THE INFLUENCE OF SOCIAL PROBLEM-SOLVING TRAINING IN SCHOOL ON FOURTH-GRADERS' HOME BEHAVIOR

By Douglas D. Perkins,

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Marybeth Shinn, Research Advisor

Abstract

School-based interpersonal problem-solving (IPS) training has been widely advanced as a potentially valuable strategy for the primary prevention of adjustment problems among elementary school children. The purpose of this thesis is to evaluate the effects of IPS training in two schools on 118 fourth-grade children's ability to cope with stressful interpersonal situations, and on their overall behavioral adjustment, as exhibited at home. This study is one of the first IPS evaluations conducted independently of those who designed or implemented the intervention. This is the first study, furthermore, to examine the generalization of school-trained skills to, and their effects on, behavior in settings outside of school. The Child Interpersonal Problem Solving Rating Scale is offered here as a general measure of uniquely IPS behavior. Subjects exposed to IPS training failed to show significantly more improved adjustment or problem-solving behavior at home than did control subjects. Correlations between IPS and adjustment at home and across school boundaries, however, reveal some important sex differences as well as other complexities. On the positive side, variables that have received little previous attention, such as passive means generation, feelings recognition, the types of consequential thinking (prosocial versus antisocial), variants of alternative solutions, and the face-valid IPS self report, were more strongly related to home behavior than alternative solution or active means generation. However, there appear to be several unexpectedly negative relationships as well. It is concluded that IPS theory will require considerably greater specificity and refinement before consistent programmatic achievements can be attained.

Keywords: child social problem-solving skills training, interpersonal cognitive problem solving, school-based primary prevention evaluation

INTRODUCTION

Interpersonal problem-solving (IPS)[1] skills have been found to be related to emotional adjustment in a variety of clinical populations, particularly among children (Spivack, Platt & Shure, 1976). This finding, along with evidence suggesting that socially maladjusted children may be particularly vulnerable to emotional disorder later in life (Cowen, Pederson, Babigian, Izzo, & Trost, 1973), has helped promote early IPS training as a promising paradigm to prevent the ill effects of developmental stress on normal children (Shure & Spivack, 1978). The positive, "competence-building" orientation of IPS has made it especially popular among community psychologists, who generally try to avoid deficit labelling, whether they work with impaired or normal populations (Cowen, 1980).

Although the problem solving approach has received a great deal of research and programmatic attention, clear and consistent results remain elusive. In particular, while children trained in IPS skills do well in hypothetical (interview) and simulated problem solving situations, the extent to which trained IPS skills generalize to behavior and adjustment outside the classroom and school has yet to be fully investigated (Weissberg & Allen, 1987?). In addition, previous evaluations of programs have generally confounded the evaluator's role with those of program trainer, supervisor, and/or teacher (cf., Elardo & Caldwell, 1979). Furthermore, too few IPS studies have considered possible sex differences (cf., McKim, Weissberg, Cowen, Gesten, & Rapkin, 1982; Elias, Gara, Ubriaco, Rothbaum, Clabby, & Schuyler, 1986) which would seem particularly important among latency-aged and early adolescent children. Finally, implementation has been cited as a key variable in IPS program success (Weissberg, 1985). Yet, while several studies have compared training "dosage" levels within one setting, treatment "contamination" must generally be considered a possibility

throughout a given setting. The present study is an attempt to remedy, to some degree, all of these concerns while concentrating on the first in assessing the effects of IPS training in fourth grade on parents' ratings of children's overall social adjustment and coping (problem-solving) behavior.

LITERATURE REVIEW

The Hahnemann Studies

Although others had observed a theoretical connection between IPS skills and psychological well-being (Jahoda, 1958), the current IPS research paradigm grew out of the work of Spivack and Levine (see, for example, Spivack & Levine, 1963) at the Devereux Foundation. They discovered that disturbed adolescents exhibited much more difficulty than normals in generating step-by-step means toward solving everyday interpersonal problems and in the capacity to view such problems from someone else's point of view (Spivack, Platt & Shure, 1976).   The relationship between adjustment and problem-solving ability was later explored in a series of studies under the direction of Spivack and Shure at the Hahnemann Medical College Mental Health/Mental Retardation Center in Philadelphia. For almost twenty years, the Hahnemann group has refined and tested the IPS-adjustment relationship in a wide variety of "at risk" groups.

