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ABSTRACT

Research has suggested that didactic and values discussions, life skills training, social skills training, and family intervention can reduce heavy drug use. Because subjects display variability in patterns of behavior change, increased understanding of these individual differences could be beneficial to interventions. A preventive intervention program was established for families concerned about their adolescents' alcohol or drug use. Adolescents provided data on daily drug, alcohol, and cigarette use for an 18-month period, along with school report cards and periodic self-report inventories. The intervention consisted of (1) identifying undesirable events; (2) assessing antecedents and consequences through weekly meetings; (3) focusing on the complaints; (4) teaching the family problem-solving techniques; and (5) encouraging consistent contingencies and modeling desired behaviors. The first two adolescents in the program showed widely differing patterns in almost every index except outcome; they both showed improvement by the end of follow-up in the two targeted behaviors (school performance and drug use) and showed no change in the two control, non-targeted behaviors (alcohol and cigarette use). (A detailed analysis of the behavior change patterns of these two subjects and the concurrent changes in self-efficacy expectancies, outcome expectancies, and values that might account for their differences is provided in the text and accompanying figures.) (NRB)

Changes in Drug Use, School Performance, and Self-Environment Perceptions During Preventive Intervention

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Paper presented at the annual meeting of the American Psychological Association, Toronto, Ontario, Canada, August 1984.

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Group experimental designs have produced some evidence that didactic and values discussions (Blum & Associates, 1976), life skills training (Botvin, 1983), social skills training (Pentz, 1983), and family intervention (Szapocznik, Kurtines, Foote, Perez-Vidal, and Hervis, 1983) can reduce heavy drug use. Subjects within these experimental groups however display extensive variablility in patterns of behavior change.

Our current research is based upon the assumption that increased understanding of these individual differences could lead to greater precision and impact in preventive intervention. Toward that end, we have established a preventive intervention program for families that are concerned about their adolescents' alcohol or drug use where we are collecting from the adolescents a year and a half of daily drug, alcohol, and cigarette use data (using the "time-line follow-back" technique from Sobell, Sobell, & Ward, 1979), along with school report cards and periodic self-report inventories (from Piers, 1964 and Flumen, 1973).

Because we hold a social learning view of the establishment and maintenance of all behaviors, including substance use, the intervention consists of (a) identifying specific events with which the parents and adolescents are displeased, (b) assessing antecedents and consequences through observing the family at weekly meetings at the University and visiting the school of the adolescent, (c) providing a consistent focus on the complaints by asking about progress in the problem areas at each weekly family meeting and pointing out maintaining antecedents and consequences, (d) teaching the family to deal with one problem at a time through established problem-solving techniques (Robin, 1981), (e) encouraging the establishment of clear and consistent contingencies and the modeling of desired behaviors at school, home, and during weekly family meetings. To prepare the family for handling future problems and to ensure a brief intervention by reducing current concerns, an overall goal of our preventive intervention is to increase both the parents' and adolescents' sense that they can handle whatever problems come up without repeating undesirable patterns of the past, such as yelling, getting drunk, or getting high.

As expected, our first two adolescents in the program showed widely differing patterns in almost every index except the outcome; they both showed improvement by the end of follow-up in the two targeted behaviors, school performance and drug use, and showed no change in the two control, non-targeted behaviors,

alcohol and cigarette use. The remainder of this paper will be devoted to a detailed analysis of the individualisitic behavior change patterns of the two subjects and the concurrent changes in their self-efficacy expectancies, outcome expectancies, and values that might account for the individual differences.

Subject #1

Subject #1 was a white, male, 16 year old, intelligent, attractive, high school sophomore from an intact upper middle class family whose mother brought him to the program for three months because of concerns about school grades, verbal aggression in the family, and marijuana use. The boy claimed full and sole control over his drug use and school performance. He felt "he had to get high and argue" because his parents were treating him unfairly by withholding privileges. After repeated problem-solving training, the parents reported less belligerence and the boy had discovered that marijuana decreased his sports and academic abilities.

