RELATIONSHIPS BETWEEN THE STIMULUS-SEEKING MOTIVE, SCHOOL CLIMATE AND SELF REPORTED SCHOOL DEVIANT BEHAVIOR

by

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ABSTRACT

A theoretical framework, based on the personality trait of stimulus-seeking and the school climate index of Stern, was developed and tested. Specifically, the following hypotheses were tested:

1. High stimulus-seekers are more likely to engage in school deviant behavior than low stimulus-seekers.

2. High stimulus-seekers who perceive their school climate as high on the Development Press are less likely to engage in school deviant behavior than those who score low on the Development Press.

3. High stimulus-seekers who perceive the school climate as low on the Development Press and high on the Control Press are more likely to engage in school deviant behavior than those who perceive the school climate as high on the Development Press and low on the Control Press.

Subjects were 483 high school students from three high schools in non-metropolitan areas of Ontario, Canada. The subjects anonymously completed Zuckerman's Sensation-seeking Scale (SSS, Form V), Stern's Elementary and Secondary School Index (ESI) and a School Deviant Behavior scale, developed specifically for this study by the author.

The data were analyzed in two phases, a confirmatory phase and an exploratory phase, using the statistical techniques of stepwise multiple regression analyses and analyses of variance.

The confirmatory data analysis partially corroborated the first two hypotheses. The third hypothesis was not corroborated. An exploratory analysis of the data revealed that "Disinhibition", "Experience Seeking" and "Boredom Susceptibility" subscales of the SSS and "Personal Dignity" and "Order/Control" scales of the ESI were important predictors of deviant behavior in school. It was found that the personality variables substantially accounted for more variance than the environmental variables. Suggestions for further research were implicitly or explicitly mentioned while interpreting the results.

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THEORETICAL FRAMEWORK

Introduction

An increase in the reported incidence of deviant behavior in schools has been noted in the press (e.g., New York Times, 1979; Time, 1980). This problem of deviance in schools has also recently received the attention of educators (Duke, 1978; Hestor and associates, 1975; McPartland & McDill, 1977;Rubel, 1977; Rubel, 1980; Safe School Study, 1977). In the present study, a theoretical framework, based on previous research, is developed to explain deviant behavior in high schools and tested in the high school context.

In this chapter, deviant behavior in school is defined as behavior in violation of school norms and regulations. In addition, the relevant literature on variables related to deviance in schools is reviewed. The personality trait of stimulus-seeking, as conceptualized by Zuckerman and Farley, and Stern's index of school climate were identified as potential predictors of deviant behavior in high schools. The chapter concludes with a statement of the problem and the research hypotheses.

Deviance has been approached and defined variously by different scholars. Deviance is generally conceived as a violation of the rules or norms of a society or of an institution within a society. Norms, as defined by Homans (1961,p.4), is "a statement made by a number of members of a group -- not necessarily by all of them -- that the members ought to behave in a certain way in certain circumstances." In other words, the term 'norm' refers to those shared expectations or standards upon which members of a social group can rely for the orderly regulation of social behavior. Departures from these norms generally necessitate some form of social response or act of consequence.

There are two major emphases in defining deviance -- violation of norms, and societal reaction or labelling. Cohen(1959), Merton(1961) and Box(1971) emphasize norm-violation, while Erickson emphasizes the societal reaction. A core definition runs through these these theorists, however, as shall be apparent in the following discussions of the various definitions.

Cohen (1959, p. 462) defines deviant behavior as "behavior which violates institutionalized expectations, that is, expectations which are shared and recognized as legitimate within a social system." Merton states that deviant behavior "refers to conduct that departs significantly from the norms set for people in their social

statuses. . . . Deviant behavior cannot be described in the abstract but must be related to the norms that are socially defined as appropriate and morally binding for people occupying various statuses" (1961, pp. 723-724). While Cohen considers deviance as violation of institutional expectations, Merton suggests some sort of deviation from the norms set for people in their social statuses. Erickson states that deviance can be defined as "conduct which is generally thought to require the attention of social control agencies -- that is, conduct about which 'something should be done' (1964, pp. 10-11). A definition such as Erickson's focusses on the reaction of the society to certain behaviors. This approach to deviance is called 'labelling' or 'societal reaction'.

More recently, Box (1971, p. 9) has stated:

> Deviant behavior is nothing less or more than it has always been: rule breaking. It is behavior which is proscribed by those who have institutionalized power, and occassionally the consensual authority, to create rules; it is behavior which places its perpetrator at risk of being punished by those who have the institutionalized power, and occasionally the consensual authority, to do something to those who do not keep the rules.

Box's definition of deviance is more inclusive, explicit and flexible than the preceding definitions. It recognizes the possibility of various institutions as components of society. These institutions can create rules for their functioning. This definition explicitly states the notion of rule

breaking, and, in so doing, it fits into the norm-violation category of defining deviance. For these reasons, Box's definition of deviance will be used in this study.

Since a school is a social institution, it has the power to create its own rules and regulations for smooth functioning. This implies that a school has the power to impose sanctions on those violating the school rules and regulations. In addition, schools, as social institutions, derive their legitimacy from an Education Act.

The Education Act of Ontario, for instance, specifies the role of school authorities, such as the school principal. The school principal can, for instance, suspend a pupil for misbehavior. Regarding pupil misbehavior generally, it is the teacher who is initially and primarily in contact with the pupil. Thus, the teacher is in effect the main enforcer of school rules and regulations. He may bring the pupil's misbehavior to the attention of the school principal, or handle it within the classroom in a manner approved by the school authorities.

Hargreaves (1972) states that there are two major concerns of teachers. The first is an academic interest, that is, the teachers have the task of ensuring that pupils learn. The second is a disciplinary interest, that is, the teachers have the task of ensuring that pupils conform to the rules and regulations which aim at maintaining social

order in the classroom. One might extend the latter interest to include disciplinary problems in the school in general, as disciplinary problems outside the classroom are also brought to the teacher's attention. Academic and disciplinary concerns are interrelated. For instance, if there exists disorder in the classroom, the teacher cannot accomplish the major task of ensuring the proper climate for learning, not only for the few troublemakers, but also for the other pupils who happen to be affected by the actions of the few.

In the school situation, teachers play an important role in accomplishing the two tasks, for they are responsible for interpreting the rules and regulations in the classroom as well as in the school. Although the major interest of teachers is academic, teachers can reprimand, publicly or privately; send pupils to the principal's office; call in parents; or resort to a variety of other remedies, all designed to keep order (Dreeben, 1970, p. 80). Physical discipline is generally illegal in North America, however. The manner in which teachers perceive deviance, therefore, is important in terms of accomplishing their professional tasks. The definition, implicit or explicit, which teachers give deviance differs from teacher to teacher, posing a serious problem to any researcher studying deviance in the school. This variation is due to many factors: personality, education, social background, school bureaucracy, and so

on. West, however, in a review of the literature on social order in classrooms, reports that there is generally some consensus regarding definitions of order in the classroom among teachers:

> Teachers do seem to have somewhat similar definitions of order, centered around behavioral regularities and learning. There are doubtlessly variations (e.g. between progressive and traditional teachers) but some research indicates the actual variations in the classrooms are less than ideological expressions would indicate (Robson, Goldenberg, & Elson, 1972; Hoctker and Ahlbrand, 1969).
>
> (1975,pp. 37-38)

The problem of teacher variance in defining deviance is not as great as one would suppose. In Deviance in classrooms, Hargreaves, et al (1975) investigated how deviance is defined in the classroom from the perspective of teachers and pupils. This study shows the existence of consensus on certain rules and regulations --the violation of which constitutes deviance in the school context.

Hargreaves, Hestor & Mellor (1975), on the basis of their observations and discussions with pupils and teachers, classified the rules into two categories: teacher-pupil relational rules and pupil-pupil relational rules. Examples of the former category are: the rule of permission-seeking; the rule proscribing violence against the teacher; and so on. Examples of the latter category are: the rule proscribing aggression; the rule of good manners; the rule proscribing theft; and so on (Hargreaves et al,1975,pp.

95-96, 101-103.) The study of Hargreaves and associates is interesting in that it explicitly states the types of rules the violation of which constitutes deviance in schools. Though the study is empirically based, Hargreaves et al do not provide the number of classes they observed nor the number of students and teachers they interviewed.

In another study of how teachers determined misconduct, Stebbins (1971) outlined several behaviors which teachers considered deviant. Stebbins observed a number of classes from grade 3 to 11 and interviewed the teachers at the end of the day. In the majority of instances, pupil behavior was considered disorderly when it was viewed as impeding the teacher's effectiveness or the students' learning potential, or when it violated the rules of classroom conduct, or any combination of these (Stebbins, 1971, p. 223). The major portion of disorderly behavior consisted of whispering and talking. Although the studies of Hargreaves et al and Stebbins were restricted to classrooms, some of the rules related to deviance can be applied equally outside the classroom, such as to activities on the school premises. These activities may occur on school premises between different class periods, lunch breaks, at recreational places, and so on. Thus, deviance in schools may range from whispering and daydreaming in the classroom to damaging school property, striking the teacher and/or other pupils in the school.

In accord with our definition of deviance, deviant behavior in the school context implies the violation of norms or expectations of the school by the pupils. These norms are generally set or outlined by the Education Act, by the school board in the form of policy guidelines, or by the school principal and teachers. The relatively serious forms of deviance have sanctions prescribed by the Education Act. Less serious forms are regulated by policy guidelines of the school board and the regulations of a school principal or committee of principal, teachers, parents and even students (such as an advisory committee).

An illustration of the kinds of behaviors proscribed by the Education Act of Ontario is provided below. According to section 22(1) of the Education Act of Ontario:

> A principal may suspend a pupil for a fixed period . . . because of persistent truancy, persistent opposition to authority, habitual neglect of duty, the willful destruction of school property, the use of profane or improper language, or physical conduct injurious to the moral tone of the school, or to the physical or mental well-being of others in the school. . . .

The Ottawa Board of Education policy guidelines as of December 1974 state that "narcotics and restricted drugs other than those medically prescribed and including alcohol are not to be used by or be in the possession of individuals on school property without the express permission of the Ottawa Board of Education." Other forms of deviance, not specifically defined by the Education Act or board guidelines, de-

pend on the discretion of the school principal and teachers. These forms of deviance usually include cheating on exams or assignments, destroying books, writing on lavatory walls, and so on.

In identifying deviants in the school, recent researchers have adopted several approaches. For example, teachers are asked to nominate students they consider to be non-conforming (Feldhusen, et al , 1967) or the number of times a pupil has been sent to the principal's office for disciplinary reasons is used as a measure (Powell and Bergen, 1962; Allsopp and Feldman, 1974, 1976); and/or pupils have been asked to complete a self-report questionnaire regarding their misbehavior including illegal behaviors (Allsopp and Feldman, 1974,1976; Eve, 1978; Hardt and Peterson-Hardt, 1977).

In the preceding review, deviance was defined as a violation of rules. This is more in line with the norm-violation approach to defining deviance. The labelling approach to deviance does not differ from the norm-violation approach as far as the definition of deviance is concerned; however, it does put more emphasis on how the person gets labelled deviant and the repercussions. For this reason, the norm-violation definition of deviance has been chosen for this study. In its application to the school context, deviance refers to behavior that occurs on the school premises, i.e. inside and

outside the classroom.[1] The various methods adopted by researchers to identify deviants in school were noted. The measurement of deviance will be discussed in detail in Chapter II.

In the next section, variables related to deviance in the school context are examined in order to develop a framework for studying school deviant behavior (SDB).

Variables Related to Deviance

In this section, the literature on variables related to deviance in the school context is reviewed. The review of literature revealed that almost all the theories of deviance are formulated to explain extreme forms of deviance such as official delinquency and alcoholism. These theories are reviewed because they apply to juveniles or adolescents, the age group that is the focus of the present study. In addition, some of the theories of deviance have been extended to explain anti-social behavior in general, including deviant behavior.

At this point, a clarification of some of the terms used by researchers to refer to deviant behavior in this area is in order. This is necessary because different researchers

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[1] A similar approach to defining school crime has been taken by Kulka *et al* (1980).

have utilized terms such as trouble-makers, delinquents, truants, and disciplinary problems to study the same phenomenon. The following definitions are used in this study:

> Delinquency or Official Delinquency refers to adjudication by agents of formal social control such as the courts resulting in conviction (Nettler, 1974; Jensen, 1972).
>
> Delinquent Behavior refers to acts reported by the individual himself which are at odds with legal norms, whether responded to or not by agents of formal control (Nettler, 1974; Jensen, 1972).
>
> Deviant Behavior in Schools refers to school misbehavior, disciplinary problems, violation of school or classroom norms and regulations reported by the student himself or brought to the attention of the school office.

The review of the literature reveals that variables related to deviance can be categorized as either cognitive, personality, or environmental variables. The cognitive variables related to deviance are a measure of intelligence (I.Q.) and academic achievement. Although the literature indicates the existence of some empirical relationship between the cognitive variables and delinquency, Hirschi and

Hindelang (1977,p. 585), in a recent review, stated "as of now, there is no evidence that I.Q. has a direct impact on delinquency." I.Q. may have an indirect influence on deviant behavior through such variables as school performance, i.e. academic achievement. In another recent study, Offord, Pushinsky and Sullivan (1978) found no statistically significant differences in school performance and I.Q. between delinquents and their non-delinquent siblings. In the present study, cognitive variables as represented by IQ and academic achievement are not considered further as there is no evidence of their direct impact on delinquent/deviant behavior.

A major personality theorist who has linked personality with delinquency is Eysenck (1970, 1977). Eysenck postulates that delinquents are characterized by elevated scores on extraversion (E), neuroticism (N), and psychoticism (P). P is, however, a recently-added dimension in the personality theory of Eysenck (1970). According to Eysenck, a high E scorer displays sociable, optimistic, outgoing and impulsive behaviors. The person high on N is likely to be moody, sensitive to insult, anxious, restless and rigid. The high P scorer is described by Eysenck as solitary (not caring for people), troublesome, inhuman and cruel, lacking in emotions and feelings, and seeking varied sensations. Those who score low on E, N, and P scales respectively display the opposite of the above characteristics.

Allsopp and Feldman (1974,1976) extended Eysenck's theory of delinquency (i.e. illegal behaviors committed by juveniles) to anti-social behavior (deviant behavior) by expanding its meaning to include not only public records but also self-report of the deviant acts. They operationalize their concept by including self-report and official records as measures of anti-social behavior. An examination of the anti-social behavior questionnaire (Allsopp & Feldman, 1976) reveals that it includes both illegal acts (i.e. in violation of societal norms) and deviant behavior in schools. The examples of the latter are: "cheating by copying from someone else in a test," "writing on the blackboard without permission," "smoking during school hours." Empirical support for their expansion of Eysenck's concept was derived from two studies (Allsopp and Feldman, 1974, 1976).

In an extensive review of Eysenck's theory, Feldman (1977) concluded that the predictions relating E and delinquency (i.e. deviance) have been supported in self-report studies of adolescent non-offenders of both sexes. He noted especially that "those who score high on E or P appear more likely to offend than those who score high on both" (p. 149). A limitation of Eysenck's theory is that its explanation of deviant behavior doesn't take into account or place emphasis on the environmental variables -- variables that play an important role in explaining human behavior along with personal or personality variables. Eysenck has, howev-

er, identified important personality dimensions -- extraversion and psychoticism -- in the explication of deviant behavior.

The concept of "fun" or "excitement seeking" as one of the personality traits of delinquents appears in the delinquency literature fairly often (e.g. Cohen, 1955; Miller, 1958; and others summarized by Csikszentmihalyi & Larson, 1978). It will be shown later that there are similarities between fun-seeking and Eysenck's personality dimensions of E & P. The sensation-seeking trait has been studied independently of Eysenck by Zuckerman and his associates (1964). Zuckerman et al (1964) constructed a paper-and-pencil scale, the Sensation-seeking Scale (SSS), to measure "sensation-seeking." Essentially, the SSS measures individual differences in the degree to which a person seeks out varied, novel, or complex experiences and sensations. Farley and Farley (1970) and, more recently, Eysenck and Zuckerman (1978) have correlated the SSS with Eysenck's extraversion and psychoticism scales. These researchers found positive, statistically significant correlations between the SSS and the E and P scales. The correlations range from 0.12 to 0.58 (Zuckerman, 1979), which implies that while there are some similarities between the two scales a large proportion of the variance remains unaccounted for.

The concept of sensation-seeking[2] is characterized as a generalized tendency to seek "varied, novel and complex sensations and experiences". Zuckerman explains the phrase "varied, novel, and complex experiences" as follows:

> "Varied" reflects the need for change, just as rats will vary the paths they take to a goal, high sensation seekers will vary their routines to avoid boredom, in contrast to the lows who are less distressed by an unvarying routine. "Novel" means something unlike previous experiences in some respects, if not all. Novelty means maximal unpredictability in a sequence of events as opposed to the other extreme of perfect predictability. "Complexity" refers to the number of stimulus elements and their arrangement. It may also refer to immediate comprehensibility or perceptual closure as opposed to cognitive or perceptual ambiguity requiring more information processing.
> (Zuckerman, 1979, p.11)

The high sensation-seekers require relatively novel and stimulating situations and like to explore them. The low sensation-seekers display the opposite characteristics.

Based on the work of Zuckerman (1974, 1979), Berlyne (1960), Zubek (1969), Hebb (1949) and Penney & Reinehr (1966) on sensation-seeking, Farley (1973) postulates that delinquent behavior is a function of stimulus-seeking (possibly based upon 'physiological arousal')[3] Farley proposed his model of stimulation-seeking (though he prefers to call it a theory) to explain delinquent be-

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[2] The term 'sensation-seeking' is used interchangeably with stimulus seeking in the literature, and will be used interchangeably in this study.

[3] This study is not concerned with the concept of physiological arousal, but rather focuses on psychological and social constructs. For further discussion of the arousal concept, see Farley (1973), and Zuckerman (1979).

havior, defined as behavior in violation of societal norms. Farley states essentially that delinquent behavior is a function of the interaction between the stimulus-seeking motive and the environment of the individual. Farley measures the stimulus-seeking motive through Zuckerman's SSS, and the environment through an index of socio-economic status. There are two studies which provide support for Farley's model of delinquency. Since these studies focus on adolescent delinquency, the focus of this study, they are summarized below.

Farley and Farley (1972) studied the behavior of 27 delinquent girls (mean age 15.5 yrs.) in a correctional institution. Delinquent behavior was found to be a function of individual differences in stimulation-seeking as measured by the SSS. The behaviors included in the study were: escape attempts, disobedience, and self-mutilation. The non-random, small sample limits the generalizability of this study. Farley (1973) has reported similar findings for incarcerated male delinquents.

Farley and Sewell (1976) added further evidence for the theory with a sample of 32 adjudicated delinquents and 32 non-delinquents in a high school. The sample consisted of black students and was equally divided in sex. Subjects ranged in age from 15 to 18 years , the sample being restricted to subjects of low SES. As expected, delinquents had a statistically higher SSS mean than non-delinquents. The sample size of this study is relatively small and non-random; therefore the generalizability of

the study is limited. In addition, Farley has focussed only on official delinquency, rather than extending the study to self-reported delinquent or deviant behavior.[4] We now look at the expectations underlying Farley's model.

According to Farley (1973), high stimulation-seekers who come from environments where there is a lack of opportunity for satisfying stimulation-seeking needs in socially approved ways are more likely to engage in delinquent behavior. High stimulation-seekers, on the other hand, who come from environments which provide sufficient opportunities for satisfying their stimulation-seeking needs in socially approved ways, are more likely to engage in socially desirable behavior. Low stimulation-seekers are unlikely to engage in delinquent behavior in either situation because of their tendency to avoid too much stimulation.

The foregoing review indicates that the stimulus-seeking motive seems to play an important role in explaining adolescent deviance. The stimulus-seeking motive is also positively correlated to Eysenck's personality dimensions of extraversion and psychoticism. There is considerable evidence in the literature (Eysenck & Zuckerman, 1978; Zuckerman, 1979a) regarding the relationship between extraversion and delinquency, and between psychoticism and delinquency. Eysenck's theory, however, does not emphasize the role of environment in explaining delinquency.

[4] Farley and associates (1979) have recently reported empirical evidence in support of this theory from a study of a sample of drug addicts. This study is not reviewed in detail because of its focus on adults.

Stimulus-seeking, on the other hand, suggests the interaction of an individual with his environment. The sensation-seeker is sensitive to his or her internal sensations and choses stimuli that maximizes them. According to Zuckerman, "unusual sensations may be produced by emotions, drugs, and physical activities such as free-fall skydiving, scuba diving, or other activities involving speed and movement beyond the ordinary range" (1979,p. 10). In Farley's model of delinquent/deviant behavior, high stimulation-seekers are more likely to engage in deviant behavior than low stimulation-seekers. The type and degree of deviation depends on the individual's environment. As mentioned earlier, the purpose of this study is to explain deviant behavior in schools in terms of the interaction between personality and environment. The relevant literature regarding school environment and deviant behavior is examined in the following section.

School Environment/Climate

Studies of the socio-psychological climate in the school context have generally focussed on the relationships between academic achievement or attitudes towards an academic subject and various dimensions of the socio-psychological climate (O'Reilly, 1975,1980; Walberg, 1976; Marjoribanks, 1978). There has been hardly any study of the various dimensions of school or classroom climate and school deviant behavior. In this section, the social psychological climate is discussed, and then a few studies are reviewed in which

indicators of the socio-psychological climate of the school such as socio-economic status and other measures are related to SDB.

The relative importance of the environmental or psychological situation in describing, predicting or accounting for the behavior of individuals within a particular situation has been a subject of debate since Lewin, Lippitt and White published their classic study in 1939. Lewin (1956), Murray (1938), and others such as Rotter (1954) developed theories in which the situation is an important component for understanding individual behavior. Lewin described the situational (environmental) influences in terms of the formula b=f(P,E). In this equation, (b) stands for behavior, (P) stands for person and (E) for the environment or life space. However, he never fully explains a relationship between these two variables that would enable one to describe, predict, or account for behavior.

Murray (1938) has elaborated the relationships between the person and the environment by formulating similar conceptions of the person and the environment. Murray conceived of a person as composed of a set of needs that described that person. He likewise conceived of the environment as composed of a set of factors or forces that either helped, satisfied or hindered the satisfaction of the needs possessed by a person. The effect of the situation on

a person, thus, was a function of how the environment met or did not meet a person's needs. The environmental influences affecting a person's needs were termed press by Murray.

The concept of the interaction between people and their environment was described by Murray as being divided into two types of press -- alpha press and beta press. The alpha press consisted of the objective, directly observable and verifiable aspects of the environment. The beta press, on the other hand, consisted of the subjective or self-perceived environment composed of those aspects of the situation perceived as significant by the participants. beta press may or may not be objectively verifiable, but it is nevertheless the environment to which the individual responds. Murray felt that the beta press was the press of importance when attempting to understand and predict behavior.

Rotter(1954) also proposed a model somewhat similar to that of Lewin to explain individual behavior. Rotter supported Murray's view that it is the beta press that plays an important role in explaining the behavior potential of a specific act. For instance, Rotter states : "it is presumed that the manner in which a person perceives a given situation will determine for him which behaviors are likely to have reasonable probability or the highest probability of leading to some satisfaction" (p. 200).

More recently, Walberg (1976) has emphasized the potential usefulness of beta press: "perception, intention, and consistency adaptively simplify and stabilize complex social environments for the individual" (p. 157).

A number of beta press assessment instruments have been developed for general/human environments (Insel & Moos, 1976; Moos, 1973; Stern, 1970), for high school/junior high school and classroom environments (e.g. Anderson, 1973; Moos & Trickett, 1974), and for college environments (Moos & Gerst, 1974; Pace, 1969). The focus of present investigation is the school climate. Thus, Stern's conception of the school climate is studied in greater detail in the following paragraphs. Incidentally, Stern was one of the first researchers to develop indices of organizational climates including that of school, based upon the theoretical work of Murray.

Stern's model of school climate is a need-press model of behavior. Needs are defined as "organizational tendencies which appear to give unity and direction to a person's behavior" (Stern, 1970, p.6). Press refers to an "external situational counterpart to the internalized personality needs" (Stern, 1970, pp. 6-7), and is considered as complementary, not necessarily reciprocal, to the corresponding need. It refers to the phenomenological world of the individual, the unique and inevitably private view each person has of the events in which he partakes.

Stern developed an activities index consisting of 30 scales, reflecting the 30 personality needs identified by Murray. Later on, Stern applied this index to various organizations including schools. Factor analysis of these thirty scales resulted in approximately six first-order factors: intellectual climate, achievement standands, practicalness, supportiveness, orderliness and impulse control. Further factor analyses of the data indicated two second-order factors: Development Press and Control Press. The Development Press consisted of the first four first-order factors and the Control Press of the last two first-order factors. According to Stern(1970,p.68), the Development Press describes a variety of presses for facilitating growth and self-enhancement, and Control Press reflects stability and bureaucratic maintenance. The Control Press also refers to limited opportunities for personal expression. Stern's conceptualization of school climate into Development Press and Control Press resembles somewhat the other conceptualizations of school climate, such as "open vs. traditional" and "custodial vs. humanistic oriented" (see Hoy & Miskel,1978, chapter on organizational climates). The 'open', 'development' and 'humanistic' type of climate focusses on pupil participation in various school activities and emphasizes individual development, among other things. On the other hand, the 'closed,' 'control' and 'custodial' type of climate emphasizes an authoritarian type of atmosphere, such as enforcement of rules.

The various indices of school climate based on Lewin and Murray's conceptualizations have been related to areas such as academic achievement or attitudes towards various academic subjects, such as mathematics (e.g. O'Reilly, 1976, 1980;Walberg, 1976; Marjoribanks, 1978) but not to deviant/ delinquent behavior in the school.

Studies which are somewhat related to school climate and deviant behavior are reviewed next. Csikszentmihalyi and Larson (1978) contend that the inability of schools to "provide engaging action systems help to create bored, frustrated and dissatisfied people" (p. 330). Students seek alternate structures of challenges to obtain experiences. Since the pupils lack opportunities for enjoyable experiences through school, this lack of challenge might lead students to engage in deviant behavior (Csikszentmihalyi & Larson, 1978; Csikszentmihalyi, et al (1977). Despite the significant theoretical contribution of Csikszentmihalyi and associates, they have not reported much empirical evidence in support of their contention. Some empirical evidence in support of the relationship between boredom and school misconduct has been provided by Robinson (1975) in a secondary analysis of the data of a large survey conducted in England and Wales.

In another study, Tittle and associates reviewed extensively published studies on the relationship between social

class (a measure of environment) and criminality. On the basis of their analysis, Tittle and associates concluded that overall the results show only a slight negative relationship between social class and criminality. Lower associations were reported for studies in which self-report measures were employed than studies in which official statistics were used. The measures of social class or socio-economic status are distant indicators of environment and are considered inappropriate for the purposes of the present study.

Thomas and associates (1977) have conducted a study in which a measure of self-reported delinquency was related to perceived measures of school organization such as the use of coercive power. These researchers studied a sample of 923 students from three public high schools in a metropolitan area of the U.S. The data on all independent as well as dependent variables were supplied by the students. These investigators found that, in attempting to assure social control, schools exercise coercive power to obtain reluctant involvement among the students. This in turn increases the probability of delinquent involvement among the pupils. This study provides an interesting finding, that is, when schools are perceived as custodial or control-oriented (i.e. use coercive power), alienative tendencies were evoked among the pupils. These alienative tendencies, the authors contend, could lead to delinquent involvement. To be alienated

in school implies to be less involved in school. Social control theorists of delinquency such as Hirschi(1969), and Hindelang(1973), emphasize (and have empirical evidence to support) that the weakening of ties with conventional social institutions such as school can lead to deviant behavior.

Jessor and Jessor (1977) have recently reported the results of a longitudinal study of problem behavior (deviant behavior) among adolescents (high school group, N,432). Jessor and Jessor used measures of perceived environment. They categorized the environmental measures into two: proximal and distal. The proximal measures are the environmental factors which are very close and subjective to the individual, and the distal environment is somewhat far from the individual, and somewhat more objective, such as social class. Proximal measures of environment appear to be close to the beta press discussed earlier in this section. In accord with their prediction, Jessor and Jessor found that the proximal environmental measures accounted for greater variance than distal environmental measures in the explanation of problem behavior. In addition, Jessor and Jessor showed that the environmental measures accounted for variance in the explanation of problem behavior when the personality measures are controlled. It should be noted that Jessor and Jessor's study focussed on the explanation of problem behavior in general and not in the context of the school, which is the focus of the present study.

To summarize, in this section we have discussed the importance of environmental measures in the explanation of human behavior. Also reviewed were some studies in which environmental measures were employed to study deviant/delinquent behavior in the school context. In addition, Stern's measure of high school climate, which has a theoretical basis, was discussed. Studies of environmental measures revealed some factors, such as lack of challenging opportunities in the school, which may lead to delinquency; the use of custodial authority on the part of school authorities could also lead to delinquent behavior. It was also apparent that the perceived measures of environment, especially of beta press type, tend to account for more variance in the explanation of deviant behavior.

As mentioned earlier, in the study of deviant behavior in schools, both the school climate and the individual personality play important roles. In order to explore how the individual personality and the school climate interact in the production of school deviance, a conceptual framework and research hypothesis are presented in the following sections of this chapter.

The Conceptual Framework

This study is an attempt to explain deviant behavior in schools. Deviant behavior in schools is defined as behavior in violation of school norms and regulations. In the preceding review of the literature, it was revealed that various theories of delinquency have been applied to investigate delinquent (deviant) behavior in schools. Most of the studies which tested theories of delinquency focussed on either the school environment or personality variables. The present study focusses on both the school environment and personality variables.

Human behavior is conceptualized as resulting from an interaction of a person and his environment. This Lewinian notion of behavior has been applied in the school context by Getzels, Lipham and Campbell (1968). Deviant behavior in schools is thus defined as a function of the interaction of pupils in schools and their school environment or climate. A conceptual framework which articulates personal and environmental variables or juvenile or delinquent behavior has been proposed by Farley (1973). More recently, Kulka, Klingel & Mann (1980) have proposed a somewhat similar model of person-environment to explain school crime. According to Farley, as noted earlier, delinquent behavior is a function of the interaction of the stimulus-seeking motive and environmental opportunities for obtaining and canalizing stimu-

lation. Farley measures stimulation-seeking through the Sensation-seeking Scale (SSS), developed by Zuckerman, and environmental opportunities through an index of socio-economic status (SES). The basic expectation from Farley's theory is that high stimulus-seekers who come from environments with limited opportunities for canalizing stimulation-seeking needs in a socially-approved fashion are more likely to engage in delinquent behavior than high stimulus-seekers who come from environments rich in opportunities. Low stimulation-seekers are unlikely to engage in delinquent behavior in either type of environment, perhaps because they can satisfy their needs without seeking much stimulation within their environment.

There appears to be two limitations to applying Farley's model in the school context. One is his definition of deviant behavior, that is, violation of societal norms (e.g. Criminal Code), and the second is his use of SES, an indirect measure of environment. In spite of these two difficulties, Farley's model remains applicable in this study with some modifications. It provides a conceptual framework for the present study.

This suggests a need for a modified approach to measure environment objectively (as much as possible), and subjectively (in the sense of reflecting the perceptions of individuals). Jessor and Jessor have argued that:

> Logically, the perceived environment is the one that has the most invariant relationship with behavior since it is the environment of immediate meaning to which the actor is responding.(1977, p.27)

Existing theoretical and empirical evidence (Jessor & Jessor, 1973, 1977) indicates that measures of the perceived environment account for more variance in deviant behavior than indirect objective measures such as the socio-economic status. In the present study, Farley's theory of delinquent/deviant behavior is extended to deviant behavior in the school context. This follows from the premise that delinquent behavior as well as school deviance are subsets of deviant behavior. Environment, as operationalized by Farley, does not take into consideration the perceptions of the actors. Farley and his associates have mostly used measures of socio-economicstatus. In the present study, it is the school environment or climate that is of interest. The literature on school climate, especially as conceptualized by Stern (1970), has already been presented in the preceding section.

Since the present study focusses on the deviant behavior of high school students, an appropriate measure of school climate would be one that reflects the perception of the students.

There exists a possibility that the completion of both the personality and school climate instruments by the same

individual might measure different aspects of his personality. This would be due to personality factors influencing the individual's perception of the school climate. In two studies, reported by Stern (1970, p. 31), of Stern's climate indices and Stern's Activities Index (a personality measure), empirical data indicated a negligible relationship. Jessor and Jessor (1977), however, have reported correlations among measures of perceived environment and personality. The perceived environment covered such aspects as friends and parental support, and the personality measures included achievement, religiosity, self-esteem, and internal and external control. There were 16 personality measures and 9 perceived environment measures; yielding at least 144 (16 x 9) correlations (see Table 1).

For males (N, 188), about 32% of the correlations were 0.14 (N.S.) or less, 49% were in the range of 0.14 to 0.30 (accounting for about 9% or less of the variance), and only 3 correlations were 0.40 and above. For females (N, 244), 39% of the correlations were below 0.14 (N.S.) and 44% were in the range of 0.14 to 0.30. Only 6 correlations were 0.40 and above. These low to moderate correlations suggest that not much overlap is accounted for between personality and perceived environmental measures.

Table 1

Intercorrelations of Personality System and Perceived Environment System Measures, High School Study, Year IV (1972) [a]

		Personality system measures														Perceived environment system measures								
		Motivational instigation structure							Personal belief structure				Personal control structure					Distal structure						Proximal structure		
		VAC	VIN	VSL	VIA	EAC	EIN	ESL	SCR	AL	SEL	I-E	ATD	REL	KDJ	DDJ	SDJ	FSU	FCN	PSU	PCN	COM	PPI	TPRA	TFDA	TFDM
PERSONALITY SYSTEM	*Motivational Instigation Structure*																									
	Value on academic achievement (VAC)		17	56	−86	56	−09	25	−22	−02	10	23	40	24	−11	−37	−32	21	06	−06	18	36	−20	−13	−31	−26
	Value on independence (VIN)	20		23	36	−00	19	12	16	−09	13	08	07	−12	−08	06	−01	05	02	13	−02	−03	13	06	19	23
	Value on affection (VSL)	61	26		−41	19	−00	48	−24	−07	04	20	20	18	03	−25	−30	23	06	15	14	31	−05	−16	−16	−14
	Independence–achievement value discrepancy (VIA)	−77	47	−38		−54	28	−18	28	−03	−03	−18	−34	−29	06	38	30	−17	−05	12	−19	−36	26	16	40	37
	Expectation for academic achievement (EAC)	53	10	29	−41		02	40	00	−29	33	33	20	08	−13	−15	−13	18	00	13	10	27	−09	03	−14	−19
	Expectation for independence (EIN)	−02	56	13	38	21		30	10	−22	26	14	−03	−21	−05	24	16	08	−27	09	−06	−04	00	19	20	22
	Expectation for affection (ESL)	40	20	62	−23	52	43		−15	−57	50	40	15	06	−13	−08	−09	22	02	43	22	31	−03	−08	−06	−02
	Personal Belief Structure																									
	Social criticism (SCR)	−21	08	−19	25	−07	00	−19		21	−05	−04	−20	−30	05	42	24	−10	−05	05	−16	−22	17	27	34	17
	Alienation (AL)	−18	−06	−18	12	−24	−29	−45	22		−60	−43	−18	−08	18	07	13	−27	01	−44	−28	−37	08	03	20	13
	Self esteem (SEL)	05	24	09	11	37	36	50	−07	−52		35	03	−01	−11	06	04	13	01	29	20	15	−02	09	03	05
	Internal–external control (I-E)	25	07	23	−18	32	21	16	−26	−45	29		20	08	−12	−12	−12	33	04	29	22	32	−15	06	−08	−16
	Personal Control Structure																									
	Attitudinal tolerance of deviance (ATD)	27	02	22	−23	21	07	19	−22	−24	05	37		30	−30	−48	−48	24	03	−04	23	33	−28	−19	−50	−40
	Religiosity (REL)	17	−20	05	−29	02	−17	02	−20	14	−11	15	23		−11	−40	−38	20	04	02	26	26	−22	−26	−45	−28
	Disjunction of drinking functions (KDJ)	−07	01	03	07	−04	−07	−06	−03	15	−05	−11	−33	−03		41	40	−10	−06	07	−13	−14	09	−01	17	15
	Disjunction of drug functions (DDJ)	−43	−01	−22	38	−15	−03	−13	37	20	01	−20	−37	−17	35		57	−15	−12	15	−29	−28	19	27	52	45
	Disjunction of sex functions (SDJ)	−18	18	−01	28	−04	16	−05	18	14	11	−13	−34	−34	38	34		−17	−12	05	−24	−28	20	21	43	38
PERCEIVED ENVIRONMENT SYSTEM	*Distal Structure*																									
	Parental support (FSU)	19	03	21	−16	20	26	37	−21	−33	27	25	34	08	−31	−32	−18		−23	11	15	56	−41	10	−19	−21
	Parental controls (FCN)	18	−12	17	−24	06	−29	08	−14	−05	−12	04	06	16	09	−12	10	−10		07	07	−14	14	−39	−02	−04
	Friends support (PSU)	02	09	23	04	10	30	38	−01	−39	30	23	14	01	11	04	−07	37	−10		31	26	25	01	12	04
	Friends controls (PCN)	27	−10	22	−31	17	15	30	−28	−25	17	29	33	26	−20	−41	−19	31	18	23		31	04	−13	−39	−35
	Parent friends compatibility (COM)	23	−04	24	−23	22	13	27	−29	−38	30	37	34	24	−26	−29	−26	52	−00	33	37		−24	05	−38	−40
	Parent friends influence (PPI)	−20	11	−05	26	−13	−08	−20	34	11	−07	19	−21	−14	17	36	21	−40	−01	03	−28	−29		03	21	13
	Proximal Structure																									
	Parent approval problem behavior (TPRA)	−20	06	−15	22	11	23	11	17	−09	24	06	−19	−32	−03	24	20	07	−34	11	−14	06	−03		43	29
	Friends approval problem behavior (TFDA)	−27	06	−13	29	00	06	02	31	04	08	−09	−41	−30	22	51	33	−24	−08	05	−40	−33	24	48		66
	Friends models problem behavior (TFDM)	−27	13	−13	32	−11	17	−03	20	12	12	−12	−39	−19	22	44	29	−31	−24	−02	−34	−27	29	37	54	

[a] Correlations above the diagonal are those for females ($N = 244$) correlations below the diagonal are for males ($N = 188$) rs of 14, 18 and 23 for females are significant at the 05 01 and 001 levels (two-tailed), rs of 15, 20 and 25 for males are significant at the 05, 01 and 001 levels (two tailed)

The preceding empirical evidence suggests that there is some relationship between perceived environment and personality measures. This relationship, however, is not substantial. In addition, Jessor and Jessor have argued that the perceived environment of the actor is important in the study of his behavior.

Besides, a number of research studies have had individuals complete both the personality and environmental indices (e.g. Thomas et al, 1977; Hirschi, 1969; Jessor & Jessor, 1977; Liska, 1978). Consistent with prior research, it appears that one can use the measures of perceived school climate as well as measures of personality from the viewpoint of school pupils. In the present study, school climate will be measured from the students' viewpoint.

An attempt is made in the following paragraphs to integrate Stern's model of school climate and Farley's model of delinquent/deviant behavior.

Statement of the Problem and Research Hypothesis

Although Farley's theory of delinquency has not to this author's knowledge (at time of writing), been operationalized in the school context, his environmental variable has been. Using the 'open' and 'traditional' school conceptualizations and Farley's arousal/adaptive education theory of hyperactivity, Koester (1976) predicted that children of a

low arousal level, characterized by overt stimulation-seeking, are more likely to improve behaviorally in an "open" climate as opposed to a "traditional" climate where their stimulation needs were met. Results showed an improvement in the predicted direction. Although this relationship was not statistically significant, Koester's study would indicate that operationalization of Farley's delinquency theory is realizable in the school context, using a measure of school climate.[5]

Stern conceptualizes school climate in terms of expression of needs and opportunities. He has developed his model on the Lewinian principle that behavior is a function of the interaction of the person and his environment. Farley's model subsumes this concept.

It would appear from the foregoing discussion that the Development Press type of school climate would more adequately meet the needs of high stimulus-seekers. High stimulus-seekers, as noted earlier, seek varied, novel and complex experiences in their environment. The Control Press type of environment, where limited opportunities for personal expression and exploration are available, is not likely to meet the needs of high stimulus-seekers. This in turn might lead these individuals to engage in deviant activities

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[5] In a personal communication, Farley agreed that the use of open and closed school climates is appropriate and consistent with his conception of the environment variable (1977).

in either Development Press or Control Press types of school climate because their needs would not be met in both climates.

The following research hypotheses are postulated:

1. High stimulus-seekers are more likely to engage in school deviant behavior than low stimulus-seekers.

2. High stimulus-seekers who perceive their school climate as high on the Development Press are less likely to engage in school deviant behavior than those who score low on the Development Press.

3. High stimulus-seekers who perceive the school climate as low on the Development Press and high on the Control Press are more likely to engage in school deviant behavior than those who perceive the school climate as high on the Development Press and low on the Control Press.

METHOD

In this chapter, evidence on the reliability and validity of the research instruments is presented. The instruments used in the study were the Sensation-seeking Scale, Elementary and Secondary School Index, and School Deviant Behavior Scale. The latter was specifically developed for this study. In addition, the research subjects are described and a plan of statistical treatment of the data is discussed. Raw data are presented in Appendix C.

Instruments

A Sensation-seeking Scale

Zuckerman and associates (1964) developed the sensation-seeking scale (SSS) on the basis that a) individuals differ in their preferred level of stimulation input, that is, some individuals prefer low input levels while others prefer high input levels of stimulation; b) that sensation-seeking could be regarded as a personality variable; and c) sensation-seeking is a function of a homeostatic principle of "optimal level of stimulation," that is, organisms strive to maintain an optimal level of stimulation by avoiding stimulation when

the stimulus input is too high, and seeking stimulation when the stimulus input is too low. As a measure of stimulation-seeking, the SSS positions an individual on the sensation-seeking continuum.

The latest version of the SSS (Form V) has four factors (three of which were reliably defined across the sexes) (Zuckerman, 1975; Zuckerman, Buschbaum & Murphy, 1980). The four factors are:

1) Thrill and Adventure Seeking (TAS): This scale consists of items expressing desire to engage in sports or activities involving some physical danger or risk such as mountain climbing, parachute jumping, speeding in a car.

2) Experience Seeking (ES) This scale contains items describing the desire to seek new experiences through the mind and senses by living in a non-conforming life style with unconventional friends, and through travel.

3) Disinhibition (DIS): Items in this scale reflect the need to disinhibit behavior in the social sphere by drinking, partying, and seeking variety in sexual partners.

4) Boredom Susceptibility (BS): This scale describes an aversion for repetitive behavior of any

kind, routine work, or even dull or predictable people.

These four factors or scales consist of 10 items each, making a total of 40 items in the SSS. The sum of the four factor scores can be used as a general sensation scale.

Zuckerman (1979, pp. 138-150) has summarized several studies of convergent validity correlations of the SSS with similar test constructs (eg. Change Seeker Index, Extroversion Scale of Eysenck's Personality Inventory, Gough & Heilbrun's The Adjective Checklist, Jackson's Personality Research Form). Zuckerman reports that these coefficients are all significant but not as high as those with the Change Seeker Index, "being typically in the 0.4s instead of the 0.6s." (1979, p. 139).

Zuckerman (1979, pp. 178-179) has also reported several studies of discriminant validity of the SSS. The SSS has been correlated with the lie scale of the EPI, Edwards Social Desirability Scale, Lie & K scores of the MMPI, and the Defensiveness Scale of Lanyon's Psychiatric Screening Inventory. Zuckerman concluded that "social desirability or defensiveness plays little or only a minimal role in the SSS" (1979, p. 180).

The reliability coefficients for the SSS are presented in Table 2. These correlations indicate that the SSS is a reliable instrument.

Table 2

Reliability of the Sensation-Seeking Scale (Form V)

Scale	Alpha Reliability Coefficients English Male (N,254)	English Female (N,693)	American Male (N,97)	American Female (N,122)	Retest (3 week) Reliability American Male, Female (N,65)
TAS	.81	.82	.77	.77	.94
ES	.65	.67	.61	.61	.89
DIS	.78	.77	.74	.76	.91
BS	.65	.59	.57	.56	.70
Total	.83	.86	.84	.85	.94

Source: Zuckerman (1979, chap. 4)

The preceding validity studies and the reliability estimates suggest that the SSS is a reasonably reliable and valid measure of sensation-seeking. The SSS has been used in numerous studies (Zuckerman, 1974.1975,1978). In this study, the latest version of the SSS, Form V, will be used (see Appendix B, pp. 93-95). The general Sensation-seeking Scale, that is, a total Sensation-seeking Score, is planned for use in the analysis of the data. The index of school climate is discussed in the next section.

B High School Characteristics Index

Stern (1970) developed a series of indices to measure the socio-psychological climate of organizations such as schools. These indices are based on the need-press paradigm of human behavior proposed by Henry Murray (1938). The High School Characteristics Index (HSCI) measures the school climate as perceived by the pupils. The HSCI consists of 30 scales which represent environmental counterparts to the 30 personality needs used by Stern in the development of the activities index -- an instrument which measures personality needs. The thirty scales of HSCI were factor analyzed to obtain first-order and second-order factors. These factors provide a meaningful interpretation of climate and thus are used in research studies.

Factor analyses of the HSCI has revealed the following seven first-order factors:

Intellectual Climate: The items that comprise this factor are intended to reflect the qualities of the staff specifically devoted to scholarly activities in the humanities, arts and social sciences. A high score indicates a great deal of attention to these areas by the school and implies the presence of such facilities are good libraries and laboratories.

Expressiveness: This factor suggests a form of aesthetic awareness and emotional participation. It is concerned with opportunities offered to the student for the development of leadership potential and self-assurance.

Group Social Life: The environment implied by high scores in this factor is fun-loving, friendly, and actively outgoing. Mutually supportive group activities among the student body are common and take on a warm, friendly character, more or less typifying adolescent togetherness.

Personal Dignity/Supportiveness: Schools with high scores on this factor encourage autonomy among students but also allow for the expression

of dependency and defensiveness that is often found in elementary and secondary schools. "Teachers take an interest in the students," and do not make them feel like babies. Such climates tend to be non-authoritarian and allow high levels of self-determination.

Achievement Standards: Schools with high scores on this factor set high standards of achievement for their students. In such schools, "most students take their school work seriously," "students work hard at everything they do -- in and out of school," and "teachers put a lot of hard work and enthusiasm into their teaching."

Orderliness/Control: High scores on this factor are associated with administrative structure or regulatory orderliness. In such environments, "students have to be neat and clean when they come to school," and "there is a place for everything and everything is kept exactly where it belongs."

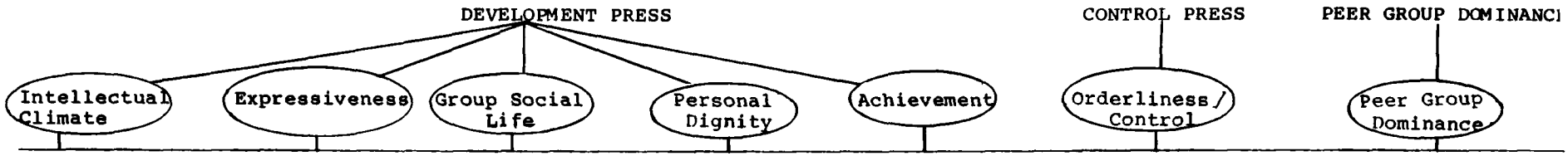
Peer Group Dominance: High scores on this factor are suggestive of an environment in which peer group relations are strongly valued. In such schools, "it is important to be friends with the right people," and "you have to do what everybody else does in order to get along around here."

(Richman & Stern, 1979, pp. 7-10)

Further factor analyses have revealed two main second-order factors: Development Press and Control Press, and a minor one: Peer Group Dominance. Figure 1 depicts the relationships among the second-order factors, first-order factors, and the scales comprising each first-order factors. Development Press refers to a climate which stresses personal growth and development as distinguished from the externally adaptive concerns of the other two second-order factors. Control Press describes a school climate which is characterized by high levels of constraint and restrictiveness. The Development Press and Control Press are of major interest in the present study.

More recently, Stern (1973) developed a short form of the HSCI. It is called Elementary and Secondary School Environment Index (ESI). The ESI consists of 61 items and takes about 15 minutes to complete, in contrast to 300 items and 40 minutes for the HSCI. The reliability coefficients of both the HSCI and the ESI are presented in Table 3.

These coefficients indicate that both scales are reliable, and that there is a great deal of correspondence between the reliability coefficients of the HSCI and the ESI on different factors. The HSCI has been used in several studies (e.g. Stern, 1970; Garland & O'Reilly, 1976).



SCALES						
Fantasied achievement	Change	Play	Assurance	Counteraction	Deference	Practicalness
Reflectiveness	Sensuality	Emotionality	Defensiveness	Understanding	Harm avoidance	Sex
Reflectiveness	Humanities/	Affiliation	Objectiveness	Conjunctivity	Deliberation	
Ego achievement	Social Science	Nurturance	Blame avoidance	Energy	Narcissism	
Science		Exhibitionism	Tolerance	Achievement	Orderliness	
Understanding			Supplication			

Figure 1 Stern's High School Characteristics Index

Table 3

Reliability Coefficients of HSCI and ESI

FACTOR	HSCI[1] Alpha Reliability	ESI[2] Coefficients
Intellectual Climate	.91	.74
Expressiveness	.77	.72
Group Social Life	.89	.81
Personal Dignity	.86	.77
Achievement Standards	.90	.80
Orderliness/Control	.75	.71
Peer Group Dominance	.81	.73
SECOND-ORDER FACTORS		
Development Press	.94	.89
Control Press	.75	.71
Peer Group Dominance	.81	.73

Source : Stern, G.G., & Richman, J. (1979).
1. HSCI - Long Version
2. ESI - Short Version

In the present study, the ESI (see Appendix B, pp. 96-99) will be used because of ease of administration and practicality. The school deviant behavior questionnaire (SDB) is discussed in the next section.

C Deviant Behavior in the School

In the measurement of delinquent behavior, some researchers, for logistical or theoretical reasons, use police and court records of delinquency (e.g. McCord and McCord, 1959; Wolfgang, Figlio and Sellin, 1972), while others rely on self-report measures of delinquent behavior (e.g. Nye and Short, 1957; Williams and Gold, 1972; Hardt and Peterson-Hardt, 1977). There are two important distinctions between the two approaches. One, the use of official records yields a dichotomous measure, i.e., present or absent. Self-report measures, on the other hand, yield a continuum on which an individual's degree of delinquent (deviant) behavior can be located.

The second distinction is that official records show a marked socio-economic status bias (e.g. Akers, 1964; Piliavin, 1964; Nye,Short & Olson, 1958), leaving the impression that the deviant behavior is concentrated in the lower strata of society. In contrast, self-report measures show a relatively even distribution of delinquent behavior across social status and suggest a much greater incidence and

prevalence of behavior than do official records (e.g. Gibbons,1970; Gold & Reimer, 1975; Hirschi, 1969; Johnson, 1976; Mann, 1976). Despite some controversy on this issue, there is enough evidence that self-report measures of delinquency are reliable and valid. Although most of the studies reviewed are in the area of delinquency, the findings could be generalized to deviant behavior.

Two recent studies have reviewed in detail the literature on self-reported delinquent behavior (Singh, 1979; Hindelang et al,1979). The review of the literature by Singh (1979) reported reliability coefficients in the range of 0.85 to 0.98 and validity coefficients in the range of 0.35 to 0.57. Moreover, Hindelang, Hirschi and Weis (1979, p. 1009) concluded, on the basis of their review, that within the domain of behavior they measure self-report measures provide reliable and valid indicators of delinquent behavior.

The following paragraphs describe the development of the School Deviant Behavior Scale (SDB). This scale was developed as there was no specific SDB scale.[6] The starting point in developing the SDB was an examination of existing instruments such as the one developed by Allsopp and Feldman (1976). Allsopp and Feldman's scale has also been used in other countries (Saklofke, 1978a,b). Allsopp and Feldman's

[6] It should be noted that a self-report study of school crime has been recently reported by Kulka and associates(1980), well after the analysis for the present study was complete.

antisocial behavior scale was developed in England. It includes some items on school deviance and has been tested on both schoolboys and schoolgirls. In addition, the Education Act of Ontario, the school regulations of the Ottawa Board of Education, the studies of Hargreaves and associates (1975), and Teachman (1979) and Gallup Poll studies of school crime were consulted. The criterion for selecting or modifying the items was that the activities take place in school. Further, some items were modified to reflect the Canadian situation. The target population was high school students.

The preliminary version of the SDB contained 30 items. This instrument was reviewed by a high school teacher and four education faculty members of the University of Ottawa. Following the comments of the reviewers, the SDB was further refined prior to its field test. An item relating to sex was deleted prior to the field test on the advice of the school principal, leaving a total of 29 items.

The preliminary SDB was anonymously completed by 255 schoolboys and girls in grades 9 through 13 in a public high school on the outskirts of Ottawa. The subjects were asked to place a checkmark against various deviant activities (Appendix B, pp. 100-101) as to how often they had engaged in such activities during the past 12 months. The response categories and the scores assigned are as follows: 1, "nev-

er", 2, "one to two times," 3, "three to four times" and 4,"five times or more". The item analysis using the SPSS program was carried out on the 242 usable responses. The Alpha Reliability Coefficient was 0.88.

Following the item analysis, a few items in the SDB were modified for consistency and clarity. Item #21 was deleted as it was quite similar in content to item #1. In place of item #21, however, another item was substituted. The new item #21 deals with the selling of marijuana in the school or school premises. This item has been used in several research studies of adolescents (see, for instance, Elliot & Ageton, 1979).

In the present study, the SDB is used as a single variable. This is consistent with prior research in this area (e.g. Singh, 1979, Farley & Sewell, 1976; Broder et al, 1980). It should be noted, however, that recently, Kulka and associates (1980) have identified three factors in school crime. This study appeared well after the analysis of the present study was completed. In an exploratory analysis of the data, chapter 4, the SDB will be subjected to factor analyses and data will be reanalyzed. The sample is described next.

Population and Sample

The target population was high school students in Eastern Ontario. A representative sample of this population was selected, resulting in 483 students from three public high schools. Two of these high schools were in the Lanark County Board of Education and one in the Timmins Board of Education. The schools were in areas with populations ranging from 3,000 to 6,000.

The school principals were contacted personally by telephone to seek permission to administer the questionnaires (see Appendix B). The purpose of this study was also explained. It was also stressed that the administration of the questionnaires could be arranged according to their convenience. Two of the school principals preferred that the questionnaires be administered by the consenting teachers during a class period. The other school principal preferred that the researcher administer the questionnaire himself. Instructions were prepared for teachers administering the questionnaires. (see Appendix A). These instructions were handed out in advance so that the teachers had the opportunity of asking any questions or clarifications from the researcher.

The researcher administered the questionnaires in one school. The class teacher stayed in the class to supervise and answer any questions. Later in the day, there were some

students who had already completed the questionnaires earlier. These students were asked not to complete the questionnaire a second time.

A majority of the students completed the questionnaire within 20-25 minutes. However, some students took up to 35 minutes.

The average number of subjects per class was 21.95 (S.D.,6.17), and the average age of the students was 16.03 (S.D.,1.16). The number of male subjects was 210 (43.6%), and female subjects, 272 (56.3%). One subject did not indicate the sex on the questionnaire. The distribution of subjects according to grade is as follows: Nine, 84 (17.4%); Ten, 135 (28.0%); Eleven, 157 (32.5%); Twelve, 103 (21.3%); and Thirteen, 4 (0.8%).

The plan for the analysis of the data is presented in the next section.

Plan of the Statistical Analysis

The research hypothesis will be tested through the use of step- wise regression analysis procedures. The mutiple regression analysis has at least three advantages over analysis of variance. These are "1) the use of continuous variables, 2) less data processing time, and 3) direct, comprehensive estimates of the magnitude and significance of

the independent variable effects on the dependent variable" (Walberg, 1971, p. 75). In addition, it has been shown that regression analysis is a robust statistical technique, that is, departures from the normality of disturbances and homoscedasticity have little effect on the estimated values (Bohrnstedt & Carter, 1971, pp. 123-124). The p- level is set at 0.05.

In the next chapter, the findings of this investigation are reported, along with a discussion of the results.

PRESENTATION OF RESULTS

Research results, along with a few comments and observations, are presented in this chapter. The relationships among the variables considered are also examined. In a confirmatory data analysis, the results of hypothesis testing are described. Exploratory analyses of the data were carried out in two stages. First, the factorial structure of the research instruments was examined, and secondly, multiple regression analyses on the observed relationships were carried out to obtain the best subsets of predictors of deviant behavior in school.

Data Description

The descriptive statistics -- means, standard deviations, and zero-order correlations -- are presented in Table 4 in order to examine the simple relationships among the variables and, where possible, to compare the present results with the available data on these variables. The average sensation-seeking score was 19.319. This is comparable to a mean of 21.2 for males and 18.5 for females for 16-19 year olds reported by Zuckerman (1975). The correlation between the Sensation-seeking Scale (SSS) and School Deviant Behavior (SDB) is .53 ($p < 0.01$). This indicates that high

Table 4

Means, Standard Deviations, and Intercorrelations for Independent and Dependent Measures

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Thrill and Adventure Seeking	7.184	2.388	1																
2. Experience Seeking	4.126	1.868	334	1															
3. Disinhibition	5.023	2.760	248	305	1														
4. Boredom Susceptibility	2.986	1.884	171	173	379	1													
5. Sensation Seeking	19.319	6.036	666	635	768	606	1												
6. Intellectual Climate	3.164	2.081	067	078	128	177	063	1											
7. Expressiveness	3.424	1.868	039	068	-102	-183	-067	639	1										
8. Group Social Life	6.578	2.413	069	019	-047	-131	-041	409	420	1									
9. Personal Dignity	4.648	2.360	048	-051	-230	-149	-186	171	160	270	1								
10. Achievement Standards	4.389	2.474	-021	-034	-187	-179	-144	647	480	580	445	1							
11. Orderliness/Control	3.983	1.786	027	-022	-066	-128	-088	389	287	318	251	432	1						
12. Peer Group Pressure	7.499	1.846	-010	-025	-087	-096	-058	197	108	199	456	251	155	1					
13 Development Press	22.203	8.221	-039	-005	192	222	140	763	703	744	579	872	459	339	1				
14. Drug Abuse	4.526	1.525	120	332	362	237	390	125	139	136	164	176	104	040	203	1			
15. Truancy	6.277	2.793	170	358	401	230	433	101	075	107	230	188	145	071	197	480	1		
16. School Misbehaviour	25.083	6.039	138	259	486	360	469	148	142	095	268	203	211	140	236	407	574	1	
17. Deviant Behaviour	42.141	10.180	168	351	531	358	530	162	150	124	285	235	213	122	264	627	793	920	1

Note: Decimals have been omitted. The underlined coefficients are negative values.

stimulus-seekers tend to engage more often in deviant behavior in school than low stimulus-seekers. A similar relationship exists between the three subscales of the SDB and the four subscales of the SSS. The "Disinhibition" scale of the SSS has the highest positive correlation with the SDB ($r=0.53$; $p<0.01$). This relationship, that is, a high correlation between the "Disinhibition" scale and deviant behavior, also holds for the three subscales of the SDB.

There is a low negative relationship between the Control Press and deviant behavior. A similar relationship also exists for all the subscales of the SDB. This suggests that those who perceive the school climate as control-oriented tend to engage less often in deviant behavior in school. Furthermore, a similar relationship exists between the Development Press and deviant behavior. In other words, those students who perceive the school climate as low on Development orientation tend to engage more frequently in deviant behavior at school.

The means (M) and standard deviations (SD) for Control Press observed in this study are $M = 3.983$ and $SD = 1.786$, and for Development Press, $M = 22.203$ and $SD = 8.220$. Richman and Stern (1979, p. 14) have reported $M = 4.103$, $SD = 2.153$ for Control Press and $M = 31.843$, $SD = 8.898$ for the Development Press. The means and standard deviations for the Control Press are comparable with the present data. For

the Development Press, however, the standard deviation is similar but there is a discrepancy with regards to the mean. Generally, the means for all the factors composing the Development Press are lower than those reported in the manual. This discrepancy could be due to a different population used in this study. There was a moderate positive correlation between the Control Press and the Development Press, suggesting that those who perceive the school climate as high on the Control orientation also perceive the school as high on Development orientation.

Confirmatory Data Analysis

Data were subjected to a stepwise multiple regression analysis. The computer program used for this purpose was BMDP2R (Dixon & Brown, 1979). This program provides for both forward and backward regression analyses. The variables included in the analysis were: Sensation-seeking (SSS),Development Press, and Control Press, and the interactions of SSS X Development Press, SSS X Control Press, Development Press X Control Press, and SSS X Development Press X Control Press. The dependent variable was Deviant Behavior in School(SDB). A summary of this analysis is presented in Table 5. The results indicate that the stimulus-seeking personality variable accounted for substantial variance; the total variance explained was 33%. It should be noted that the interaction (second-order) added only 5% to the explained variance.

Table 5

Summary of Stepwise Multiple Regression Analysis of Students on School Deviant Behavior with SSS, Development Press, Control Press, SSS X Development Press, SSS X Control Press, Development Press X Control Press, and SSS X Control Pres X Development Press.

Variable	Multiple R	RSQ	Increase in RSQ	Simple R	Standardized Beta
SSS	5298	2807	2807	530	593
Interaction (SSS X Control Press X Development Press)	5772	3308	9501	071	233

Note: Decimals omitted. The underlined coefficients are negative.
R - Multiple Correlation
RSQ - Multiple Correlation Squared

In the stepwise multiple regression Analysis the F value to enter a variable was 4.0 and the F value to remove a variable was 3.9. The order of the variables entered in the multiple regression analysis is the same as the order of the variable shown in the table above.

To gain further insight into the types of interaction observed between independent variables, extreme groups were formed using the median scores as cut-off points for the three predictor variables: Sensation-seeking, Development Press and Control Press. This procedure gave rise to eight groups of subjects which are described in Table 6. The mean SDB scores of the high and low stimulus-seekers along the dimensions of school climate are presented in Figure 2. This figure indicates that high stimulus-seekers in Low Control Press and Low Development Press engaged more often in deviant behavior than in other combinations of the school climate. It was anticipated that high stimulation-seekers in low Development Press and high Control Press would engage more frequently in deviant behavior than high stimulation-seekers who perceived the school climate as high on Development Press and low on Control Press. The difference between these two means is small (.61) (see Table 6).

Given a number of cautions regarding the results and their interpretation, it was concluded that hypothesis #1 was corroborated. Hypothesis #2 was not statistically significant. However, as observed from the means, the results were in the expected direction. Finally, hypothesis #3, though statistically significant, was not corroborated. These results will be interpreted in the next chapter.

Table 6

Group Description for the School Deviant Behavior for Subgroups of students Characterized by median split on the variables SSS, Development Press and Control Press.

GROUP DESCRIPTION					
Stimulus-Seeking	Dev. Press	Control Press	N	Mean	SD
Low	Low	Low	55	38.58	5.96
Low	Low	High	50	39.22	7.60
Low	High	Low	41	38.85	6.49
Low	High	High	100	36.04	5.13
High	Low	Low	76	52.14	13.80
High	Low	High	52	45.27	9.10
High	High	Low	32	45.88	8.74
High	High	High	77	42.71	8.98

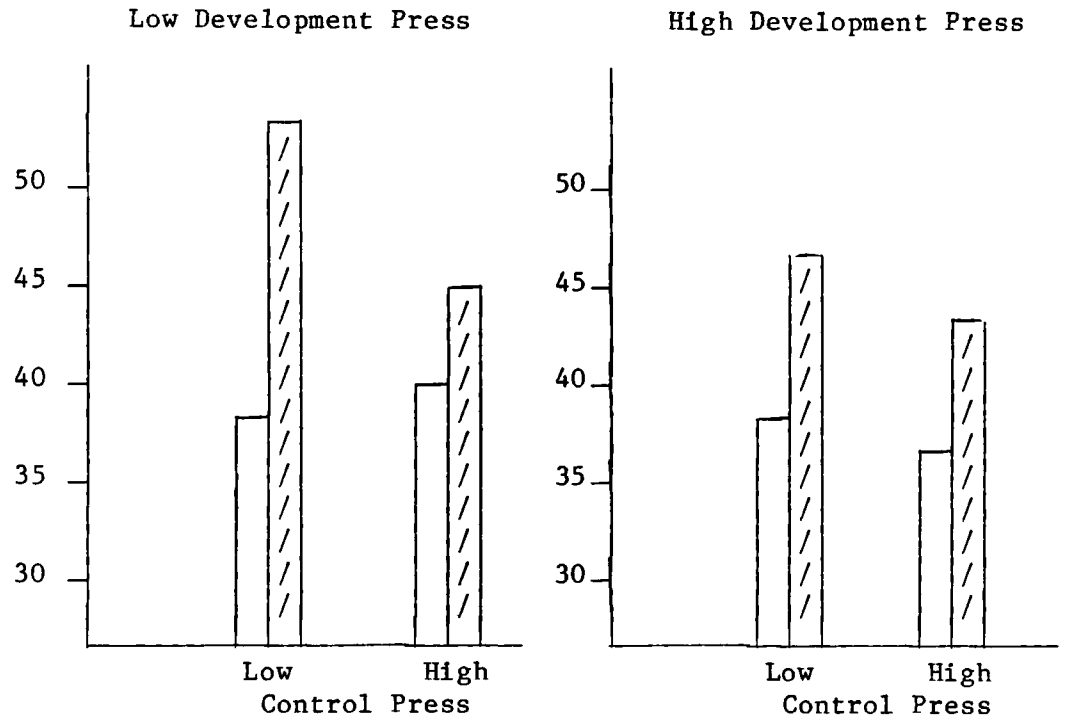


Figure 2. Mean School Deviant Behavior by Stimulus Seeking and Control Press for Low and High Development Press.

Low Stimulus-seekers

High Stimulus-seekers

Since hypotheses 2 and 3, were not corroborated, it seemed appropriate to perform an exploratory analysis of the data. This analysis was conducted in two phases: a factorial analysis of the research instruments to establish the congruency between the proposed and the observed structures, and multiple regression analyses to identify the most relevant predictors of self-reported deviant behavior in high schools.

Instruments: Factorial Structure Revisited

The factorial structure of the research instruments is analyzed in the following paragraphs. The purpose of this exercise was to determine the extent of congruency between factors reported by previous researchers and the factors obtained from the present data. In other words, do similar factor structures, especially for the SSS and ESI, emerge from the present data. The factor analytic procedure employed by Zuckerman and Stern, like a majority of researchers, was principal components analysis with a varimax or equimax rotation. Principal components analysis is, strictly speaking, not a factor analysis. Kim and Mueller (1978) noted that "principal components analysis is a method of transforming a given set of observed variables into another set of variables " (p. 14). In this study, the principal factor analysis is used to analyze the factorial structure of the research instruments. This approach was adopted for

two reasons: a) principal factor analysis is very close to principal components analysis (Kim & Mueller, 1978), and b) using other factor analysis methods, such as Kaiser's Littlejiffy, Alpha factor, and so on, may not enable one to meaningfully compare the factors observed in the present data with those reported by Zuckerman and Stern. The BMDP4M program was used to analyze the data.

A Factorial Structure of the SSS

Zuckerman (1971,1979) has reported four scales or factors for the Sensation-seeking Scale (SSS): Thrill and Adventure Seeking (TAS), Disinhibition (Dis), Experience Seeking (ES) and Boredom Susceptibility (BS). These factors/scales were described in Chapter 2. Zuckerman has used principal components analysis with a varimax rotation. In the present study, the use of principal factor analysis with varimax rotation revealed only three instead of four factors obtained by Zuckerman. However, the use of the unweighted least squares method with a varimax rotation revealed four factors similar to those reported by Zuckerman(1975,1979). These results are reported in Appendix D .

The use of the TAS, DIS, ES, and BS as distinct variables in the exploratory analysis of the data is thus considered appropriate. One can perhaps interpret the finding of this study with greater confidence.

B Factorial Structure of the ESI

The responses to the ESI were subjected to principal factor analysis with EQMAX rotation. Stern, however, used the principal components with an equimax rotation in reporting the analysis of the HSCI -- the long version of the ESI. There are no reported factorial studies of the ESI. The factor analysis of the ESI suggests that there are five factors (eigenvalues > 1) as opposed to the seven postulated by Stern and Richman (1979). The results appear in Appendix E.

Of the five factors, only three closely correspond to the ESI factors. These are Group Social Life, Personal Dignity and Peer Group Dominance. For Group Social Life, that is Factor 1 in Appendix E, seven of the original ten items load on this factor. Factor 2 reflects the Personal Dignity scale of the ESI with seven of the original ten items loading on this factor. Factor 3 is a mix of Achievement Standards and Order/Control scales of the ESI. Five items each of the Achievement Standards and Order/ Control scales load on this factor. This is perhaps not surprising as both are related to the setting of standards. The ESI has the loading of the nine original items on the Factor 4. Factor 5 does not correspond with any factor/scale of the ESI. Items of Achievement Standards and Orderliness factors of the ESI load on the fourth factor. Factor 5 does not correspond to any factor of the ESI. This finding perhaps could be due to

the reduced number of items (61) in the ESI compared to the 300 items in the HSCI.

In the exploratory analysis of the data, all the first-order factors were used. This approach was adopted by Garland and O'Reilly (1976) and Donnelly (1979). However, caution will be taken in interpreting the results whenever the first-order factors which do not emerge from the present data are important predictors of deviant behavior.

C Factorial Structure of the SDB

The SDB was specifically constructed for this study as there was no measure of deviant behavior in the school. The preliminary version of the SDB was factor-analyzed using the principal factor analysis method with a varimax rotation. This analysis suggests three factors with eigenvalues greater than one. The three factors appeared as follows: school misbehavior (items such as cheating on exams or homework, writing graffitti on walls, defacing textbooks, and so on), drug abuse (items such as the use of marijuana, coming to school drunk, use of LSD on school premises),and truancy (items such as skipping classes, staying away from school the whole day for no valid reason, writing notes which parents should have written.) These factors accounted for 35% of the total variance.

Truancy (factor #2 in Appendix F) emerges as the most clearly defined among the three factors of the SDB. This is follwed by drug abuse (factor #3) and school misbehavior (factor #1). Although school misbehavior has a slightly greater eigenvalue than the truancy factor, some of the items loading on this factor also load on other factors. For example, the use of alcohol on school premises also loads on the other factors. School misbehavior is an amalgam of a variety of activities such as cheating on exams, tests and written assignments, ignoring teachers' orders, stealing school property and so on. It should be noted that somewhat similar factors of school crime were reported by Kulka and associates (1980). These researchers have used the term class misbehavior instead of school misbehavior.

Exploratory Data Analysis

Following the confirmatory analysis of the data, several exploratory analyses were carried out to find the best subset of predictors of deviant behavior. A stepwise multiple regression analysis, using the BMDP2R program, was employed. This program enables one to select the best subset of predictors to explain a given criterion. Four separate regression analyses were performed. The criterion variables were SDB, drug abuse, truancy and school misbehavior. The predictor variables were the four subscales of the SSS: Thrill and Adventure seeking (TAS), Disinhibition (DIS), Experience

Seeking (ES) and Boredom Susceptibility (BS), and the seven first-order factors of the Elementary and Secondary School Index (ESI): Achievement Standards, Intellectual Climate, Expressiveness, Personal Dignity, Order/Control, Peer Group Dominance, and Group Social Life. The subscales were used as predictor variables since it is possible that a subscale may account for more variance in the criterion variable than the aggregate scale. This approach has been adopted by Garland and O'Reilly (1976) and Donnelly (1979) in analyzing Stern's school climate indices.

The descriptive statistics for these variables appear in Table 4. The summary of the regression analyses for the above-mentioned variables is presented in Table 7. These results indicate that personality variables account for more variance than environmental variables. For instance, personality variables, 'Disinhibition,' 'Experience Seeking,' and 'Boredom Susceptibility', accounted for 34% of the approximately 39% explained variance for deviant behavior in school. The two environmental scales,'Order/Control' and 'Personal Dignity', added approximately 5% to the explained variance. The Beta weights and simple correlation coefficients also suggest that the personality variables accounted for a substantial portion of the explained variance. This finding is consistent with the results reported in the confirmatory data analysis section.

Table 7

Summary of Stepwise Multiple Regression Analysis of Exploratory Analyses of the data.

Criterion Variable	Predictor Variable	Multiple R	Multiple RSQ	Increase in RSQ	Simple R	Standardized Beta
SCHOOL DEVIANT BEHAVIOUR	Disinhibition	5314	2824	2824	531	376
	Experience-Seeking	5674	3219	0395	351	202
	Order-Control	5948	3537	0318	213	132
	Boredom Susceptibility	6104	3726	0188	358	144
	Personal Dignity	6234	3886	0160	285	134
DRUG ABUSE	Disinhibition	3620	1311	1311	362	270
	Experience-Seeking	4305	1853	0543	332	259
	Expressiveness	4490	2016	0163	139	129
TRUANCY	Disinhibition	4011	1609	1609	401	286
	Experience-Seeking	4712	2220	0611	358	262
	Personal Dignity	4934	2435	0215	230	129
	Order-Control	5008	2508	0073	145	088
SCHOOL MISBEHAVIOR	Disinhibition	4864	2366	2366	486	349
	Bordeom Susceptibility	5220	2725	0359	360	172
	Order-Control	5458	2979	0254	211	133
	Personal Dignity	5574	3107	0128	268	123
	Experience Seeking	5678	3224	0117	259	114

Note: Decimals omitted. The underlined coefficients are negative.
R - Multiple Correlation
RSQ - Multiple Correlation Squared

In the stepwise multiple regression analysis the F value to enter a variable was 4.0 and the F value to remove a variable was 3.9. The order of the variables entered in the multiple regression analysis is the same as the order of the variable shown in the table above.

A similar relationship is observed with the other criterion variables. The Disinhibition, Experience Seeking, and Boredom Susceptibility scales of the SSS, indicating personality variables, were important predictors of deviant behavior in school. The Personal Dignity and Order/Control scales of the ESI -- school climate -- were important predictors for all the subscales of the SDB, with the exception of drug abuse type of deviance. In the last case, the expressiveness scale of the ESI was an important predictor. The simple correlation coefficients and the Beta weights indicate that the Disinhibition , Experience Seeking and Boredom Susceptibility scales of the SSS, along with the Personal Dignity and Order/Control scales of the ESI, are important predictors of deviant behavior in school. The maximum variance, however, accounted for by these variables was appoximately 39%.

In summary, the results revealed a positive relationship between Sensation-seeking Scale and deviant behavior in school. This relationship also held for the subscales of the SSS and the SDB. The confirmatory analyses of the data suggested that the personality variable, that is the SSS, accounted for a substantial portion of the explained variance. The perceived measures of school climate accounted for roughly 5% of the explained variance. The factorial structure of the SSS was similar to that reported by Zuckerman. This was, however, not the case for the ESI. Only

three factors closely resembled those reported by Stern. The factorial analysis of the SDB revealed three factors: school misbehavior, truancy and drug abuse. These findings are discussed in detail in the following chapter.

INTERPRETATION OF RESULTS

The three research statements postulated at the end of chapter 1 were:

> 1. High stimulus-seekers are more likely to engage in school deviant behavior than low stimulus-seekers.
>
> 2. High stimulus-seekers who perceive their school climate as high on the Development Press are less likely to engage in school deviant behavior than those who score low on Development Press.
>
> 3. High stimulus-seekers who perceive the school climate as low on the Development Press and high on the Control Press are more likely to engage in school deviant behavior than those who perceive the school climate as low on Control Press and high on Development Press.

The multiple regression analysis of the data (Table 5) suggests, as indicated by the Beta weights, that the stimulus-seeking motive is an important predictor of deviant behavior in school. This is followed by overall interaction. Together, these variables accounted for 33% of the variance.

The results as presented in Figure 2 indicate that hypothesis #1 was corroborated. This implies that high stimulus-seekers engage more frequently in deviant behavior than low stimulus-seekers irrespective of the type of school cli-

mate. Also, it should be noted that high stimulation-seekers had consistently higher mean deviant behavior scores than the low stimulation-seekers.

The second hypothesis was not corroborated by the empirical evidence. An examination of means for high stimulus-seekers in Table 6 reveals that those who perceived the school climate as high on Development Press engaged less often in deviant behavior than those who perceived the school climate as low on Development Press. The results are in the expected direction as observed by the means, but are not large enough to generalize to differences in the population.

The third hypothesis, that high SS who perceive the school climate as low on Development Press and high on Control Press are more likely to engage in deviant behavior in school than high SS in low Development Press and high Control Press, is not supported, although the overall interaction is statistically significant. The mean for low Control Press, high Development Press and high SSS is 45.88 and the mean for the high Control Press, low Development Press and high SSS is 45.27 (Table 6). The difference between these two means is small. It was expected that the latter mean would be significantly greater than the former as there are less opportunities to satisfy needs on the part of high stimulation-seekers, especially when the school climate is not perceived as high on Development Press. Stimulation-seekers

are also high risk-takers, implying that limited opportunities would not appear as a hindrance to their engaging in deviant behavior.

It appears from Figure 2 that high stimulus-seekers in the low Control and low Development Press type of school climate engaged more frequently in deviant behavior than any other group. This is perhaps to be expected. That is, when school regulations and development opportunities were perceived as lacking or low, high stimulus-seekers engaged in deviant behavior more often. Consequently, if the educators attempt to control deviant school behavior, the needs of high stimulus-seekers have to be channeled into socially acceptable behavior.

A plausible reason for this finding is that the high stimulation-seekers do perceive Control Press as a deterrent factor, that is, the penalties are perceived as real and not worth the risk. In addition, it is also possible that violation of school regulations (Control Press) may not be considered a novel situation.

Furthermore, it became apparent in the previous discussion that the factorial structure of the ESI did not correspond with that of the High School Characteristics Index -- the long form of the ESI. It appears from the ESI manual that no comparison of factorial structure was conducted, nor was a factorial analysis of the ESI undertaken. Thus, it is

possible that the first-order factors as reported by this author might indicate a better relationship in the explication of deviant behavior than the second-order factors of Development and Control Press. Some researchers, such as Donnelly (1979), and Garland and O'Reilly (1976) have also used Stern's first-order factors in their analyses.

The finding that the high SSS engaged more frequently in school deviant behavior than low SSS is in accord with the theoretical expectations. It is also consistent with prior research (Farley, 1973; Farley & Farley, 1972; Farley & Sewell, 1976; Nelson, 1976). It was also found in the regression analyses (Table 5) that the personality trait of stimulus-seeking accounted for more variance than the school environment scales. This finding is consistent with the research of Jessor and Jessor (1977), who investigated the effects of personality and environmental variables on problem behavior -- a different term used for deviant behavior. Jessor and Jessor used different measures of personality and environment. In addition, their study focussed on problem behavior and not school deviant behavior -- the focus of the present study. Unfortunately, Jessor and Jessor did not study the interaction effects of the personality and environmental variables on the problem behavior. In addition, Jessor and Jessor (1979) do not report the summary of results from the numerous multiple regression analyses.

In the present study, the stimulus-seeking motive was first considered as a general scale, as suggested by Farley. Further analyses of the data were carried out using the subscales of the SSS. Later analyis by Zuckerman (1979) also indicates that the subscales of the SSS may account for more variance in the explanation of deviant behavior than the general SSS.

Thus, an exploratory analysis of the data was carried out to determine the best set of predictors in explaining deviant behavior at school based on the concerns expressed in the previous paragraphs. The results presented in Table 7 indicate that the Disinhibition and Experience Seeking scales of the SSS were the most important predictors, followed by the Order/Control and Personal Dignity scales of the ESI.

When the deviant behavior in school of students is regressed with the subscales of the SSS and the ESI, the explained variance is approximately 39%. This is approximately a 6% increase in explained variance when the aggregate scale, that is, the SSS and Development Press and Control Press scales were used. The personality variables, especially Disinhibition and Experience Seeking, provided a substantial account for the explained variance. Approximately 5% of the variance was explained by the environmental scales, Personal Dignity and Order/Control. The finding that

the personality system accounts for more variance in the explication of deviant behavior is consistent with prior research (Jessor and Jessor, 1977).[7]

As mentioned earlier, the Disinhibition Scale reflects the need to disinhibit behavior in the social sphere by drinking, partying and seeking variety in sexual partners. The Experience Seeking and Boredom Susceptibility scales reflect an aversion for repetitive behavior of any kind. These activities were considered important in developing the theoretical framework to explain deviant behavior in school. And indeed, these variables are found to be important in explaining deviance at school.

A high score on Personal Dignity scale reflects the encouragement of autonomy among students, a non-authoritarian type of school climate, while the Order/Control scale reflects the bureaucratic maintenance, rules, etc. in the school. These factors were considered important in developing the theoretical framework and they have turned out to be important predictors of deviant behavior in school. Based on Farley's and Stern's research, it was anticipated that high stimulation-seekers would engage more frequently in deviant behavior when the school climate was restrictive, that is, with a greater emphasis on rules and lack of opportuni-

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[7] In some instances, Jessor and Jessor (1979) have reported higher multiple correlations for perceived environment measures than personality measures.

ties for personal expression. This postulate was not corroborated by the present empirical evidence. It should be noted, however, that tests of Farley's theory have been conducted using the socio-economic status as a measure of environment (Farley & Sewell, 1976; Nelson, 1976).

In general, the above results suggest that pupils who perceive less orderliness, less autonomy, and those who have a need to disinhibit behavior in the social sphere and seek new experiences are more likely to engage in school deviant behavior than those who perceive high orderliness , more autonomy and those who have a lesser need to disinhibit their behavior in the social sphere and seek fewer experiences in the environment.

This pattern holds for the truancy and school misbehavior scales of the SDB. In the case of drug abuse, the Expressiveness factor of the ESI was an important predictor. High scores on the Expressiveness scale reflect the need for aesthetic awareness and emotional participation. It seems that aesthetic awareness and emotional participation could be an important factor in drug abuse type of activities because of the group involvement in the use of drugs which are prohibited by law. Further research is indicated in this area.

In retrospect, one can identify some limitations of the present study which could be considered in the planning of

further research in this area. The focus of this study was on the personality and the environmental variables. The inclusion of cognitive variables such as IQ and academic achievement in the present model would likely explain more variance in school deviant behavior. The factorial structure of Stern's index was found suspect with the present data. It is possible that Stern's index, which was originally developed in the 1960s does not adequately measure the school climate as postulated by Stern in the 1980s. Perhaps, another measure of school climate could be used in further research.

The stimulus-seeking motive was measured using Zuckerman's SSS, a paper-and-pencil instrument. Although research on SSS indicates that it is a valid and a reliable measure, perhaps a physiological measure of 'arousability', a concept which is theoretically and empirically related to the SSS, could be used in further research. A physiological measure is relatively free from the socio-cultural and linguistic differences that could bias the paper-and-pencil measures. In addition, the reasons high stimulus-seekers engage in deviant behavior could be explored also.

To summarize, the results show that the empirical evidence corroborates the first hypothesis, that is, that high stimulus-seekers engage more frequently in self-reported deviant behavior than low stimulus-seekers, at least when the

school climate is perceived as being high on the Development Press. In addition, the evidence, although relatively weak, tends to corroborate the second hypothesis, that is, that high stimulus-seekers engage more frequently in deviant behavior when the school climate is perceived as low on Development Press than when the school climate is perceived as high on Development Press. The third hypothesis was not corroborated by the empirical evidence. An exploratory analysis of the data revealed that the Disinhibition and Experience Seeking scales of the SSS, and the Personal Dignity and Order/Control scales of the ESI were important predictors of self-reported deviant behavior in school. In general, the personality factors accounted for a substantial portion of the explained variance in self-reported deviant behavior in school. This suggests that the personality variables should be integrated in any research focussing on deviant behavior.

SUMMARY AND CONCLUSIONS

Relationships between the stimulus-seeking motive, perceived school climate and deviant behavior in school were examined in the present investigation. A theoretical framework, based on personality and school climate, was developed to explain deviant behavior in school and tested. The theoretical framework was essentially based on the work of Farley and other researchers in the area of deviant behavior. The stimulus-seeking motive -- a personality variable -- was considered appropriate to explain deviance in schools. Stern's conceptualization of school climate into Development Press and Control Press was used to operationalize the school climate. Both Farley and Stern based their theories on the Lewinian imperative of human behavior, that is, behavior is a function of the interaction between one's personality and one's environment.

In the present study, the stimulus-seeking motive represents the personality trait and the Development and Control Press scales represent aspects of the environment under study -- the school. The Development Press stands for a variety of presses for facilitating growth and self-enhancement. The Control Press reflects stability and bureaucratic maintenance. The Control Press also refers to limited op-

portunities for personal expression. The following research hypotheses were tested in this study:

> 1. High stimulus-seekers are more likely to engage in school deviant behavior than low stimulus-seekers.
>
> 2. High stimulus-seekers who perceive their school climate as high on the Development Press are less likely to engage in school deviant behavior than those who score low on the Development Press.
>
> 3. High stimulus-seekers who perceive the school climate as low on the Development Press and high on the Control Press are more likely to engage in school deviant behavior than those who perceive the school climate as high on the Development Press and low on the Control Press.

Subjects were 483 high school students from three schools and 23 classes. Two of the schools were from the Lanark County Board of Education and one from the Timmins Board of Education. Data were gathered on the following research instruments: SSS, ESI and SDB. The School Deviant Behavior Scale was developed in the context of the present investigation.

Regression analysis was the major statistical technique used to test the hypotheses. The empirical evidence partially corroborated the first two hypotheses. Despite the theoretical expectation, the third hypothesis was not corroborated. The results suggest that high stimulus-seekers engage more frequently in deviant behavior in school than low

stimulus-seekers. High stimulation-seekers engage less often in self-reported deviant behavior when the school climate is perceived as high on Development Press than when it is perceived as low on Development Press. The results of regression analysis showed that a substantial portion (28%) of the explained variance in self-reported deviant behavior is accounted for by the SSS. The overall interaction accounted for roughly 5% of the explained 33% of the variance.

An exploratory analysis of the data, using a stepwise multiple regression analysis, was carried out to find the best subset of predictors of self-reported deviant behavior in school. In this analysis, the four subscales of the SSS: Thrill and Adventure Seeking, Experience Seeking, Disinhibition, and Boredom Susceptibility, and the seven scales of the ESI: Expressiveness, Order/Control, Group Social Life and Peer Group Dominance, served as predictor variables. The criterion variables were: School Deviant Behavior, Truancy, Drug Abuse, and School Misbehavior. Four separate regression analyses were carried out. The results revealed that the Disinhibition, Experience Seeking and Boredom Susceptibility scales of the SSS and the Personal Dignity and Order/Control scales of the ESI were the important predictors. The personality variables again accounted for the substantial portion of the explained variance. These findings lead one to the conclusion that the personality factors, along with the measures of perceived school climate,

cannot be ignored in explaining self-reported school deviant behavior.

The main theoretical contribution of this study was to develop a framework to explain deviant behavior in school. In so doing, the present study extends and tests Farley's theory of delinquency. Also, in the course of this investigation, a scale to measure school deviant behavior was developed. Further, the analysis of the factorial structure of the ESI was performed for the first time (to the best of the writer's knowledge). The present analysis indicated a lack of correspondence between the factors reported for the longer version of the ESI, the HSCI. Also for the first time, as far as the writer is aware of, Stern's measure of school climate was related to deviant behavior.

This study focussed on school climate and the self-reported deviant behavior in school. Further studies may include the home environment to explain school deviant behavior since the students spend only part of their time at school, and the home environment plays an important role in how children learn to channel their stimulus-seeking needs. In addition, the data for this study was gathered from small towns (population of 3,000 to 6,000). Replication of this study with data from the large towns or cities would further extend the generalizability of the present findings.

A practical implication for educators, parents and the community in general involved in controlling the deviant behavior in high schools -- a wide concern at the present moment -- is to find alternative methods to channel the needs of high stimulus-seekers. Particular attention should be paid to high stimulus-seekers who perceive the school climate as lacking opportunities for personal autonomy and self-growth, and lacking bureaucratic rules and regulations. The kind of attention that may be needed should be investigated further.

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APPENDICES

Appendix A

INSTRUCTIONS TO THE CLASS TEACHER

THANK YOU VERY MUCH FOR YOUR TIME AND ASSISTANCE IN THE ADMINISTRATION OF THIS QUESTIONNAIRE.

INSTRUCTIONS

- Please tell the students that they are being asked to complete a research survey for the Faculty of Education, University of Ottawa, Ottawa. This survey is not for the school and participation is voluntary.

- Distribute the questionnaires.

- Read the instructions on the cover page with the students and make sure that they understand them.

- In the first two questionnaires, i.e., Interest & Preference Test and School Environment Index, students are asked to circle the appropriate statement as True/False or A/B.
  In the School Behavior Questionnaire, i.e., the last two pages, students are supposed to check ( ) in the appropriate box.

- The students can use pencils or pens in answering the questions.

- Remind the students to complete the Personal Data Section at the bottom of the cover page. This information is for statistical analysis.

- After they are completed, the questionnaires for each class should be enclosed in a brown envelope and left with the school principal.

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

FOR ENQUIRIES relating to the instructions or the questionnaire, please contact A.S. Wasson at (613) 521-0600.

If you are interested in knowing the results of this survey, a summary of the results will be available from the school principal and later on a copy of the thesis. This will, however, take some time.

Appendix B

HIGH SCHOOL SURVEY

Dear Participant:

This survey is part of a research project being conducted at the University of Ottawa, Faculty of Education. In this survey, we are interested in your interests and preferences, how you feel about school, and some of the activities that you may or may not have engaged in during school hours.

Your answers to this questionnaire are CONFIDENTIAL. You do NOT write your name or identification number anywhere on the questionnaire. Your class teacher or school principal will not see the questionnaires. In no way can the researcher know who you are.

Answer all the questions. Please fill in the personal data section below.

DO NOT CONSULT YOUR COLLEAGUES WHILE ANSWERING THE QUESTIONS.

It will take approximately forty (40) minutes of your time.

Please put the completed questionnaire on the desk in front of the class after you have completed it.

Thank you for participating in this survey.

Sincerely yours,

Avtar S. Wasson

* *

PERSONAL DATA SECTION

Age _____ yrs.

Grade _____

Sex: Male _____ Female _____

INTEREST AND PREFERENCE TEST

FORM V

DIRECTIONS: Each of the items below contains two choices, A and B. Please circle A or B, which ever one most describes your likes or the way you feel. In some cases you may find items in which both choices describe your likes or feelings. Please choose the one which better describes your likes or feelings. In some cases you may find items in which you do not like either choice. In these cases mark the choice you dislike least. Do not leave any items blank.

It is important you respond to all items with only one choice, A or B. We are interested only in your likes or feelings, not in how others feel about these things or how one is supposed to feel. There are no right or wrong answers as in other kinds of tests. Be frank and give your honest appraisal of yourself.

1. A. I like "wild" uninhibited parties.
   B. I prefer quiet parties with good conversation.

2. A. There are some movies I enjoy seeing a second or even a third time.
   B. I can't stand watching a movie that I've seen before.

3. A. I often wish I could be a mountain climber.
   B. I can't understand people who risk their necks climbing mountains.

4. A. I dislike all body odors.
   B. I like some of the earthy body smells.

5. A. I get bored seeing the same old faces.
   B. I like the comfortable familiarity of everyday friends.

6. A. I like to explore a strange city or section of town by myself, even if it means getting lost.
   B. I prefer a guide when I am in a place I don't know well.

7. A. I dislike people who do or say things just to shock or upset others.
   B. When you can predict almost everything a person will do and say he or she must be a bore.

8. A. I usually don't enjoy a movie or play where I can predict what will happen in advance.
   B. I don't mind watching a movie or play where I can predict what will happen in advance.

9. A. I have tried marijuana or would like to.
   B. I would never smoke marijuana.

10. A. I would not like to try any drug which might produce strange and dangerous effects on me.
    B. I would like to try some of the new drugs that produce hallucinations.

11. A. A sensible person avoids activities that are dangerous.
    B. I sometimes like to do things that are a little frightening.

12. A. I dislike "swingers."
    B. I enjoy the company of real "swingers."

13. A. I find that stimulants make me uncomfortable.
    high (drinking liquor or smoking marijuana).

14. A. I like to try new foods that I have never tasted before.
    B. I order the dishes with which I am familiar, so as to avoid disappointment and unpleasantness.

15. A. I enjoy looking at home movies or travel slides.
    B. Looking at someone's home movies or travel slides bores me tremendously.

16. A. I would like to take up the sport of water-skiing.
    B. I would not like to take up water-skiing.

17. A. I would like to try surf-board riding.
    B. I would not like to try surf-board riding.

18. A. I would like to take off on a trip with no pre-planned or definite routes, or timetable.
    B. When I go on a trip I like to plan my route and timetable fairly carefully.

19. A. I prefer the "down-to-earth" kinds of people as friends.
    B. I would like to make friends in some of the "far-out" groups like artists or "hippies."

20. A. I would not like to learn to fly an airplane.
    B. I would like to learn to fly an airplane.

21. A. I prefer the surface of the water to the depths.
    B. I would like to go scuba diving.

22. A. I would like to meet some persons who are homosexual (men or women).
    B. I stay away from anyone I suspect of being "queer."

23. A. I would like to try parachute jumping.
    B. I would never want to try jumping out of a plane with or without a parachute

24. A. I prefer friends who are excitingly unpredictable.
    B. I prefer friends who are reliable and predictable.

25. A. I am not interested in experience for its own sake.
    B. I like to have new and exciting experiences and sensations even if they are a little frightening, unconventional or illegal.

26. A. The essence of good art is in its clarity, symmetry of form and harmony of colors.
    B. I often find beauty in the "clashing" colors and irregular forms of modern paintings.

27. A. I enjoy spending time in the familiar surroundings of home.
    B. I get very restless if I have to stay around home for any length of time.

28. A. I like to dive off the high board.
    B. I don't like the feeling I get standing on the high board (or I don't go near it at all).

29. A. I like to date members of the opposite sex who are physically exciting.
    B. I like to date members of the opposite sex who share my values.

30. A. Heavy drinking usually ruins a party because some people get loud and boisterous.
    B. Keeping the drinks full is the key to a good party.

31. A. The worst social sin is to be rude.
    B. The worst social sin is to be a bore.

32. A. A person should have considerable sexual experience before marriage.
    B. It's better if two married persons begin their sexual experience with each other.

33. A. Even if I had the money I would not care to associate with flighty persons like those in the "jet set."
    B. I could conceive of myself seeking pleasures around the world with the "jet set."

34. A. I like people who are sharp and witty even if they do sometimes insult others
    B. I dislike people who have their fun at the expense of hurting the feelings of others.

35. A. There is altogether too much portrayal of sex in movies.
    B. I enjoy watching many of the "sexy" scenes in movies.

36. A. I feel best after taking a couple of drinks.
    B. Something is wrong with people who need liquor to feel good.

37. A. People should dress according to some standards of taste, neatness, and style.
    B. People should dress in individual ways even if the effects are sometimes strange.

38. A. Sailing along distances in small sailing crafts is foolhardy.
    B. I would like to sail a long distance in a small but seaworthy sailing craft.

39. A. I have no patience with dull or boring persons.
    B. I find something interesting in almost every person I talk with.

40. A. Skiing fast down a high mountain slope is a good way to end up on crutches.
    B. I think I would enjoy the sensations of skiing very fast down a high mountain slope.

CONTINUE ....

ELEMENTARY AND SECONDARY SCHOOL ENVIRONMENT INDEX

SHORT FORM

Form ESI-1273SF

George G. Stern, Syracuse University

There are 61 statements in this booklet. They are about school life. The things that are described here happen at many schools, but schools are not all alike. You are to decide which of these are true of your school and which are not. You may not actually *know* the answers to many of these statements, but your answer should tell what you really believe is true or probably true about your school and what is false or probably false about it. Answer every question, even if you have to guess at some of them.

DIRECTIONS

Please circle T or F for each of the following statements.

T – if it is something that is generally true about your school, is something which happens or might happen there, or is the way people at your school seem to feel or act.

F – if it is something that is generally false or not true about your school, is something which does not happen or probably would not happen there, or is not the way people at your school seem to feel or act.

YOU MUST ANSWER EVERY STATEMENT

Work as quickly as you can. Erase completely anything you want to change or remove. Do not make any extra marks on the pages.

Circle T or F

T – if it is something that is generally true about your school, is something which happens or might happen there, or is the way people at your school seem to feel or act.

F – if it is something that is generally false or not true about your school, is something which does not happen or probably would not happen there, or is not the way people at your school seem to feel or act.

F 1. Many teachers and students like to do things that involve music, art, or acting.
F 2. It's important here to be friends with the right people.
F 3. Teachers here really care about a student's feelings.
F 4. Students here think that this school is really the best.
F 5. Most students here look up to their teachers and respect them.

F 6. Students here work hard at everything they do–in and out of school.
F 7. Students in this school have many chances to get to know important works of art, music, or the theatre.
F 8. Students take a great deal of pride in how they look.
F 9. Almost everybody comes to the big school events (fairs, games or dances).
F 10. Students often get together and talk about things they have learned in school.

F 11. Once you've made a mistake it's hard to live it down in this school.
F 12. There are so many things going on here that it is easy to make friends.
F 13. Most students would not be interested in a film about writers or poets.
F 14. There are lots of dances, parties, and sports activities here.
F 15. Most students would not be interested in hearing a talk by a famous scientist.

F 16. Meetings or discussions on serious subjects are not held very often here.

17. The teachers often make you feel like a baby. T F
18. This school has the same activities every year. T F
19. There are several student crowds here, and if you're not in one you're pretty much on your own. T F
20. There are so many things to do here that students are busy all the time. T F

21. Students here seldom read books which deal with political or social issues. T F
22. At this school there is a place for everything, and everything is kept exactly where it belongs. T F
23. Having a good time comes first with most students here. T F
24. Students here spend a lot of time talking about their boyfriends or girlfriends. T F
25. There are many parties or dances given at the school. T F

26. New ideas are always being tried out here. T F
27. Student leaders at this school expect you to go along with what they say. T F
28. Students here seldom talk about social problems or issues. T F
29. Discussions on national and international news are encouraged in this school. T F
30. There is a lot of smoking, drinking, or drugs around this school. T F

31. When students get together they seldom talk about concert music or art. T F

Circle T or F

T – if it is something that is generally true about your school, is something which happens or might happen there, or is the way people at your school seem to feel or act.

F – if it is something that is generally false or not true about your school, is something which does not happen or probably would not happen there, or is not the way people at your school seem to feel or act.

F 32. Students try in a lot of ways to be friendly, especially to people who are new here.
F 33. Everyone has a lot of fun at this school.
F 34. Teachers get angry with students very easily here.
F 35. Everything you learn here is carefully planned.

F 36. You get along better if you make the right friends here.
F 37. Teachers here put a lot of hard work and enthusiasm into their teaching.
F 38. Students with bad colds or anything that's "catching" are sent home so that they don't give it to others.
F 39. History, literature, and art are among the best liked subjects here.
F 40. Students have to be neat and clean when they come to school.

F 41. There always seems to be a lot of little quarrels going on.
F 42. Many student desks or lockers are messy, some even dirty.
F 43. Most students would like to have a girlfriend or boyfriend of their own.
F 44. One nice thing about this school is the interest teachers take in the students.
F 45. You have to do what everybody else does in order to get along around here.

F 46. This school is boring.
F 47. Everyone here thinks about safety so that nobody will get hurt.

48. Good manners and being nice are important here. T F
49. The teachers here always seem to think students are up to something bad and make the worst even of little things. T F
50. Classrooms are always kept very clean and in order. T F

51. Long, serious discussions are common among the students. T F
52. Some of the most popular students make jokes that aren't exactly nice. T F
53. Students here work hard because they love to learn, and not just because they want good grades. T F
54. Most students here take their school work very seriously. T F
55. Most of the students here started going out with a girlfriend or boyfriend when they were very young. T F

56. Very few things happen here that make people feel very excited. T F
57. Student parties are exciting. T F
58. Most students here are not interested in television programs about social or political problems. T F
59. Students in this school are very friendly with each other. T F
60. Many teachers seem a little angry or unhappy and are hard to figure out. T F

61. Nearly everyone here wishes they had a boyfriend or girlfriend they could go out with after school or over the weekend. T F

CONTINUE...

Age: _____

Sex: M __ F __

SCHOOL BEHAVIOR QUESTIONNAIRE

This questionnaire lists some activities which you may or may not have done in school during the last 12 months. Please answer all the questions honestly. Don't worry about looking good or bad.

Please check (✓) the applicable respone. If you make a mistake, please change your answer by putting an X on the wrong answer and checking the right one. Please answer the example.

EXAMPLE (Please answer) In the past twelve months, how often have you completed this questionnaire? Never ___ 1-2 times ___ 3-4 times ___ 5 times or more ____

IN THE PAST 12 MONTHS, HOW OFTEN HAVE YOU:	Never	1 - 2 times	3 - 4 times	5 times or more
1. Disobeyed no-smoking regulations during school hours?				
2. Stayed away from school the whole day without permission?				
3. Broken school windows or damaged other school property?				
4. Beat up other students weaker than yourself?				
5. Stolen school property?				
6. Carried a weapon, such as a knife, in school?				
7. Written a note yourself which your parents should have written?				
8. Gone into "restricted" areas in the school without permission?				
9. Used swear words in school?				
10. Been in fights in school?				
11. Been late for school without sufficient reason?				
12. Stolen money from other students or teachers?				
13. Copied from someone else on an exam or test?				
14. Copied from someone else on an assignment or homework?				

continue ---

IN THE PAST 12 MONTHS, HOW OFTEN HAVE YOU:	Never	1 — 2 times	3 — 4 times	5 times or more
15. Written obscenities or "graffitti" on school property?				
16. Told lies about someone you didn't like in order to get them into trouble at school?				
17. Encouraged others to gang up on someone you didn't like in school?				
18. Defaced school textbooks or library books?				
19. Purposely ignored the teacher's orders or instructions?				
20. Skipped any classes?				
21. Sold marijuana, LSD or other drugs in school?				
22. Smoked marijuana in the school or on the school property?				
23. Taken drugs such as LSD or speed in school?				
24. Come to school drunk or become drunk during school hours?				
25. Physically attacked a teacher?				
26. Verbally abused a teacher or school staff member?				
27. Handed in assignments late without permission?				
28. Not delivered reports, marks or teachers' notes to parents as instructed?				
29. Altered grades or marks on tests or assignments in order to receive a better mark?				

Thank you for your cooperation

Appendix C

Raw Data

Key to Columns

Column	1	Case number
	2	School
	3	Class
	4	Age
	5	Grade
	6	Sex
	7	Thrill and Adventure Seeking
	8	Experience Seeking
	9	Disinhibition
	10	Boredom Susceptibility
	11	Intellectual Climate
	12	Expresiveness
	13	Group Social Life
	14	Personal Dignity
	15	Order/Control
	16	Peer Group Dominance
	17	Sensation-seeking Scale
	18	School Deviant Behavior Scale
	19	Drug Abuse
	20	Truancy
	21	School Misbehavior
	22	Development Press

182.	2	6	17	12	2	4	3	0	1	4	2	7	5	6	3	7	3	33	4	4	20	24
183.	2	6	18	12	2	9	7	4	0	10	9	9	7	10	5	7	20	34	5	4	20	45
184.	2	6	17	11	1	10	2	8	6	1	3	10	6	6	5	6	26	43	5	7	25	26
185.	2	6	16	11	2	9	7	1	5	4	4	8	7	6	2	10	22	34	4	4	21	29
186.	2	6	16	11	2	8	5	6	4	5	5	9	7	6	3	4	23	38	4	5	21	32
187.	2	6	17	12	2	10	4	3	1	3	5	9	10	5	3	2	18	43	4	4	20	32
188.	2	6	17	11	2	9	5	8	3	1	2	4	3	2	2	10	25	40	4	8	23	12
189.	2	6	17	12	1	10	5	7	2	6	6	5	4	5	4	9	24	48	5	10	25	26
190.	2	6	17	11	1	4	3	6	3	6	4	7	7	8	2	6	16	39	4	6	24	32
191.	2	6	17	12	2	8	6	2	1	2	1	4	4	2	1	10	17	40	4	7	24	13
192.	2	6	19	13	1	7	6	8	2	4	5	8	8	4	2	3	23	45	4	8	25	29
193.	2	6	17	12	1	9	4	9	3	4	3	6	3	3	2	10	25	50	7	9	26	19
194.	2	6	16	11	1	9	1	8	5	3	3	10	4	6	4	9	23	50	1	8	31	26
195.	2	6	18	12	1	9	8	4	4	2	2	8	7	6	5	7	25	37	5	5	18	25
196.	2	6	17	12	2	3	4	2	1	1	3	9	8	4	2	9	10	43	4	8	26	35
197.	2	6	17	11	1	9	2	2	3	2	2	8	8	7	5	5	16	34	4	3	23	27
198.	2	6	18	12	1	8	3	10	5	0	0	8	8	2	6	9	26	47	4	8	29	12
199.	2	6	18	12	2	8	8	3	2	2	3	10	6	2	2	5	19	46	4	7	28	23
200.	2	6	16	11	1	9	3	6	5	5	2	8	7	8	3	6	23	50	5	10	26	30
201.	2	5	17	12	1	4	3	4	2	2	3	7	3	5	3	8	13	49	4	4	34	20
202.	2	5	15	9	2	9	7	5	1	4	2	8	8	7	3	7	22	39	4	5	25	34
203.	2	5	16	10	2	9	2	1	2	5	3	8	8	6	5	8	14	42	4	4	19	30
204.	2	5	14	9	2	6	4	6	5	4	5	6	4	6	2	8	21	38	4	6	21	25
205.	2	5	15	9	2	9	4	3	2	7	5	9	8	9	7	7	18	31	4	5	17	38
206.	2	5	14	9	2	8	3	2	2	4	4	8	3	7	3	4	15	31	4	4	18	26
207.	2	5	16	9	2	9	4	3	3	2	1	5	4	4	4	6	19	31	4	4	18	16
208.	2	5	14	9	2	10	4	8	0	8	8	10	4	10	6	6	22	35	4	6	20	40
209.	2	5	14	9	2	4	5	8	4	4	7	8	3	3	3	8	21	57	4	10	36	25
210.	2	5	14	9	2	5	6	8	2	5	5	7	2	1	6	9	21	35	4	7	19	30
211.	2	5	15	9	2	9	4	6	1	3	6	8	0	4	4	8	20	45	4	16	20	21
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213.	2	5	15	9	2	8	2	9	4	5	7	6	3	3	3	8	23	37	4	5	23	24
214.	2	5	14	9	2	6	4	3	2	3	3	8	8	5	5	7	15	37	4	4	24	27
215.	2	5	15	9	2	10	5	2	1	4	3	10	1	7	4	9	18	31	4	4	18	25
216.	2	5	17	10	2	5	6	3	4	1	3	7	2	4	5	9	18	39	4	5	24	17
217.	2	5	15	10	1	10	5	9	3	1	5	6	7	5	5	7	27	47	5	9	27	24
218.	2	5	16	10	2	10	6	10	7	1	3	2	1	2	2	9	33	21	10	15	34	9
219.	2	5	17	11	2	6	5	6	4	2	3	4	2	2	4	7	21	58	5	11	34	13
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223.	2	5	15	10	2	4	5	7	2	5	3	7	0	4	4	10	18	49	4	4	26	19
224.	2	4	17	11	2	9	4	2	1	2	4	4	6	4	3	10	16	39	4	4	19	20
225.	2	4	16	10	2	8	3	3	1	1	3	8	3	5	5	9	15	32	4	4	19	20
226.	2	4	15	10	2	8	4	1	2	1	3	9	4	5	4	6	15	34	4	4	21	22
227.	2	4	15	10	2	8	2	3	2	5	6	9	3	8	6	9	15	41	4	4	28	31
228.	2	4	15	10	2	4	4	4	2	5	6	9	10	9	7	3	19	32	4	4	19	39
229.	2	4	16	11	2	7	7	6	2	5	5	4	3	3	4	6	22	57	6	7	37	19
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231.	2	4	16	10	2	9	4	7	5	0	1	9	2	3	2	7	25	40	4	5	26	14
232.	2	4	16	11	2	10	8	9	3	1	3	7	5	3	2	9	29	60	7	12	34	19
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234.	2	4	15	10	2	4	4	3	4	3	2	8	8	3	4	4	15	41	4	6	26	24
235.	2	4	15	10	2	6	4	3	2	5	3	9	7	7	6	9	15	29	4	4	16	31
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238.	2	4	16	10	2	9	3	1	3	7	6	9	5	7	7	5	15	35	4	4	22	34
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241.	2	4	15	10	2	8	3	2	0	3	1	5	3	2	3	7	13	44	4	4	20	14
242.	2	4	16	10	2	10	4	8	2	4	2	5	3	1	5	8	24	38	4	4	25	15
243.	2	4	15	10	2	6	2	0	2	4	2	9	7	6	4	7	10	35	4	4	22	28
244.	2	4	16	10	2	8	2	3	4	6	4	8	7	5	6	7	17	37	4	4	24	30

245.		4	15	10																			
246.		4	16	10																			
247.		4	17	10																			
248.		4	16	10																			
249.		4	15	10																			
250.		4	15	10																			
251.		4	15	10																			
252.		3	17	10																			
253.		3	16	10																			
254.		3	17	10																			
255.		3	16	10	1	10	7	8	5	2	1	8	1	4	6	8	30	77	11	12	42	16	
256.			16	10		10	4	5	4			8	3	3	4	6	23	37	4	6	22	18	
257.		3	15	10		9	5	4	1	3	3	4	4	3	3	8	19	12	4	7	25	17	
258.			16	10		6	4	5	4	3	6	9	3	7	6	10	19	39	4	6	23	28	
259.			16	10		6	3	0	2	4	5	10	10	9	6	5	11	33	4	4	20	38	
260.			14	10		10	4	8	5	2	2	7	3	3	6	7	29	41	5	5	26	18	
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262.			14	10		6	3	4	2	4	7	9	3	6	5	7	14	32	4	4	19	29	
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266.			15	10		10	7	0	3	8	6	6	5	7	6	6	19	37	4	4	24	32	
267.			15	10		6	1	6	3	3	3	9	5	7	5	6	16	38	4	4	25	27	
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269.			16	10	1	10	4	8	4	3	3	5	5	0	4	9	25	39	7	6	20	14	
270.			15	10	1	7	4	9	4	3	3	5	1	2	3	9	24	60	4	6	42	13	
271.			16	10	1	2	0	1	5	0	3	7	7	6	6	6	8	35	4	4	22	23	
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277.			16	10	1	8	3	5	1	9	5	10	7	10	8	8	14	34	4	4	23	41	
278.			16	10	1	7	3	5	4	6	5	9	7	7	8	9	21	39	4	4	34	34	
279.			14	10	2	9	7	7	5	4	2	2	3	5	3	10	28	10	4	5	28	16	
280.			17	10	2	5	3	7	1	3	5	9	7	9	3	9	19	39	4	4	26	33	
281.			15	10	2	7	4	6	4	2	6	9	2	9	3	9	21	41	4	5	27	33	
282.			17	10	2	8	7	3	1	1	1	7	10	6	3	4	19	33	4	4	20	25	
283.			15	10	1	7	4	4	1	4	5	10	9	9	3	5	16	44	4	4	31	36	
284.			17	10	1	9	1	6	4	3	3	6	7	8	4	8	20	49	4	5	35	27	
285.			18	12	1	9	4	7	3	3	3	10	10	8	5	4	23	57	4	9	31	37	
286.			16	11	1	8	5	5	0	2	5	8	2	5	2	4	18	50	7	11	26	27	
287.			17	11	2	4	4	2	1	2	2	7	2	4	4	8	11	33	4	6	18	17	
288.			16	11	1	8	6	4	2	2	2	7	1	0	2	9	20	43	5	5	26	12	
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292.			17	11	1	7	3	8	5	3	3	9	8	7	6	9	23	45	4	7	28	30	
293.			17	11	1	6	1	6	3	0	0	6	3	4	5	4	16	39	4	4	25	13	
294.			18	11	1	9	3	2	1	3	6	8	6	6	3	9	15	35	4	4	22	29	
295.			16	11	1	9	9	9	6	1	1	6	6	4	4	8	33	63	10	12	28	18	
296.			16	11	2	6	4	3	1	2	0	5	2	3	2	7	14	36	4	4	20	12	
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298.			17	11	1	7	6	8	3	3	1	9	7	7	7	8	24	66	10	10	37	27	
299.			17	11	1	4	4	1	2	0	0	6	5	2	4	8	11	37	4	5	23	13	
300.			16	11	1	9	2	10	3	3	2	4	5	2	3	6	24	33	4	4	21	16	
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306.			17	11	2	10	3	3	2	3	3	9	4	5	1	7	18	35	4	4	22	24	
307.		2	16	11	2	6	6	7	2	5	6	7	3	4	3	8	21	45	5	8	27	25	

308.		3	17	11	1	6	7	8	1	3	3	5	2	3	6	6	23	49	4	4	27	18
309.		2	16	11	1	9	3	6	2	4	3	6	5	6	5	10	20	38	4	4	24	24
310.		2	16	11	2	10	3	5	6	3	3	6	5	4	1	9	24	37	4	4	23	20
311.		1	16	11	1	9	7	5	8	7	8	8	2	5	6	6	29	43	4	6	28	30
312.		1	17	11	1	8	4	9	1	5	5	8	7	5	5	4	22	47	5	6	29	30
313.		1	17	11	1	9	8	5	1	5	6	7	8	6	5	3	16	37	4	4	22	32
314.		1	17	11	1	4	1	9	0	4	3	6	7	3	1	6	5	31	4	4	18	25
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317.		1	16	11	2	6	3	6	4	1	2	8	4	3	2	6	19	34	4	4	21	18
318.		1	17	11	1	8	4	2	2	1	3	3	2	3	3	10	15	43	4	9	23	12
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320.		1	17	11	1	3	7	6	4	3	5	7	10	8	4	2	20	34	4	5	20	37
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372.	3	6	14	9	[illegible]	[illegible]	[illegible]	1	1	5	4	8	5	8	4	7	9	43	4	13	21	30
373.	3	6	14	9	[illegible]	[illegible]	[illegible]	3	0	3	4	8	6	6	6	5	10	36	4	4	20	27
374.	3	6	17	9	[illegible]	10	[illegible]	8	5	7	3	3	0	1	0	8	30	42	4	7	24	9
375.	3	6	14	9	1	8	[illegible]	3	[illegible]	3	5	[illegible]	[illegible]	4	2	9	23	65	4	9	39	24
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378.	3	6	14	9	[illegible]	10	[illegible]	3	[illegible]	2	1	4	8	5	4	5	9	16	75	4	4	22	22
379.	3	6	15	11	[illegible]	7	[illegible]	[illegible]	[illegible]	2	1	[illegible]	7	1	1	3	8	16	41	3	6	26	13
380.	3	6	14	9	[illegible]	10	[illegible]	1	8	4	2	3	9	8	6	7	7	23	33	4	5	19	28
381.	3	6	14	9	2	8	[illegible]	4	6	3	1	3	6	3	4	3	10	21	64	4	10	41	17
382.	3	4	16	10	[illegible]	7	[illegible]	3	3	[illegible]	4	[illegible]	5	5	8	6	5	15	29	4	4	16	27
383.	3	[illegible]	20	12	[illegible]	3	[illegible]	[illegible]	1	1	6	6	7	5	7	7	7	7	30	4	4	19	31
384.	3	[illegible]	19	12	[illegible]	[illegible]	[illegible]	[illegible]	2	4	3	7	7	6	9	7	10	13	35	4	4	21	32
385.	3	5	16	10	2	4	[illegible]	[illegible]	3	2	3	3	6	2	2	4	10	14	42	4	7	26	16
386.	3	[illegible]	16	10	1	[illegible]	[illegible]	6	10	6	0	2	9	3	3	3	10	27	77	10	10	44	17
387.	[illegible]	[illegible]	16	10	1	4	[illegible]	5	4	5	4	5	9	3	6	3	5	18	63	1	9	36	27
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389.	3	5	16	10	1	5	[illegible]	6	4	3	6	6	10	10	7	7	6	18	38	4	5	24	39
390.	[illegible]	[illegible]	15	10	[illegible]	9	[illegible]	6	5	3	[illegible]	0	4	[illegible]	1	4	7	23	60	10	10	30	9
391.	[illegible]	[illegible]	16	10	[illegible]	7	[illegible]	8	5	4	5	3	10	[illegible]	5	5	7	24	50	7	10	25	25
392.	[illegible]	[illegible]	17	11	1	9	[illegible]	6	10	4	4	4	10	4	6	3	8	29	43	4	8	26	28
393.	3	5	15	10	[illegible]	5	[illegible]	[illegible]	5	3	4	6	1	[illegible]	4	8	17	49	4	6	34	16
394.	[illegible]	[illegible]	16	10	[illegible]	8	[illegible]	9	10	4	[illegible]	4	3	4	4	7	31	56	4	12	35	15
395.	[illegible]	[illegible]	16	10	10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6	10	[illegible]	7	3	7	[illegible]	[illegible]	4	9	[illegible]	34
396.	[illegible]	[illegible]	16	10	[illegible]	9	[illegible]	[illegible]	5	1	5	7	9	7	4	9	13	40	4	5	26	35
397.	3	5	16	10	[illegible]	9	[illegible]	[illegible]	0	2	6	5	10	5	7	4	7	16	39	4	6	24	33
398.	3	[illegible]	17	11	[illegible]	10	[illegible]	4	10	4	5	4	8	5	9	4	5	[illegible]	40	4	5	[illegible]	32
399.	[illegible]	[illegible]	16	10	[illegible]	6	[illegible]	[illegible]	3	3	0	[illegible]	3	2	1	1	10	17	40	4	4	[illegible]	8
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403.	[illegible]	[illegible]	18	11	1	9	[illegible]	8	[illegible]	5	2	5	6	1	3	1	9	31	64	13	13	26	14
404.	[illegible]	[illegible]	19	11	1	[illegible]	[illegible]	[illegible]	3	1	1	3	5	6	[illegible]	4	8	12	33	4	4	20	20
405.	2	5	15	10	[illegible]	8	[illegible]	4	7	3	1	1	4	4	5	[illegible]	9	22	51	[illegible]	7	31	15
406.	3	[illegible]	[illegible]	[illegible]	[illegible]	9	[illegible]	8	5	3	9	6	9	4	8	7	6	25	47	7	8	24	36
407.	3	5	15	10	1	4	[illegible]	1	4	3	6	6	9	6	7	5	8	19	41	4	[illegible]	17	34
408.	3	[illegible]	17	9	[illegible]	[illegible]	[illegible]	1	0	3	5	5	3	5	5	7	5	6	29	4	4	16	24
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414.	3	4	15	11	[illegible]	7	[illegible]	1	[illegible]	4	6	5	6	8	6	6	9	14	39	4	4	[illegible]	31
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417.	3	4	16	11	1	9	[illegible]	5	7	3	[illegible]	1	[illegible]	[illegible]	0	7	8	24	37	4	[illegible]	[illegible]	10
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466.	3	3	18	13	2	10	6	8	4	4	5	5	3	0	4	9	20	40	4	5	24	14
467.	3	3	17	13	2	6	2	8	4	4	5	7	8	10	4	7	5	31	4	4	18	33
468.	3	3	18	13	2	5	4	5	4	4	3	5	6	5	5	4	18	56	7	13	28	19
469.	3	3	18	13	2	5	5	7	3	3	4	10	5	3	4	7	19	42	4	6	25	24
470.	3	1	17	13	2	5	3	5	4	4	5	9	6	5	4	8	17	46	4	5	22	29
471.	3	1	17	13	2	2	1	2	0	3	2	7	1	1	3	8	7	33	4	4	19	9
472.	3	1	17	13	2	4	4	6	7	1	1	5	7	3	3	8	20	34	4	5	20	17
473.	3	1	17	13	2	4	4	6	6	3	3	5	4	3	4	10	24	35	4	5	21	15
474.	3	1	18	13	2	4	6	4	3	1	3	9	5	5	4	8	16	35	4	4	21	22
475.	3	1	17	13	2	4	3	4	2	1	4	8	7	5	3	5	13	32	4	11	30	21
476.	3	1	17	13	2	6	5	4	1	1	4	8	7	5	4	6	14	44	4	6	28	26
477.	3	1	17	13	2	9	4	4	1	2	3	5	7	2	4	8	16	39	4	7	23	19
478.	3	1	18	13	1	8	6	6	3	0	3	8	6	3	3	7	23	43	5	8	24	19
479.	3	1	17	13	1	7	1	6	4	3	3	7	7	4	2	8	18	38	4	4	21	24
480.	1	3	16	11	2	7	3	6	3	3	2	8	7	7	5	6	19	32	4	4	19	27
481.	1	7	15	10	1	8	1	3	7	5	3	9	8	5	8	6	19	30	4	4	17	30
482.	1	7	15	10	1	9	3	4	8	4	4	9	5	4	2	7	24	42	4	5	26	26
483.	3	3	17	11	1	9	5	5	0	6	4	6	5	5	3	9	19	39	4	5	24	26

Appendix D

Factorial Structure of the Sensation-seeking Scale using the Unweighted Least Squares method with a Varimax Rotation.

	1	2	3	4
1	0.57554	0.07887	0.19522	0.15741
2	-0.07668	-0.04658	-0.08240	-0.04008
3	-0.01436	0.44630	-0.35818	0.01162
4	-0.01787	-0.05729	0.38755	-0.01374
5	0.00605	0.18877	-0.04609	0.28900
6	0.07944	0.33157	-0.28400	0.14804
7	-0.11615	-0.01092	0.06125	-0.38136
8	-0.00667	0.08051	-0.06483	0.14395
9	0.54681	0.00778	-0.27014	-0.00497
10	-0.41234	-0.04725	0.13052	-0.24472
11	-0.22292	-0.30419	0.20439	-0.11699
12	-0.44682	-0.17774	-0.01383	0.02825
13	-0.76750	-0.00119	0.14674	0.00563
14	-0.03838	0.19153	-0.24452	-0.24416
15	-0.22187	0.09174	-0.20155	-0.36758
16	0.11677	0.56653	0.18351	-0.18705
17	0.14198	0.65110	0.14922	-0.14168
18	0.15197	0.10283	-0.10652	0.09439
19	-0.19205	-0.04116	0.14427	-0.14611
20	-0.02644	-0.25357	0.22882	-0.07179
21	-0.14066	-0.47174	0.11931	-0.09607
22	-0.10947	0.08902	-0.34060	-0.00691
23	0.01773	0.50765	-0.27383	0.12617
24	0.10044	0.16876	-0.20114	0.28073
25	-0.50153	-0.22259	0.18459	-0.04079
26	-0.20556	-0.08036	-0.16226	-0.03927
27	-0.24895	-0.11792	-0.16830	-0.06312
28	0.08365	0.50033	0.02281	0.15255
29	0.39141	0.12747	0.18533	0.19114
30	-0.51928	-0.00566	-0.14937	-0.17909
31	-0.19801	-0.05109	-0.06633	-0.35149
32	0.42468	0.00825	-0.10147	0.28437
33	-0.20101	-0.23622	-0.01384	-0.10292
34	0.17542	0.06380	0.01784	0.43065
35	-0.35857	-0.05407	-0.06145	-0.12744
36	0.55377	-0.01414	0.07901	0.10293
37	-0.03039	-0.03291	0.19490	-0.00571
38	-0.00918	-0.29232	0.12064	0.04446
39	0.09733	-0.07845	0.20261	0.31728
40	-0.06458	-0.50571	0.05668	-0.17464

Appendix E

Factorial structure of the Elementary and Secondary School Index using the Principal Factor Analysis with Equimax Rotation.

ITEM NO.	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
25	0.649	0.0	0.0	0.0	0.0
14	0.601	0.0	0.0	0.0	0.0
46	-0.539	0.290	0.0	0.0	0.0
26	0.517	0.0	0.0	0.0	0.0
33	0.507	0.0	0.0	0.0	0.0
34	0.0	0.591	0.0	0.0	0.0
44	0.0	-0.550	0.0	0.0	0.0
60	0.0	0.544	0.0	0.0	0.0
49	0.0	0.531	0.0	0.0	0.0
3	0.0	-0.503	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.504
12	0.457	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.389	0.0
15	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.300
17	0.0	0.399	0.0	0.0	0.0
18	-0.386	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.450	0.0
20	0.483	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.507	0.0
24	0.0	0.0	0.314	0.0	0.0
23	0.0	0.0	0.0	0.0	0.266
24	0.0	0.0	0.0	0.343	0.0
1	0.0	0.0	0.0	0.0	0.0
4	0.382	0.0	0.0	0.0	0.0
27	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	-0.477
30	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.328
32	0.277	0.0	0.0	0.0	0.0
5	0.0	0.0	0.280	0.0	0.0
6	0.0	0.0	0.386	0.0	0.0
35	0.0	0.0	0.360	0.0	0.0
36	0.0	0.0	0.0	0.405	0.0
37	0.270	0.0	0.303	0.0	0.0
38	0.0	0.0	0.0	0.0	0.0
39	0.0	0.0	0.254	0.0	0.0
40	0.0	0.0	0.324	0.0	0.0
41	0.0	0.294	0.0	0.342	0.0
42	0.0	0.0	0.0	0.332	0.0
43	0.0	0.0	0.0	0.271	0.0
7	0.0	0.0	0.0	0.0	0.0
45	0.0	0.0	0.0	0.352	0.0
10	0.0	0.0	0.0	0.0	0.0
47	0.0	0.0	0.343	0.0	0.0
48	0.0	0.0	0.379	0.0	0.0
9	0.363	0.0	0.0	0.0	0.0
50	0.0	0.0	0.0	0.0	0.0

Appendix F

Factorial Structure of the School Deviant Behavior using Principal Factor Analysis with Varimax Rotation.

ITEM NO.	FACTOR 1	FACTOR 2	FACTOR 3
15	0.519	0.0	0.0
19	0.517	0.290	0.0
18	0.500	0.0	0.0
20	0.0	0.625	0.0
2	0.0	0.607	0.0
7	0.0	0.582	0.0
22	0.0	0.568	0.301
25	0.0	0.0	0.682
23	0.0	0.0	0.589
21	0.0	0.441	0.580
11	0.323	0.472	0.0
12	0.0	0.0	0.0
13	0.424	0.0	0.0
14	0.479	0.0	0.0
1	0.0	0.0	0.0
16	0.370	0.0	0.0
17	0.331	0.0	0.0
3	0.341	0.0	0.0
5	0.281	0.0	0.0
4	0.361	0.0	0.251
10	0.370	0.0	0.405
6	0.345	0.0	0.0
9	0.338	0.0	0.0
24	0.0	0.277	0.463
8	0.449	0.0	0.0
26	0.317	0.0	0.395
27	0.434	0.399	0.0
28	0.456	0.346	0.0
29	0.451	0.0	0.0
VP	3.342	2.641	1.957

THE ABOVE FACTOR LOADING MATRIX HAS BEEN REARRANGED SO THAT THE COLUMNS APPEAR IN DECREASING ORDER OF VARIANCE EXPLAINED BY FACTORS. THE ROWS HAVE BEEN REARRANGED SO THAT FOR EACH SUCCESSIVE FACTOR, LOADINGS GREATER THAN 0.5000 APPEAR FIRST. LOADINGS LESS THAN 0.2500 HAVE BEEN REPLACED BY ZERO.

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Reliability and validity of self-reported delinquency studies: a review. Psychological Reports, 1979,44,987-993.

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