Specifically, Shure and Spivack (1970) found that alternative thinking (the capacity to explore alternative solutions to "real-life" interpersonal problems) discriminated groups of normal, lower and middle-class inner-city fifth-graders differing in adjustment level. Shure, Spivack and Jaeger (1971) found a significant correlation between alternative thinking, as measured by the Preschool Interpersonal Problem-Solving (PIPS) scale, and behavioral adjustment, this time among 62 disadvantaged black preschool (Head Start) children. Shure

and Spivack (1972) also found that, regardless of socioeconomic status or intellectual functioning, disturbed 10-to-12-year-old children expressed both fewer elements of means-ends thinking (the ability to recognize potential obstacles and map out a realistic behavioral strategy to achieve a particular goal) and stories that were more limited to impulsive and aggressive means than did their normal counterparts.

This line of research has revealed other possible elements of IPS ability, including consequential thinking (the ability to foresee the possible consequences of, or what might come after, alternative solutions to a given interpersonal problem), causal thinking (the capacity to comprehend and explain the etiology of, or what came before and might have caused, a problem) and interpersonal sensitivity (i.e., to others' perceptions, needs, feelings, and intentions) (Shure, 1979; Spivack & Shure, 1974). In addition, these researchers have begun to explore the sex-relevant adjustment behaviors associated with IPS ability in ten-year-olds (Shure, 1980).

Inspired by associations between some of the above IPS skills and adjustment, Shure, Spivack and their colleagues have also overseen the problem-solving training of such disparate populations as disadvantaged, urban fifth graders, foster adolescents, mother-child dyads, educable mentally retarded, hyperactive children, alcoholic adults, short-term inpatients, over 900 inner-city nursery and kindergarten children, and of such care providers as teachers, welfare workers, and counselors (Spivack & Shure, 1985). Their classroom-based intervention consisted of 46 to 50 daily, sequential lessons and activities conducted by the teacher and lasting from 20-to-30-minutes each. Evaluations of these interventions have rendered consistently positive results, with trainees generally improving relative to controls in both IPS skills and adjustment (Shure, 1979; Shure & Spivack, 1978, 1979, 1982; Shure,

Spivack & Gordon, 1972). These early successes helped IPS-based research and interventions proliferate widely in the years that followed.

There have been several limitations to the Hahnemann research program, including a lack of long-term follow-up assessments and only anecdotal evidence regarding the consequences of IPS training beyond the classroom (see Shure, 1977; Spivack & Shure, 1974). Another important concern is the generalizability of the IPS elements, and their relationships to adjustment, across populations. The developmental dependency of IPS effects requires a great deal more research attention. Shure, Spivack and Jaeger (1971), for example, found no significant correlation between causal or consequential thinking and adjustment among four-to-five-year-olds. Spontaneous causal thinking has been shown to differentiate normal and disturbed adults (Platt & Spivack, 1974) but not adolescents (Larcen, Spivack & Shure, 1972). In general, however, by focusing more on the similarities between groups than the dissimilarities, the Hahnemann group may have overemphasized the robustness of the phenomenon. Furthermore, they have not always accounted for the potential influence of varying levels of aptitude on both skills and their acquisition.

The Rochester Studies

The only program that has implemented IPS training and research on a similar scope as the Hahnemann group has been conducted by Gesten, Weissberg and their colleagues. Their work, while borrowing substantially from Spivack and Shure, evolved out of the previous school-based interventions of the University of Rochester's Primary Mental Health Project. After a long process of program revisions based on formal evaluations and feedback from program personnel, this group has contributed important refinements of IPS theory (e.g.,

feeling and problem identification skills), training methods (e.g., explicit tailoring of curricula to urban vs. suburban populations), and evaluation methods (e.g., a behavioral problem-solving test; Gesten, Flores de Apodaca, Rains, Weissberg & Cowen, 1979).

The various findings from this series of projects, which are the ancestors of the present program, have been mixed, however. In their first intervention, a one-year follow-up assessment of trained second and third grade suburban children demonstrated some durability of positive experimental effects on adjustment. Essentially no relationship was found, however, between problem solving and adjustment (Gesten, Rains, Rapkin, Weissberg, Flores de Apodaca, Cowen & Bowen, 1982).

