdrawal symptoms through renewed and increased consumption becomes a negative reinforcement. The above-mentioned positive results, social as well as physical, are perceived as especially powerful if the user's life has been difficult and emotionally dissatisfying for some time (school or job stress, problems with parents or personal relationships, and the like) (Bühringer, 1990). Over time, the individual's entire range of behavior is increasingly dominated by the need to obtain and use drugs. This is especially true if his social skills are deficient to begin with. He may be insecure, have little confidence in his own abilities and may have experienced various setbacks in life. The resulting "reinforcement deficit" is balanced by the positive reinforcing effects of drug use, and equilibrium is restored (Revenstorf, 1987).

Experimental studies of animals and humans have provided excellent documentation on numerous individual aspects of the cognitive-theoretical concept, such as the various principles of learning. Analytically applied to specific clinical cases, the model makes it possible to determine not only the genesis of addictive behavior, but also which conditions predated and which postdated it. Unfortunately, for ethical and other reasons, a complex model such as this does not lend itself to exhaustive and reliable validation.

Concepts Related to Developmental Psychology

A number of authors (Silbereisen & Kastner, 1984; Silbereisen, 1990; Kandel et al., 1978; Kandel et al., 1987) have sought to establish a link between drug use and certain stages and events in life.

Kandel (1983, Kandel et al., 1978) supports the hypothesis that drug use is influenced by certain culturally conditioned developmental stages. This involves a variety of causal factors. According to Kandel, social influences, especially in the early stages of drug use, are important determinants. It has for instance been determined that parental drinking or smoking is a collateral condition for their offspring to take up drinking or smoking also. In the next use phase, peers play a similar role, including the use of illicit drugs. When drug use begins in later years, Kandel attributes the principal influence less to social but

rather to internal psychological factors.

According to the developmentally and psychologically-based theory of Silbereisen & Kastner (1984), drug use plays a very specific role in helping adolescents cope with the developmental stages in life. Based on findings of numerous international longitudinal studies, Silbereisen and his group have identified six functions of drug use in adolescent development:

1) An intentional breach of social norms to express an attitude of non-conformity;
2) to demonstrate adulthood;
3) a special form of excessively ritualized behavior;
4) a manifestation of insufficient self-control generated by frustrating circumstances and the absence of problem-solving skills;
5) an admission ticket to peer groups; and finally
6) a panic reaction to developmental stress, an attempt to find an alternate goal for unattainable developmental demands.

Thus, drug use is interpreted as one of several coping strategies which adolescents adopt in trying to meet developmental demands. In addition, the ability to handle drugs, particularly alcohol, is a developmental exercise which society considers to be virtually *de rigueur*.

Based on the above suppositions, Hurrelmann & Hesse (1991) reached the following conclusions: 1) Drug use is a perfectly normal "expression of the individual's attempt to deal with the realities of life," but it also represents 2) "a problematic form of reality management, in that the individual embarks on a path where his psychological, social and physical self is at risk." This is ultimately more detrimental than beneficial and, in the final analysis, betrays an inadequate repertoire of life management skills. This again illustrates the fundamental theory of the developmental/psychological approach that drug use should be assessed on the basis of individualized criteria which differ from person to person.

A further concept which in essence belongs to the developmental/psychological group was developed by Hurrelmann (1991). It forms not only a framework for the development of substance addiction, but explains the connection between stress, coping, health and illness in adolescence. Hurrelmann's basic premise is that young people are faced with a multitude of developmental hurdles "which test the entire spectrum of their physical, physiological, psychological and socio-cultural endurance and demand constant proactive adaptation" (Hurrelmann, 1991). In addition, the growing individualization in the last decade has led to a significant increase in the challenges faced by children every day. This includes shaky family relationships (high divorce rates), as well as changes in parental lifestyles and employment prospects which often affect the children's physical, emotional and social well-being. This is compounded by high demands for scholastic achievement which numerous studies have shown to be extremely stressful (Hurrelmann et al., 1989; Hurrelmann, 1989). Other risk factors, says Hurrelmann, are that adolescents have too much leeway in shaping their own lifestyle, in which they are frequently overtaxed, and last but not least, there are ever-increasing environmental problems which present a frightening outlook for the future. Depending upon personal disposition and the extent of the social support system, adolescents faced with a combination of such stress contributors are either able to cope as best they can, or they are physically and emotionally overtaxed. This leaves them vulnerable to psychosocial and psychosomatic disorders and may also trigger substance abuse.

Socio-Psychological Concepts

Under this heading falls the "Problem Behavior Theory" by Jessor & Jessor (1983, 1977) which, strictly speaking, consists of both developmental and socio-psychological elements. The reciprocal relationship between its three components, personality, environment and behavior, creates a dynamic state referred to as "Susceptibility to Problem Behavior." Values, expectations, convictions, attitudes toward oneself and others are considered personality variables. Environmental variables include the availability of support systems, social influence and control, behavior patterns and social expectations. Behavior is a product of the interaction of personality and environmental variables, although no causal priority is attributed to either one. According to Jessor & Jessor, problem behavior serves specific functions (such as opposition to society, solidarity with peers, etc.), and may be seen as an attempt to achieve otherwise unattainable goals. In support of their theory, Jessor & Jessor conducted a series of studies of their own (e.g., Jessor & Jessor, 1978) to determine, among others, the essential differences between substance abusers and non-users against the background of their theory. In summation, personality differences were grouped according to "conventional" and "unconventional" traits. Regarding the differences in environmental variables, drug users were found to receive little parental support; they tended to be influenced more by friends than parents; there was little agreement between parental and peer expectations, and the peer group had a greater tolerance for drug use. Jessor & Jessor believe their theory can also help explain other forms of deviate behavior.

Sociological Concepts

The sociological approach to explaining addiction focuses on the individual's social environment and his interaction with it. According to Kutsch & Wiswede (1980), the most frequently quoted deviate behavior theories used to explain drug addiction are the anomy theory, the attributive theory (labeling approach), and the theory of differential association (see Lukoff, 1983). The basic premise of the anomy theory is that there are both culturally defined goals and institutionally prescribed means of attaining them. Deviate behavior occurs whenever access to these means is blocked, making the goals unattainable, or when the goals are rejected out of hand. Goffman's labeling theory (1967) does not so much offer an explanation for the development of addiction, as it does for its persistence. It suggests that society "labels" the drug user by stigmatizing him as an asocial, flawed or criminal individual. As a result, he resorts to certain reactive forms and becomes more and more entangled in his deviate role. The differential association theory holds that deviate behavior is primarily acquired amidst social groups, particularly those in which that behavior is viewed in a favorable light.

Among the sociological approaches, the so-called "Career Model" (Berger et al., 1980), developed during the fifties and sixties to explain deviate behavior, including drug abuse, presents a more dynamic point of view.

Socialization Theories

The more recent socialization theories attempt to determine the environmental and biographical complexities involved in the development of social and psychological conspicuousness and physical degradation, while at the same time analyzing this process as a gradual development subject to continuous changes (Hurrelmann, 1988). In his "Model for the Gradual Formation of Social Deviation, Behavioral Conspicuousness and

Health Degradation," Hurrelmann (1988) pursues this approach in his basic assumption that personal idiosyncrasies interact with environmental characteristics. Phase One of the addiction genesis represents the developmental tasks expected of the adolescent (such as scholastic achievements or leaving home), for which he may or may not possess the requisite personal and social resources. In Phase Two, the young person may encounter problems in mastering these tasks, and risk factors, such as failing grades or disagreements with parents, may come into play. Again, the available personal and social resources bear heavily on the outcome of the conflict. If they are inadequate, symptoms of conspicuous behavior (e.g., drug abuse) appear in Phase Three. Once more the switches are set depending on whether a sufficient bolster of personal skills or support systems exists to overcome the problems. In the worst-case scenario, Phase Four leads to the solidification and reinforcement of symptoms, and the adolescent moves toward a "deviate career." If the available resources are effectively utilized, however, the unfavorable process can be reversed at any point of this model.

3.3 Risk Factors Concepts

Strictly speaking, the risk factor concept should not come under the "Causes of Drug Use" heading, since risk factors initially involve only the correlative relationship of two separate manifestations. Most of the studies are cross-sectional surveys which only record the status quo at a specific point in time, making it difficult if not impossible to determine with any amount of certainty whether the relationship between risk factor and behavior is one of cause and effect, and if so, how strong it is. Much more research is needed if we want exhaustive answers regarding causal relationships or developmental processes. This would primarily involve longitudinal studies which to date exist only on a relatively modest scale. In the final analysis, the risk factor concept does confirm the fact that there is no unequivocal explanation for an illness arising from a single factor (Hurrelmann, 1991).

Biological Risk Factors

Over the past twenty years, research in the field of biological addiction determinants has made great stride, particularly in the United States (DuPont, 1989). The following discoveries came to light:

— There are empirical indications (Zerbin-Rüdin, 1986; Propping, 1983, among others) that genetic factors play a role at least in some forms of addiction, making certain types of individuals more vulnerable. At present, however, this fact does not permit the conclusion that "addiction immune" personalities also exist. A series of studies on the origins of alcoholism conducted on families, twins and adopted children make it appear quite likely that genetic factors do play a role. Still, we may assume that there also is probable interaction between genetic disposition and environmental factors (Propping, 1983). Cadoret et al. (1989), for instance, discovered a close relationship between genotype and environment. They studied parents whose past included incidents of delinquency and who had given up their children for adoption. If the adoptive family was of low social standing, the children were frequently found to abuse alcohol and exhibit other signs of a damaged personality.

— With the discovery of opiate receptors and endorphines, opiate-like substances in the body, there was speculation that the endogeneous opiate system is also involved in the development of addiction; however, conclusive proof on this point is still

outstanding (Simon, 1983). Intensive research activities in the area of neurophysiological, neurological and biochemical causes for substance addiction are in progress internationally.

— Individuals who were substance-dependent at one time in their life (mainly in terms of alcohol) retain some biological differences compared with individuals who were never addicted.

Psychological Risk Factors

After the less than successful search for the addictive personality (cf. 3.1), efforts increasingly concentrated on finding single personality traits (or combinations thereof) which, within the framework of the risk factor concept, might account for the development of an addiction. The studies were expanded beyond the classical approaches to examine the problem of inadequate coping skills, such as for instance the inability to handle stress.

— Psychopathological Factors
A series of studies attempted to find a correlation between substance abuse and personality disorders in the drug addicts (Craig, 1982). The fact that they came to nearly identical conclusions regarding the presence of severe personality disorders in substance abusers, suggests a strong link between abnormal adaptive skills and severe cases of substance abuse (Swain et al., 1989).

— Personality Traits
The empirical data regarding certain telling combinations of personality traits shared by substance abusers is not sufficiently unambiguous to be confirmed at this time.

— Emotional Aspects of Inadequate Coping Skills
Behind this approach lies the assumption that emotional stress—caused by fear, depression or other forms of emotional impairment—triggers drug use in an attempt to alleviate the unpleasant condition. In 1989, Swaim et al. conducted tests on 563 high school students to find a correlation between drug abuse and the stress variables of self-confidence, depression, fearfulness, alienation and anger. The results did not support the above-mentioned hypothesis, and this was true for other studies as well (White et al., 1986; Ginsberg & Greenley, 1978). Based on these findings, the authors concluded that drug use as a means of self-medication while under emotional stress is more apt to be found among adults than adolescents.

This opinion is, however, not shared everywhere in published literature, as stress is often identified as the triggering factor, particularly in studies on smoking. Smokers indicate they smoke more at times of stress and tension, which suggests that smoking is a stress management technique (Pomerleau & Pomerleau, 1991). Billings et al. (1983) compared adult smokers with non-smokers and found that, in contrast to non-smokers, the really heavy smokers reached a substantially higher level of anxiety and depression. These findings are also supported by laboratory tests (Schachter, 1978) which documented that there is a correlation between increased cigarette smoking and sources of stress such as airplane noise or public speaking. Still unclear is whether the intake of nicotine or the act of smoking in itself is responsible for reducing stress.

In 1977, Paton et al. carried out a one year-long longitudinal study of the possible connection between depressive states and the use of soft and hard drugs. The trial, involving a random sampling of some 5,500 high school students, revealed that when students first started using marihuana, they did so while they felt depressed, and that this condition reached significantly higher levels in women. For harder drugs, the feelings of depression were found to have diminished during the period of use. The authors cautiously interpreted these results as suggesting that depression should not be viewed as a cause, but as a mere risk factor for drug use.

All in all, the amount of research regarding the influence of emotions on drug use must be regarded as wholly insufficient (Lopez & Fuchs, 1990).

Familial Risk Factors

Family-related risk factors can be classified as follows:

— Family Background
Children of parents (especially fathers) who drink excessively are at higher risk of becoming heavy drinkers themselves. In how far heredity and learning experience share in causing alcohol abuse remains unclear, but twins research indicates that genetic factors play a greater role than was previously thought, especially in men (cf. 3.1). Adolescents with parents or siblings who display antisocial behavior are also at higher risk for substance abuse (Robbins, 1966).

— Education
Parents who have very limited child-rearing skills (parenting styles) run a higher risk of having children with drug problems (Kumpfer & DeMarsh, 1985; Penning & Barnes, 1983). According to Hornung et al. (1983), empirical findings indicate that three characteristics of parental child-rearing methods have a bearing on addiction: Indifference, lack of understanding, overprotectiveness on the part of the mother, and inconsistent parental behavior in general. More recently, this has been confirmed by Shedler & Block (1990).

— Substance Abuse by Parents and Siblings
Parents who themselves consume alcohol or other drugs and view their use in a positive light (Johnson et al., 1984; Hornung et al., 1983; Kandel, 1982) are also considered risk factors. Hornung et al. also showed that sibling drug use is a decisive influence: the more substance-using siblings there were, the more intensive the alcohol or drug use.

— "The Broken Home"
Numerous studies (Lazarus, 1980; Berger, 1981; Hornung et al., 1983) prove, but also disprove (Wormser, 1973) the theory that drug users tend to come from incomplete families, either because the parents are separated or divorced, or because of the death of one or both parents.

The Peer Group as Risk Factor

The scientific community shares the unanimous opinion that one of the strongest predictors for the onset of drug use in teenagers is whether or not the other juveniles in their immediate environment use drugs (DuPont, 1989; Lopez & Fuchs, 1990; Jessor et

al., 1980; Kandel et al., 1978). The choice of drug-using friends constitutes one risk, but the danger is even greater if the adolescent has a tendency to identify more with his peers than with adults. The risk is especially high if the family includes drug-using brothers or sisters. The study by Swain et al. (1989), previously mentioned in connection with emotional stress as a risk factor, found a significant correlation between peer group influence and drug use. If an adolescent runs with a peer group where drugs are used or drug use is supported, there is a significant likelihood that he will also use drugs.

Social Structures as Risk Factors

— Class Membership

Although a person's social background has long been regarded as a predictor of substance abuse (Berger et al., 1980), not every study has been able to substantiate this. The recently completed research by Hanel (1991) reveals that the social background of drug users in today's Germany represents a cross-section of the population. This differs slightly in other European countries, where drug users are primarily concentrated in the middle and lower middle-class. Studies in the United States have shown that children who grow up in conditions of extreme poverty and deprivation run an extremely high risk of delinquency and substance abuse later on (DuPont, 1989; Farrington, 1985).

— Cultural Group

Another factor to influence life style and physical health is a person's cultural background. "Cultures do not only determine formative tasks for specific situations in life, thus pre-shaping stress potentials distributed on the basis of social differences, but they also prescribe the correct way of dealing with stress" (Müller & Spinatsch, 1988). In this connection, a representative survey of 3000 school children aged 10 to 16 was conducted in Switzerland in 1986. The goal of this undertaking, which defined Switzerland's three language regions, each with its own distinct geographical borders, as three different cultures with similar structures, was to demonstrate the culturally conditioned differences in the youths' lifestyle. Among others, the authors discovered an extremely significant interactive relationship between culture, gender and age with regard to alcohol and smoking. In French-speaking Switzerland, they found, the proportion of heavy cigarette smokers among both male and female students aged 12 to 16 rose steadily and evenly from 5% to 27% as they grew older. In German-speaking Switzerland, on the other hand, only a small percentage of students aged 14 (especially among the girls) smoke regularly (< 5%), while in the Italian-speaking part of Switzerland, 10% of students aged 13 already are regular smokers. Regarding alcohol, a similar culture-related trend was noted; as a rule, alcohol users were found among the boys of all age groups. The findings confirm an earlier study by Müller (1983) on the culturally conditioned use pattern variations of adults.

3.4 Protective Factors Concepts

The "protective factors" concept has been in use for the past 10 years, particularly within the purview of psychiatric risk research (Rutter, 1990; Garmezy, 1985). By "protective" or "shielding factors" we mean circumstances that prevent an individual from developing certain illnesses or negative behavior such as substance abuse. This concept is based on the observation that the reactions of different individuals under similar conditions—stress, environment, trauma—cover a wide spectrum: some suffer no ill effects at all,

while the impact on others is severe. Although this circumstance was discovered quite some time ago (Ainsworth, 1962), it only recently became the focus of research interests when it became apparent that protective factors do play a key role in understanding risk processes, and may have substantial implications for prevention and intervention.

The precise relationship between protective factors and risk factors remains unclear, although it appears that they do not supplement each other. This means that someone whose risk factors are not very pronounced is not automatically protected from the negative consequences of drug abuse, but requires an additional positive expression of protective factors. There are three aspects to the question of protective factors: What are they? How are they acquired (or inherited)? How does an individual manage to obtain single protective factors, such as a healthy dose of self-confidence even in the face of extreme adversities which cause others to give up in despair?

Taking the current body of knowledge into account, Rutter (1990) isolated the following protective mechanisms:

— Reduction of risk impact
Risk becomes smaller when its significance is changed, i.e., not every risk factor represents an absolute quantity independent of the individual's judgment or experiences. If an individual has experienced a particular risk situation once before and successfully mastered it, it no longer poses a danger the next time it occurs. Another way in which risk can be lessened is to reduce exposure to it to a minimum, as for instance when parents keep their children away from "undesirable friends."

— Reduction of negative chain reactions
Many times it is not the risk situation itself which causes the damage, but what comes in its wake. It is not the loss of a parent, for instance, that causes permanent damage, but rather the institutionalized care that so often follows (Brown et al., 1986).

— Promotion of self-esteem and self-efficacy
There is empirical evidence that there is a protective effect when an individual has self-esteem and confidence in his ability to cope with the demands of life. Secure and supportive personal relationships are an important ingredient in the development of these skills, as has been demonstrated by research in the areas of stress, coping and social support (Cohen & Syme, 1985; Franz, 1986; Lösel et al., 1988; Hurrelmann, 1988). Another factor in the development of self-esteem and feelings of self-efficacy is the successful completion of tasks the individual feels are important to him.

— Opening up opportunities
This protective process comes into play at the turning points in a person's life. A correct decision or a challenge successfully handled can open a multitude of new avenues which may now be explored. While not exactly plentiful, there are at least a few longitudinal studies which offer insights into different kinds of protective factors and how they work. Only the longitudinal study design is apt to add plausible information on this subject.

Werner & Smith (1982) followed the life of 650 Hawaiian children over a span of 18 years, beginning with their mothers who were interviewed as early as during their pregnancy. Among others, the goal of this trial was to discover how children cope with stress factors throughout their development and which protective factors, both internal and external, guard them in the environment. Almost without exception, the children

came from very poor families, with fathers who worked as unskilled laborers and mothers who had not finished high school. The authors thus placed the children into a high-risk category. In a random sampling at the end of the research period, one of ten children was able to show a positive development into a competent, self-sufficient individual. During their first 18 years, these children seldom felt seriously ill and even when they did, they recovered quickly. They saw their mothers as very active and socially responsible during their childhood. Psychological development studies during their second year of life found them to possess excellent self-help skills, and in their middle childhood years, they demonstrated good problem-solving and communicative abilities. As adolescents they projected a more positive self-concept, and their attitude toward life was more responsible and more achievement-oriented than their peers who had serious coping problems. At the age of 18, they showed great interest in developing themselves further. The protective factors in the environment of these children turned out to be the age of the parent of the opposite sex (a young mother for boys, an older father for girls); the number of siblings (four or less); the age difference between the siblings (at least two years); the number and type of additional relatives within the household (father, grandparents, older siblings); the mother's workload; the amount of attention the relatives gave the child; structure and rules within the household during adolescence; the family's cohesiveness; the presence of acquaintances and friends of all generations; and the cumulative number of chronic, stressful events throughout infancy and adolescence, all of which they coped with successfully.

A very timely study whose results can also be viewed in the context of protective factors is the previously mentioned longitudinal study by Shedler & Block (1990) which examined the relationship between drug use, personality traits and parenting styles. Shedler & Block discovered significant differences between the parenting styles of the parents of abstainers, experimenters and adolescents who used drugs regularly. Compared to the mothers of the experimenters, the mothers of regular users were hostile rather than spontaneous in their dealings with their offspring, had little sensitivity for their children's needs, were underprotective, controlling, and often turned an interaction that started out pleasant into an unpleasant one. Similar symptoms were seen in the mothers of the abstainers. No significant differences existed among the fathers of the first group, while those of the abstainers were found to be highly authoritarian and domineering.

4. Models of Effective Preventive Measures Through Interpersonal Communication

The efficacy models described in this chapter provide insight into aspects of personal communication. The next chapter discusses models relating to the efficacy of the mass media. Here again, the categories are not precisely delineated, since some of the personal communication models converge with those of the mass media effects. Bandura's social influence concept (1969), for instance, was primarily developed to describe personal communication where there is direct interaction, but it is also applicable to the mass media featuring role models in films and videos.

Some conceptual groups are specifically substance-oriented, such as the Persuasive Communication Model (4.1), while others focus on health education. Concepts which promote Lifestyle Alternatives (4.5), on the other hand, are substance-unspecific. Somewhere inbetween lie the Social Influence (4.2) and the Life Skills (4.3) concepts, both of which have substance-specific and substance-unspecific components.

4.1 The Persuasive Communication Model

McGuire's communication/persuasion model (1989) is based primarily on preventive measures through dissemination of information (Rabes, 1987). According to McGuire, the process between the time the information is absorbed and the time a behavioral change takes place involves seven steps: 1) The targeted individual is exposed to a convincing message, 2) his interest in its contents is awakened, 3) the message is understood, 4) he learns new skills, 5) he agrees with the conclusions and possibly changes his attitude, 6) he retains the new idea, and finally 7) he acts in keeping with his new attitude.

4.2 The Social Influences Approach

This approach is founded on the social influence theory (Bandura, 1969) which postulates that behavior is a result of the positive or negative consequences which follow that behavior. Some forms of behavior are adopted when they are observed in persons who are accepted role models, or if the model is observed while being rewarded for the behavior. Thus, the particular environment which generates these stimuli, rewards and penalties also plays a significant role. The concept emphasizes a situation-oriented intervention strategy that is precisely tailored to the abuse behavior and is primarily directed toward external influences such as social pressure (Lopez & Fuchs, 1990). To identify social influences and develop adequate strategies to counteract them is the fundamental concern of the preventive measures which espouse this concept. Primarily in the United States, the social influence theory frequently forms the scientific underpinning of preventive programs.

4.3 The Life Skills Approach

With increasing frequency, scientific publications acknowledge the development of life skills as one of the foremost preventive goals. "In combatting both legal and illicit drug abuse, the focus should be placed on immunizing each and every individual adolescent

both socially and emotionally against drug abuse" (Hurrelman, unpublished manuscript, 1991).

The life skills concept was originally developed by Botvin and colleagues in the United States (Botvin, 1988; Botvin et al., 1990) and at first focused primarily on smoking prevention (Lopez & Fuchs, 1990). This concept, too, is theoretically rooted in the social influence and the problem behavior theories (Jessor & Jessor, 1983), meaning that substance abuse is perceived as a result of social learning processes in combination with personal factors such as knowledge, attitudes and beliefs. The Life Skills Training concept is contextually related to that of "affective child rearing," although it is considerably more complex and is intended primarily to achieve changes on the behavioral level, as exemplified by the predominance of methods from the behavioral theory complex. Despite its emphasis on a specific dependency, the goal of this concept is very broadly conceived in that it is aimed at developing general coping strategies and improving overall social skills. Specifically, the objectives of this approach are to 1) provide information and focused training for resisting social influences to prevent drug use or keep it from getting out of control, 2) impart fundamental social skills, and 3) teach personal coping techniques. It envisions an individual conscious of having a number of effective life management skills and thus in no danger of becoming ensnared in a negative developmental process such as drug addiction. Thus, preventive programs seek to promote healthful behavior while at the same time imparting the skills needed to resist social influences (Rabes, 1987).

Within the purview of his work on the special research effort "Prevention and Intervention in Childhood and Adolescence" (1991; 1989; Hurrelmann et al., 1989), Hurrelmann also turns the spotlight on life skills training. The development of life skills, he says, is an effective preventive measure "with which individuals can overcome even complicated and stressful events and situations in life." He even goes a step further in advocating a change in "social-structural and social-ecological living conditions" (Hurrelmann, 1989), because drug abuse cannot be addressed on the individual level alone.

The life skills training concept can be categorized as cause-specific abuse prevention since its methods are tied in with vital personality-specific and behavioral-psychological protection factors.

4.4 Health Education

Concepts seeking to promote emotional health pursue a concern that is essentially similar to the life skills models. Here again, the approach is part of a general trend to deemphasize drug-specific prevention in favor of a more broad-based objective that targets both personal and environmental conditions and continues to grow in significance. Health, as the WHO defines it, is a combination of personal and environmental structures in which both have equal value. "Founded on this basic understanding of health is the premise that anyone can improve his health by developing his functional abilities (social skills, coping styles) and exploiting them to the fullest, even if current circumstances leave something to be desired. In this sense, health is an expression of comprehensive life skills," states the International WHO Workshop Protocoll (Dresden, 1989). In this context, the scientific body of knowledge on "health protective factors" is increasingly gaining significance, as a result of which the heavy concentration on the risk factor model has lost some validity today.

First and foremost among the objectives of current health education programs is to promote and support a healthy lifestyle and a wholesome way of life. Until quite recently, health education primarily referred to physical health or changes in individual health practices or behavior as a way of preventing illness. Lifestyle concept proponents now argue that the individual should be viewed as a whole. Behavior, they say, is not created in a vacuum, but develops and arises from specific economic, ecological, social and cultural conditions and relationships. The recognition of the implications of social and cultural settings for individual health thus has created a new task for health education, in that it must now also strive to effect changes in the social, political and natural environment. Areas of research and intervention efforts in health education include variables such as emotional state, stress, critical life events, coping strategies, personal strengths (protective factors) and social resources (support system, etc.).

4.5 Promoting Alternatives to Substance Abuse

As early as 1972, Dohner formulated a preventive concept whose underlying idea was to create alternatives to drug use. These should not be understood as mere activities of various kinds, but in some ways also as improvements of existing life skills (see 4.3).

As a starting point, Dohner examined the results of animal behavior studies, in which parents were observed to deal with undesirable activities on the part of their young by diverting attention to acceptable behavior. Being offered alternatives influenced the youngsters' development in a positive way. From these observations, Dohner arrived at several basic assumptions:

- An emotional dependency results when the drug effect satisfies a need or functions as a replacement.
- Substance abusers are not inevitably immature, immoral, irresponsible, socially disadvantaged, alienated, rebellious or emotionally disturbed individuals. Drug use is simply one point on the continuum of human existence.
- Drug abuse does not necessarily produce addiction.
- The effect of mood-altering substances is generally pleasant.
- People begin using drugs because they want to.
- Drug use does not stop as long as one has not found something better to replace it.
- Alternatives to drug use are also alternatives to the underlying causes of self-destructive behavior.

Twelve areas are listed as alternatives to substance abuse:

1) Developing self-awareness
   This includes physical awareness; the ability to recognize one's own emotional and intellectual reactions and to be able to express oneself openly; spontaneity; control over one's own aggressions; openness toward new experiences, and finally the ability to judge one's effect on others.

2) Forming interpersonal relationships
   Important factors are the recognition of the basic elements for interpersonal relationships, such as understanding, empathy, responsibility, respect and mutual reliance.

3) Developing personal independence
   The objective is to guard against a feeling of helplessness by developing skills useful for everyday life, such as making repairs, managing money, first aid, but also child-rearing and parent-child communication.

4) Developing professional skills
   This emphasizes the idea of early recognition of abilities and interests in terms of a professional career.

5) Aesthetic experiences
   The ability to understand and experience art intensely is considered an important developmental objective.

6) Experiencing one's own creativity
   It is important to recognize that creativity is not just the purview of a privileged few. Productive creativity need not necessarily win popular acclaim, but is primarily a gain for oneself.

7) Intellectual experiences
   Intellectual challenges help reduce boredom, gain new insights, and widen one's horizon.

8) Philosophical-existential experiences
   It is important for adolescents to find a purpose in life, establish their personal identity or build a belief system.

9) Spiritual-mystical experiences
   This is a further development of the points listed in 8) above toward "religious experiences" and experiencing transcendental states.

10) Commitment to political or social causes
    The ideal here is concordance with the goals of a cause we espouse, i.e., commitment without giving up our own identiy.

11) Experiencing sexuality
    Successful sexual identification is considered a result of accepting oneself as a normal, natural and beautiful being, both in physical and emotional respects.

12) Meditation and mind trips
    The ability to embark on different levels of consciousness by relaxing and withdrawing into oneself through one's own mental powers also is deemed an important alternative to drugs.

Dohner views these intangible alternatives as useful in elevating the quality of life and how we experience it, and in promoting the responsible use of drugs.

In Germany, Silbereisen & Kastner (1984) who consider the offer of "functional equivalents" a key concept in prevention, advocate a similar approach. Building on their developmental-psychological substance abuse model (cf. Section 3.2) which emphasizes the role of drugs when young people try to cope with individual developmental stages in their life, Silbereisen et al. have concluded that, for prevention to be effective, it must

take the adolescent's entire environment into account. Directing attention to the possibilities for creative and stabilizing developments in the various areas of the adolescent's life should take precedence over the idea of risk. They also recommend promoting activities incompatible with drug use, establishing new group relationships, and creating a basis for acquiring new life skills (Silbereisen & Kastner, 1984; Nöcker, 1990).

5. Models of Effective Preventive Measures Channeled Through the Mass Media

To some extent, the mass media are regarded as "manipulators of human behavior" (Bergler, 1972), or, in a somewhat more positive vein, as an essential factor in forming public opinion and influencing behavior (Hoppe, 1983). But many publications take issue with this popular notion and see the powers of the media as distinctly limited. Green & McAlister (1984), for instance, see the influence of the media as reciprocal, for they constantly need consumers and therefore must continuously adapt to the needs of these consumers. They can merely lend form to the expression of public wants and interests. This means the contents of media messages are shaped by existing needs.

The tradition of media effect research in Germany, contrary to the United States, the "birthland of the newer communication sciences" (Roszyk & Pruys, 1981), is not a very long one. It is still in its infancy, and the process of institutionalizing the needed research activities at the universities has only just begun. One of the conclusions of the Commission of the Deutsche Forschungsgemeinschaft[9] compiling the first German documentation on the problems associated with empirical studies of media effects reads as follows: "The scope of research activities on the subject of media efficacy, insofar as published or scientifically accessible, is scant overall and by no means reflects the social significance of the mass media and the political import of its effects" (DFG, 1986). At about the same time, researchers in the United States reached quite a different conclusion: "... a contemporary reviewer encounters a relatively well-marked area of research presented in a well-defined set of publications devoted exclusively to the study of communication" (Roberts & Maccoby, 1985, p. 540). As early as ten years before, Comstock & Fisher's 1975 bibliography listing of scientific studies on the subject of television and human behavior contained over 2,300 titles.

5.1 Areas of Media Effect Research

In 1947, Lasswell (1949) differentiated (mass) communication by the, albeit controversial, formula: "Who/says what/in which channel/to whom/with what effect." This quote is quite helpful for the situational analysis of media effect research since it contains, in the same sequence, the following components of mass media research:

- communicator research
- content and/or informational analysis
- media research
- audience and recipient research, as well as the actual
- effect research.

What the formula fails to consider, however, is 1) the reciprocal relationship between the individual elements, and 2) the "why" of the communication process (Koszyk & Pruys, 1981).

The media effect models at first followed the simple S(timulus)-R(esponse) model. This implies a transfer of the contents of the media message to the recipient, but leaves the perception, interpretation and evaluation by the recipient unexamined. In the final

[9] German Research Society

analysis, this approach has no explanatory value whatsoever, since it only demonstrates cause and effect. The fact that an identical stimulus can induce different effects in different persons, or in the same person at different times, creates the need to expand the above-mentioned model to include the "organism variable," which describes processes within the individual. And since the entire process does not take place in a vacuum, environmental influences must also be considered.

In the following, we will list a number of important media effect research topics examining the question of whether the media can be effectively employed in preventive strategies.

— Agenda Setting

This approach is rooted in the earlier belief of scientists and politicians regarding the power of the press to control public opinion (Lasswell, 1949). Agenda setting means the media are able to influence the public in its judgment as to what issues are socially and politically important, by concentrating on a few topics which are covered with great frequency. A number of studies have examined the connection between how often a topic is reported on by the media and the topic's priority in the public eye. Shoemaker (1989) conducted a 15-year study on the subject of "drugs and public awareness." It analyzed the number of newspaper articles and television reports on the subject of drugs and asked people what subject they currently thought was the most important in the nation. The result supports the agenda-setting hypothesis: the more the media reported on substance abuse, the greater the public's awareness of the issue.

— *The Use and Gratification Approach*

After long playing a passive role, the message recipient has become a decisive factor in the media effect process thanks to the so-called "use and gratification approach." The fundamental question here is not what the media are doing with the audience, but what the audience is doing with the media, i.e., what benefit it derives from it. In summary, this approach deals with the social and psychological origins of needs which awaken certain expectations on the part of the public to be met by the media, which in turn leads to various models of media use. This not only causes the needs to be met, but may also have other, frequently unintended, consequences (Roberts & Maccoby, 1985).

— The Knowledge Gap Hypothesis

This hypothesis was originally formed to explain how individuals from different socio-economic backgrounds absorb mass media information. Persons from higher socio-economic echelons absorb information faster than those from a lower socio-economic background, which again accounts for the difference between the two groups with regard to what information is available to them on a certain subject. The socio-economic status is just one of the reasons why information is absorbed in varying degrees. The knowledge gap phenomenon has been variously explained: 1) It is a function of the kind of information received; 2) one of the groups suffers from a communication deficit, or 3) the different groups attach various degrees of significance to the information (Roberts & Maccoby, 1985; Shingi & Mody, 1976).

Because the media efficacy models are intended to explain precisely how absorption, processing, and interpretation of information occurs and how attitude and eventual behavioral changes come about, they occupy a special place. The most important ones are listed in the following section.

5.2 Theories on Attitude and Behavioral Changes (Media Efficacy)

Based on media effect studies conducted in recent years, William McGuire (1989) compiled a comprehensive list of theories about what causes people to use offered information in different ways. He calls them "Theories Regarding the Dynamic Aspects of Persuasion" and sees them as residing on four bipolar dimensions. The first dimension (stability-growth) differentiates between stabilization and growth theories; the second (active-reactive) distinguishes approaches which either see the individual as acting on the basis of internal needs or reacting to external influences. The third dimension differentiates between cognitive and affective theories, and the fourth between internal and external motives. Each of the resulting sixteen matrix fields contains one "theory group" which attempts to explain the dynamic powers that guide the individual in the face of efforts of persuasion.

Cognitive Stability Theories

1) Consistency Theories
   These include Festinger's Cognitive Dissonance Theory (1954), for example, as well as various other concepts, all of which see a close internal connection between a person's beliefs, feelings and actions. Any discrepancies between these components are met with appropriate measures such as selectively avoiding information that conflicts with one's own views, or adjusting one's attitude to justify behavior modifications to oneself. In other words, these theories hold that consistent persuasion can achieve a change of beliefs.

2) Classification Theories
   The common tenor of these theories is that the individual categorizes the multitude of incoming information within preexisting idea grids.

3) Attributive Theories
   The individual is described as someone who is incapable of utilizing unexpected and unexplainable experiences as long as he has no explanation for it. In terms of attitude changes, the conclusion is that the individual must be given a framework within which recommendations appear meaningful.

4) Induction Theories
   Similar to the attributive concept, these theories hold that the individual has a need to understand his experiences, but in this case it is seen less as an inner need than one compelled by outside factors. The external circumstances should therefore be such that they force the individual—either by applying social pressure or instruction, or by eliminating alternatives—to demonstrate a behavior which takes this situation into account.

Cognitive Growth Theories

5) Autonomy Theories
   These theories stress the individual's need for personal freedom and autonomy in guiding his own life, including his environment. In terms of persuasion attempts, this requires the creation of an atmosphere of trust so that accepting the new recommendations is not seen in terms of diminished self-determination, but as an enhancement of personal freedom.

6) Problem-Solving Theories
The individual is viewed as someone who resolves problems in such a way that it brings him closer to his objectives. The aspect to be stressed in order for this tactic to be successful is that new challenges are an opportunity for growth or personal gain (Rust, 1983).

7) Stimulation Theories
The individual is seen as eager for stimulation, new adventures, excitement, novel experiences. This is why the message should be imbued with an aura of novelty and surprise.

8) Teleological Theories
This group points to an internal goal-oriented concept that makes the individual deal with himself and the environment in such a way that a situation is brought into harmony with its internal representation. All communication must therefore be structured so as to present both an end target that is easy to imagine, and a program of behavioral steps designed to achieve this goal.

Affective Stability Theories

9) Stress Reduction Theories
These generally behavioristic approaches emphasize that as a rule, the individual gravitates toward a lower excitement level, meaning that tension reduction can become a positive reinforcement. In terms of the "persuasion message," this signifies that attention is focused on the preventive opportunities rather than the worrisome aspects which would ensue if the desired behavior is not adopted.

10) Me Defense Theories
This concept groups theories which are rather psychoanalytical in nature and stress the individual's tendency to maintain his self-respect through selective attentiveness, distorted perceptions, and imagination, among others. When the desired behavior is adopted, it should therefore be hailed as a triumph of willpower.

11) Expressive Theories
These concepts stress the human need to live life to the fullest, for instance by engaging in activities such as sports, risky adventures or even phantasy games. If the individual is motivated by these things, he will be more easily reached by messages which do not represent the desired behavior as limiting in any way.

12) Repetition Theories
Behaviors learned in social situations are repeated because they instill a sense of security. This means the message should be imparted in a setting conducive to inspiring a positive mood in the target audience.

Affective Growth Theories

13) Self-Assertion Theories
This approach highlights the egoistical, power-oriented and ambitious aspects of human nature, often in connection with the need to gain power over others. Media messages designed to present the desired behavior in terms of personal achievement, status enhancement etc., are successful using this motivation.

14) Identification Theories

These theories address motives which primarily play a role during adolescence, such as trying to identify with idols and symbols to confirm one's personality or find one's identity.

15) Empathy Theories

Empathy theories stress the human need for emotional acceptance, love and respect. This also includes altruistic motives, i.e., the fact that people are often more prepared to do something for the good of others than for themselves.

16) "Infection" Theories

The focus is on the individual's willingness to copy the behavior of others, to adopt thoughts, feelings and habits. Positive reaction to the behavior of others, who already successfully participate, will be especially high here.

Each of these briefly sketched approaches has a number of variants; we have stated only the basic idea in each case. As a matter of principle, all should be considered equally valid, while keeping in mind that each theory may only apply to a specific situation or developmental stage.

6. Objectives and Evaluation Criteria for Primary Prevention

The criteria by which we judge whether preventive steps are successful are closely linked to the objectives these measures are expected to achieve. The overall drug policy goal is to reduce the prevalence of drug abuse. Primary prevention is chiefly intended to reduce the incidence of long-term abuse (Botvin, 1988). This global objective can be divided into a number of individual goals such as abstinence, postponement of abuse onset, or dealing with drugs "responsibly." These in turn require appropriate steps to forestall that first attempt and prevent experimentation, occasional use and, ultimately, outright addiction. The scientific community is at odds as to which of these objectives should have top priority. The decision depends on the prevailing social climate for the various substances: nowadays, society accepts cigarette smoking far less than even ten or twenty years ago, while social norms regarding alcohol frequently seem to dictate some moderate use. For this reason, there is no fundamental agreement between researchers as to whether alcohol should be dealt with separately or form an integral part of comprehensive prevention. While there have been recent tendencies in adolescent prevention programs to combat alcohol and other drugs concurrently, such programs have been least successful with regard to alcohol. This should not be construed to mean that a program that profits from the social climate, as do anti-smoking campaigns these days, is superfluous. It simply means it is easier to obtain positive results with smoking prevention than with preventing alcohol abuse.

Another controversial issue is whether the actual task is the fundamental prevention of legal and illegal drug use, or the prevention of long-term abuse. In the latter case, short-term experimentation is tolerated upon the premise that it is age-specific to the adolescent phase. Based on the latest publications, it is highly probable that this controversy will be resolved by targeting each user specifically. There are groups of persons who are motivated by education or by specific preventive measures not to try the various substances in the first place. This is borne out by epidemiological studies which revealed a relatively high rejection rate for the first-time use of various illicit substances. On the other hand, there are individuals, marked by perhaps a keener curiosity and a willingness to experiment, who will not be swayed from at least trying it. The goal here must be to limit the use to the experimentational stage in order to prevent long-term abuse. In terms of prevention, this means 1) that additional information is needed for the different target groups, and 2) that the diverse groups described must be reached with appropriate messages. The evaluation criteria for outcome assessments should include efforts to prevent not only the onset of use, but to confine it to experimentation.

7. Areas and Strategies of Intervention

7.1 The Family as a Place of Prevention

The most thorough and long-lasting socialization effects which children undergo occurs in the family (Großmann & Großmann, 1991; Shedler & Block, 1990). The family thus has both the greatest influence on the formation of certain behaviors, and the greatest potential to instill a lifestyle that promotes the emotional and physical health of the child. This is why primary prevention, in terms of health education, should begin during infancy. Unfortunately, there are inherent difficulties in studying and evaluating this area.

General Educational Steps to Prevent Addiction

The most significant primary prevention measure in the family is educating family members in basic substance abuse prevention (Eiseman, 1974). This means "teaching children independent and responsible behavior from earliest childhood, to help them resolve conflicts on their own, to foster a sense of fairness, and to learn to evaluate risks to develop and strengthen self-awareness and self-confidence as essential safeguards in the personality of the child and adolescent against the pitfalls of dependency and addiction" (Bäuerle, 1989). It has been shown time and again that a disfunctional relationship between parent and child leads to a lack of self-esteem in the child. Children need love, acceptance and trust if they are to develop a healthy personality structure (Eiseman, 1974). But handling these very complex tasks is not being taught anywhere. Parents are expected to raise their children to be independent, loving and productive human beings, as if this were quite natural. Most people, however, have their "family deficits" (Müller, 1981), particularly in terms of communication skills, openness, constructive problem and conflict solving, and having a good partnership. It is not unusual, for instance, for parents to worry about "spoiling" the child by being too lavish in their praise, and many are quite unaware of the negative and often damaging consequences when parents are overcritical or reproachful, even though it is often done with the best of intentions.

Not many documented activities in the area of family training are available. Müller (1981) reports on a preventive parent and family training program which he, together with Moskau, developed on the basis of Satir's family therapy approach. The objective of this preventive intervention stems from the awareness that many problems and disorders are rooted in the learning experiences of the family of origin: "Parents are *now* raising the next generation." Preventive parent training is done in groups of no more than six parent pairs. It lasts two weekends plus six to eight successive evenings, followed by later brush-up sessions. The training concentrates on two topics: 1) Child-rearing and behavior, and 2) Communication and partnership. The participants practice by observing person-to-person interactions, recognizing causes and effects of certain behaviors (especially in critical parenting situations), and developing alternate methods. They also learn how to increase awareness of themselves and their partner, and how to communicate with their partner.

The Aktion gegen Drogenmißbrauch[10] Hamburg e.V. in Hamburg conducted a preventive program whose stated goal was to improve the communicative climate between parents and their adolescent children (Lange, 1984). The premise of the authors was that "dysfunctional relationships with parents often lead to adolescents turning away

[10] Campaign Against Drug Abuse

from home and increasingly coming under the influence of deviate reference groups" (Lange, 1984). Two tapes containing typical family arguments in dialogue form between parents and adolescents were played. The first tape had the more common negative ending. This was followed by a commentary regarding the effect such a confrontation might have on a young person. The second was an example of how the discussion could have been handled in a positive manner, had the parents reacted differently. The topics depicted included the following situations: Discussions about drugs and alcohol, going out late, poor grades, the first boyfriend. The sessions were designed to improve parental affective skills in dealing with their offspring, thereby directly influencing the communicative climate in the family. Materials published by the Bundeszentrale für gesundheitliche Aufklärung (BZgA)[11] to help parents in questions of substance abuse prevention include titles such as:

— The pamphlet "Family Scenes - Something Different on the Drug Subject for a Change" (BZgA, 1982) offers information and recommendations for parents of teenage children and suggests ways of improving communication and resolving typical family problems by presenting specific situations and family stories. Also discussed is the effect of smoking and drinking parents on the behavior and attitudes of children.

— The documentary "Let's talk" primarily addresses the parents. By means of short stories and interviews, the authors show that a lack of interpersonal communication in the family can lead to drug use as a sort of replacement gratification.

Measures Directed Specifically Against Substance Abuse

Family-based prevention also includes direct, substance-related prevention efforts by parents. This means first of all that parents should educate themselves about the topic of substance abuse early enough so that they are not caught by surprise when their children talk about, ask about, or even use drugs. The most important aspect of parental conduct, however, is their own attitude regarding substance abuse. The impressionable young minds of children are molded on the parental example (Bäuerle, 1989), which is why parental actions bear so much weight in terms of drug use. For the parents, effective prevention often means a critical self-examination of their own customs and habits. This must not necessarily imply that parents should remain abstinent or even hide their use from their children. To the contrary, when parents demonstrate the moderate and enjoyable use at appropriate times, it can benefit the children in terms of a role model. So as not to jeopardize their credibility, parents should never, ever demand of their children what they themselves are not prepared to do.

The results of a study by Parcel et al. (1984) demonstrated the profound impact of parental behavior patterns (or other adults in the immediate environment) on their children. A group of 4-year-old preschoolers at a day-care center took part in an anti-smoking curriculum. The program included topics such as "Me and my body," "How does my body work?", "What is good for my body?", "What is bad for my body?", and "Taking care of my body to stay healthy." Special emphasis was placed on involving and explaining the campaign to the parents. Forty-nine percent of the children who participated expected to be smoking cigarettes in the future, compared with 76% of the control group. This significant difference confirms the effectiveness of the course for a portion of the children. Still, a large number of children anticipated they would smoke in

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[11] Federal Center for Health Education

the future.

In the opinion of the authors, "These findings suggest the curriculum had only a small impact on overcoming children's perceptions that smoking is an appropriate adult behavior" (Parcel et al., 1984). The study illustrates that even special health education programs for preschool children can at best hope for limited success. For such intervention programs to be more successful, they must also effect changes in the use patterns of the parents and the social environment of the child.

Prevention and self-help groups also figure prominently among parental activities designed to directly address substance abuse. In the United States, an increasing number of parent initiatives (Parent Movement for Drug-Free Youth) have sprung up in recent years; their stated goal are drug-free children (Lindblad, 1983; Schuchard, 1984). In these groups, parents mutually support and educate each other to fight peer group pressures for drug use by providing a counter-weight of parents, family and social support. More and more young people, too, are joining the ranks, either because they follow their parents' example or because they want to be role models for their younger siblings.

The movement began in 1978 in the city of Naples, Florida, and has since found numerous imitators throughout the United States (some 4,000 groups) and other countries. In 1980, a parent organization for the parent groups came into being in the United States: NFP (National Foundation of Parents for Drug-Free Youth). Among the NFP's primary tasks is gathering and disseminating data on substance abuse, overseeing the creation of new parent groups, and functioning as a liaison between member organizations.

According to a NIDA listing (Lindblad, 1983), there are numerous variations of parent groups:

- Community (or housing development) groups which came into being on their own and concentrate on substance abuse prevention;
- School-based parent organizations, with substance abuse prevention only one of the goals pursued;
- Community organizations primarily made up of parents whose prevention work forms part of a more comprehensive task;
- Semi-independent prevention groups who form part of existing programs and have outside funding and management;
- Dependent groups who did not form on their own, but rather partake of offerings in substance abuse prevention (e.g., parent training);
- Informal neighborhood groups whose members help and support each other.

In a 1990 retrospective study, Klitzner et al. examined the effectiveness of parent-led prevention groups. The survey drew a random sampling of families consisting of parents active in the group and their children from several communities. Families from communities without a parent-oriented prevention program served as a control group. The survey examined the presence and pervasiveness of drug use in teens, changes in family relationships, parental control of adolescent activities, and the extent of drug use by the youngsters and their friends since the parents started to participate in the prevention group. The results showed improvements in family relationships and parental control over the children's activities, but effects on substance abuse were negligible. An unexpected but important outcome was the fact that the majority of parents most

committed to the prevention group agenda were those whose children were not at greatest risk for substance abuse.

Cooperation between Family, School and Juvenile Services

The opportunities for cooperation between parents, school and the youth council are quite diverse. Parents can become actively involved on their own or participate in school-sponsored anti-drug programs. The following examples list areas where such cooperation can take place (Bäuerle, 1989):

- Written or person-to person education of parents about drugs and addiction (teachers play an advisory role);
- PTA meetings with youth counselors;
- Prevention-oriented parent groups supported by school or youth council;
- Counseling sessions with parents, perhaps conducted by the drug contact teacher, school psychologist, or youth or drug counselor;
- Crisis intervention support for parents faced with a child's addiction problem: the help rendered by both school and youth council in such cases should be particularly emphatic;
- School programs on the subject of drugs and addiction; cooperation with counseling centers is especially important here. In summary, we must conclude that the eighties have seen the development of very few new preventive intervention strategies for the family, nor are there any scientifically supported empirical studies and assessments available on the subject. Despite the fact that recent research (Shedler & Block, 1990; Großman & Großman, 1991) has identified this area as the most important aspect of primary prevention, it has received only scant attention to date.

7.2 Prevention at School

After the parental home, school is the second most important place where drug prevention can occur. Nearly every child and adolescent between 6 and 18 can be reached at school. When a drug prevention program is introduced at school, most students go through the program within their peer group social unit. The program thus reaches not just one individual, but it influences the social norms of the entire group. A prevention course is easily incorporated into the lesson plan and involves less organizational effort than other measures, such as for example youth programs. The prevention curriculum also lends itself to be repeated and expanded over several school years. In the United States particularly, school-based prevention programs have been developed, conducted and evaluated since the 1960's. In Europe, research activities of this kind are not very far along. While some tentative approaches exist in the Netherlands, they are negligible in Germany.

We can place school-based prevention measures into two general groups: the drug-specific kind, which deals directly with the abused substance, and the unspecific, which approaches the problem indirectly by changing mediator variables (such as attitudes and self-worth). Information dissemination (7.2.1), resistance (7.2.4), and life skills training programs (7.2.5) belong to the drug-specific prevention measures; affective (7.2.2) and alternative programs (7.2.3) are in the unspecific prevention group. In practice, however, the distinction is often much less clearly defined, since several "mixed" programs combining both components have appeared in recent years.

7.2.1 Drug Education and Dissemination of Information

Information Dissemination as Preventive Strategy

"Education/information prevention programs are based on the assumption that knowledge of the deleterious effects of substances on health and well-being will deter use and prevent abuse. Most early substance abuse prevention programs emphasized factual information and scare tactics through the graphic presentation of the effects of substance use. This type of program has been shown to be effective with adults. Education/information only interventions with adolescents, however, generally have been ineffective ...; although some early adolescents who have not yet experimented with illicit substances may benefit ..." This assessment by Forman & Linney (1988) has been confirmed by various studies and meta-analyses (Schaps et al., 1981; Bangert-Drowns, 1988; Tobler, 1986). They demonstrate that programs which focus on instilling knowledge, merely produce greater awareness. Some studies have shown that information and/or drug awareness programs can even lead to increased use (see further below). Although it has been variously documented that these strategies have little or no influence on attitudes toward drugs and drug use, they continue to be the most prevalent drug prevention method used. In comparing other strategies with the information dissemination method as an isolated measure, Tobler (1986) concluded that this method should be abandoned.

Studies on Information Dissemination

A 1975 trial conducted by DeHaes & Shuurman in Holland (DeHaes, 1987; Meyenberg, 1988) examined the following three drug education methods with respect to their efficacy on knowledge, attitudes and use:

- Warnings, Scare Tactics
  The program's focus is on the hazards of substance abuse
- Fact-Based Strategy
  This educational method offers specific information about drugs and their effects on body, mind, behavior, addiction rate, accidents, costs, etc.)
- User-Oriented Method
  Primarily depicts and discusses the substance abuser, his specific circumstances and motivations

The effectiveness of each of these approaches was examined in a drug awareness program for high school students. None of the three awareness programs was able to curtail or stop the use. As for the onset of marijuana and hashish abuse, the first two methods even showed a negative effect, since the number of onsets was higher here than in the control group who received no drug awareness education. The user-oriented program, on the other hand, effectively reduced the onset of marijuana and hashish. Each program, including program 3, raised drug awareness. As has been the case in other research, this study reveals that increased drug awareness has none of the expected effects in terms of a reduction of drug use and can indeed have side effects such as encouraging use (boomerang effect).

A German study (Nevermann & Perlwitz, 1986) impressively documents that most students satisfactorily recalled what they had learned in class about the dangers of cigarette smoking (Didactical Compendium on Drug Problems, BZgA, 1980a), but very

few applied this knowledge in everyday situations. The results show that "informedness is not necessarily accompanied by heightened skills in putting knowledge to good use."

The entire basic premise of awareness programs in adolescent drug prevention has turned out to be false. Deterrent information using imagery such as lung cancer, cirrhosis of the liver or death from a heroin overdose does not get through to adolescents because they cannot relate to it. Factual information, on the other hand, can arouse curiosity and a desire to experiment. In the newer programs, therefore, providing information is only one aspect and by far not the most important part of the overall concept. Being told about some of the direct consequences (such as yellow teeth from cigarette smoking) which adolescents view as negative, has been useful, as has information about the substance abuse level by the public at large, which students frequently overestimate.

Drug Education as a Classroom Subject

In 1985, the Netherlands passed a law establishing an elementary school level which combined kindergarten and grade school (Meyenberg, 1988) and introduced the subject of Health Education. Virtually the entire school curriculum was designed by one and the same central agency. Drug prevention was to be understood as an integral part of health education and not as "an isolated campaign against the abuse of stimulants." The educational goals of the program are couched in positive terms: not drug prevention, but dealing with the unwholesome substances so common in today's society in a "healthy" way. In addition, students also learn how to resist peer pressure and the temptations of advertising.

The school curriculum, first tried in several grade schools and evaluated at Utrecht University, is based primarily on a program developed by the NCA (Nationale Commissie tegen het Alcoholisme en andere verslavingen) who is also responsible for organizing the training of teachers for the more than 8,000 elementary schools the Netherlands is planning.

The NCA considers it eminently important that the topics of smoking and alcohol be taken up with younger, pre-adolescent children. The guiding principle of scholastic health education in the Netherlands is this: "The NCA considers experimentation with everyday drugs (and to some extent also with illicit drugs) as quite sensible so long as it is monitored by school and parents. They feel that making children consciously aware of the attending risks and providing appropriate behavioral guidance is more likely to protect them from drug abuse than prohibitions or taboos. But most importantly, they learn that experimentation does not lead to addiction" (Meyenberg, 1988).

After the elementary grades, health education continues in secondary school, although the design of a pertinent curriculum is still in its infancy. A different model exists in Swedish schools. There, health education is taught separately, but different aspects of it are included in every subject and are taught as integrated components. In German schools, too, substance abuse prevention is accomplished primarily within the various subjects offered.

The Example of One State: Drug Contact Teachers

By decree of the Ministries of Labor, Health and Social Welfare, and others (1973, 1979), every school must designate a special teacher (drug contact teacher, substance abuse prevention counselor) whose responsibilities is to include the following:

- Procuring and disseminating substance-related information
- Providing information to teachers, parents and students
- Counseling students and other teachers
- Liaison with counseling centers
- Conducting suitable prevention measures in general (Bujny, 1987; Priebe, 1989)

Being so designated, however, does not mean these teachers are necessarily prepared for their responsibilities. They must be appropriately trained and join with other teachers in informational sessions, pedagogical conferences, seminars, and teacher workshops.

On the Subject of Drug Contact Teachers[12]

Reports on school-based primary prevention work (Rabes, 1987) are few and far between. A survey of Berlin drug contact teachers (Clemens, 1982) revealed that more than half feel there is far too little drug prevention at school. How much attention to give to the subject of prevention is largely up to the teacher. Insufficient time is spent on the topic in the various subjects. There is a lack of adequate teaching materials. These are the most frequently voiced criticisms to come out of this survey. Most drug contact teachers felt primary drug prevention should take place outside the classroom as well, and, this came as a surprise, that it would be more successful there.

An Oldenburg University survey of Lower Saxony drug contact teachers (Rabes, 1987) showed that preventive teaching occurred most often in the subjects of language arts and civics, and less frequently in biology, art, social studies, chemistry, and religion. The method of information dissemination is used almost exclusively: "For the teachers polled (...), the primary goal of substance abuse prevention teaching lies in providing information regarding the effects and consequences of drug use. Ninety percent of the sample are oriented in this direction" (Rabes, 1987). A high degree of contradiction was found to exist between the admitted urgency and necessity of drug use prevention teaching and the teachers' subjective feelings of helplessness. This often led to a failure to practice school-based prevention on the part of the teachers surveyed.

Classroom Materials Offered by the Bundeszentrale für gesundheitliche Aufklärung (BZgA)[13]

Primary prevention of drug use among children and adolescents is a focal point in the activities of the BZgA. Within the framework of these efforts, the BZgA gathers and distributes information and auxiliary materials, and conducts courses and continued training for youth work multiplicators ("message disseminators"), teachers, parents and children, i.e., the students themselves. In the area of scholastics, the BZgA publishes a great variety of instructional aids for teachers involved in substance abuse prevention efforts. These include, among others:

— "The Didactical Compendium on Drug Problems" (BZgA, 1980a)
This is a rather extensive collection of teaching materials for drug education in grades 5 - 10. It contains exhaustive information, recommended teaching methods, working materials, source texts, overhead transparencies, and much more. The various lesson units deal with common problems and difficulties like those often arising in the

[12] Teachers who are specificly responsible in Germany for drug problems at schools and who receive some training for their task.
[13] Federal Center for Health Education, an agency at the Federal Ministry for Health.

personal, family and social environment of fifth and sixth graders (i.e., parents and children); with school- or peer group-related drug use motivations, for seventh and eighth graders; and with the typical progress of a drug career with all the possible consequences, for grades 9 and 10.

The compendium contains a cornucopia of tips and suggestions on how to structure the lessons, although Alfs (1986) suspects that teachers really prefer to use the traditional, teacher-centered method of drug awareness education to the detriment of other approaches which help develop students' communicational, emotional and life skills. As a result, it has been necessary to provide appropriate preparation and/or training opportunities for teachers.

— "Classroom Materials on the Topics of Dependency-Addiction-Drugs for Vocational Schools" (BZgA, 1985) including overhead transparencies and a cassette tape. The compendium contains substantive and methodological lesson planning tips, a great variety of classroom materials (e.g., questionnaires, worksheets, cartoon stories, playing cards, and more) and "information for teachers and students."

— "Four Plays about Alcohol and Drugs" (BZgA, 1980b) are intended as teaching aids for the substance prevention work of teachers or other multiplicators. They were written by youth groups and deal with substance abuse problems on the basis of the everyday problems of young people. When the youthful theater groups were polled, it was found that about half registered positive attitude changes regarding drug use (Alfs, 1986).

Some BZgA materials for adolescents were expanded, such as the photo novela "Scenes from the Life of a Clique" for example (BZgA, 1980c), which dramatizes the typical problems and difficulties of adolescents (feelings, problems with parents, alcohol and drugs, friendships) and is accompanied by additional information and commentaries.

The North Rhine Westfalian Concept of Drug and Substance abuse prevention at School

The concept developed in North Rhine Westfalia is based on the belief that primary drug prevention is a pedagogical task that should not be assigned to any one teacher, but must be addressed and practiced by the entire faculty (Priebe, 1989). The primary task of the specially trained "drug prevention counselors" is thus one of secondary prevention. Their qualification is ensured by an ongoing training model developed over many years of experience. The continued training sessions are held over an extended period in regional teacher workshops and include components such as the following material and media combinations developed by the Landesinstitut für Schule und Weiterbildung:[14] Basic principles, lectures, counseling sessions, teacher-to-teacher consultations, cooperation, legal aspects, working with parents, etc. The educational component comprises a broad spectrum of teaching guidelines for all subjects, grades and types of schools, and contains topics such as personal development, cognitive awareness of addiction and addictive substances, and getting along with oneself and others (Priebe, 1989; Weissinger, 1989).

[14] State Institute for Schooling and Continued Education

Addiction and Drug Prevention - Concept Sponsored by the Ministry of Health of Lower Saxony, 1991 - 1994

A current paper published by the Ministry of Health of Lower Saxony (1991) defines drug and substance abuse prevention as a component of health and social education. The program's discernible focal point is the promotion of general coping skills. "This new type of prevention strengthens the adolescent's resistance and communication skills, enabling him to say 'no' in situations of risk. We must strengthen the ability for self-determination and self-responsibility, to take life and its problems and difficulties—including the typical developmental crises in puberty and adolescence—in stride. Drug and substance abuse prevention helps develop abuse awareness and promotes maturity and conflict resolution skills ... Molding character and instilling a feeling of self-worth are decisive criteria of any comprehensive prevention ..." Among the more extensive measures planned are continued training for teachers, courses for multiplicators, training of special counseling teachers, video film productions, and a manual for parents, teachers and educators.

The remaining German Länder are in the process of developing their own separate school-based primary prevention concepts. Unfortunately, no quantitative evaluations of the effects of the adopted strategies on drug use are available to date.

7.2.2 Affective Education

These preventive concepts which concentrate on the individual and not on the substance, were developed in the 1970's. They are based on the premise that drug use is determined by individual factors such as low self-esteem, inadequate decision-making skills, or negative and/or non-existent values about one's own person and purpose in life. The assumption is that drug use will automatically diminish or stop once these negative aspects are replaced by positive and constructive ones. The approach therefore addresses all of the following objectives as a whole (Rokeach, 1983; Schaps et al., 1981; Tobler, 1986):

- Increasing self-esteem. Problem-solving and goal-setting skills, for instance, lower the motivation for drug use.
- Clarification of personal values. A person with a set of positive values does not need drugs. The individual is therefore encouraged to examine and modify his value system or develop new values.
- Awareness and adequate expression of one's emotions. Most drug users have difficulty in identifying and dealing with their feelings.
- Decision making. The individual learns how to make responsible decisions.
- Setting goals and following through. The individual learns how to set short and long-term goals.
- Stress management and relaxation. The individual is taught relaxation techniques, such as progressive muscle relaxation or deep breathing techniques.

This group of prevention programs includes the school curriculum HLAYT ("Here's Looking at You, Two"), widely used in American schools. A comprehensive evaluation (meta-analysis) of several studies of this program from a number of U.S. states revealed a significant increase of awareness levels in all age groups, but no significant changes in personal variables such as self-esteem, coping skills and decision-making skills which often precede drug use (Green & Kelley, 1989). In addition, earlier evaluations have

shown that affective strategies have no effect on drug use in most cases, and might even produce a boomerang effect. Tobler's meta-analysis of 143 programs (1986) showed them to be ineffective. Indeed, based on the rather drug-unspecific concept, affective programs seem ill-suited to fulfill expectations that drug use would rapidly decline following a curriculum. The following aspects are significant in this context:

- Increased experimentation may also be an expression of greater independence (Shedler & Block, 1990).
- While the approach is appropriate, there is no behavioral training; yet the greatest impact on drug use comes from programs where specific behavior is explicitly trained (Tobler, 1986).
- Psychological program aspects may need much more time and better teacher preparation.
- Practical psychotherapy has shown that changes in self-esteem are extremely difficult to achieve.

Many aspects of the affective concept (such as self-esteem, decision-making skills, etc.) are nevertheless part and parcel of the newer, more complex prevention programs which promote personal skills. This includes Botvin's Life Skills Training, for example - although he terms it "cognitive" - (cf. 7.2.5), as well as the DARE and SMART programs.

7.2.3 Forms of Alternative Experiences

These programs are based on the belief that drugs produce a feeling of relaxation, relief, and excitement the user is unable to get any other way (Dohner, 1972). "In order to prevent or reduce drug use, individuals must be provided with 'positive alternatives' to drug use - ways of gaining the desired rewards and pleasures through healthy, nonchemical activities" (Cook et al., 1984). Some alternatives to drug use, suggests Dohner, are: Interpersonal relationships, development of self-confidence, professional skills, aesthetic experiences, intellectual expression, social and political commitment, sensual pleasures, meditation, spiritual-mystical experiences, creativity. As a matter of fact, any activity could be considered an alternative to drug use.

Swisher & Hu (1983) distinguish four prevention models that are based on the alternative concept:

1. Making special activities (for example, mountain climbing) available to adolescents;
2. Combining specific needs with specific activities on the individual level (Dohner, 1972);
3. Intensifying participation in existing activities (for example, showing young people how to develop and expand their current interests and share them with others);
4. Supporting youth groups in introducing or implementing activities of their choice (e.g., Channel One - see Section 7.4.2).

The third area includes the alternative school curriculum PAY (Positive Alternatives for Youth) conducted in several Wisconsin (U.S.A.) schools and the subject of the 1984 report by Cook and colleagues. An orientational phase to foster group cohesion opened the one-semester curriculum. This was followed by topics such as self-confidence and sharing feelings, self-awareness and self-concept, separating the perception of self and of others, recognizing and coping with depressive and stress-caused conditions, physical,

creative-expressive and mood-altering activities. Drugs were neither the focus, nor were they excluded; instead they formed part of some program components. The techniques employed included discussions, practicing active listening, and drawing pictures representative of one's own values and characteristics. Although the authors claim to have based their curriculum concept on the alternative approach, this program is strongly reminiscent of affective education.

When the program outcome was later measured, there was a higher reduction of use, but only of hard liquor, in the experimental than in the control group. No changes were noted in the attitude to drug use. Later, the student sample was divided into two groups: those who were committed to succeed in the curriculum, and those who were not. Several significant differences existed between the two groups, the attitude toward using and handling alcohol responsibly being one. In his 1986 meta-analysis of over one hundred prevention programs for adolescents, Tobler found that alternative programs showed positive results if conducted with special groups (at increased risk) and with some intensity.

7.2.4 Resisting Social Influences

This approach, which has its origins in the social psychology of drug use and abuse, concentrates on interpersonal relationships with peers who exert the greatest influence on adolescent behavior. It is primarily concerned with promoting an awareness of the social pressure emanating from peer groups, adults or the mass media, which constitutes one of the motives for drug use. The goal of this drug-based approach is to teach adolescents the necessary social skills to allow them to say "no" to drugs, and to generally handle drug situations in an appropriate manner. In the United States, they are also known as "Saying No" programs.

Behavioral training to promote social skills and techniques such as role playing, modeling and positive reinforcement have proven effective in teaching youngsters to say "No." The students learn to recognize situations where social pressures and temptations are at play, and to stand up to peer persuasion and media influences by practicing, in the form of role plays, how to resist pressure and coming across as firm and self-assured. They also learn the actual levels of abuse of various addictive substances, which they usually peg higher than they really are. The approach is primarily based on McGuire's "social inoculation theory" which assumes that students who have received training in specific behaviors will apply them later on in real life; the training is intended to have the effect of a "inoculation."

These skill- and situationally oriented prevention strategies were chiefly employed in smoking prevention programs. Evans and colleagues first used the method in a smoking prevention program at the University of Houston (Evans et al., 1978, 1981). The students were shown film materials depicting peer influences or pressures to smoke, along with strategies for rejecting such offers. The program had some modestly positive effects on smoking behavior.

Many researchers considered this an attractive model and initiated their own studies to evaluate it further. The CLASP project (Counseling Leadership Against Smoking Pressures; Perry et al., 1980, Telch et al., 1982) was a seven-unit program involving seventh graders, which expanded Evans' approach to include a "social commitment not to smoke," as well as behavioristic role playing techniques. A significant reduction in

smoking was noted among the program participants. In a follow-up study conducted two years later, there were two thirds fewer smokers among the experimental group than in the control group. Unfortunately, this trial suffered from some methodological inadequacies as well as a sample that was rather limited in scope. Lüpker et al. (1983, "First Minnesota Study") reported on a two-year follow-up study of a short-term school curriculum (4 - 5 lesson units) for the seventh grade, comprised of films (as did Evans' study), discussions, and resistance skills training. In one school, the program was conducted by college students, in another by "peer opinion leaders" chosen by the students from among their own ranks and age groups. Immediately after the program ended, both program variants showed a significant reduction in smoking when compared with the control group from a third school. At the end of the ninth grade, however, there was significantly less smoking at the school where the program was conducted by "peer leaders" than at the other two schools.

The following "Second Minnesota Smoking Prevention Program" which had overcome many of the shortcomings of the earlier study (Arkin et al., 1981), compared two classroom curricula, each consisting of five lesson units. The "short-term influences curriculum" focused on the immediate consequences of smoking, both physical and social. The students were asked to guess the number of smokers in their age group. When they were confronted with the actual numbers in the following lesson, most realized they had guessed too high. One component of the curriculum was the public promise not to smoke. Half the students received instruction from their self-chosen peer leaders who led the program under the supervision of adults, the other half were taught by adult health educators. The "long-term influences curriculum" dealt with the extended negative consequences of smoking like lung cancer, cardiovascular disease or damage to unborn children. The results of this trial show that both curricula and, in the case of the short-term curriculum, both groups of instructors had a reducing effect on the onset. However, no differences were noted between the two prevention programs. A similar comparison between two programs, one focusing on the direct consequences and one dealing with long-term effects was conducted by Stanford University researchers with 10th grade students. Afterwards, the students who had gone through the first program had significantly fewer smokers among them than did the control group (Perry et al. 1980).

In 1989, Murray and his colleagues published the results of the 5- and 6-year outcome study of the Minnesota trials (see above). Regarding rate of incidence, prevalence, and intensity of smoking in baseline smokers, there were no longer any differences between the five variants: 1) The control group receiving a traditional curriculum, 2) the social curriculum conducted by peer leaders, 3) the social curriculum conducted by "peer leaders" with film materials, 4) the social curriculum conducted by adults with film materials, and 5) the long-term effects curriculum conducted by adults and aided by film materials.

A slightly modified version of the Minnesota study school curriculum (Arkin et al., 1981) was tested with seventh graders in Australia (Fisher et al., 1983). The program showed a significant reduction of onsets, but only when conducted by teachers. Negligible, even boomerang, effects were noted when peer leaders provided the training. In none of the studies conducted in the United States did adolescent trainers produce such poor results. These results seem to indicate that certain program factors can produce entirely different results in different countries.

The Canadian "Waterloo Study" examined the results of an 8-hour curriculum in grade 6,

with 1 - 2 additional lesson units in grades 7 and 8. As did the other programs this, too, offered selected information, resistance training for social situations, and decision-making practice sessions. The subsequent evaluation and 1- and 2-year follow-up studies showed several significant effects, especially in students thought to be at higher risk because their parents, siblings or friends smoked. At the end of the 2-year follow-up, 67% of these students versus 22% of the control group were non-smokers, while 6% versus 39% smoked experimentally. Overall, there were significantly fewer smokers and experimenters among the students who participated in the program than among the control group. The effects were greatest immediately following the program, but tended to diminish over time despite booster sessions.

A 6-year follow-up study (Flay et al., 1989) revealed that the effects of the prevention program paled with each passing year, until after six years they had disappeared altogether. There were no longer any differences, across all cigarette smoking categories, between the group who had completed the course and the control group. Of the variables noted at the beginning of the program in sixth grade, the predictive factors of whether students smoked six years later were that 1) they were smoking when the program began, and 2) there were smokers in the individual's social environment (parents, siblings, friends). A second important result of this long-term study was that when last measured, there were considerably more smokers among project participants who had dropped out (68%), than among those who stayed in school (28%).

Should other long-term research confirm the results of the Minnesota and Waterloo studies, this would mean that this type of program serves merely to delay the onset of use, albeit up to four or five years (Murray et al., 1988). It also means the period in life during which these individuals smoke is shorter, which in itself is an important result. There are indications that people who start smoking later are able to stop sooner and are less addicted to it (DuPont, 1989). It would be desirable to continue the study to obtain insight into the subjects' smoking habits over subsequent years. Furthermore, the long-term programs now under evaluation were designed over a decade ago. Since then, scholastic prevention programs have undergone continued development and refinement so that today's interventions may be better and longer-lasting. It should also be borne in mind that many programs tested take up only a few lesson hours (often fewer than ten), so they are quite likely not intensive enough to ensure long-term effects.

Positive evaluations from the above-described scientifically funded programs for smoking prevention led to the implementation of a national "Just Say No" campaign. The National Institute on Drug Abuse (NIDA) and the National Institute on Alcohol Abuse and Alcoholism (NIAAA) developed a "Just Say No" program, and a number of media campaigns and short school-based anti-drug programs were conducted under that slogan. Virtually none of these "Just Say No" campaigns was evaluated, so their effects remain in the dark. One exception is the school curriculum entitled, "WHOA! A Great Way To Say No" (Kim et al., 1989), a three lesson unit. In successive steps, the students learned how to effectively say "no" to drugs or other potential problems. An evaluation of this mini-program revealed a boomerang effect in terms of student attitudes to saying "No," but no other effects.

In a 1985 article, Flay provided an overview of a total of seventeen studies on smoking prevention based on the peer pressure resistance model, noting that "the social influence approach to smoking prevention is an efficacious one." However, virtually none of the existing studies by themselves offer proof positive of its effectiveness, since each has major or minor methodological flaws, including a significant attrition of study subjects,

scant significance, and differences between the experimental and control groups (often weighted toward expected results even before the start of the program). Only when viewed as a whole do they represent research results to be taken seriously. Which raises a host of new questions: how exactly do the programs work, which aspects are necessary and which are not, what is their effect on different types of students? These questions must be addressed in future studies.

7.2.5 General Life Skills

This drug-unspecific strategy is conceptually similar to affective education (cf. 7.2.2), but it emphasizes the use of learning-theoretical methods and practical exercises such as role playing. Participants learn to handle difficult situations and stresses appropriately, both in the social and the personal realm. The problems involved are low self-esteem, fearfulness, belief in external control, impulsivity, insecurity, and inadequate social skills, all of which documentably precede increased drug use. The methods employed include discussions, behavior training, and practice assignments.

The newer scholastic programs, known as the "new generation" of prevention programs, combine a number of resistance skills: resisting peer pressures to use substances, strategies for resisting advertising pressure, and coping with inter- and intrapsychological stresses. Their difference lies in the variable ratios of the two main components. We might visualize them all as a continuum, with "withstanding social pressure to use drugs" at one end, and "general life skills" at the other (Botvin, 1988). Since their effectiveness in preventing cigarette smoking has been documented with some regularity, the objectives were later systematically expanded to address the prevention of other substances as well. In 1985, Botvin & Wills described four programs of this kind which were developed in the United States in the early 1980's.

Botvin's Life Skills Training

The best-known example of this kind is the Life Skills Training program developed by Botvin and colleagues (Botvin et al., 1983). Because this school-based program showed definite positive results in several systematically expanded studies, has a controlled research design and has found several imitators in addition to others who have developed it further, we will describe it here in detail (Botvin & Tortu, 1988).

The program is conceived as an instructional course for seventh graders and contains 18 lesson units comprised of five main topics:

— Information and facts regarding cigarettes, alcohol and marijuana (4 Lessons)
The information provided is specially selected and tailored to the students' cognitive development who at this age orient themselves primarily in the present and cannot yet relate to a time some 30 - 40 years in the future. The topics range from general attitudes and beliefs regarding the use of the three substances, their prevalence rates (which adolescents tend to overestimate), the social acceptance of drug use, the addiction process, and the immediate consequences of substance abuse.

— Decision making (4 Lessons)
The students learn to develop strategies for independent decision making. These skills are applied chiefly in dealing with the influence of advertising on patterns of consumption. Students are taught to analyze cigarette and alcohol advertisements.

— Self-directed behavior change (2 Lessons)
The students examine the topics of self-image and self-improvement. They are asked to set a goal for improving one aspect of their life and then to plan and follow through on it during an eight week program involving weekly steps.

— Coping with anxiety (2 Lessons)
Participants learn to perceive and reduce feelings of anxiety; they are instructed in several techniques such as relaxation, deep breathing, and mental training to cope with and control anxiety.

— Social Skills Training (6 Lessons)
Through role playing, students practice appropriate behavior in dealing with the opposite sex and learn communicative, contact, and self-confidence skills. Special consideration is given to situations involving group pressure to use drugs.

To strengthen and maintain the effects of the program, special supplementary curricula (booster sessions) which repeat and reinforce the essential contents, were developed for eighth and ninth grade students. The program for eighth graders comprised ten instructional units: Causes and effects of smoking, decision making, independent thinking, resistance to advertising, coping with fear, communication skills, social skills, self-assurance, resisting peer pressure to use drugs, and problem-solving strategies.

During the last decade, the program has been tested and evaluated in several studies involving sequentially expanded topics and ever larger samples. Among the areas tested and compared were: Prevention of alcohol, cigarette, resp. gateway drug use; teachers vs. older "peer leaders"; training by teachers with one or more classes per week; with vs. without booster sessions; whites vs. minorities (blacks, Hispanics); and teacher training workshops vs. teacher training via the correspondence method (reading and video materials).

The first evaluative life skills training study conducted by Botvin & Eng (1980), whose original objective was smoking prevention, examined a program involving eighth to tenth graders (Botvin et al., 1980; Botvin & Tortu, 1988). Botvin found that students who had gone through the curriculum had 75% fewer onsets than the control group. In an outcome study done three months later, there were 67% fewer new smokers. A subsequent study examined the effects of the program on smoking behavior when older peer leaders (11th and 12th grade) served as trainers. In addition to self-report forms, the thiocyanate level in the sputum was measured to verify the students' statements regarding their use. This study, too, found significantly fewer new smokers among participants than among students who did not take part (about 58%). In a follow-up study one year later, there were 56% fewer regular smokers among the training participants.

In another study, the efficacy of the life skills training program was tested on seventh graders, with one group of participants receiving the supplementary program (booster sessions) in the eighth grade (Botvin et al., 1983). This study confirmed the results of the earlier studies. Measurements taken subsequently to the program indicated there were 50% fewer smokers in the participating group, and 55% fewer smokers in a follow-up study conducted one year later, while there were 87% fewer regular smokers among the students who took the supplementary curriculum than in the control group.

Social Assertiveness Skills Training (Penz, 1983)

The school-based prevention program developed by Penz rests on the belief that adolescent drug use primarily stems from social influences acting on the individual concerned (peer group, parents), and from a lack of social skills in handling situations where social pressure is applied. Adolescents with inadequate social skills are quite often distinguished by aggressiveness, delinquency, social withdrawal, low scholastic achievement, and drug use. According to this hypothesis, were the youths given a chance to improve their social skills and self-efficacy in early adolescence, there would be less drug use and other problem behavior. Social skills are defined as specific aptitudes: being able to say "No," express desires and criticism, and establish, maintain and end relationships with others. Self-efficacy is defined as the conviction that one can successfully accomplish specific tasks and objectives.

The school curriculum follows the principles of cognitive therapy and behavior-therapeutic training of social skills. It consists of seven one-hour units conducted by a teacher and an assistant. After the trainer demonstrates typical social situations of daily life, including scenes involving drugs, the students practice them through role playing. Following the positive results of the life skills training program for the prevention of smoking, Botvin and colleagues (Botvin & Tortu, 1988) examined the effects of the (modified) program on alcohol use. The first measurement taken immediately following the program noted no effects on drinking behavior. Still, after nine months there were 54% fewer students using alcohol during the previous month, 73% fewer students imbibing heavily, and 79% fewer students who were intoxicated one or more times a month than in the control group.

Next, the program was expanded for the three "gateway drugs" and tested in a rather large sample (1,311). Other conditional variables were also examined: 1) Teachers vs. older peer leaders as trainers, and 2) Supplemental curricula (booster sessions) in grades 8 and 9 vs. no booster sessions (Botvin et al., 1984; 1990). Post-trial measurements assessed, among others, use patterns, awareness of drugs and their effects, attitudes toward drugs, and personal characteristics such as self-confidence, social fear, and susceptibility to outside influences.

Evaluations which took place immediately following the trial showed positive effects only in students taught by older peers; by contrast, either no results at all or indeed even negative effects were noted in participants where teachers provided the training. Among program participants, there were 40% fewer experimental smokers and 71% fewer students who reported using marijuana than in the control group. A year later, the students whose program was conducted by older adolescents showed significantly less cigarette and marijuana use than the control group and the students whose instructors were teachers. The 2-year follow-up revealed that the greatest effects were in smoking prevention.

Cognitive-Behavioral Skills Training

This concept was developed by Schinke and colleagues (Schinke & Gilchrist, 1984) at the University of Washington. Based on the model of peer group social influence, it assumes that adolescents start using drugs because the temporary advantages of this behavior are more important to them than possible later problems and illnesses. For this reason, students should primarily be taught personal problem resolution skills and decision making. This lets them use their knowledge to better advantage and allows them

to make and stick with decisions leading to a healthy and fulfilling life. An integral part of this approach is the development of communication skills.

The program has the following components: Dissemination of selected information, personal problem-solving techniques (i.e., problem definition, brainstorming, decision to take an alternate course, and review), autodidactic training, coping with stress, and relaxation and self-confidence training. The techniques employed are role playing and homework assignments. In this approach, the students are expected to acquire a set of skills they can apply in many situations, not just drug-related ones.

Decision-Making Skills Curriculum

This prevention program is based on the psychological substance abuse model by Wills & Shiffman (1985) which concerns itself with the cause-and-effect relationship between use, stress, and coping. Its eight instructional units are taught by health educators. The students begin by practicing "values clarification." Then they are taught to make decisions in a systematic manner. Another topic is the social pressure exerted by peers and advertising to engage in drug use: in role plays, adolescents learn to develop cognitive counter arguments and behaviors they can use to resist these pressures. An important area of instruction is stress management: the ability to cope with short and long-term stress. Finally, participants receive and discuss selected information on substance abuse.

The following describes a European program founded on a similar premise as the Life Skills approach.

The "Class Assignment" Concept of the Suchtpräventionsstelle[15] Zurich (1986)

In contrast to the United States where numerous scientists have been busy developing and evaluating new school-based programs, far less is being done in this area in European countries. The Swiss program described below is a notable exception. It is based on the observation that addiction should be understood as an unsatisfactory attempt at conflict resolution. Primary prevention in this context means the development of constructive behaviors to enable the individual to formulate and utilize coping strategies. The lesson "block" which covers 1 1/2 - 2 days is taught by personnel from the substance abuse prevention center. The block seminar starts out by discussing addiction, addictive substances and addictive behavior. To ensure that students (particularly the younger ones) can relate to the addiction concept, they are asked to do without a favorite activity such as television or snacking for one day. Over the course of the seminar, the most common causes of drug use like fear, boredom, peer persuasion, peer pressure, fights, arguments, are discussed, and depicted through role plays. The situations are then reviewed and revised to end on a positive note, at which time they are practiced (role-played) again.

Great importance is placed on cooperation with classroom teachers, since it is on their initiative that the prevention curriculum comes to the classroom. Preparatory and subsequent talks with the teacher form an integral part of the program. The teacher is present during the prevention lessons, first as an observer and later in a more active role. The teacher will later practice the prevention measures during everyday school activities.

Also included in the program is an evening session in which both parents and students

[15] Substance Abuse Prevention Center

take part. "The parents must come to understand that the subject of addiction does not just mean illicit drugs, but that it involves the very basics of child-rearing" (Substance abuse prevention Center of the City of Zurich, 1986). There are two program versions: one for intermediary and another for secondary school students. At program's end, participants are introduced to local prevention and counseling centers. No quantitative evaluation appears to have been published.

Aspects of the principles of life skills training have also been adopted into the substance abuse prevention concepts of several German States. The concept statement for the years 1991-1994 of the *Ministry of Health of Lower Saxony* (1991), for instance, reads as follows: "... This new preventive strategy strengthens resistance and communicative skills, allowing adolescents to say "no" in risk situations. We must help them learn how to make responsible decisions for their own future, to enable them to cope with life and all its problems and crises, particularly during the typical developmental crises of puberty and adolescence ... Imparting self-esteem and stabilizing the personality are essential elements of a comprehensive prevention strategy ..."

Although the effectiveness of the programs we have just described has been documented by several studies in other countries, current research has not yet determined which program components (i.e., drug-specific or unspecific, socially or individually oriented) are the contributing and motivational factors in their success.

7.2.6 Comparative Studies

A comparative study between resistance training and an affective, drug-related prevention program was undertaken by Project SMART (Self Management and Resistance Training) (Hansen et al., 1988). A total of 2,863 seventh-grade students participated.

The concept of resistance training is based on the assumption that most of the causes of drug abuse are external to the individual, particularly peer pressure and the behavior of certain persons who function as role models. The affective curriculum, on the other hand, focuses on the factors most often mentioned in connection with drug use, namely the internal aspects of the individual. Both programs centered on the three gateway drugs: cigarettes, alcohol and marijuana. Consisting of twelve lesson units each, they were alternately conducted by classroom teachers and health counselors during one semester. The social program comprised resistance to social pressure from the peer group, correction of students' estimates of the prevalence of drug use, "inoculation" against media influences, talking about the influences of parents or adults, motivations to use drugs, alternatives to drug use, and "public commitment": saying "no" to drugs. The focus was on drugs; the method of choice was role playing.

The affective concept contained topics such as self-worth, raising self-esteem, motivations, consequences of and alternatives to drug use, goal-setting, decision-making, self-confidence, "public commitment": committing oneself to alternatives to drugs.

The social curriculum proved to be especially effective in preventing the onset of smoking and drinking. This was true for both post-test assessments conducted one and two years after the pre-test measurements. The curriculum was less effective for marijuana use (only in the first post-test). However, no reduction in use was found in those students who were already using it. Since both the incidence and the prevalence comparison revealed a significantly higher use by students in the affective curriculum than those in the

control group, the affective program appeared to have a negative effect. This noticeable boomerang effect was startling. The only positive result of the affective program was discovered during the evaluation of students who reduced their cigarette and alcohol use in the first year after the program, since it involved a significantly higher number of those who had undergone the affective program than the control group.

It should be noted that the dropout rate was 37% in the first and 52% in the second post-test. While there was no indication that students at higher risk for onset dropped out in greater numbers, it is possible the significant dropout rates, which varied from group to group, produced inconsistent results.

Meta-Analysis of Gateway Drug Prevention Programs

When Tobler tested 143 adolescent prevention programs in a 1986 meta-analysis, he made the following discoveries:

- Peer programs centering on the social influence of peers on adolescents are most successful in reducing substance abuse.
- Most programs show better results when peer leaders take part.
- Significant behavior modification can be achieved without changing underlying attitudes. Programs focusing on the acquisition of new skills show the best results.
- There are no essential differences in the effects of prevention strategies between boys and girls.
- Multiple method prevention measures are preferable to one-dimensional programs.

Examining Different Success Indicators

Are school-based programs more successful in preventing cigarette smoking than alcohol use? Do they affect non-users, experimenters and users in different ways? Do supplemental lesson units (booster sessions) reinforce program effectiveness? Is the program more successful when adolescents (peer leaders who are older or of the same age) assist in it? These questions were examined in a comprehensive, controlled prevention study conducted on seventh graders from 30 schools in California and Oregon (Ellickson & Bell, 1990).

The curriculum concept came from successful smoking prevention programs which were expanded. Its theoretical foundation lies in Bandura's "self-efficacy theory of behavior modification" (1969) and Becker's "health belief model" (1974). Participation in the program was intended to enable students to develop motivations for non-use, identify pressures to use, answer pro-drug messages appropriately, and refuse to buckle under to external and internal pressures. Students furthermore learned to recognize the advantages of abstaining and that most people do not use drugs.

Based on their professed use or non-use during pretesting, the students were divided into three groups (non-users, experimenters and users) for separate evaluation. Participation in the curriculum produced a significant reduction of alcohol consumption immediately following the program. In subsequent follow-ups, however, these effects were found to have disappeared, despite booster sessions in the eighth grade.

Cigarette smoking was significantly diminished in the experimenting group compared to the control group, but these effects showed up only in the third post-test, after the booster session. Surprisingly, there were no effects among non-users. For regular

smokers, there was a boomerang effect, i.e., an increase in use.

A clear effect was found in the reduction (by about one third) of marijuana onsets in students who used neither tobacco nor marijuana prior to the program. Although less marked, the remainder also showed diminished use in all measurements.

This extensive study yielded many important results. It primarily provided evidence that programs such as this are effective in preventing the onset of use and of regular use; i.e., in non-users and experimenters. In regular users, they are at best ineffective, at worst they result in increased use. This, however, is not an argument against these programs; once someone has already begun smoking or drinking, primary prevention is moot. For them, other, often much more intensive (treatment) measures are needed to make them stop or cut down. A comparison of habitual users with abstainers and experimenters showed that a considerably higher number of these students had a troubled home life or trouble with the law, came from broken homes, switched schools often, or did less well in school than their classmates. For such cases, prevention should start much sooner and be considerably more comprehensive than a one semester curriculum.

Another important point concerns the only short-term effect of the program in regard to alcohol. In the opinion of the authors, "Drinking is an integral part of American social life, whereas smoking and marijuana use are considerably less common and less accepted. Among high school seniors, two thirds report current drinking, while fewer than 30% report smoking or using marijuana. Similarly, over 55% disapprove of trying marijuana once or twice; only 21% disapprove of trying one or two drinks ... The implication is that sustained reductions in teenage drinking are unlikely without substantial changes in society's attitudes toward alcohol and its use." (Ellickson & Bell, 1990).

7.2.7 The Trainers

Many evaluation studies examine the effects of training when different types of trainers are used. Usually school teachers, peers (older youths or same age), or outside health educators are compared with one another. When adolescents (peer leaders) do the training, this does not always mean they conduct the program on their own; frequently they only serve as aides or assistants. Unfortunately, published results rarely describe their role in detail, which may account for the fact that the results of different studies sometimes seem to contradict each other.

In Botvin's study on preventing gateway drug use (Botvin et al., 1990), the program was either conducted by classroom teachers alone, or with older youths acting as assistants. An entirely unexpected result of this study was the unsatisfactory outcome when the program was conducted by teachers, although earlier studies had shown this to occur for both trainer groups. A later analysis uncovered several reasons for this failure. The program had not been carried out in its entirety, there was a lack of commitment on the part of several teachers, and the researchers had left the selection of trainers to school management. Generally, the teachers only covered part of the curriculum, mostly the informative and cognitive contents, while the skills training was left out. If we consider that preparation entailed nothing more than a four hour workshop, it is not surprising many trainers never gained the conviction essential to their work, namely that the program *was* effective, and themselves had an inadequate command of the skills they were to impart.

When educators later examined the precision with which the program was conducted, they took a random sampling of students whose trainers had adhered to the precise curriculum. They measured positive results for this group, albeit primarily for the girls, with 44% fewer female smokers, a reduction of alcohol consumption during the final week by 51%, and 47% less experimentation with marijuana than for the girls in the control group. Both female and male students reported fewer instances of inebriation than the control group.

In the ALERT program (Ellickson & Bell, 1990), in which health educators trained alone or with the assistance of peer leaders, both variations were found to be of equal value. If effects were noted, they were present for both. Sometimes the results were better using peer leaders, sometimes with health educators by themselves, but neither outperformed the other. During this project, however, about half of the program sessions were routinely monitored to make sure the program was being faithfully carried out.

An interesting concept pertaining to the person of the trainer is the use of experienced police officers in this capacity. This was the case in the DARE (Drug Abuse Resistance Education) project in which the Los Angeles Police Department worked hand-in-hand with the Los Angeles Unified School District (DeJong, 1987). The research team selected the officers on the basis of their teaching ability; their training was administered by health professionals. They also regularly convened in small groups to discuss and resolve problems arising during the lessons. The program conducted was a one-semester prevention curriculum involving sixth grade students.

A post-hoc study showed significant differences in favor of the students who had completed the program, compared with those who had not, in terms of cigarette and alcohol use, willingness to reject drug offers, and number of different methods of refusal. Selecting police officers as trainers, say the authors, lent the lessons much greater credibility and attraction than is the case with regular classroom teachers.

A recently published study (Perry & Grant, 1991) examined the efficacy of resistance training on alcohol consumption in four countries of different cultures and continents (Australia, Chile, Norway, and Swaziland). One of the study's most important aspects was an examination of the program's effects based on who conducted it: half the students were instructed by teachers, the other half by peer leaders. The control groups received no training. The program consisted of five lessons. Pre- and post-program measurements of alcohol consumption gauged the knowledge and attitudes as well as the drinking habits of friends and acquaintances. The evaluation showed that peer leaders produced better results in all four countries. Students who had been taught by adolescents showed less alcohol consumption than both the control group and the group receiving instruction from teachers. The differences between the two last-mentioned groups were insignificant.

7.2.8 Training the Trainers

The Trainer's Responsibilities

The teacher's functions and responsibilities in programs such as Botvin's Life Skills Training (Botvin & Tortu, 1988) differ significantly from the traditional role of imparting knowledge or moderating discussions. In a prevention curriculum, students are expected to learn complex social and personal skills through behavioral training. Before venturing into the classroom, prevention teachers must be specially trained in the essential

techniques (model learning, role playing, positive reinforcement, feedback). Following training, teachers should have an opportunity to practice these techniques in small groups. Botvin and his group (Botvin & Tortu, 1988) normally conduct a one-day workshop which first introduces the teachers to the program and its rationale, followed by a discussion of the instructional handbook and demonstrations of the training techniques for the various skills, which are later practiced. It is vital that the teachers be convinced of the merits and efficacy of the program when they leave the workshop for the classroom. Many teachers feel insecure or overtaxed if they do not receive adequate training or have access to booster sessions. They may not be totally convinced that the program really works, or they understand their role primarily as disseminators of information. Quite possibly they themselves do not possess the skills they are to teach. For this reason, expertly conducted teacher training is enormously important (Eisenman et al, 1984).

Supervision and Support

Especially when a school-based prevention program is first introduced, but also in later phases, teachers (or other trainers) should have a place to go for support and supervision in difficult situations. This task can be handled by the research team who developed the program, a counseling center, or a teacher group.

7.3 The Community as an Area of Prevention

Intervention in this area fits in two categories: 1) Programs whose primary goal is substance abuse prevention and where the subject of addictive substances is a component, and 2) health-promoting programs geared to fostering a healthy lifestyle and a functional environment, thereby indirectly achieving the unspecific prevention not only of drug use, but also of suicides, delinquency, and emotional disorders. The STAR program belongs to the first, the "Prevention in Obervieland" project to the second group (see Section 7.3.2).

7.3.1 Working with Adolescents

"Youth work represents a repression-deficient practice and training field that can offer inspiration and encouragement in life-mastering learning processes, and at the same time allow the conversion of social learning contents to practical social action. This offers numerous opportunities for substance abuse prevention measures which can supplement and expand substance abuse prevention work in other areas of socialization" (Hallmann, 1989). Extra-mural youth work, in contrast to school, is leisure-time oriented. Participation in the program is up to the youths. The essential aspects of preventive youth work are their comprehensive orientation, "learning by doing," and the direct transfer of experience. This helps to establish a direct link with the realities of the adolescents' life, and should take both everyday conflicts and youth-specific problems into account.

Hallmann (1989) distinguishes between two components of preventive youth work which complement each other:

- Regular, "everyday" contacts (such as group evenings)
- Special activities ("project work") which facilitate experiences outside the normal, everyday sphere (mountain hiking, for example).

In project work, approaches featuring as their most important asset wilderness experiences, adventuresome activities or other events that are somewhat out of the ordinary, play a steadily increasing role. One example is the concept of experiental pedagogy developed by Kurt Hahn during the first half of the century (Nöcker, 1990). Today, the short-term schools propagated by Hahn as an substance abuse prevention measure still exist, although in a strongly modified form. Examples of this model are the GINKO campaigns (Discussion, Information and Contact Center) at Mühlheim (Ruhr):

- Formation of a "doper surf" group
- Planning and taking a "clean trip," featuring hikes and canoeing (Hallmann, 1989).

A number of different groups and institutions are engaged in primary prevention campaigns for youths. In Germany, they include counseling centers organized by various sponsors, agencies, and information and coordination centers whose work concentrates on areas such as addiction, addiction therapy, drug use, substance abuse, substance abuse prevention, health, and so forth. Weissinger (1989) presents a detailed and systematic description of substance abuse prevention measures in the entire Federal Republic over the past ten to fifteen years. He sums it up, however, by saying that in most of the concepts and institutions described, efforts are not directed toward prevention but on therapeutic activities.

To demonstrate the wide range of possibilities for anti-drug activities, we are providing some examples of preventive measures or campaigns used in German youth work:

— Movie presentations, film-making by young people

— Theater groups and plays
Within the framework of the project "Theater Against the Dangers of Addiction," for instance, the Aktion Jugendschutz (ajs)[16] sponsored by Schleswig-Holstein's state action committee, organized a theater tour which touted the piece "But I love you just the same."

— Making space and opportunities available to release the creative instincts of young people
An example is the "All's Banana" campaign sponsored by the Office of Drug Issues of the Berlin Department for Family and Youth, where adolescents have an opportunity to practice musical pieces and dances, design and make clothing, or produce videos.

— Exhibits
Just one example: "Love and Addiction," arranged by Berlin area youths.

— Special Campaigns
The Bavarian "Anti-Drug Week," for instance, an alcohol prevention campaign

— Contests
These include activities such as Stuttgart's "Safari of Ideas" (Community Study Stuttgart, 1989), which asked students to examine the subject of smoking versus non-smoking; or "Love and Addiction" in Berlin (Weissinger, 1989), where adolescents shared thoughts and experiences in the form of cartoons or radio plays.

[16] Youth Protection Institution

— Festivals
These might include events such as the non-smoker festivals held in several German cities and promoted by the Federal Center for Health Education (v. Troschke, 1990; 1991)

— Youth Multiplicator Training
Continued education seminars on the subject of drug prevention, such as those offered by the BZgA for employees of youth leisure facilities

— Formation of Drug-Free Groups
The Gemeinschaft drogenfreier Jugend (gdj),[17] active within the Catholic Center for Social Ethics, or the German Good Templar Order

— "Anti-drug discos," drug-free cafés

— Introducing inexpensive non-alcoholic beverages in restaurants, as seen during the Youth Welfare Authority's Nuremberg campaign

— Experience-oriented learning projects: experiencing nature, adventures in the great outdoors

— Preparing media materials such as video or cassette tapes, brochures, flyers, books, games, posters, support and instructional materials for multiplicators (such as the materials published by the BZgA).

Most of these campaigns were not followed by any quantitative evaluations regarding their effects on substance abuse.

Evaluation of the Channel One Program

In the United States, the Channel One concept, which we can classify as an alternative program (Section 7.2.3), has been widely adopted for youth work in recent years. Local prevention organizations provide administrative support, while funding comes from a number of corporations. The adolescents select their work assignments independently and see them through on their own. The program comprises the natural formation of groups, group interaction, alternative activities, youth-initiated activities, creating a space where decision-making can take place, and assuming responsibility for one's decisions. The concept's creator was the artist Al Duca who had hired a group of young people to help him make a large statue. The idea was taken up and disseminated by NIDA, and in turn led to the campaign being more aggressively promoted by a number of business executives (Swisher & Hu, 1983). In 1981, Resnick & Adams reported on about 130 Channel One groups whose task derived primarily from professional and alternative fields, and in some few instances from social welfare, school, and historic and environmental preservation.

The Hu group (Swisher & Hu, 1983) analyzed Channel One's effectiveness in terms of substance abuse prevention and cost. Six recreational centers were enlisted to participate. Channel One groups were started in three of these, while the other three furnished the control groups. Evaluation results were inconsistent: there was some improvement in

[17] League of Drug-Free Youth

group problem-solving strategies and commitment to positive alternatives, but no changes were registered in the self-esteem of the participants. Additionally, some negative effects in terms of substance use (more inhalant and hallucinogen use, more frequent inebriation) were found in some participants of the experimental group.

7.3.2 Comprehensive Programs

Scientific publications list the following reasons for comprehensive community prevention:

— "A multi-component community approach calling upon all relevant resources in the community has the potential to reach those at greatest risk at the time and place of risk, and to reinforce and support the prevention message consistently over time and place" (Johnson, 1986).

— The greatest effect is achieved not with a few campaigns here and there which only reach a specific subgroup, but with multi-component activities directed at several groups, each synergistically reinforcing the other in its effects.

— The use of addictive substances is a form of social behavior and is therefore imbedded in the existing system of social norms and the social net of the community. If positive changes take place in an entire community, it will affect all of its members, especially children and teens who grow up in this environment.

— A community which earnestly promotes its quality of life, whose members are active and are offered many different opportunities for keeping busy, reduces the likelihood of social isolation, loneliness, or lack of a meaningful life for its members, while at the same time contributing to greater emotional health.

To a significant extent, success in comprehensive substance abuse prevention depends on the political support it can garner. It is very important for government and other federal and regional agencies to aggressively promote preventive efforts in the community. The principal areas for a comprehensive community program are family, peer groups and school, with the community as underlying structure (Perry, 1986). In several pilot projects conducted in the United States, models for community-wide prevention programs for cardio-vascular diseases were tested and evaluated. The results give rise to cautious optimism for similar efforts in the area of substance abuse prevention (DuPont, 1990).

Evaluation of the STAR Program

Pentz et al. (1989) describe a multi-component prevention program in Kansas City involving several communities. The entire program was planned to stretch over six years; the authors reported on the results of the first two years. To start with, the schools and communities were to evaluate their prevention activities and what they hoped to gain from them. Several school and community coordinators were trained, as were teachers and television personnel.

One component of the program was a school curriculum (social assertiveness skills training, see above) for sixth and seventh graders (depending upon the type of school). The students then participated in a 10-unit homework assignment, for which they were

asked to interview parents and other family members on the family's standards regarding drug and alcohol use. The results of these interviews were discussed in class. Students then practiced ways in which families might change these norms and how to counteract the influence of advertising and environment.

The program also included an aggressive media campaign, in which several television and radio stations as well as newspapers and magazines took part. They reported on the project's goals and methods, conducted interviews with program coordinators and participants, and published first-hand reports on its progress. In evaluating the program, the consumption rates of the three "gateway drugs" were determined. A follow-up one year later revealed their prevalence to have been significantly reduced to the following figures (experimental vs. control group): 15% vs. 22% for cigarettes, 9% vs. 12% for alcohol, and 4% vs. 7% for marijuana. During the 2-year follow-up a year later, these effects were found to have persisted.

Prevention in Obervieland (Bremen)

This model project represents an evaluation of the "Education for Health" concept, an integrated substance abuse prevention strategy developed by the Council of Europe, which starts with a community or an urban district and combines individual as well as structural components (European Health Committee, 1984). The program rests on the following definition of "Education for Health": "A process with intellectual, psychological and social dimensions relating to activities which increase health consciousness and responsibility and people's ability to make informed decisions affecting their personal, family and community well-being. This process, on scientific principles, facilitates learning, behavioral change, and changes in attitudes, both in the population as a whole and in target groups, mediator groups, and decision-making groups."

This definition demonstrates why the initiators consider traditional drug awareness methods to be unsuccessful. They neither trigger the above-described process nor do they maintain it, and for this reason they are also incapable of educating in the true sense of the word. The concept does not view primary prevention as an activity to be orchestrated "from above," but sees it as closely connected to the self-experienced and self-expressed needs of people in the community. Children and adolescents are the real targets of this approach, and by improving the quality of life in the community where the children grow up, they are also taught to be healthy. The main areas where specific action should be concentrated are: individual health and hygiene, nutrition, stimulants, development of children beyond adolescence to adulthood, interpersonal relationships, parenting classes, community health, environmental care and protection, safety, and first aid.

Based on this model, eleven pilot projects were conducted in nine European countries, one of these in Bremen. A number of agencies and residents collaborated in the project in the urban district of Obervieland: the Drug Information Center, the Obervieland School District, the municipal board, the community center council, the municipal district welfare administration, the Bremen General Health Department, teachers, parents, and the children and adolescents themselves. Together, they carried out the following project components:

— Nutritious School Breakfast
The focus was on the work of several mothers in the school cafeteria who gradually introduced a wholesome breakfast. In tandem with teachers, doctors and nurses, activities such as a common breakfast break, education on good eating habits, and

inception of a district-wide workshop on cooking took place.

— AIDS
This project component targeted the development and testing of new AIDS prevention concepts which were to combine scholastic and extracurricular activities. This included the design and implementation of continued education sessions for teachers, social workers and multiplicators.

— Substance abuse prevention During the Orientation Phase
In this area, the cooperation between teachers, students, parents and staffers from other agencies was extremely important. An inventory of classroom activities and the concerns of teachers, students and parents produced substance abuse prevention work guidelines which also offered support materials and suggestions for teachers.

— Recess Activities
A lawn area, and later the entire school yard were stocked with sports equipment. During the 25-minute recess, the children had an opportunity to participate in various types of sports and games, such as soccer, volleyball, badminton, tennis, horseshoes, and table tennis. Once a week there was a dance recess, where students could participate or watch the performance of the school's dance group.

— Students' Residential Area
The intention here was for students to observe their own neighborhood and develop ideas on how to effect changes. This was accomplished by means of photo excursions, working together in the foto lab, and social group work.

— Expert Instructors
In order to draw on the experience of experts from the community during classroom work, a report compiling information gathered during previous work with such people was handed out to teachers.

— Health Education as a Component of the Lesson Plan
The question of how health education can be tied in with other subjects was examined and documented. The results of this effort were published in a brochure entitled "Health Education in Orientation Stage Lesson Plans."

— Health Education at the Preschool Stage
This involved course offerings for expectant mothers and baby care classes. In a broader sense, it also sought to dismantle the frequently occurring isolation of young mothers by rallying existing support groups or by organizing new mother and child groups.

— Parental Contributions
Here the focus was on better and closer collaboration between parents and teachers. A survey was conducted and the results published, and parent-teacher councils tested methods of team work.

— Coverage of the Obervieland Program by the Bremen Press
A teacher, a health department official, and several eighth and ninth grade students participated in this project component.

— Photo Excursions in the City
This project component saw students actively and creatively examine their neighborhoods.

— Obervieland—a Place for Kids?
Based on the "A Place for kids" method developed in Seattle, children and adolescents were asked to render "expert" testimony on their social and health environment.

An evaluative report marked the end of the project's 2-year pilot phase in 1990. Those in charge of the evaluation opted for a project report describing both the experiences of the participants and the decisive events which governed the process. All of the project components were exhaustively documented.

The qualitative evaluation of the project showed that participation was a very important and positive experience for virtually everyone, and that many activities are being continued. Most of the project components did not come as a result of a thorough analysis of the problems and conditions in the district as recommended by the Council of Europe concept, but rather from a willingness of the participants to identify what needed to be done on their own, and working with others to accomplish it. "This deviation from the norm has proven productive in that it turns participants into active, thinking human beings, rather than simply executing the ideas of others."

"Preventive approaches must reach people where they really are, both developmentally and consciously. The most important help we can give is to listen and learn to understand their concerns, their fears and their problems, and to replicate them. For prevention to be truly meaningful and successful, it cannot simply be handed to people or touch them in passing. This factor is often overlooked, especially when suggestions for preventive work come out of some roundtable discussion. For those involved in the "Prevention in Obervieland" project, this means the residents of this district should not only participate in the planning process from the very beginning, but should be the ones to decide what form the preventive activities should take." In the words of a woman doctor, "Prevention is something you simply can't do for others. I feel it is important to realize this. While we can grow with such a project and become experts of sorts, we cannot accomplish prevention for others ... People simply must do it for themselves" ("Prevention in Obervieland" Project Evaluation Report, 1990).

An Assessment of the Evaluative Study

The project report was primarily the result of intensive, qualitative interviews conducted with several project participants. Since there was no quantitative assessment, no universally valid statements regarding its effects can be made.

A similar concept, but on a much smaller scope, spawned a model project in a section of Frankfurt (Gerberding & Moos-Hofius, 1988), where a health education concept developed in that city, "a (re)organization of the social preconditions for human health: supportive interpersonal relationships, effective social support systems, breathing space to test one's self-efficacy as well as oneself, and opportunities for participation in public life", was tested in a new self-help and neighborhood center" (Gerberding & Moos-Hofius, 1988).

7.4 The Mass Media as an Area of Prevention

7.4.1 Media Campaigns

Rogers & Storey (1987) compared eleven definitions of the media campaign concept developed by theoreticians and practitioners, and identified four elements each definition must meet as a minimum:

1) A campaign pursues a purpose, i.e., it wants to achieve certain effects.
The vast field of possible goals and effects of an anti-drug campaign can be placed along the continuum "information-belief-behavior modification." The foundation on which all other goals rest is the sharing of information, its highest level being the mobilization of the target group to exhibit or not to exhibit a certain behavior. Publications on media research in Germany express a similar view. Bergler (1972) sees mass communication as useful in three areas of health education: To begin with, a particular problem is brought to the public's attention. This is accomplished both by providing basic information and by conveying a "feeling of permanent dismay." The next phase aims to transfer the problem awareness to specific social norms, followed by the development of behavioral guidelines as the final step. Campaign effects range from the individual to the social level. Often, the apparent intent is to influence only the individual, but behind it is the actual, larger objective of achieving changes in the entire social system. If prevention campaigns are to succeed, there also is the question as to who benefits. Rogers & Storey (1987) see the rewards of a campaign as a continuum, with the recipient at one end and the sender of the message at the other, which of course does not exclude that both or even a third party may also profit.

2) A campaign seeks to address a relatively large audience.
In contrast to less broadly conceived campaigns which tend to emphasize interpersonal communication, the target group for a media campaign is usually quite large (anywhere from several hundred persons to the population nationwide), since the financial and organizational expenditures can only be justified if directed at a broad-based audience.

3) A campaign has a more or less rigid time frame.
The time frame for a media campaign begins with the first media event and ends with the final evaluation. Ordinarily, this takes anywhere from several weeks to several months.

4) A campaign consists of an organized series of communication events.
It is rarely the case that only one channel is chosen to reach the target group during a campaign. There usually is a combination of efforts involving a number of different steps and media events, such as television spots and press coverage, informational literature, news broadcasts, advertising materials such as stickers, T-shirts, and so forth. Campaign logistics - i.e., how and at what time is what information disseminated to which segment of the population—are critical.

7.4.2 Social Marketing

Social marketing is a fairly recent idea which originated in the United States (Wallack, 1990 a, b; Solomon, 1989; Lefebvre & Flora, 1988; Manoff, 1985). It was developed for

use in planning and conducting media campaigns for health education. Based on its methodology, it is not entirely correct to lump this in with the mass media approach, since its scope transcends the mass communication aspect. Still, since the media must be considered the primary vehicle, its inclusion in this section is warranted.

The concept of "social marketing" grew out of the realization that health education, if it is to reach larger population groups or even a country's entire population, has not been overly successful in capturing specific groups with traditional methods. Social marketing, in a nutshell, is characterized as an adaptation of commercial marketing strategies to the public health field, the difference between the two not being one of methodology, but of content and objective. Commercial marketing campaigns, for instance, usually try to entice the consumer to adopt a certain behavior, while social marketing attempts to dissuade the user from certain, often quite popular, habits. It is not difficult to recognize the strategies of mass communication in the social marketing approach.

The substantive concept of social marketing essentially comprises the following components (Lefebvre & Flora, 1988):

— Consumer-Orientation
Modern marketing methods are primarily geared to the needs and interests of consumers which must therefore first be identified before a program can be developed.

— Costs and Benefits for Producers and Consumers
For the producers, this signifies the expenditure of resources such as money, technical expertise, and a multitude of ideas, products and services. The costs on the part of consumers are such things as time, physical and cognitive efforts, and psychological factors such as coping skills and self-confidence. For producers, the benefits might lie in the enhancement of financing prospects from various sponsors, while the rewards of consumers might be a better quality of life, improved sense of well-being, or greater social contact.

— Consumer Analysis
A consumer analysis serves to identify needs, to calculate cost versus benefit, and to develop a program tailored to the consumers' needs to ensure the maximum cost-benefit ratio for both producer and consumer.

— Market Segmentation
Segmentation means dividing the total population into individual groups, each of which should be as homogenous as possible, yet differ from the other groups by the widest possible margin. This ensures that the individual campaign elements can be tailored to the requirements of each special group. Some segmentation criteria are: demographic variables, lifestyle, attitudes, consumer needs.

— Research for Improved Methodology
Market and consumer analysis research designed to pre-test concepts, ideas and messages before introducing them to the general public is indispensable to the concept.

— Analysis of Distribution/Communication Channels
Another important factor in social marketing is the identification and analysis of suitable distribution channels. These range from television to print media to public

figures and anyone else who has access to one of the target groups. Other communication channels are the so-called "crossroads of daily life," such as bus or streetcar stops, restaurants, shops, plus certain techniques of getting the message across (direct mail, telephone calls, public events, etc.).

— "Marketing Mix"
This concept refers to the so-called "Four P's" of marketing: product-price-place-promotion. This means making the product (a healthier lifestyle, for instance) accessible to the target group, lowering the barriers/cost of participation, choosing the right distribution channels and the extent of media coverage, etc., and finally to devise an appropriate promotional strategy which must be closely tied to the preceding three P's.

— Process Analysis
While the campaign is underway, its essential aspects (questions such as whether the target group is being reached, progress, benefit trends, etc.) should be evaluated so that undesirable developments can be dealt with quickly and effectively while the program is still in progress.

7.4.3 Evaluation

Methodological Problems of Evaluation

There are widely diverging opinions regarding the reliability of mass media campaign evaluations. On the one hand, there is Silbermann's (1969) thoroughly pessimistic standpoint: "... It is quite impossible to separate the specific mass communication effects from the total effect package," while Wallack (1980) takes the opposite view in saying that an evaluation is certainly feasible, one only needs a well-designed methodology.

Pfaff et al. (1982) have defined a flawless evaluation study on the basis of the question: "Who does what for whom with what goal and with what success? These questions should be examined during the planning phase, concurrently with the program, and during the evaluation." The researchers concede, however, that these requirements can ordinarily only be met under laboratory conditions where influencing factors can be kept constant and free of disruptive variables. Evaluation studies must therefore be restricted to gauging success rates or performing an analysis of effectiveness.To verify the efficacy of a campaign, the following prerequisites must exist:

- The campaign must have a clearly defined objective;
- The target group must be clearly delimited;
- The success indicators must be defined.

Each requirement must be met before an evaluation can take place. It can then be expected to provide answers regarding the effects of different campaigns, and ideally identify cause-and-effect relationships if they exist.

By no means do all evaluation studies meet these prerequisites. Quite often, an anti-drug campaign is written off as unsuccessful simply because efforts to measure it were inadequate (Wallack, 1980), and not because of an inadequate theoretical model or procedural methodology. In reviewing these studies, it is therefore advisable to be alert for a number of methodological shortcomings (Pfaff et al., 1982; Blane & Hewitt, 1977;

Weiss & Rein, 1972; Wallack, 1980):

Objective
If the professed campaign goal is either missing or only vaguely formulated, it is not only difficult to do an efficacy study, but the campaign success itself is greatly diminished. Another important aspect is the formulation of palpable goals for the various media (for example, information dissemination only or behavior modification).

Success Criteria
Possible shortcomings might include:

- Not having a clear definition of what constitutes a successful campaign;
- Defining success criteria so narrowly that unexpected results are not recognized;
- Concentrating so exclusively on the expected and desired consequences that any possible undesirable results are completely left out of the analysis.

Success Categorization
Media campaigns are becoming more and more complex, and several different media and strategies may band together. This makes it exceedingly difficult to filter out the success level of individual measures. Frequently unresolved is the question of whether a certain measure contributed to success or failure, or whether the totality of all measures was responsible. Additionally, when the focus is on individual behavior modification, a multitude of outside factors, such as changing cultural norms, come into play, making it difficult to categorize the effects unambiguously. And finally it should not be forgotten that merely interviewing the participant, before or after the measure, can quite possibly represent an effective intervention in terms of the campaign goal.

Theory-Guided Approach
If the campaign lacks theoretical footing, the outcome assessment is limited to a description of the results. This is unsatisfactory, since results alone are insufficient for valid conclusions.

Design
For simple cross-sectional surveys consisting only of a group of participants who undergo subsequent testing, results should be interpreted with great caution.

Even when every effort is made during the design stage of an assessment study to rule out as many methodological problems as possible, there are always intangible factors which escape control. Therefore, any evaluation must be regarded with this inherent limitation in mind.

7.4.4 Results

In examining the history of media research primarily in the United States during the past 40 years, the assessment of media effectiveness has progressed in the form of a wave (Solomon, 1982; Roberts & Maccoby, 1985; Rogers & Storey, 1987; Rice & Atkin, 1989). Following the experience with propaganda campaigns during World War I, there initially was great optimism regarding the media's power to convince just about anyone. But the first few studies soon shed a very negative light on public receptiveness to media influences. There also existed a tendency to seek responsibility for the failure less in the campaign, but rather in the recipient, the message, or its conduit. Later, after a number of fairly successful campaigns, the negative assessment gave way to a more balanced, even

optimistic view. The present consensus gives the media credit for great effectiveness, but only under certain conditions and in connection with additional prerequisites and influences.

Overviews

Most of the significant reviews dealing with the effectiveness of media campaigns were compiled in the United States and permit us to quickly gain an idea regarding past and present assessments of mass media efficacy.

Solomon (1982) analyzed eight reviews on the topic "effectiveness of communication campaigns" stretching over 30 years. Essentially, these reviews reflect the ups and downs in the assessment of media campaign effectiveness discussed above. As a point of departure, Solomon's work used a pessimistic article about campaign successes authored by Hyman & Sheatsley (1947) which saw the decisive factor primarily in the person of the recipient. He concluded that 1) certain groups of people, the chronic "know-nothings", are virtually unreachable, 2) the message is most likely to be accepted by those who are already interested anyway, and 3) the majority of accepted messages tend to confirm opinions that are already being held. Another point was that different people understand one and the same message in different ways, and finally there was the important realization that providing information does not necessarily produce a change in attitudes. This slim expectation of success continues in the article by Lazarsfeld & Merton (1971, first published in 1949), which appeared at roughly the same time, but here attention shifts from the recipient to the message with the observation that the mass media have more of a status-confirming and "narcotic" effect. The three important prerequisites for effective campaigns named are still valid today: 1) Monopolization, i.e., no counter-advertising campaign (such as cigarette ads) should be run, 2) Channeling, i.e., attitudes should turn into action, and 3) Support, i.e., mass media campaigns should be reinforced by interpersonal communication. Another review from the 1940's (Cartwright, 1949) expands on the mass media process by incorporating the concept of interaction between the individual, the message, and the environment. The chances for a successful outcome are considered relatively high if appropriate cognitive, motivational and behavioral structures can be created.

Even more confident is Wiebe (1951; 1952) who focuses on recipient and information as components of a complex system which can prevent or promote behavior modification, but is open to outside influences as long as certain rules are observed. Less optimistic again is the 1960 review of campaign successes by Griffith & Knutson who place special emphasis on the importance of personal appeals, credible sources and the role of opinion leaders (persons who take the mass media message and pass it on convincingly and personally). Lazarsfeld introduced this concept, which he termed "two-step flow of communication," as early as 1955. Mendelsohn (1973) introduces the very modern approach of making greater use of empirical knowledge in shaping the message and the campaign. The results have hardly ever been addressed, and if so, then only to demonstrate what a campaign cannot accomplish. Mendelsohn sees the decisive factor in process evaluation as it affords an opportunity to switch to a different strategy while the campaign is still in progress. After reviewing a large number of evaluation studies, Atkin (1979) came to the conclusion that successes are more likely documented on cognitive than on attitudinal or behavioral levels, although his overall view is that the mass media does wield a certain amount of influence on public perception in health matters.

Brian R. Flay (Flay & Sobel, 1983; Flay, 1987) examined the evaluation studies of 40

non-smoking campaigns conducted in countries such as the United States, Canada, England, Greece, Norway, and Austria. Nine campaigns were informational-motivational programs, 11 advertised stop-smoking programs, and 20 were media-run addiction treatment programs. All but two campaigns employed television, and most of them also used the air waves and the print media.

The survey results revealed that the mass media can indeed be instrumental in reducing cigarette smoking, although success levels are typically modest. The programs that did very well by comparison, however, achieved above-average results. This allows the hope that the positive effect can be quite pronounced when campaigns are structured correctly. Rust's 1985 review of publications on the topic of efficacy assessments of media campaigns in the 1970's lists several pertinent papers on informational campaigns in the substance abuse prevention field. Nearly all of these found that while information is indeed absorbed, understood and even accepted, behavioral changes do not automatically follow. O'Keefe (1971) sees this phenomenon as a confirmation of the "functional independence of the emotional and cognitive motivations of everyday actions." This observation is supported by Schmeling & Wotring whose 1976 study determined that television was unable to change behavior that was already firmly entrenched. Following a study of college students, the findings of Fejer et al. (1971) were even more pessimistic: television and other media, they concluded, provide affirmation and support only for those who reject drug use completely. This means the media message reaches only that portion of the audience which already agrees with it. Hyman & Sheatsley (1947) similarly observed that precisely those most at risk are often beyond the reach of educational campaigns. Rust noted considerably more positive effects in campaigns where the media plays only a supportive role.

Individual Campaigns

The following examples describe results obtained from a number of evaluated media campaigns. Several conclusions were drawn from each of the studies and are shown in Chapter 8.

"When to Say When" Campaign, Pennsylvania (U.S.), 1975

In 1975, Pennsylvania's Public Television embarked on a series of five 1 1/2-hour broadcasts on the subject of alcoholism. Specifically, it dealt with alcoholism in young and old, rich and poor, and persons of diverse professional backgrounds. In addition, TV spots and newspaper ads were run, and institutions and individuals put on talks and appearances to stir public interest. Alcoholics and their families, friends and employers formed the target groups. The campaign goals were:

- To create a public perception of alcoholism as a social problem;
- To spur the forces in the community into taking appropriate action (as the larger goal).

To measure the campaign's success, 1,200 Pennsylvanians over age 18 were polled by telephone immediately after the campaign ended. The sampling was considered to be representative. The poll sought answers to the following questions:

- What segment of the population knows about the campaign?
- From what sources did the population learn about the campaign?
- Had the campaign reached people who had had relevant experiences with alcohol?
- Had the campaign helped these persons to recognize their alcohol problem and seek

help?

The results were not what the organizers had expected. It was found overall that the chosen approach, which involved not insignificant costs, produced only a small impetus toward a change of attitude to drinking. Specifically, the following picture emerged:

— Of the 1,200 persons polled, only 6.1% knew about the campaign. Compared with the sociodemographic variables, those familiar with the campaign did not differ from the rest of the viewers. Admittedly, Public Television viewers have different characteristics than viewers of commercial stations, an important difference being the fact that people with alcohol problems tend to be somewhat underrepresented among the former.

— People were more likely to learn about the campaign through the mass media than through other channels.

— Of the 6.1% who knew about the campaign, 44% had already had a drinking problem.

— The success of the campaign was reflected more in the fact that it sharpened the ability to recognize alcohol problems, than in stimulating behavioral changes.

Anti-Smoking Campaign (1980/1981, Austria)

In November 1980, the Austrian Federal Ministry of Health and Environmental Protection initiated an anti-smoking campaign (Gredler & Kunze, 1981). The campaign ran for eight weeks and had a budget of about one million German marks. Targeted were people between the ages of 16 and 69. A slogan ("Smoking ... who needs it?"), as well as a characteristic logo and a jingle were developed for the campaign.

The campaign comprised two segments: a mass media information blitz, followed by a "stop smoking campaign" for smokers willing to quit or cut down. For the first segment, Austrian radio and television donated free air time, allowing 85 television and 485 radio spots to be broadcast during the campaign's eight week run. The media campaign was further supported by 35 newspaper ads, 38 magazine ads, and 34 ads in special magazines for young people. In addition, movie theaters showed 66 advertising spots and 2,695 billboards were put up. The help of prominent Austrian non-smokers, most of them from the sports world, was enlisted for television and radio spots. For the second segment, the "stop-smoking campaign," interested persons were sent a non-smoker program free of charge. Posters in doctors' offices and other medical institutions also publicized the program.

The campaign's success was examined in a population survey (personal, semi-structured interviews), conducted immediately upon its conclusion. A representative sample of Austria's total population (2,004 persons between 16 and 69 years of age) was surveyed. The interviews focused on the following themes: familiarity with the anti-smoking campaign, smoking habits, and attitude toward smoking. Since corresponding data from two earlier representative surveys were available, it allowed the results regarding smoking habits and attitudes toward smoking to be compared. The success criteria for the campaign were:

- A "yes" to the question: "Do you know anyone among your friends or relatives who recently stopped smoking, or someone who is now planning to do so?"

- The respondent had cut down on his or her own tobacco use.

The following results stood out:

- There was an elevated degree of familiarity with the campaign within the population (83%).
- Contrary to earlier surveys, the percentage of persons unhappy with their smoking habit had greatly increased.
- 26% of all smokers wanted to quit smoking, 31% planned to smoke less, and 2% intended to switch to a milder brand.
- The majority of the disaffected smokers (those unhappy about their smoking) rejected the notion of entering a recognized quit smoking program.

Due to the following results, the campaign was hailed as a great success:

- 32% of all Austrians knew someone who only recently gave up smoking, and 12% knew someone who planned to quit.
- Compared with 1979, the percentage of smokers among the total population fell from 33% to 27%.

The evaluation report leaves unanswered the question why the positive results should be ascribed to the influence of the various campaign events, particularly since the surveyed drop extends over an extended time period. The assessment of the program's effectiveness should therefore proceed with great caution.

Canada's AADAC Alcohol and Drug Prevention Program "How to Make the Most of You" (1981 - today)

In the fall of 1981, the AADAC (an agency of the Government of Alberta, Canada) initiated a long-term primary prevention program offering an extraordinarily broad-based package of prevention measures. Adolescents age 12 - 17 and their parents are the target group. The program's underpinning is a health education approach aimed at encouraging the target population to adopt and maintain a healthy lifestyle. Its design, implementation and evaluation rest on the principles of social marketing, i.e., following the definition of the above-listed criteria, the messages and materials, as well as the process evaluation of the program were carefully detailed during a rather extensive planning phase.

Specifically, the campaign contains the following elements: 1) Mass media communication (television, radio, print media, and a youth magazine specially developed for the purpose), 2) Initiatives at the community level (plays and other events which entailed a certain amount of commitment on the part of the adolescents, 3) School-based activities (publications, video presentations), and 4) Evaluative research (process evaluation and results).

Activities involving the mass media were primarily confined to the first five years of the project and included 24 television and 62 radio spots, as well as companion ads in newspapers and magazines. The objective was to publicize the program, to ensure the public understood its contents, to encourage young people to see themselves in a positive light, and to drive home the idea that there are alternatives to their current lifestyle. In particular, the following items were addressed: 1) How adolescents can adopt a lifestyle of responsible independence, 2) developing support of and for their peers, 3) social influences to which the individual is exposed, 4) information about drugs, and fostering

independent, responsible decision-making skills regarding their use, and finally 5) motivating adults (parents and other significant persons) to support the adolescents' development.

To evaluate the campaign, repeated surveys of households began in 1981 both in Alberta, with a sample size of 450 adolescents and their parents, and in a comparable province involving 300 adolescents and their parents. The most significant results were:

— A considerable degree of familiarity with the campaign (1986) existed among adolescents (over 90%) and their parents (better than 88%), and opinions of the concept and the various appeals were overwhelmingly favorable.

— Later surveys, however, noted that many of the topics addressed in previous years had been forgotten, and even new topics were no longer able to become as firmly rooted in the public consciousness.

— Sizeable successes in the reduction of alcohol and drug use among adolescents were recorded during the initial campaign years (from 55% in 1981 to 43% in 1987).

— Here, too, the above phenomenon repeated itself: After a few years, use was up again, but the pattern was different. Occasions where drinking occurred were fewer in number, but when drinking did take place, greater quantities were consumed.

— A similar effect was noted with regard to cigarette smoking; after an initial decline it, too, rose in subsequent years, and more so among girls than boys.

Based on these evaluation results, the initiators concluded they would have to resort to the mass media again to raise awareness of the program goals and increase its acceptance. They also consider it extremely important to extend the program to the community level, as long as the program's identity and its positive image can be maintained.

The Stanford Five-City Project—Smokers' Challenge I (USA, 1983)

The description of this campaign, which entailed a six week "Quit Smoking" contest in five U.S. cities, can be seen as an example of the use of "Social Marketing" strategies. It was preceded by a number of television programs on the topic, as well as a newspaper campaign offering self-help techniques. The campaign objectives were:

- To achieve a high degree of publicity regarding the contest in the entire population
- To sign up a large number of smokers for the contest
- Getting many men to participate in the contest
- To motivate over 50% of participating smokers to utilize community resources in giving up their smoking habit
- To achieve a better than 20% success rate in getting people to stop smoking
- To teach successful quitters the requisite skills to remain smoke-free for at least one year.

An analysis of the needs of users produced a target group of easily motivated smokers and certain incentives to attract contest participants. Evaluations were conducted on how to best publicize the event and improve contest strategies. The contest title was determined by asking smokers at bars and job-related meetings to choose one from

among several suggestions. A random telephone poll of smokers sought to ascertain what kind of incentive might motivate them to participate. A review of data for media utilization models resulted in the selection of television, newspapers, public libraries, the workplace, schools, stores and doctors' offices as distribution channels for the message.

Not all of the targeted goals were reached. The subsequent evaluation of the campaign revealed that only 60% of the population was aware of the campaign. 501 smokers participated in the contest, with the percentage of women higher than that of men. Community programs attracted only a few participants. 45% gave up smoking for a short while, and 22% stopped for a year.

With these experiences in mind, an improved **"Smokers' Challenge II"** was launched. New brochures on ways to quit smoking were produced, and the contest was extended from six weeks to three months. As an added incentive, there no longer was just one grand prize, but smokers mailing in their monthly "quit cards" could also win smaller prizes. "Smokers' Challenge II" reached 588 smokers—this time mostly men—, and a follow-up study conducted two months after the contest ended showed a 30% completion rate.

The Harvard Alcohol Project (USA, 1987 - 1990)

In 1987, the "Center for Health Communication of the Harvard School of Public Health" collaborated in a media campaign with television stations, Hollywood studios and leading advertising firms. The objective was to achieve a fundamental change in the way society regards drunk driving. About 20 prime time advertising spots and commercials per week publicized the designated driver concept. In addition, some 80 television scripts of popular entertainment shows included reinforcing references to the maxim, "If you drink, don't drive."

The evaluation results are very positive: the campaign achieved a high degree of public awareness (78% of those attending gatherings or parties where alcohol was being served indicated they were aware of the campaign), and 72% said they had adopted the "designated driver" concept. Although these answers may only have been given because they are perceived as socially correct, the authors nevertheless see this as a step in the right direction (DeJong & Winsten, 1990).

National Campaign Against Drug Abuse (Australia, 1986 - 1988)

In 1986, the Australian Government undertook a 3-year nationwide campaign against drug abuse (NCADA). On the premise that addiction is not limited to illegal drugs, the campaign objective was to educate the public to deal with drugs responsibly. To accomplish this, a number of public service announcements were released, television commercials were run and brochures distributed. One of these, a manual entitled "The Drug Offensive," was to be mailed to every household in the nation. In addition to providing information about the dangers of drugs of every kind (both legal and illegal), the manual attempted to question the popular notion that drug use (at least where alcohol and nicotine are concerned) is a socially desirable custom. Mass media activities focused primarily on the first three months of the campaign whose target group was Australia's entire population; the subsequent evaluation was conducted on a population segment of Northern Queensland (Barber & Grichting, 1990).

Because it was not feasible to set up a control group under the prevailing conditions, a

quasi-experimental method, the pre-test/post-test design, served to evaluate the campaign. The participants were divided into two groups, with group 1 (N=410) tested immediately before and shortly after the campaign, while group 2 (N=509) was questioned right after the campaign only. This design, it was hoped, would reveal any possible effects the pre-test might have produced.

Each participant underwent a 50-minute structured interview with a trained interviewer. The only background information the participants received was that they were participating in a university-sponsored study of drug-related attitudes and behavior. No mention was made of the media campaign. Interview topics included questions about drug awareness, drug use, attitudes toward legal and illegal drug use, opinions regarding the dangers of different substances, and their views of various societal activities to curb drug abuse.

The overall result was not very encouraging. While drug awareness was improved and the dangers associated with drugs (except alcohol) were assessed as greater than before, it cannot be ruled out that the pre-test alone or in combination with the campaign influenced these perceptions. The same effect also applied to the attitude toward drugs. Cigarette smoking did not diminish following the campaign, and only alcohol consumption showed a modest decline.

8. Conclusions

8.1 Interpersonal Communication

1. Prevention is Effective
   Contrary to frequently heard contentions, the effectiveness of measures geared to preventing drug abuse, delaying its onset, or forestalling long-term abuse behavior has been empirically proven. But depending upon the following factors, their efficacy can be quite varied:

   - Choice and intensity of the measures taken
   - Age group
   - Target group (non-users, experimenters, or users)
   - Substance
   - Who conducts the prevention effort (e.g., teachers or peer leaders)
   - The setting in which prevention activities take place.

2. For methodological and educational reasons, the concept of protective factors against drug abuse is more useful for prevention efforts than the risk factor concept.
   After the addictive personality concept and similar one-dimensional models for explaining drug abuse were discarded quite a few years ago because they could not be empirically substantiated, it appears prudent, on the basis of current research, to modify the currently popular risk factor concept as well, or at least to significantly reduce its relative importance in favor of the protective factor concept.

   The risk factor concept postulates that the presence of certain danger signals in the development of a young person (such as inappropriate conduct), in his immediate environment (alcohol abuse within the family), and in his social environment (frequent offers of drugs) increase the likelihood that he will use drugs. What detracts from the validity of this concept is that many of the risk factors named in recent years are true for a large part of the population, but only a statistically insignificant number of people in fact succumb to drug abuse.

   The protective factor concept is almost a mirror image of this approach. It examines which factors must be in place to keep someone from using drugs. There is an inherent methodological advantage to this approach. Since there are many more people who do not use drugs, it is not only much easier to conduct scientific studies, but cause and effect relationships are easier to identify. It is also more useful for psychological and pedagogical reasons, because it is always more difficult to eliminate risks than it is to program positive factors. While the protective factor concept has previously been examined chiefly in the context of individual behavior, it can be expanded to include social background and societal factors as well.

3. Prevention requires a long-term approach; short-term campaigns are ineffective.
   Numerous studies have shown that long-term prevention measures are significantly more effective than short-term programs. Moreover, long-term behavioral analyses following preventive programs are indispensible, since positive effects tend not only to level off gradually, but may equally reach their full potential only over an extended period of time. So far, the causes of this disparate development have not been determined.

4. Information dissemination as a preventive measure should be downgraded.
   Based on available scientific literature, there is a general consensus that the mere providing of information about psychoactive substances is ineffective at best and harmful at worst in reducing abuse behavior. This is true especially when scare tactics form part of the information package. Minor positive effects are achieved only when the objective is merely to raise awareness, when the target group consists of youngsters in their very early teens, when the information is offered as part of a more extensive campaign, and when immediate, directly observable consequences (yellow teeth from cigarette smoking, for example) are pointed out.

5. Life skills training for adolescents is an effective preventive measure.
   Most studies clearly show positive results for preventive measures using life skills training to prevent or delay the onset of drug use and long-term abuse. The training is two-fold: the substance-specific part can be summed up under the concept of resistance training; the substance-unspecific part imparts general life coping skills which include problem-solving and communication skills, self-confidence and assertiveness. The vast body of knowledge uncovered in recent years suggests that many individual factors must be considered if the life skills development concept is to be successfully applied, including among others the substance involved, the targeted age group, the method used to teach the skills, and the choice of instructor.

6. As a supplement to the life skills concept, measures designed to create alternatives to drug use should be considered as positive steps, while "affective education" programs should be rated less favorably.

   According to current knowledge, the creation of alternatives to drug use is a concept that has shown certain positive effects and is useful in support of life skills training, particularly with adolescents exposed to highly stressful social situations. The techniques are designed to foster personal relationships, assist in gathering experiences, and increase and enhance the activities and skills of daily life. It should be noted, however, that the cost of such alternative programs is not inconsiderable.

   Measures within the concept of "affective education" must also be viewed with caution, at least as long as they are conducted in isolation. They deal with activities such as developing self-esteem, identifying feelings, making decisions, and setting goals. The programs are mostly devoid of positive effects; while they may occasionally raise awareness, there frequently is a negative effect in terms of increased abuse behavior.

7. Preventive measures begin too late; they must begin when children are still very young.
   Some studies suggest that parental child-rearing styles strongly influence their children's ability to acquire the aptitudes which determine whether or not they engage in drug abuse as they grow older. According to a longitudinal study, children age 7 - 10 who later turn to drugs tend to exhibit characteristics such as lack of self-confidence, inability to develop healthy relationships, and emotional impairment. They receive inadequate parental attention and experience no positive nurturing; the mothers are "cold, critical, domineering, and show little concern for their children's needs."

   These results mean that preventive measures aimed at improving parenting must start early, when children are between the ages of five and eight. Since only a few studies

have uncovered these causal relationships to date, any generalizing statements should be made with great caution. Furthermore, the study ended only two years ago, so that no preventive intervention studies have explored these results further. Nevertheless, appropriate preventive programs should certainly be developed and empirically tested.

8. Preventive measures are more effective for non-users than for experimenters and regular users.
   Studies have shown that preventive measures produce better results if they are conducted with children and adolescents who do not yet use drugs. The longer youngsters experiment with or use drugs on a regular basis, the less hopeful is the long-term outlook. This also supports the view that preventive measures must begin early in a child's life (see Chapter 7).

9. Although the family ranks as the foremost and perhaps greatest influence on how a person handles drugs later in life, it receives too little attention in terms of preventive measures.
   Current knowledge from scientific studies suggests that even in early childhood, parenting style plays a crucial role in the development of protective factors against drug abuse. While we can assume that genetic factors also play a role, we have learned that some child-rearing methods increase the likelihood of later drug use. Some of these findings are quite recent and have not yet been utilized for research and practical prevention. Studies are needed on such preventive programs as parenting seminars in which parents learn better child-rearing skills, to determine to what extent this approach is helpful in decreasing the risk that children will later turn to drugs. Compared to school-based prevention, the family as a point of intervention through preventive measures has been clearly neglected in both research and practice.

10. In addition to the family, and due to the need for early intervention, the school as a point of prevention plays an important part.
    Past results have shown that appropriate preventive measures at school have positive effects. To a certain extent, the long-range effects abate after four to six years. This means that programs of extended duration must be tried and tested more than before. Moreover, the delayed onset of drug use in itself is a positive thing, and a number of studies have shown that persons who are older when they start using, do so less severely and quit sooner. We know from school prevention programs that life skills programs with substance-specific and substance-unspecific components, combined with behavioral exercises (role playing), are the most effective. The selection and training of those conducting the training is of utmost importance.

11. Shaping peer group influence is an extremely significant factor in preventive measures.
    Research in the United States has consistently shown that peers from familiar reference groups perform preventive measures best, and involving teachers is generally helpful. But teachers are useful only if they are 1) well-trained, 2) selected for preventive measures on the basis of their pedagogical skills, and 3) constantly monitored while conducting preventive measures. If this is not the case, the programs are inadequate in both scope and quality.

    Peer group-based school programs using life skills training are the most successful, not only for smoking alone, but for all three of the so-called "gateway drugs" (alcohol, marijuana and cigarettes).

12. Community-based programs can achieve further results if built on the family, school and peer group programs discussed above.
This is especially true when all individual measures are successfully coordinated and instituted on a permanent basis. Of continued importance is that public initiatives, local groups, and individual citizens remain strongly committed. Prevention must be regarded as a task in which everyone has a stake.

13. The current research status is unsatisfactory.
There are a number of knowledge gaps which need to be much more exhaustively researched if preventive programs are to be improved. In terms of the fundamentals of substance abuse, this means conducting genuine longitudinal analyses to verify earlier individual studies regarding the effects of parenting styles on long-term use. Moreover, a phenomenon that is being increasingly observed but is completely unresearched to date is that of young adults (from age 25 or 30 on) turning to drugs (notably cocaine). While we must assume that the popular development-oriented psychological concepts are unsuited to explain this trend, there simply is no information available regarding the reasons for the abuse behavior in this age group, its development and progression, or indeed any concepts for prevention and treatment. In the area of intervention research, there are neither programs nor studies which build on the results regarding parenting styles, nor any realistic concepts on how to accomplish broad-based preventive measures in the home. The Federal Republic also lacks research results on the life skills concept in family, school, youth centers and peer groups.

8.2 Mass Communication

14. To ensure the success of preventive measures via the mass media, all activities must be meticulously planned, implemented and evaluated while keeping the current body of scientific knowledge in mind.
The following have proven to be decisive for successful mass media campaigns:

- A well-defined target group
- An analysis of the needs of the target group
- Messages which build on the knowledge the target group already has and which satisfy existing needs and motives
- Conducting a pre-test using the campaign materials
- A media plan to ensure the intended target group is indeed reached
- Evaluation
- Long duration.

15. The mass media can either address children and teens as its target group, since they are the ones immediately affected, or direct its appeals to the general public.
The salient target groups for drug prevention campaigns are:

- Children

Since drug use (or at least cigarette smoking) begins at a relatively early age, it is important that the mass media address this very young target group, and do so to supplement and support school-sponsored prevention efforts whenever possible.

- Adolescents

  Campaigns developed for children should be adapted and repeated for adolescents, bearing in mind, however, that adolescents who already have a beginning drug problem are either very difficult or impossible to reach through the mass media.

- The Public

  Even if the mass media does not always reach the target groups directly, campaign appeals to the general public can still be effective by raising awareness of the need for prevention. Awakening public sensitivity to the problem and directing attention to the social context in which drugs are used, inviting public comment about the availability of drugs, about alcohol and cigarette advertising and about opportunities for exerting political influence, can be successful both with the population at large (through changes in social norms, for instance), and on the political and institutional level (through financial and other support).

16. Negative attitudes which may prevent the target group from adopting the desired healthy lifestyle ought to be addressed first.
    The target group often harbors opinions and convictions which clash with campaign goals. They may see themselves as not overly concerned about certain health problems, regard the suggested lifestyle changes as fairly ineffective, or may even perceive the "new behavior" as disadvantageous because it is inconvenient or has financial drawbacks. Another important aspect is the targeted individual's perception and understanding of public opinion and the normative expectations regarding the behavior that is to be changed.

17. Incentives for bringing about the desired behavior should be designed on the basis of the target group's existing motivations, needs and values.
    Commercial advertising already puts this particular approach very effectively to use when it plays upon the hopes and desires of its audience, and then offers a product or service which fits these needs precisely.

18. When working with children and adolescents, it is of vital importance to address topics relevant to their search for identity.
    This means themes such as freedom, autonomy and peer group acceptance. An important aspect in this connection are the social pressures exerted by peers, family and the media which can put obstacles in the way of reaching these goals.

19. Making the target audience aware of the immediate and very likely consequences of the abuse behavior has been more successful than other approaches, particularly in campaigns aimed at children and adolescents.
    For cigarette smoking, for instance, this means the dangers of contracting cancer should take a backseat to the much more immediate effects of ugly, discolored teeth, bad breath and diminished physical ability.

20. Scare tactics should be employed with great restraint.
    Not only have various studies shown that it is difficult to do this correctly, but such campaigns are also fairly unsuccessful. If the amount of apprehension produced is negligible, there is no motivation to change; if the resulting fear is too great or the desired behavior is unsuited to reduce the fear, there is a tendency to ignore the message or to question its validity. Precisely the fear-inspiring appeals often lead to the very behavior that needs to be changed.

21. Caution should also be exercised when using celebrities to spread the message.
For one, the person's great popularity can overpower the underlying message, or else there can be a rapid decline in celebrity status, and the new image might then harm rather than benefit the campaign. Teens and adults also tend to view these prominent personalities with some reserve because they suspect they participate in the campaign for monetary gain, or are themselves drug users (television stars or high performance athletes, to name some).

22. Media campaigns can create an image or lifestyle which excludes drug use.
Some authors go so far as to insist that in targeting adolescents, it is better to promote the image of the non-user than to dwell too much on the dangers of drug use. Applied to smoking, for instance, this strategy means refraining from attacks on smoking—since health appeals leveled at the cigarette industry's highly effective advertising ploys are doomed to fail from the start—, but to build a non-smoker image instead. The ideals of the grown-up world such as health or long life, however, have no place in this approach.

23. It is vital for mass media communication to be supplemented by personal communication.
The mass media effort should always be reinforced through interpersonal communication; this is particularly important for the long-term stability of positive effects.

9. Recommendations

9.1 Organisation of Prevention in Germany

Any recommendations for improving prevention in Germany first require an analysis of the scientific body of knowledge, which the contents of this report represent. The second prerequisite is an analysis of the organizational foundations of prevention, since suggestions for improvement are feasible only against this background. The objective of this report was not to analyze how prevention is organized in Germany. But since recommendations for prevention also touch upon organization, we must begin by examining the structure of prevention in Germany.

At the federal level, the Bundeszentrale für gesundheitliche Aufklärung (BZgA) has developed preventive strategies with related spin-off materials used primarily in mass appeals (brochures, films, etc.), but also in interpersonal communication (such as stage plays for children and youths). Other than that, very little primary prevention material is published by organizations at the State and agency level. Indeed, the BZgA is the only institution worth noting, since it at least conducts and promotes a modicum of prevention research (intervention research) in conjunction with its surveys and publications. Outside the BZgA, the few existing research programs deal less with intervention than with analyzing the developmental processes of children and adolescents, although they do allow indirect conclusions with respect to the conditions of substance abuse.

Prevention is the responsibility of the German States; they, in turn, delegate the task to various institutions. The drug counseling centers at the local level are predominantly concerned with secondary prevention, and conducting primary prevention in schools or preschools would overtax them in terms of personnel resources, expertise, and the long-term aspects of such programs. And although prevention measures fall within the sphere of duties of local health agencies, they are virtually incapable of handling their drug prevention responsibilities because of a lack of manpower and professional expertise. The various professional associations also contribute very little to primary prevention, since most are engaged in aspects of therapy. The state centers for health education and similar organizations are likewise understaffed, and in terms of professional competence are hardly in a position to plan and carry out long-term preventive measures at the local level.

The overall situation of prevention in Germany in terms of its organizational foundation can only be described as insufficient, although the rising number of new approaches in recent times may lessen this problem in the future. An example is the anti-drug bill passed by the Munich City Council some months ago, which upgrades the organizational basis for local preventive programs, among others, and calls for the creation of an independent organization whose staff will be exclusively concerned with preventive measures. Funding will be provided jointly by the City and interested agencies. Similar concepts are planned for other cities or have existed for some time, as for example in the States Baden-Württemberg, Bremen, and Berlin. Overall, however, they do not yet play a dominant enough role to assure a sufficient level of preventive measures in the Federal Republic.

This rather abbreviated description of the organizational basis of preventive efforts illustrates that recommendations for bettering the quality of prevention in Germany must also include methods for improving its organizational structure.

9.2 Recommendations

The following recommendations are based entirely on technical considerations and do not take the organizational and legal jurisdictions for preventive measures in Germany into account.

Basic Considerations

1. All preventive measures must be directed toward strengthening protective factors in children and adolescents to stave off later drug use.
   The primary task of preventive efforts is to allow children and adolescents to acquire the knowledge, attitudes and skills needed to stay away from drugs later on. This is accomplished primarily by strengthening the protective factors which, according to current research, the individual child or adolescent is known to possess, and by teaching problem solving and communicative techniques and a positive self-image, depending on the youngster's age. Drug abuse prevention must be imbedded in a general concept of health education.

2. Life skills training must be a central component of preventive measures.
   More than anything else, future preventive measures must incorporate life skills training (self-confidence, problem solving, communication skills, stress management, etc.). Within this general concept, information on drugs and drug abuse must be carefully planned and dispensed on the basis of the youngsters' age, and scare tactics should be specifically avoided. The information provided should be limited to the description of substances, the short-term consequences that might be expected for the age group concerned, and the prevalence of use within the population.

3. Prevention must include both substance-specific and substance-unspecific elements.
   Effective preventive measures have a substance-specific component ("resistance training" in particular), and a usually much more extensive substance-unspecific part aimed at fostering general coping skills. Depending on the targeted age group, the substance-specific component varies in extent and is dispensed with altogether for very young children. As a rule, the substance-unspecific part clearly predominates. Studies of programs with a similarly broad-based approach have shown that in addition to diminished drug use, other aspects of the youngster's lives also turned around—less destructive behavior, for instance. Preventing drug abuse as we understand it thus also helps meliorate some of the other problems facing children and teens, or at least helps them cope more easily.

4. Prevention must start early, be long-term and continue uninterrupted.
   In contrast to current practice, where preventive measures against drug abuse primarily center on youths between 12 and 20, attention must focus on much younger children. Since short-term preventive actions are virtually ineffective, they can be skipped in the future. Prevention must become an integrated, long-range component of parental child-rearing and an ongoing educational responsibility of schools, preschools and similar facilities. Prevention can no longer be relegated to special activities, measures or campaigns, but must be part of the daily life of families, schools, and similar institutions—a joint effort in which all members of the community work together.

Target Group

5. Children under 12 must be included in target groups of future prevention efforts.
Studies point to the fact that the seeds of potential drug abuse are sown in early childhood. Therefore, preventive measures for children must begin as early as age 5.

6. Starting prevention early places parents as well as the staff of preschools and schools into a position of special importance.
While the overwhelming majority of preventive measures traditionally began with adolescents and thus was likely to involve persons of influence such as youth center personnel and the like, it is important for parents and employees of child-care institutions to be much more actively committed to preventive efforts. This means offering courses and seminars for parents to guide them in sharpening their parenting skills within the framework of prevention. It also entails the training of kindergarten, preschool and grade school teachers. If this goal is to be effectively achieved, preventive measures can no longer be taught as an adjunct, but must be incorporated into the basic training of preschool and elementary school teachers. For the teaching profession, the consequences are especially portentous, since teacher education today still considers the task of imparting and processing knowledge to be the primary pedagogical responsibility, not the teaching of life skills. Adapting teacher training to meet the requirements outlined above will provide a solid basis for efficient drug abuse prevention.

Intervention Sites

7. The family is the first and for years the foremost intervention site where preventive measures can be applied.
If we are serious about achieving broad-based drug prevention in the Federal Republic, the first and over many years the most important efforts must occur within the family. This means we can no longer leave family education to chance, but must offer seminars where parents can acquire the necessary prerequisites for effective drug prevention. The contributing factors must be changed as well. The outlook for effective prevention for a family with young children where both parents hold full-time jobs is dismal. Prevention requires not only parental skills, but also time, peace of mind, and financial and social security as important conditions.

8. After the family, preschool and school are the most important sites for preventive measures.
The present findings place considerable demands for change on the schools. If schools are to impart knowledge, influence attitudes and teach life skills to keep youngsters away from drugs, then both teacher training and lesson plans need to be revised. In addition to a specific "health education" subject where basic drug prevention can be taught, the concept that improved coping skills are effective in staving off substance abuse, which has implications for other areas as well, must be made an integrated lesson component, at least until about age 15. All single and individual activities such as awareness weeks, talks by outside lecturers (such as representatives from drug counseling centers) and similar superficial, poster-like or fixed-term measures should be eliminated, as they are ineffective at best and probably even counterproductive. This also applies to police lectures about the dangers of specific drugs. If anything, deterrents of this kind are ineffective.

9. The significant persons in the lives of children and adolescents must be made to play a

larger role in drug prevention.
Studies in the United States have shown that preventive measures such as school seminars conducted by adolescent peers, produce better results than when teachers with little or no prevention training conduct them. Every effort should be made to actively include children and youths in as many school- and community-based activities as possible. The question of whether and to what extent this concept might be modified to meet the conditions in the Federal Republic remains to be explored.

The Organization of Prevention

10. The responsibilities of the BZgA should be confined to the development of conceptual guidelines in the area of direct communication and to making a standing advisory group available to assist with preventive measures at the community level.
To spread the prevention message through direct personal contacts, it is indispensable that anti-drug measures be conducted at the local level. The BZgA's contribution in this area should consist of the development of strategies, manuals and support documentation, as well as the testing of scientifically supervised pilot programs. If the agency is still involved in the administration of tried and proven course outlines and current programs, it should relinquish these duties to local committees (see next item).

It is recommended instead that the BZgA make a group of experts available to function as an advisory committee in selecting, planning, implementing and evaluating preventive measures at the community level, where information on the subject is inadequate at this time. This would ensure that the current body of information on substance abuse prevention is widely disseminated at the grass roots level in the shortest possible time. Due to the considerable variations of local conditions, individual counseling will be required during a minimum transition period of five to ten years. The BZgA could form this advisory group from among members of its own staff, or enlist outside experts from universities and similar institutions to work on its behalf. Such an advisory team, it is felt, is one of the few ways in which the currently available scientific knowledge on prevention can be turned into definitive, palpable measures to be applied as quickly and as broadly as possible. In this context, seminars on preventive concepts and programs arising from these efforts must be developed and offered.

11. Newly created local action teams should be exclusively dedicated to preventive measures.
To coordinate prevention programs at the community or county level, new institutions are needed, and these should be completely independent of treatment facilities. At this time, there is insufficient empirical data to suggest what organizational form these groups might take. An agency of Youth Protective Services or the Ministry of Health, an association jointly administrated by both agencies, an independent society funded by public institutions and agencies, or a similar set-up are some of the options. Because of the lack of data on the subject, we suggest a demonstrational model which would combine the development and trial of substantive concepts with the testing of various organizational structures.

Mass Communication

12. When using the mass media as a primary prevention strategy, the focus should be on two target groups: the public at large, and children and adolescents—the group most directly concerned.
Mass media events can and should chiefly direct attention to the subject of prevention, making the public receptive to the idea so that it will gradually come to be seen as a community task and find a favorable climate for a trend reversal. This should be the primary function of the mass media in the fight against substance abuse.

Direct behavior modification in children and adolescents who already experiment with drugs is not likely to occur without additional measures at the personal level. This synergism, however, will be successful only if both components are carefully planned and executed. For mass media campaigns, this necessitates a precise analysis of the target group during the planning stage to ensure that not only its present needs and motivations are taken into account, but also any popular trends currently en vogue within the group. This also applies to existing beliefs which, while basically headed in the right direction, must be appropriately reinforced once they have been identified.

Scientific research plainly is an indispensible prerequisite of any anti-drug campaign, but there should be constant scientific supervision while the campaign is in progress so that undesirable developments can be corrected in time.

Research

13. Research on primary prevention in Germany must be significantly expanded.
In terms of the quantity and quality of substance abuse research, Germany is a third world nation compared to other European countries and the United States. This applies not only to the study of the link between individual protective factors (i.e., family history) and drug abuse or other developmental disorders, but also to intervention research aimed at identifying the most effective preventive measures. Therefore, every effort must be made to amplify these two aspects of preventive research. In addition, there is a disturbing trend where increasing numbers of young adults beginning in their mid-twenties turn to drugs, notably cocaine. To date, virtually no information exists on this phenomenon, how wide-spread it is, how it progresses, or how it might be prevented.

It is regrettable that the interest of universities in preventive research is so slight, but there is little that can be done from the outside to redress this fact. Perhaps it will be possible for the Bundesministerium für Forschung und Technologie[18] (BMFT), which plans to place increased emphasis on research, to focus disproportionately on preventive research to compensate for the lack of knowledge in this area. As for the more application-oriented intervention research, BZgA and/or Bundesministerium für Gesundheit[19] (BMG) funding should mainly be spent in two areas:

- Research projects testing different forms of preventive measures, preferably under experimental conditions, and followed by long-term studies of their effects.
- Scientific monitoring of pilot projects still to be created, which test and evaluate comprehensive preventive programs under real-life conditions at the local level,

[18] Federal Ministry of Research and Technology
[19] Federal Ministry of Health

while at the same time incorporating and examining the organizational and administrative aspects of preventive efforts.

Financing

14. Substance abuse prevention calls for significant expenditures in terms of both human and financial resources.
    Prevention, if it is to go beyond a band-aid approach and a few spectacular campaigns, calls for adequate financial, human and administrative resources. Without the requisite funding, the persistent public outcry for prevention will only get lip service. At issue is the prevention of untold human suffering on the part of the chemically dependent and their families. But as prevention also helps save considerable sums, the investment is well justified. Regardless of financial considerations, however, it is incumbent on everyone to join together in preventing the destruction of the future of our children.

    While no direct appropriation of funds from the proceeds of the alcohol and tobacco tax may be possible on legal grounds, it is recommended that a certain portion be put aside for preventive purposes each year. Additionally, the medical insurance industry should be invited to join the States and communities in providing funding for local prevention facilities.

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[20] Translator's Note: Titles shown *cursive* are approximate English renderings of German-language titles.
[21] House of Representatives
[22] ajs = *Aktion Jugendschutz* = Youth Protection Campaign
[23] Youth Protection Institution
[24] Essays on Youth Protection Work

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