The left side of Figure 1 shows the two measured behaviors of subject #1 before, during, and after intervention. (All figures are drawn so that improvement is toward the top.) School grades continued to deteriorate during intervention because initially the subject misjudged the impact of being high on his grades and then was so far behind in his college prep courses that he could not catch up. After intervention, however, in summer school and during the next school year, he did better. After an initial increase in drug use, accompanied by declarations that "nobody can make me stop", subject #1 decreased use and, after one more period of experimenting with the consequences, reduced use drastically. (His non-targeted cigarette and alcohol use did not change substantially, supporting the notion that the intervention was indeed responsible for the school and drug use changes.)

The left sides of Figures 2 & 3 show two of subject #1's self-efficacy expectancies at intake, nine months later, and again, nine months after that. Most expectancies were above average and unchanged during that whole period of time. His perception of his capacity to behave well, however, increased between intake and the first follow-up and remained at that level through the second follow-up testing, as did his actual behavior.

The left sides of Figures 4 & 5 show subject #1's outcome expectancies at three different points in time. It is interesting that his extremely high expectancy regarding the school's responsiveness to student assertiveness decreased between intake and the first follow-up testing. He had just been suspended from school at that testing and was in the middle of a period of increased marijuana use. His expectancy increased toward the mean by the final follow-up. As better grades were earned, subject #1 also showed a gradual increase in expectancy regarding schoolwork's pleasure-producing potential. No change occurred however in beliefs about schoolwork's impact on future

life.

Figure 6 shows changes in values that correspond with the behavior changes. At the time during follow-up when subject #1 increased drug use temporarily, his endorsement of lying and cheating increased slightly, only to decrease substantially at the next testing.

Subject #2

Subject #2 was a white, 15 year old, freshman, female of average intelligence from a middle-class, intact family whose parents brought her to the program because of poor school grades, unhappiness with school life, and two instances of excessive substance use. The girl was extremely quiet, compliant, just smiled and said, "I don't know," to most questions. After three months of weekly family problem-solving sessions, her parents were very pleased that she was involved in activities instead of "moping" around the house and had gone, at her own initiative, to her guidance counselor at school and changed her schedule for the following year so that she would like school better.

As the right side of Figure 1 indicates, subject #2 was not able to improve her grades during intervention because she had missed so much material during the school year. She did much better, however, during summer school and the following year. Her drug use improved as soon as intervention began and throughout the summer, but school found her getting high once a day for the first two months. This pattern changed before her report card was affected, and she now says that marijuana makes her too sleepy. (Cigarette and alcohol use did not change significantly.)

Figures 2 & 3 show two of her concurrent self-efficacy beliefs. They were all extremely low at intake, but those that related to intervention goals—behavior, popularity, and intellectual achievement—improved through the follow-ups while unrelated ones did not, supporting the notion that the changes were related to the intervention.

The right sides of Figures 4 & 5 show two of Subject #2's outcome expectancies. Her expectancies that effort on her part would lead to positive outcomes increased both in relation to the school personnel and to her schoolwork, corresponding to her improved report cards. As with Subject #1 however, her beliefs about school's relevance for her future did not change.

Figure 6 is particularly interesting for Subject #2. Her endorsement of society's standards of conduct decreased dramatically at the time that she temporarily returned to daily drug use and increased to her initial mean position by the next testing. It is not clear of course whether behavior or attitudes and expectancies changed first in these subjects. There are likely reciprocal relationships, as Bandura (1978) suggests. Nevertheless, our understanding of individual differences in

behavior change patterns appears to be enhanced by assessing expectancies and values simultaneously.

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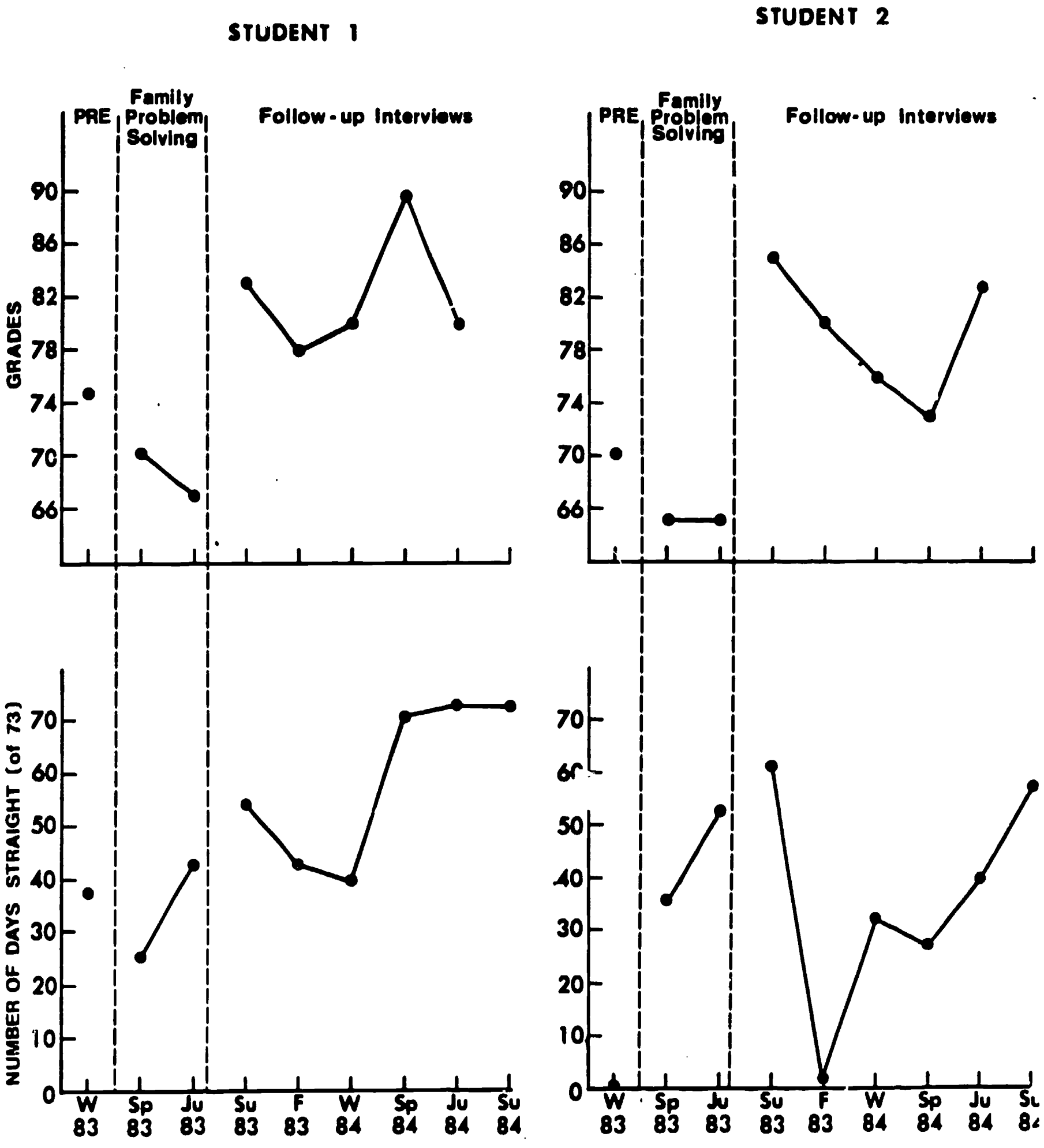
STUDENT 1
STUDENT 2
PRE
Family Problem Solving
Follow-up Interviews
GRADES
90
86
82
78
74
70
66
NUMBER OF DAYS STRAIGHT (of 73)
70
60
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10
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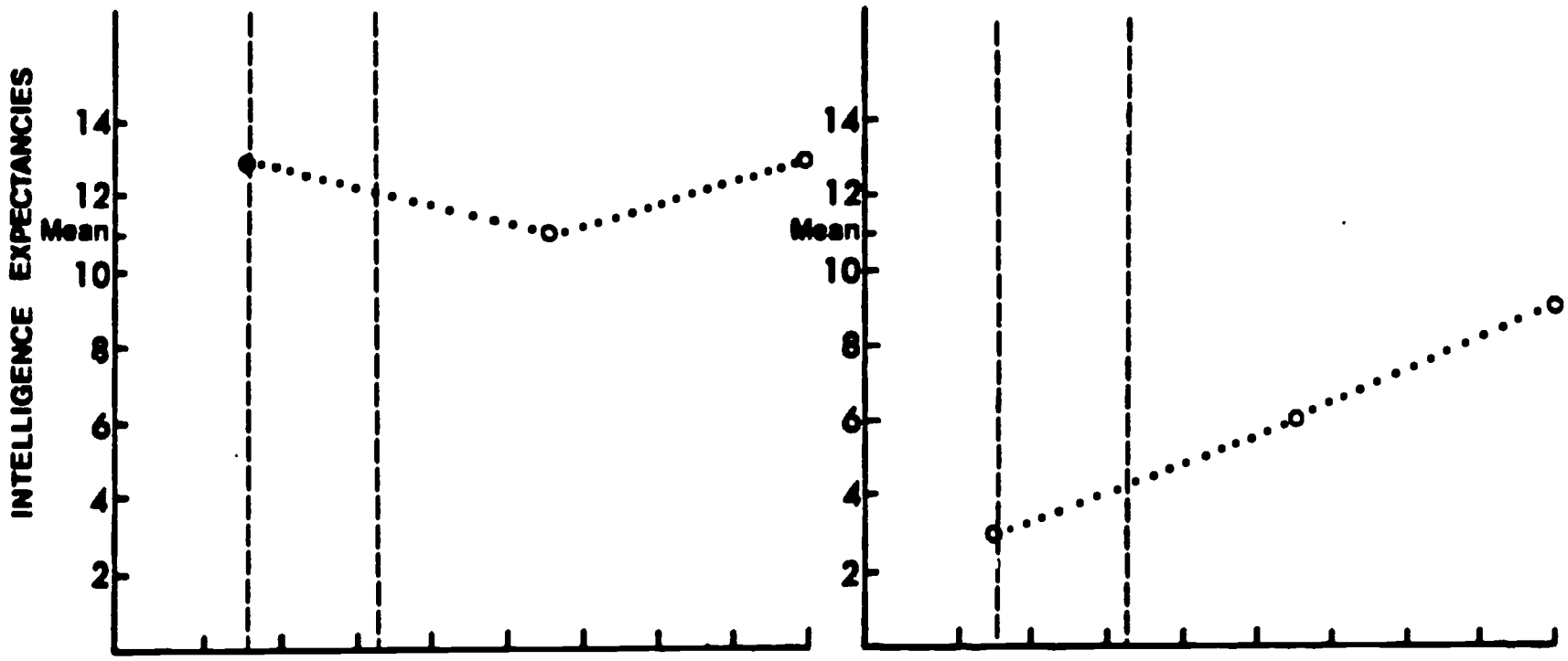
W 83
Sp 83
Ju 83
Su 83
F 83
W 84
Sp 84
Ju 84
Su 84


INTELLIGENCE EXPECTANCIES
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GOOD BEHAVIOR EXPECTANCIES
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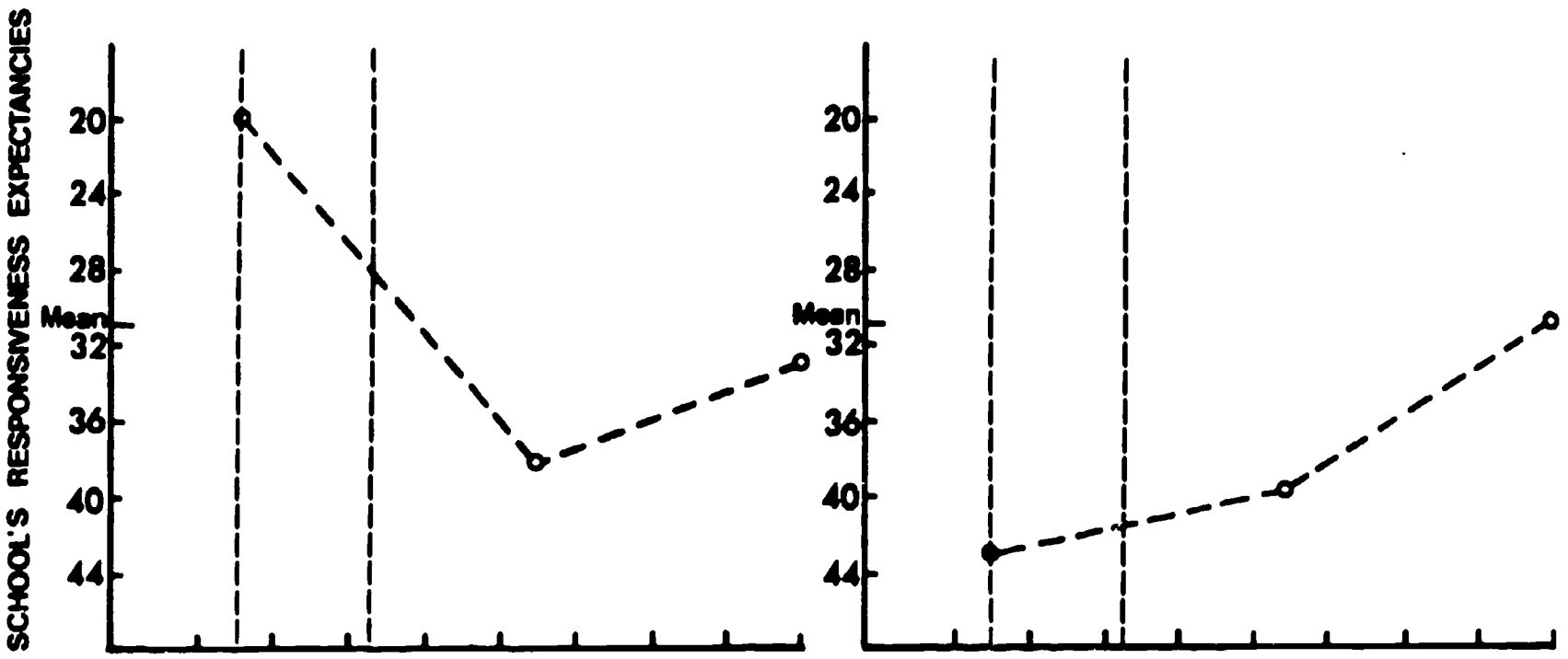
SCHOOL'S RESPONSIVENESS EXPECTANCIES
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Mean
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Mean
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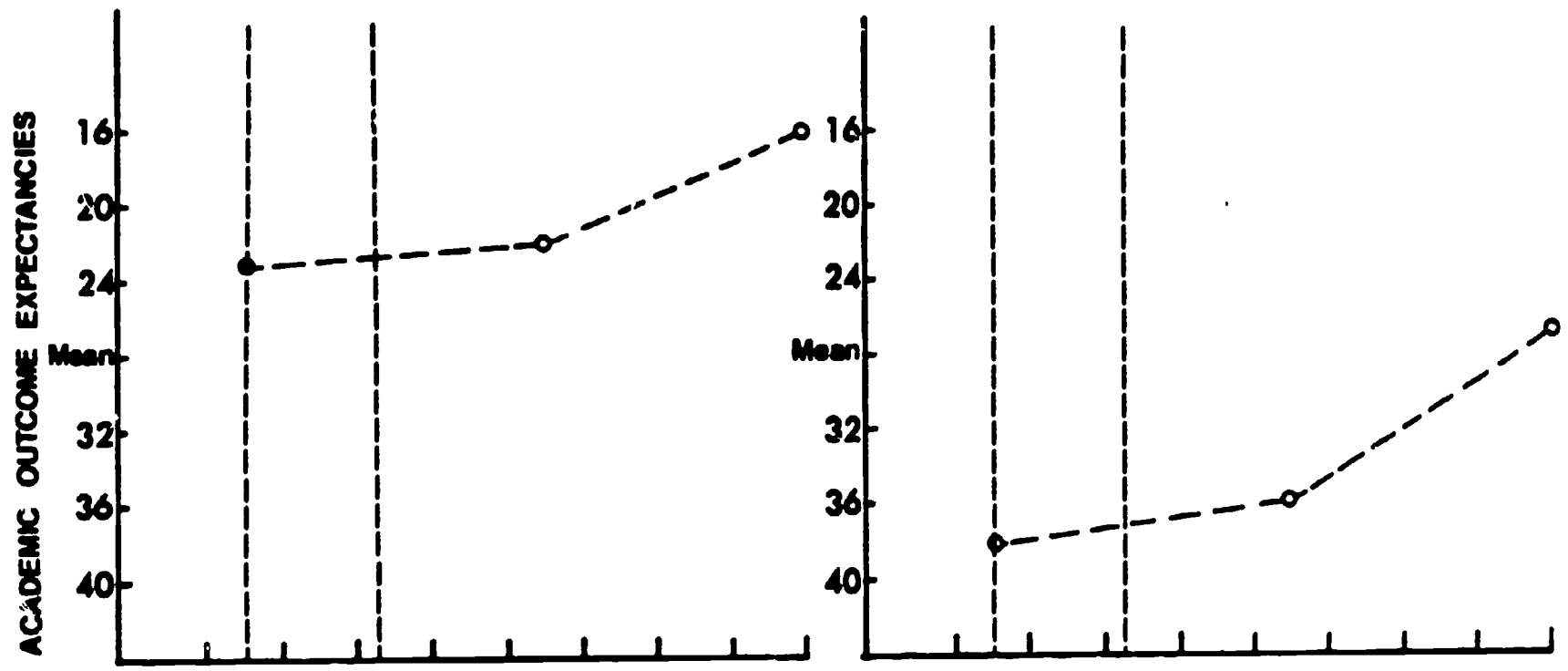
ACADEMIC OUTCOME EXPECTANCIES
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Mean
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16
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Mean
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36
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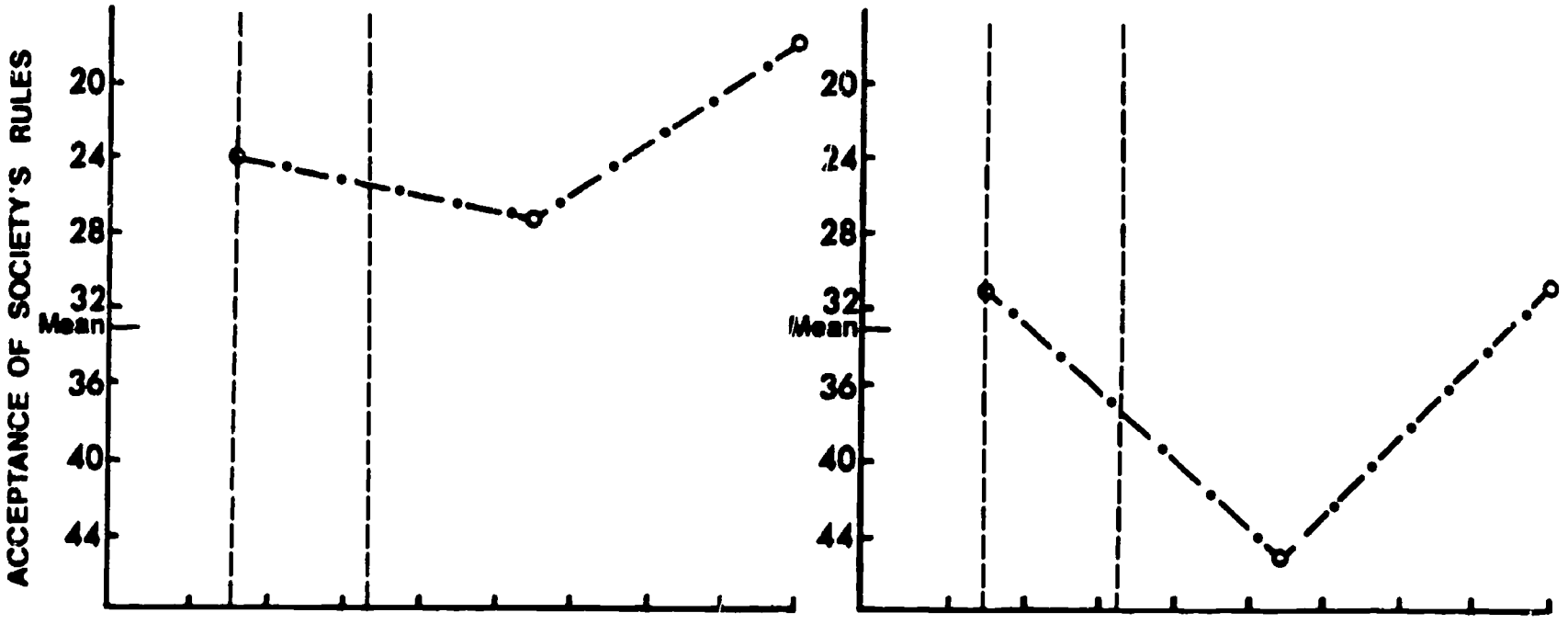
ACCEPTANCE OF SOCIETY'S RULES
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Mean
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Mean
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44