The next evaluation was not much more positive. Weissberg, Gesten, Rapkin, Cowen, Davidson, Flores de Apodaca and McKim (1981) expanded Gesten et al.'s (1982) program from 17 lessons over a period of nine weeks to 52 lessons over four months. Despite positive effects of training of both suburban and urban children on their response to hypothetical and simulated problem situations, only the suburban sample improved on teacher-rated adjustment with the urban experimental group actually declining. Whether the problem with the urban half of the program was a matter of implementation (Weissberg & Allen, 1987?) or of population differences (McKim, Weissberg, Cowen, Gesten, & Rapkin, 1982), it suggests that poor, inner-city children who are most in need of competence-building strategies may benefit the least from an IPS program. This result contrasts sharply with Siegal, Platt and Spivack's (1973) claims that the alternative thinking-adjustment relationship holds cross-culturally and for different levels of educational and psychological sophistication.

Weissberg, Gesten, Carnrike, Toro, Rapkin, Davidson and Cowen (1981) tried to address the special needs of urban teachers and children (e.g., conflict resolution strategies,

the limiting of aggressive solutions, and informal teacher-child IPS dialoguing) when they

designed the next IPS elementary school intervention. In evaluating this program, they found

that trained second to fourth grade children showed greater improvement than did controls on

similar problem-solving measures and the same adjustment measure as those used in the

present study. With correlations between the two domains remaining elusive, however, those

investigators also stressed the necessity of improving assessment procedures and, in

particular, not relying only on teacher ratings.

Other Studies

Perhaps because of the scale of the Hahnemann and Rochester projects, their

achievements, especially those in Philadelphia, have been difficult to reproduce elsewhere.[2]

For example, Rickel and Burgio (1982) found a link between achievement and social

adjustment in lower-income, minority preschool children, but failed to replicate Shure et al.'s

(1971) correlation between the PIPS measure and teacher-rated adjustment. Similarly,

Gillespie, Durlak and Sherman (1982), using the Hahnemann instruments and behavioral

observations, found no relationship between 32 kindergarten children's interpersonal problem-

solving skills and other indices of school adjustment.

Likewise, while most of the early evaluations of other school-based IPS intervention

programs revealed some specific positive effects, the more general assessment conclusions

were mixed, at best. Training typically resulted in enhanced problem-solving skills while

having little or no impact on adjustment, whether rated by teachers, peers, or selves (see, for

example, Allen, Chinsky, Larcen, Lochman & Selinger, 1976). McClure, Chinsky and Larcen

(1978) made innovative use of video modelling and role playing techniques in developing an

IPS intervention based on that of Allen et al. (1976). Trained third- and fourth-graders improved more than controls, not only on certain IPS measures (i.e., more numerous and effective alternative solutions generated), but also in peer group interaction and (internal) locus of control. Yet a lack of training effect on either dyadic interaction or on any six-month follow-up measure led those authors to recommend longer-term interventions involving additional social systems (including the family) and to "caution that improvements in subjects' ability to solve hypothetical problems do not necessarily transfer to real-life problem solving" (McClure, Chinsky & Larcen, 1978, p. 512).

As implementation (i.e., teacher training procedures and curricula) has improved, however, so have some of the more recent program results. Cohen (1985) cites an IPS project for preschoolers, based on the Hahnemann daily lessons, which significantly reduced anxious and hyperactive behavior while subsequently cutting referrals for mental health services to a quarter of those of control classes. Elias et al. (1986) report on a preventive social problem solving intervention to help 5th-grade children cope with school-related stressors. With a design somewhat similar to that of the present study (comparing different duration "dosages" of training with a no treatment control group across multiple schools), they found a positive direct effect of full (instruction and application) training over partial and no training on coping with stressors associated with adjusting to middle school. In addition, they found that IPS ability plays a significant mediating role with poor problem-solvers overall experiencing more intense stressors. That study advances IPS skills as a necessary, but insufficient, condition for childhood coping and adjustment.

The latest important IPS program to appear is the Yale-New Haven Middle School Social Problem Solving Project (Weissberg & Caplan, 1987). The reason this research team

turned to middle school is that their previous positive results with second-to-fourth-graders had disappeared after three years. They argued that, not only do children need a "booster shot" of IPS training, but middle-school developmental problems are different than those in primary school and thus require different training. Thus far, this project has resulted in improved solution generation and independently-rated sociability for trained students and fewer delinquent acts than for untrained peers.

Reviews

The variation in IPS program implementation makes it extremely difficult to draw any definitive conclusions regarding its past effectiveness or future promise (Weissberg, 1985; Weissberg & Allen, 1987?; Elias et al., 1986). Weissberg and Gesten (1982), however, make what may be the most important recommendation for developing effective school-based IPS training programs: they should be extended beyond the mere learning of discrete skills so that the generalized use of those skills in real-life situations becomes internalized and practiced independently.

Urbain and Kendall (1980) thoroughly reviewed children's social-cognitive problem-solving approaches across intervention settings and note that, at least as far as certain clinical populations are concerned (e.g., delinquents), the placement of IPS treatment within the family context "may be an important component that facilitates both the learning of the social/interpersonal cognitive problem-solving skills and their application in the real world" (p. 118). They call for the ecological validation of IPS measures through research relating them to "actual observed competent behavior in different situations in the natural social environment" (p.120).

This need has evidently changed little as Trickett, Kelly, and Vincent (1985) use the existing IPS research literature to illustrate how even the most promising areas of "community" prevention research would benefit from a more ecological orientation. They point out that while most of the IPS studies have been conducted in schools, they have generally failed (a) to examine the generalizability of school-trained IPS skills to other settings or (b) to explore whether those particular skills are even relevant across settings in the larger community. In particular, Weissberg and Allen (in press) note that, "unfortunately, little is known about what the effects of these programs are in the child's home because researchers rarely involve a child's family members in such evaluations -- a limitation that must be corrected in future efforts" (ms.p. 34).

Thus, a great deal of program development and research attention has been paid to a paradigm that has assumed, but not directly tested, an impact beyond the particular intervention setting. Generalizability across settings would seem to be a critical "baby step" for any prevention strategy claiming adjustment gains which "generalize" across an individual's life span. Testing those cross-setting linkages is the primary impetus for the present report.

HYPOTHESES

H1: Trained subjects will show more improved adjustment at home than will control subjects.

H2: Trained subjects will show more improved interpersonal problem-solving behavior at home than will control subjects.

H3: Change in IPS scores in school will be associated with change in adjustment at home.

H4: Change in IPS scores in school will be associated with change in interpersonal problem-solving behavior at home.

H5: School adjustment will be associated with home adjustment.

H6: IPS scores in school will be associated with problem-solving behavior at home.

H7: Home problem solving will be associated with home adjustment.

In addition, this study will explore how specific home adjustment subscales, home problem-solving subscales, and school IPS subscales are interrelated. For example, consistent with learned helplessness theory (Seligman, 1975), social learning's "self-efficacy" theory (Bandura, 1977), and locus of control theory (Rotter, 1954), a final hypothesis (8) is that adjustment at home and in school and problem-solving behavior at home will be positively associated with "active means" generation and negatively associated with "passive means" responses in school IPS testing.

METHOD

The Program

The IPS program was implemented under the auspices of the department of mental health of a suburban county outside of New York City. The research team was invited from an area university to independently evaluate the effects of the program on IPS skill acquisition and adjustment. In 1981 and 1982, regular third and fourth grade teachers from 23 elementary schools were trained in workshops to teach the full IPS curriculum (as developed at the University of Rochester's Center for Community Study) by one of its creators. The fact that the present program is a direct descendent of those of the Rochester group is important, given the potential problems of interpreting the effects of varying implementations (see note 2). Teachers who had already taught the curriculum served as workshop facilitators.

The present curriculum consists of 34 lesson units lasting 20 to 30 minutes each, taught in regular classrooms twice a week over a period of approximately 17 weeks. Lesson procedures included workbooks, games, role playing, and discussion. The lesson content essentially follows the progression of the "five steps" to problem solving: feeling recognition (4 lessons), problem identification (5 lessons), alternative solution generation (5 lessons), consequential thinking (5 lessons), and integration of problem solving skills (15 lessons).

Sample

Two schools were selected to participate in the evaluation. Like the other schools in the program, they were located in predominantly white, middle-class neighborhoods, though one was closer to an urban area and had a slightly more racially mixed student body (School B). Each of the two schools had five fourth grade classes. Parental permission was sought from all fourth-graders and the total sample consisted of all students for whom permission

was granted (71 girls and 61 boys). Informed consent was also obtained from each of these 132 students. Parent data was obtained from a total of 118 in Time 1 and 80 in Time 2. Statistical power is thus only marginal for Time 2 analysis of male data.

In School A, all five classes received IPS training with 78 students participating in the evaluation. 38 of these had also received training in the previous school year (third grade). The other school contains both a contrast group (30 students receiving less intensive IPS training) and a no training control group (n=24). Of the total sample in both schools, four girls and five boys were excluded from other than psychometric data analyses for having received partial or indeterminate IPS training due to excessive absences or unenrollment from school.

<div align="center">Assessment Procedure</div>

Data were collected on each student at the start of the fourth grade IPS program in the fall (pretest) and again at the end of the curriculum in late spring (posttest). For both pretest and posttest, the procedure was conducted first at School A and then at School B. The lack of simultaneity in this design is somewhat worrisome given that the program was already two or three lessons underway in School B by the time pretest data collection was completed.

Methods included (1) a structured, 20-minute interview with each child by one of six trained graduate students (to assess degree to which IPS principles had been learned), (2) a two-part questionnaire for one or both parents to complete at home on out-of-school problem solving and adjustment, (3) a behavior rating scale filled out by the child's teacher and one or two trained graduate observers, (4) a class-administered self-rating of problem-solving efficacy, and (5) standardized achievement test scores. All interviewers, observers, and coders were blind to a particular child's treatment condition.

Measures

School

Adjustment

Child Behavior Rating Scale (CBRS; Appendix A): The CBRS, newly revised by the

original authors, was designed to assess both a child's strengths as well as any problem areas

in school behavior. It is thus "an amalgam of two other scales with established reliability,

validity, and factor structure" (Toro, Cowen, Gesten, Weissberg, Rapkin, & Davidson, 1985):

11 (five-point) problem behavior items from the Classroom Adjustment Rating Scale (Lorion,

Cowen, & Caldwell, 1975) and 15 (five-point) competence items from the Health Resources

Inventory (Gesten, 1976). The three problem factors were "acting-out," "shy," and "learning

problems" and the three competence factors were "frustration tolerance," "assertiveness," and

"sociability" (Toro et al., 1985), although these six factors are not tested separately here. The

CBRS concludes with (seven-point) global ratings of degree of "school adjustment problems"

and "likeability." It was completed for all subjects by their teacher and by one or two out of

four graduate student observers, each of whom followed approximately eight subjects at a

time to classes, lunch, and recess over three full school days. For the subset of students

randomly assigned to two observers, inter-rater reliability among observers ranged from .56 to

.94 for individual items.

Problem-Solving Interview

Six trained interviewers conducted the entire dyadic interview procedure. The Open

Middle/Problem Identification/Consequences test was adapted from two Rochester Social

Problem Solving (SPS) Program measures (Weissberg, Gesten, Liebenstein, Schmid & Hutton, undated). The student was asked to respond to two cartoons illustrating age-relevant problematic interpersonal situations in order to identify the problem in terms of the key conflict or goal, recognize both the protagonist's and the nonprotagonist's feelings, generate alternative solutions to the problem, and consider the possible consequences of one prosocial and one antisocial solution. There are four different problem situations.[3] The sample was randomly bisected and assigned two pretest and two posttest problems in counterbalanced fashion.

The following variables were coded in accordance with the Rochester SPS Program Manual and analyzed: protagonist and nonprotagonist feeling identification, alternative solutions (goal-directed protagonist actions in response to the given problem situation), variants of alternative solutions (repetitions or conceptually related versions of prior solutions), an effectiveness rating for each solution (a five-point scale with the maximum solution effectiveness analyzed here), consequences generated to a prosocial solution, and consequences generated to an antisocial solution. Also coded but not included in the present analyses were conflict and goal identification, story "chains" (elaborations) and irrelevancies, solution content (e.g., help seeking, aggression, direct action, compromise, etc.), and the number of different content categories used. Nine coding judges were trained and, based on three judges coding a practice sample of 40 5th-graders from one of the study schools, interrater agreement varied widely across the variables, with those analyzed being among the most reliable.

The <u>Means-Ends Problem Solving Measure</u> was taken directly from the Rochester Manual. It tests the child's ability to formulate a step-by-step plan toward reaching a specified

goal. The beginning and the end of two other hypothetical problem situations are presented orally and the student is asked what happened in between. Again, the four different problem situations were randomly assigned in counterbalanced fashion.[4]

The stories that each child generated were later content analyzed using the following coding categories: active means and variants (discrete steps taken by the protagonist to reach a goal), passive means (events not caused by the protagonist which facilitate goal attainment), feelings attributed to the protagonist, and feelings attributed to nonprotagonists. Coded but not analyzed were means content (e.g., help seeking, verbal assertion, aggression, deception, cognition, etc.), obstacles (events or feelings that thwart goal attainment), the mentioning of time, and what, if any, goal was attained. The same nine coders were used and interrater agreement, based on three ratings of 40 fifth-graders, was generally in the acceptable 70% to 90% range for the variables analyzed.

The problem solving interview concluded by asking the student to say "all (they) can about how to solve problems." This was intended as a superficial test of IPS curriculum acquisition and was scored according to how many of the six IPS steps or principles were mentioned.

Face Valid Problem Solving Measure (Appendix D)

Entitled "What I'm like," this scale (made up of 12 dichotomous, forced-choice items) was developed by the Rochester team (see Weissberg, Gesten, Carnike, Toro, Rapkin, Davidson & Cowen, 1981) as a self-report of a child's ability to deal with typical, age-relevant interpersonal problem situations. It was administered in class by one of the evaluators in a group format.

<u>Verbal Covariate</u>

Scores on the verbal subscale of an annually administered standardized achievement (PEP) test were used to control for possible confounds in the IPS measures due to verbal and test-taking ability.

<u>Home</u>

A two-part questionnaire was sent home with each of the students in the study and completed by one or both of the child's parents. Both parts, problem solving and adjustment, asked parents to rate the frequency of specific behaviors "during the last month." The same parent(s) were requested to complete the posttest as the prestest.

The <u>Child and Adolescent Adjustment Profile (CAAP)</u>: The CAAP (Ellsworth, 1981; Appendix B) is made up of five subscales of four four-point, behavioral adjustment items each. The five dimensions are peer relations, dependency, hostility, productivity, and withdrawal. Ellsworth (1981) reports both test-retest and alpha reliability coefficients of between .78 and .90 (Table III) for all of the dimensions. Ellsworth (1981) also reports discriminant validity information for each of the subscales. The total CAAP scale as well as each dimension distinguished significantly ($p<.01$) between a group of children and adolescents referred for mental health services and a cohort of normals. Inter-rater agreement was mediocre, however, with total and subscale correlations between parents and probation officers and between parents and teachers all falling below .50, though this may be largely due to different situational contexts (Ellsworth, 1981). The factor structure (Table I) and reliability estimates (Table III) for the present sample are only slightly weaker than those reported above.

The <u>Child Interpersonal Problem Solving (ChIPS) Scale</u> (Appendix C) is a 12-item questionnaire created by the present author to be completed by a parent (though it could easily be adapted for other raters and older subjects). The ChIPS contains both negative and positive interpersonal problem-solving-related behaviors and is intended as a quick, face-valid measure of IPS competency. Each item was scored on a five-point scale from "never" to "always." In addition to the overall scale, there are subscales related to three of the components of interpersonal problem solving: consequential thinking, alternative thinking, and feeling identification. Factor analysis of the 12 items failed to either completely support the conceptually derived subscales or point to clear alternatives among existing items (Table II). The alpha coefficients for these subscales were relatively weak (Table III), and so a general problem-solving subscale with greater internal reliability (a=.74) than the 12-item overall scale was used. Further development of the scale is needed.

RESULTS

The analyses of the parent data begin with reliability and factor analyses of the CAAP and ChIPS scales (Tables I-III). A post-test comparison of the third-grade treatment and repeated measures (pre-post) analysis of variance (Table IV) examine the effects of training on adjustment and IPS behavior at home. Correlations among the parent measures and between the parent and school measures (Tables V-XIX) explore linkages, both concurrently and over time, between problem solving and adjustment in school and at home.

<u>Quasi-experimental Analysis of Variance Effects</u>

The fourth-grade pretest can also be viewed as a posttest comparison of those in School A who received IPS training in third grade and those who did not. Thus, in a post-test-

only with nonequivalent groups evaluation of the third-grade IPS training, the only mean

difference between trained and untrained subjects (in School A only) on the parent measures

of problem solving and adjustment which approached significance (p<.1) was a slightly

poorer overall adjustment (CAAP) and lower IPS ability (ChIPS) among trained girls in the

Fall (see means in Table IV). (Not surprisingly, this difference had diminished by the spring.

In the IPS interview, there were significant differences between children who had and had not

been trained the previous year in the 3rd-grade in their ability to generate alternative solutions

and (for girls) active means.)

Repeated measures analysis of covariance (the verbal scores from the standardized

PEP test were used as a covariate for the IPS interview variables -- both pre and post) would

reveal program effects as treatment-by-time interactions. These analyses were run two ways:

once using 3 groups (control, 1-year treatment, and 2-year treatment) and again (reported in

Table IV) using 4 groups (dividing the 1-year treatment group by school, because of the

difference in intensity or "dose" of training). This last distinction made little difference in the

type or size of the few effects found in the school IPS and adjustment measures and there

were no significant training effects on parent ratings of IPS behavior or adjustment. Indeed,

Table IV shows that there was little group difference or overall change from pretest to posttest

in the parent data. Program failure is only one possible interpretation for these results. An

alternative explanation is discussed below.

Correlation Tables

The following correlational analyses (Tables V-XIX) were designed to answer three

main questions: (1) Are school IPS scores and adjustment ratings associated with home IPS

and adjustment, cross-sectionally? (2) Are changes in IPS scores and adjustment ratings in

school associated with similar changes in IPS behavior and adjustment at home? (3) What causal directions are suggested by these longitudinal (panel) correlations? For example, do IPS skills measured in school at Time 1 lead to better problem solving and adjustment at home at Time 2? Or could it be that behavioral adjustment, whether measured at home or in school, is actually a precursor to the development of IPS skills? These three areas of inquiry will be explored through, respectively, cross-sectional correlations, partial-- or "change"-- correlations (controlling for pretest scores), and cross-lagged correlation analysis. Again, the verbal scores from the standardized PEP test were used as a covariate for all IPS interview variables-- both pre and post.

In an effort to avoid basing conclusions on chance correlations among the volume of significant r's listed in Tables V through XIX, the percentage of significant r's will be reported for each and only the strongest "effects" and clearest patterns will be noted and discussed.

As expected, Tables V through XIX show the importance of separating by sex in data analysis involving this age group. Correlations between level of IPS training and the parent measures of IPS and adjustment (Table V) reveal no significant relationships at p=.05 for males. Among females, however, level of training was correlated positively with Time 2 parent measures of overall adjustment (r=.26), productivity (r=.34) and overall home IPS (r=.22). It must be noted, though, that the latter does not reach significance at p=.05 (in fact, only 17% of all girls' Time 2 r's in this table are significant) and that these are only increases in correlations already existing at Time 1. Possible causes of the Time 1 correlations will be discussed below.

While only 14% of the correlations between school IPS ability and home adjustment for females (Table VI) reach significance at p=.05, there are a number of clearly discernable patterns. First, home adjustment was related to prosocial consequential thinking at Time 1 (r=.35) and antisocial consequential thinking at Time 2 (r=.50). Time 1 alternative solution and variant generation was related to home adjustment both at Time 1 (r=.24) and Time 2 (r=.28), while Time 2 solutions were related to neither. Although Time 1 home adjustment was related to Time 2 passive means generation, the cross-lagged comparison favors the primacy of school IPS ability (11 r's > +/-.24) over home adjustment (5).

For males (Table VII), the number of significant correlations between school IPS and home adjustment is only equal to chance (5%). Even so, there is one pattern worth noting: Time 1 active means generation was correlated with poor Time 2 home adjustment (.34 overall, .38 with dependency and unproductivity, and .41 with withdrawal). Again, the cross-lagged comparison favors the primacy of school IPS ability (13 r's > +/-.24) over home adjustment (2).

Table VIII presents correlations between girls' home and school IPS measures (29% reaching significance at p=.05). While the two are clearly and positively related overall, focusing on specific IPS interview variables is even more revealing. As in Table VI, the inclusion of solution variants appears to be crucial to any correlation between Time 1 solution generation in school and home IPS behavior, both pre (r=.29) and post (r=.27). With the Time 2 IPS interview, however, this relationship is replaced by that between maximum solution effectiveness and home IPS behavior, pre (r = .27) and post (r = .37). More consistent is the relationship between home IPS and prosocial consequential thinking (with r's ranging from .25 to .40). The relationship with anti-social consequences reaches significance at Time 2.

Also as in Table VI, