

## **Aggression, Deviance, and Personality Adaptation as Antecedents and Consequences of Alienation and Involvement in High School<sup>1</sup>**

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*Alienation from, or involvement in, the social and educational systems of the high school are investigated in an effort to determine the extent that school experiences may influence aggressive and deviant behavior in school and personality styles or orientations. Drawing upon longitudinal data collected from 250 boys followed from grades 8 through 12, potential antecedent-consequence relationships between dimensions of alienation and involvement and these two basic types of student outcomes are examined by cross-lagged panel analyses. Differences between cross-lagged panel*

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*correlations provide evidence that student reactions and attachments to school manifest relationships with aggression, deviance, and personality, serving as both antecedents and consequences of these student adaptations. The major findings provide evidence that (1) boys who more frequently break school rules and engage in aggressive or deviant behavior may often come to have more negative attitudes toward school staff and less involvement in school; and (2) student involvement and participation in school life can influence certain aspects of adolescent personality. Possible evidence of reciprocal causation is presented and discussed, as are additional theoretical and methodological implications of the data.*

## INTRODUCTION

One of the fundamental issues confronting educational researchers today is understanding how students are influenced by their schooling experiences. Thus, a familiar question is, "Are there characteristics of schools or the experience of schooling that have a significant effect on the way students perform in school or how they feel about their schools?" This double-barreled query has fostered at least two basic lines of research. Perhaps the more controversial line of research is represented by recent studies which suggest that when input or background characteristics of students are taken into account, schools have no differential effects of major importance on either cognitive achievement outcomes (Coleman *et al.*, 1966; Hauser *et al.*, 1976; Jencks *et al.*, 1972; McDill and Rigsby, 1973) or nonachievement outcomes (e.g., Johnston, 1973). In addition to arousing considerable controversy, extensive methodological criticism (e.g., Herriott and Muse, 1973; Levine and Bane, 1975; Mosteller and Moynihan, 1972), and continuing research efforts to set the record straight (e.g., Brookover *et al.*, 1979; Coleman, 1975), such research has also served to foster renewed and intensified interest in (1) the "immediate," as opposed to the "long-term," effects of schooling (e.g., Jencks *et al.*, 1972); (2) "within school" versus "between school" differences (e.g., Jencks and Brown, 1975), and (3) noncognitive and affective characteristics as potential outcomes of schooling distinct from cognitive achievement (e.g., Coleman, 1974; Dolan, 1978; Epstein and McPartland, 1976).

In particular, it is possible to discern a resurgence of research interest in *student reactions to school*—perceptions, attitudes, satisfactions, commitments, and involvements—not only as possible *predictors* of academic success or achievement (Beelick, 1973; Brodie, 1964; Diedrich and Jackson, 1969; Jackson and Getzels, 1959; Jackson and LaHaderne, 1967) and other student outcomes (e.g., Thomas *et al.*, 1977) but also as important

*consequences* of schooling in their own right (Buxton, 1973; Epstein and McPartland, 1976; Jackson, 1968; C. Silberman, 1970; M. Silberman, 1971).

In this article we focus on a set of student reactions to school: alienation from, or involvement in, the social system and educational process of the high school. Our interest in these reactions is not arbitrary. Although the widespread political militancy and rebellion among students common in the late 1960s and early 1970s has passed, education researchers and practitioners continue to express concern about the sizable number of adolescents who feel alienated from institutions of secondary education and uninvolved in the classes and activities offered by their schools (Anderson, 1973; Blumenkrantz and Tapp, 1977; Hoy, 1972; Reeves, 1978; Schiamberg, 1973; Strauss, 1974; Van den Berg, 1975).

Yet many educational practitioners tend to characterize such student attitudes and behaviors as reactions to something other than the experience of schooling. Consider, for example, the view expressed by Reeves (1978):

Teachers are frequently in the habit of describing certain of their students as "unmotivated," "uninterested," "discontented," "lacking in concentration," or "disruptive." Explanation and reassurance are often afforded by regarding behavior contrary to the manifest goals of the school as part of the natural process of growing up, or in more unpleasant circumstances as attributable to deficiencies in personality or home background. (p. 139)

Drawing upon data collected during a six-year longitudinal study of adaptation to high school, we examine multiple indicators of student alienation from, and involvement in, school and delineate a few of the main antecedents and consequences of the extent to which students are able to feel involved and to participate in the activities of their schools. Alienation from school is conceptualized along two distinct but interrelated dimensions: (1) negative attitudes, including those toward school staff, other students, and school in general; and (2) lack of involvement and participation in school groups and activities. Several indicators of these two dimensions were assessed at multiple time points, along with a broad range of additional measures of school experiences, behaviors, self-descriptions, and personality characteristics.

Of interest here are potential antecedent-consequence, or "causal," relationships between dimensions of alienation and involvement and two specific clusters of student outcomes: (1) aggressive and deviant behavior in school; and (2) personality characteristics or orientations such as self-esteem, role self-concept, and internal-external control. Our interest in examining probable antecedent-consequence relationships among these variables derives primarily from the extensive research literature

documenting consistent relationships between diverse indicators of alienation and involvement from school and such student characteristics and behaviors. Much of this literature is based, however, on cross-sectional studies, which limit our capacity for making causal inferences.

For example, Hirschi's (1969) influential "control theory" of delinquency implies a causal relationship between commitment to school and lack of involvement in rebellious or delinquent behavior, and his correlational data are remarkably consistent with this hypothesis. In a subsequent test of the theory, D. Kelly and Pink (1973) found level of school commitment a strong predictor of adolescent rebellion and delinquency, leading them to conclude that "decreasing levels of school commitment will be linked to increasing rates of youth rebellion and delinquency" (p. 481). In a more recent, sophisticated study, Thomas *et al.* (1977) demonstrated that student perceptions of organizational powerlessness and three indicators of "alienative involvement" in school were all related to delinquent behavior. While the causal direction implied by each of these studies—lack of involvement in school causes delinquent behavior—is quite plausible, none of these cross-sectional analyses give more than passing attention to three equally plausible competing hypotheses: (1) Delinquency may cause lack of involvement in school; (2) each has a causal influence on the other (reciprocal causation); or, most importantly, (3) the relationship between the two may be due to a spurious third factor that causes both lack of involvement in school and delinquent behavior. The point is not that these studies' preferred causal inference is wrong, but that the three alternative hypotheses have not been adequately examined.

The probable causal relationships between alienation and involvement in high school and personality orientations or characteristics are even less well established, although several studies have reported cross-sectional relationships between these two sets of variables. For example, a classic study by Jackson and Getzels (1959) found that dissatisfaction with school among adolescents, though unrelated to academic achievement and intellectual ability, was related to personal and social adjustment as measured by the California Test of Personality. This led the authors to conclude that a student's expression of discontent with his or her school appeared to be more a reflection of his/her general psychological *élan* than a specific reaction to inefficient functioning in the classroom (cf. Diedrich and Jackson, 1969). Significant correlations between personality measures (control of environment, self-esteem, and self-reliance) and student reactions to school have been reported more recently by Epstein and

McPartland (1976). Antecedent-consequence relationships between personality and school involvement have also been implied in studies relating participation in school activities to self-concept variables (e.g., Yarworth and Gauthier, 1978) and to stage of moral development (Keasey, 1971). Once again, rigorous efforts to establish possible causal relationships among these variables have not been common.

In this article, we explore a set of longitudinal data collected over a six-year period to examine the relationships among dimensions of student alienation or involvement and measures of school misbehavior and personality. Cross-time relationships among these variables are examined by means of cross-lagged panel correlation (Kenny, 1975).

## METHOD

### The Sample

Analyses are based on data collected from a sample of 250 boys from two Detroit suburban high schools, followed from grades 8 through 12 as part of a longitudinal study on "Opinions of Youth," conducted by the Institute for Social Research at The University of Michigan (cf. Eisert and Kahle, 1982; Kahle *et al.*, 1980, 1981; J. Kelly, 1979; Kulka *et al.*, 1980; Locksley and Douvan, 1979; Newman, 1975). A previous analysis indicated that both communities are essentially all White, middle class, and suburban, with schools that are quite similar in physical and formal organizational (e.g., enrollment, curriculum, activities) characteristics, but not in social environment (for further details, see Rice and Marsh, 1979). Thus, the results to be presented are generalizable only to male adolescents from one geographic area defined by the set of socio-demographic characteristics typical of that area. Moreover, because of the basic similarity of the two schools, our desire to focus explicitly on within-school differences, and a practical constraint on the sample sizes required to conduct the analyses, all results are presented for the two schools combined, and potential between-school differences are not examined. The exact number of boys for whom complete data were available for each specific analysis is given in Tables I-III. The boys completed self-report questionnaires in the spring of eighth grade and then each semester from the fall of tenth grade until they graduated from high school.

**Table I.** Cross-Lagged Panel Correlations Among Alienation and Involvement Measures

Semester/grade <sup>a</sup> time lag	Antecedent → effect	<i>N</i>	<i>r</i> <sub>a,e1</sub>	<i>r</i> <sub>e1,a2</sub>	<i>Z</i> <sup>b</sup>
<i>General attitudes and attitudes toward school staff and other students</i>					
F10-F11	General Attitude School → School Adults Interpersonal	106	0.489	0.303	1.888 <sup>c</sup>
F10-F12	General Attitude School → Perceived Positiveness Principal	100	0.421	0.092	2.852 <sup>d</sup>
	Perceived Positiveness Teachers	100	0.488	0.080	3.752 <sup>d</sup>
	Perceived Positiveness Counselors	100	0.268	-0.002	2.165 <sup>d</sup>
F11-F12	R's Attitude School → Perceived Positiveness Principal	139	-0.397	-0.198	2.229 <sup>d</sup>
S8-S11	Like School → Resentment of School Authority	207	-0.296	-0.113	2.148 <sup>d</sup>
F10-S10	Like School → Perceived Positiveness Teachers	148	0.533	0.375	2.086 <sup>d</sup>
F10-S10	Perceived Positiveness Teachers → Best School	148	0.531	0.272	3.262 <sup>d</sup>
S10-S12	Like School → Resentment of School Authority	104	-0.467	-0.211	2.371 <sup>d</sup>
F10-S10	Change School → Perceived Positiveness Teachers	148	-0.381	-0.141	2.508 <sup>d</sup>
F10-F12	Change School → Perceived Positiveness Students	100	-0.229	-0.005	1.824 <sup>c</sup>
F11-F12	Change School → Perceived Positiveness Principal	139	-0.423	-0.140	3.233 <sup>d</sup>
<i>General attitudes and school participation and involvement</i>					
S8-S10	Class Involvement → Best School	142	0.313	0.105	1.957 <sup>c</sup>
S8-S11	Best School → Powerlessness	207	-0.233	0.005	2.598 <sup>d</sup>
S8-S11	Like School → Class Involvement	207	0.327	0.136	2.273 <sup>d</sup>
S10-S12	Like School → Number Varsity Teams	104	0.253	-0.009	2.165 <sup>d</sup>
S11-S12	Like School → Powerlessness	196	-0.270	-0.063	2.411 <sup>d</sup>

<sup>a</sup>F = Fall; S = Spring semester. Thus, S8 = Spring semester of grade 8, F11 = Fall semester of grade 11, etc.

<sup>b</sup>Pearson-Filon test, following Kenny (1975).

<sup>c</sup>*p* < 0.10, two-tailed test.

<sup>d</sup>*p* < 0.05, two-tailed test.

## Measures

The measures used to operationalize the major concepts used in this study are described briefly below<sup>5</sup>:

<sup>5</sup>Actual questions used, along with reliability estimates (coefficient alpha) by time point for all composite variables, have been deposited with the National Auxiliary Publications Service (NAPS) and are available from the American Society for Information Science: ASIS/NAPS, Microfiche Publications, P.O. Box 3513, Grand Central Station, New York, N.Y. 10163 (NAPS Document No. 04004, 11 pages). To receive document, remit in advance \$4.00 for microfiche copy or \$7.75 for photocopy. All orders must be prepaid.

**Table II.** Cross-Lagged Panel Correlations Between Dimensions of Alienation and Involvement and Aggressive or Deviant Behavior in School

Semester/grade <sup>a</sup> time lag	Antecedent → effect	<i>N</i>	<i>r</i> <sub>a,c<sub>1</sub></sub>	<i>r</i> <sub>c<sub>1</sub>,a<sub>2</sub></sub>	<i>Z</i> <sup>b</sup>
<i>Attitudes toward school staff</i>					
F11-F12	Aggression Against Students →				
	Perceived Positiveness Teachers	167	-0.313	-0.023	3.185 <sup>d</sup>
	Perceived Positiveness Principal	167	-0.239	0.024	2.973 <sup>d</sup>
	Perceived Positiveness Counselors	167	-0.253	-0.072	1.856 <sup>c</sup>
	School Adults Interpersonal	167	-0.309	-0.013	3.246 <sup>d</sup>
F11-F12	Aggression Against Teachers →				
	Perceived Positiveness Teachers	167	-0.364	-0.082	3.126 <sup>d</sup>
	Perceived Positiveness Principal	167	-0.238	-0.079	1.810 <sup>c</sup>
	School Adults Interpersonal	167	-0.327	-0.059	2.938 <sup>d</sup>
F10-F12	Break School Rules →				
	Perceived Positiveness Teachers	100	-0.302	-0.053	2.042 <sup>d</sup>
	Perceived Positiveness Counselors	100	-0.209	0.039	1.884 <sup>c</sup>
F11-F12	Break School Rules →				
	Perceived Positiveness Principal	139	-0.392	-0.140	2.912 <sup>d</sup>
S11-S12	Resentment of School Authority →				
	School Deviance	196	0.365	0.176	2.459 <sup>d</sup>
<i>School involvement and participation</i>					
S10-S12	School Deviance → Involvement in Nonsports Activities	104	-0.276	-0.096	1.698 <sup>c</sup>
F11-F12	Break School Rules →				
	School Group Identification	167	-0.316	-0.119	2.457 <sup>d</sup>
S11-S12	Class Involvement →				
	School Deviance	196	-0.210	-0.075	1.818 <sup>c</sup>
<i>General Attitudes Toward School</i>					
F10-F11	General Attitude School →				
	Break School Rules	100	-0.449	-0.247	1.918 <sup>c</sup>
F11-F12	Break School Rules →				
	General Attitude School	139	-0.473	-0.294	2.105 <sup>d</sup>
S10-S11	School Deviance → Like School	133	-0.507	-0.290	2.585 <sup>d</sup>
S11-S12	Like School → School Deviance	196	-0.401	-0.288	2.178 <sup>d</sup>
F10-F11	Break School Rules →				
	Change School	106	0.367	0.168	1.763 <sup>c</sup>
F11-F12	Change School →				
	Break School Rules	155	0.325	0.121	2.333 <sup>d</sup>
F11-F12	Change School →				
	Aggression Against Teachers	144	0.420	0.184	2.576 <sup>d</sup>
F11-F12	Aggression Against Teachers →				
	General Attitude School	167	-0.402	-0.161	2.845 <sup>d</sup>
F11-F12	Aggression Against Students →				
	General Attitude School	167	-0.231	-0.075	1.758 <sup>c</sup>

<sup>a</sup>F = Fall; S = Spring semester. Thus, S8 = Spring semester of grade 8, F11 = Fall semester of grade 11, etc.

<sup>b</sup>Pearson-Filon test, following Kenny (1975).

<sup>c</sup>*p* < 0.10, two-tailed test.

<sup>d</sup>*p* < 0.05, two-tailed test.

**Table III.** Cross-Lagged Panel Correlations Between Dimensions of Alienation and Involvement and Personality Characteristics or Orientations

Semester/grade <sup>a</sup> time lag	Antecedent → effect	<i>N</i>	<i>r</i> <sub>a<sub>1</sub>e<sub>2</sub></sub>	<i>r</i> <sub>e<sub>1</sub>a<sub>2</sub></sub>	<i>Z</i> <sup>b</sup>
<i>Attitudes toward school staff and other students</i>					
F10-F12	Self-Esteem →				
	School Adults Interpersonal	112	0.368	0.046	4.357 <sup>d</sup>
F10-F12	Self Esteem →				
	Perceived Positiveness Teachers	100	0.361	0.090	2.305 <sup>d</sup>
F10-F11	Self-Esteem →				
	Perceived Positiveness Teachers	100	0.446	0.172	2.603 <sup>d</sup>
F11-F12	Perceived Positiveness Teachers →				
	Self-Esteem	144	0.374	0.218	1.715 <sup>c</sup>
F10-F12	Self-Esteem →				
	Perceived Positiveness Students	100	0.347	0.025	2.822 <sup>d</sup>
F11-F12	Perceived Positiveness Students →				
	Self-Esteem	144	0.246	0.085	1.678 <sup>c</sup>
	Role Self-Concept	140	0.292	0.093	2.010 <sup>d</sup>
<i>School involvement and participation</i>					
F10-F12	Self-Esteem →				
	School Group Identification	112	0.403	0.042	3.347 <sup>d</sup>
F11-F12	Change Social Self →				
	School Group Identification	140	-0.252	-0.067	2.066 <sup>d</sup>
S8-S10	Class Involvement →				
	Social Exploration	142	0.529	0.201	3.661 <sup>d</sup>
S8-S11	Class Involvement →				
	Social Exploration	207	0.589	0.169	5.625 <sup>d</sup>
S8-S12	Number Nonsports Activities →				
	Social Exploration	156	0.359	0.163	2.066 <sup>d</sup>
S8-S12	Involvement Nonsports Activities →				
	Social Exploration	156	0.351	0.183	1.936 <sup>c</sup>
S10-S12	Number Sports Teams →				
	Locus of Control	104	0.338	0.070	2.450 <sup>d</sup>
<i>School restrictiveness and powerlessness</i>					
S8-S12	Resentment of School Authority →				
	Social Exploration	156	-0.236	-0.011	2.226 <sup>d</sup>
S11-S12	Social Exploration →				
	Resentment of School Authority	196	-0.227	-0.068	1.969 <sup>d</sup>
S11-S12	Resentment of School Authority →				
	Locus of Control	196	0.320	0.164	1.795 <sup>c</sup>
S10-S12	Powerlessness → Locus of Control	104	0.426	0.105	2.900 <sup>d</sup>
S11-S12	Locus of Control → Powerlessness	196	0.357	0.090	3.116 <sup>d</sup>
<i>General attitudes toward school</i>					
S8-S10	Like School → Social Exploration	142	0.371	0.115	2.634 <sup>d</sup>
S8-S11	Like School → Social Exploration	207	0.349	0.012	4.077 <sup>d</sup>
S8-S12	Like School → Social Exploration	156	0.307	-0.063	3.749 <sup>d</sup>
F11-S12	Like School → Social Exploration	140	0.333	0.165	1.842 <sup>c</sup>
S8-S10	Best School → Social Exploration	142	0.353	0.073	2.632 <sup>d</sup>
S8-S12	Best School → Social Exploration	156	0.244	-0.023	2.553 <sup>d</sup>



Table III Continued

Semester/grade <sup>a</sup> time lag	Antecedent → effect	<i>N</i>	<i>r</i> <sub>a,e<sub>2</sub></sub>	<i>r</i> <sub>e<sub>1</sub>,a<sub>2</sub></sub>	<i>Z</i> <sup>b</sup>
S10-F12	Like School →				
	Change Self as Student	133	-0.236	-0.054	1.767
S11-F12	Change School →				
	Change Self as Student	185	0.385	0.177	2.478
F12-S12	Change Self as Student →				
	Change School	167	0.465	0.139	3.281
F10-F12	Self-Esteem → Change School	112	-0.510	-0.078	4.120
S10-S11	Dissatisfaction with Self →				
	Dissatisfaction with School	129	0.493	0.355	1.801

<sup>a</sup>F = Fall; S = Spring semester. Thus, S8 = Spring semester of grade 8, F11 = Fall semester of grade 11, etc.

<sup>b</sup>Pearson-Filon test, following Kenny (1975).

<sup>c</sup>*p* < 0.10, two-tailed test.

<sup>d</sup>*p* < 0.05, two-tailed test.

*Alienation and Involvement.* Our conception of student alienation and involvement has two main interrelated dimensions: (1) negative or positive attitudes toward school and (2) subjective involvement and participation in school activities.

In assessing the first dimension, 11 measures were used: (1) an index of General Attitude Toward School; (2) R's Attitude Toward School, a measure of how much the respondent (R) dislikes school classes and activities; (3) Like School, a Cantril-ladder (Cantril, 1963) measure of how much R likes school; (4) Best School, a Cantril-ladder measure of how good R thinks his school is; (5) Change School and (6) Dissatisfaction with School, 9 and 6-item indices assessing how much R wants to change various aspects of his school; (6) School Adults Interpersonal, a 6-item measure of how helpful and friendly R thinks the teachers, counselors, and principal in his school are; (7) Perceived Positiveness Principal, (8) Perceived Positiveness Teachers, (9) Perceived Positiveness Counselors, and (10) Perceived Positiveness Students, semantic differential measures assessing how positively R views the principal, teachers, counselors, and most students, respectively, in his school; and (11) Resentment of School Authority, a 7-item measure of how controlling and restrictive R sees the school staff as being.

The following were used to measure subjective involvement and participation in school: (1) Class Involvement, a 4-item measure of how much R feels involved in his classes; (2) Powerlessness, a 4-item indicator of how little control R feels he has over what he does in school; (3) School Group Identification, a 4-item measure of how much R feels a part of different activities and groups in his school; (4) Number

of Sports Teams R is on; (5) Number of Varsity Sports Teams R is on; (6) Number of Nonsports Activities R is in; and (7) R's degree of Involvement in Nonsports Activities.

*School Misbehavior.* The following measures of misbehavior were used: (1) a 10-item index of Aggression Against Students; (2) a 6-item measure of Aggression Against Teachers, classes, and the school; (3) a measure of how often R Breaks School Rules; and (4) School Deviance, a composite assessing how much R engages in aggressive or rebellious behavior in school.

*Personality Measures.* Measures used to assess personality characteristics or orientations were: (1) Self-Esteem, a 10-item index adapted from scales developed by Rosenberg (1965) and Cobb *et al.* (1966); (2) Role Self-Concept, a 4-item measure of R's estimate of how well he is doing compared to classmates in various social roles; (3) Change Social Self, a 10-item composite assessing how much R wants to change different social aspects of himself; (4) Change Physical Self, a 6-item indicator of how much R wants to change physical aspects of himself; (5) Social Exploration, a 30-item measure assessing a preference or tendency to engage the social environment in a curious, outgoing, assertive, and confident manner (cf. J. Kelly, 1979); (6) Change Self as Student, a measure of how much R wants to change the way he is as a student; (7) Locus of Control, a 23-item index concerning R's perception of whether one's fate is controlled by himself or by external forces, adapted from Rotter's (1966) internal-external control measure; (8) Dissatisfaction with Self, a 7-item indicator of how much R wants to change various aspects of himself.

### Cross-Lagged Panel Correlation

*Basic Issues and Assumptions.* Inferences in this study are based on differences in cross-lagged panel correlations. The cross-lagged panel correlation (CLPC) technique was first proposed in modern times by D. Campbell and Stanley (1963) and Pelz and Andrews (1964). Kenny, D. Campbell, and their collaborators (Crano and Brewer, 1973; Crano *et al.*, 1972; Kenny, 1973, 1975, 1978, 1979; Kenny and Campbell, in press; Kenny and Harackiewicz, 1979; Rozelle and Campbell, 1969) have subsequently refined the technique. Examples of recent uses of CLPC can be found in Kahle and Berman (1979a, 1979b) and Kahle *et al.* (1980, 1981).

In the simplest use of CLPC, two panel variables, A and B, are measured at two separate times. Of interest in this technique are the diagonal correlations,  $r_{A1B2}$  and  $r_{B1A2}$ , designated the cross-lagged correlations because they crisscross the time lag and the pair of variables.

When the cross-lagged correlations differ and when various other assumptions have been met, one may make stronger inferences than from simple correlations.

The most critical assumptions of CLPC are synchronicity and stationarity, since Kenny (1973) has shown mathematically that given stationarity, synchronicity, and spuriousness, the cross-lagged correlations do not differ. Thus, when the assumptions of synchronicity and stationarity are justified, we can test the null hypothesis of a spurious relationship. Since the measures used in the present study were assessed at the same points in time and apply to the same reference periods, the data appear to logically satisfy the assumption of synchronicity. The stationarity assumption (relating to changes in the causal structure of variables) was assessed statistically in this study, and quasi-stationarity (Kenny, 1975) was established.

An additional assumption implied in using CLPC as a test for causation, as opposed to simply spuriousness, is that of equal stability (Cook and Campbell, 1979). Although some have reacted to this revelation by calling for the wholesale abandonment of the CLPC technique (e.g., Rogosa, 1980), such a response appears unwarranted, since other alternative methods make even stronger, often implausible assumptions, while CLPC may often lead to accurate inferences when alternative approaches do not (Kenny and Campbell, in press). Furthermore, the substantial utility of CLPC as a test for spuriousness remains. Kahle *et al.* (1981) have recently discussed the issues involved in selecting CLPC or its alternatives. In the present study, whether one infers causation in addition to non-spuriousness, given a significant difference in cross-lagged correlations, depends on whether one accepts the assumption of stability.

*Additional Criteria.* In addition to a significant difference between cross-lagged correlations, we also required that four additional conditions be met before we drew any conclusions. First, the cross-lagged correlation with the larger absolute value had to be significantly different from zero. Second, this larger cross-lagged correlation had to have the same sign, positive or negative, as both synchronous correlations. Third, the absolute value of the larger cross-lagged correlation had to be appreciably larger than the absolute value of the smaller, to rule out cases in which a significant difference between cross-lagged correlations results because they are similar in absolute value, although opposite in sign (e.g., a significant difference between +0.26 and -0.23). In such a case, perhaps no conclusion should be drawn about the direction of causal influence. Finally, the detection of significant differences between two cross-lagged correlations had to be independent of the particular set of other panel variables used

in a CLPC analysis to adjust synchronous and cross-lagged correlations to meet the assumption of quasi-stationarity.

## RESULTS AND DISCUSSION

Results of applying the CLPC technique, with the tests and safeguards indicated, to the sets of longitudinal variables described above are summarized in Tables I-III. To simplify presentation, only cross-lagged correlation differences significant at the 0.10 level or less are presented. In all cases "Kenny's weights" (Kenny, 1978) were greater than 2, implying that we can be confident in this regard in interpreting these data. Our interpretation will emphasize results repeated for more than one time point pair and/or more than one measure of a given type, since a CLPC difference should ideally replicate across different time lags and different measures of the same construct (Calsyn and Kenny, 1977; Kenny, 1975).

### The Structure of Alienation and Involvement

Table I shows the results of analyses examining relationships among dimensions of alienation and involvement. A comparison of cross-lagged panel correlations reveals a consistent and striking result: Student attitudes toward school in general, with only two exceptions, are causally antecedent to attitudes toward school staff and other students and to psychological involvement and participation in school life. No other causal relationships among these major dimensions of alienation and involvement were found.

These results are somewhat surprising because in studies of adult life satisfaction (e.g., Andrews and Withey, 1976; A. Campbell *et al.*, 1976) "the common assumption about the development of feelings and evaluations is that individuals react to the details and elements of human experience. . . . Thus, the direction of influence is assumed to be from the specific to the general" (Andrews and Withey, 1976, p. 15). At least for dimensions of the quality of school life, however, our data suggest instead that the predominant direction of influence is from the general to the specific. While these results may reflect the operation of "feedback loops by which general evaluations can influence those at a more specific level" (Andrews and Withey, 1976, p. 15), the fact that we find little evidence of a causal influence in the opposite direction suggests instead that "general-to-specific" is the predominant causal relationship among these student reactions to, and involvement in, school.

Having established the structure of relationships among dimensions of alienation and involvement, let us now examine antecedent-consequence

relationships between these indicators and measures of deviant behavior and personality.

### **Aggressive and Deviant Behavior**

Cross-lagged panel correlations between student reactions to, and participation in, school and measures of aggressive or deviant behavior are presented in Table II. The first two sections of Table II reveal a remarkably consistent pattern of findings, suggesting that engaging in school misbehavior has a clear impact on attitudes toward school staff and, to a lesser extent, on involvement and participation in school. Boys who more frequently break school rules and engage in aggressive or deviant behavior develop more negative attitudes toward teachers, counselors, and the principal and become less involved in school. There are, however, two notable exceptions: Between the junior and senior years, increasing resentment of school authority and decreased involvement in classes both appear to result in increased involvement in deviant or rebellious behavior.

Data in the final, third section of Table II further suggest that student reactions to school may be a cause, as well as an effect, of student misbehavior. Note the first three pairs of results. In each case a student attitude that was a consequence of deviant behavior at a prior one-year time lag becomes a cause of student misbehavior at the next time lag (or the reverse in one instance). Although the other three results in this section involve two different attitude measures and a common time lag, they are also generally consistent with this pattern, since they imply that engaging in aggressive behavior in school can be either an antecedent or a consequence of negative attitudes toward school.

Overall, these data are not entirely consistent with the assumption that decreasing levels of involvement in school lead to increasing levels of deviant or aggressive behavior. Some evidence supports this hypothesis, but support for the alternative hypothesis that student misbehavior results in lack of involvement in school is also very evident. In fact, the results presented in the third section of Table II, in particular, are consistent with the third alternative hypothesis mentioned above—reciprocal causation. Thus, the data imply the existence within our schools of a vicious, self-fueling cycle of alienation and deviance, whereby engaging in aggressive or deviant behavior results in negative sanctioning from school authorities, which leads to negative perceptions of school staff, reduced involvement in school, and negative school attitudes, with the latter leading to further involvement in deviant and rebellious behavior (cf. D. Kelly, 1977). However, since reversals in the implied direction of causal influence are consistently observed only for the time lag between the junior and senior years, we

cannot easily discount another plausible explanation for this pattern—maturation. If, as commonly believed, late adolescence is a time when identity is achieved (e.g., Gold and Douvan, 1969), abrupt reversals in the antecedent-consequence relationships between school attitudes and misbehavior might well reflect this process.<sup>6</sup>

### **Personality Characteristics and Orientations**

Cross-lagged panel correlations between personality measures and dimensions of student alienation and involvement are presented in Table III. For attitudes toward school staff and other students, the predominant direction of influence over the entire course of high school (i.e., from tenth to twelfth grade) appears to be from increased feelings of self-worth to more positive perceptions of teachers and other students. However, data from the junior-to-senior-year time lag also suggest the possibility of a feedback process, in which these feelings about teachers and student peers influence the subjects' subsequent evaluations of, and feelings about, the self. In contrast, except for identification with school activities and groups (which appears largely a consequence of feelings of self-acceptance or self-worth), student involvement and participation in school life apparently has causal influence on certain aspects of adolescent personality. Specifically, over the six-year span of secondary schooling, increased involvement and participation in classes and other school activities appear to foster the development of an assertive, outgoing, and confident orientation to social life.

As indicated in the third section of Table III, early perceptions of school authorities as too controlling or restrictive seem to inhibit the development of this same orientation over the course of secondary schooling, although once again data from the junior-to-senior-year time lag hint that increases in exploration preferences may also result in decreases in the extent to which school adults are perceived to be restricting and suppressive. Perhaps more significant are relationships between student reactions to school control and more general perceptions of efficacy or control. Boys who perceive school adults as restrictive and controlling or boys who feel that they have little control over what happens to them in school come to believe by their senior year that events in their lives are largely shaped by external forces, including fate or chance. Once again, however, some evidence also supports the proposition that general feelings

<sup>6</sup>The authors are indebted to an anonymous reviewer of an earlier version of this article for suggesting this possibility.

of lack of control over one's own fate may condition specific feelings of powerlessness in the school context.

In the final, fourth section of Table III, the predominant pattern of results suggests that general attitudes toward school may lead to self-perceptions and personal adjustment, as well as result from personality orientations. Specifically, boys who have positive feelings about their schools seem to develop during high school an outgoing and assertive personal style, characterized by preferences for varied social experiences. Moreover, disliking school or wishing to change aspects of the school appears to have a negative influence on evaluations of oneself as a student. Nevertheless, since the final three results presented in Table III suggest that boys who are low in self-esteem or self-acceptance later develop a desire to change various aspects of their schools, the more general pattern of causal influence between student satisfaction with school and feeling of self-worth or self-acceptance once again seems to reflect some influence in both directions.

Overall, the evidence presented here seems to provide ample support for the proposition that personality styles or orientations exert a substantial influence between student satisfaction with school and feelings of self-converse, however, is also abundant. Personality development during high school is clearly influenced in part by student reactions to school and by participation and involvement in the process of schooling. The most striking examples are in the development of preferences for social exploration and a locus-of-control orientation, but the other results presented here are persistent enough to suggest that the extent of causal influence from alienation from, or involvement in, high school to personality development may be greater than is commonly assumed.

## CONCLUSION

We have examined the structure of relationships among dimensions of student alienation from, and involvement in, high school and described some key antecedents and consequences of the extent to which students are able to feel involved and participate in the activities of their schools. In particular, we have examined data relevant to alternative hypotheses about the direction of causal influence between student reactions to, and involvement in, school, on the one hand, and student misbehavior and personality, on the other. While we found considerable evidence documenting relationships among these variables, variation in the direction of influence was considerably greater than one might expect from the research literature on these student "outcomes." Aggressive or deviant behavior and per-

sonality characteristics or orientations were found to be both antecedents and consequences of student reactions and attachments to the high school, and some evidence suggests the possibility of significant patterns of mutual or reciprocal causation among these variables.

As we noted in our introduction, educational practitioners often express the view that student reactions to, and involvement in, school are primarily determined by personality, friends or peers, and home background, or by events occurring prior to school entry. The data presented here imply that this observation, like most other generalizations, is only partly true. Alienation from, and involvement in, high school and school rebellion are to a substantial degree reactions to the experience of schooling as well. Thus, our data compatible with the more balanced generalization offered a few years ago by Van den Berg (1975): "A student's satisfaction with his membership in the education system seems to be dependent both on the orientation he brings to school as well as on his perceptions of the social structure within which learning takes place" (p. 274).

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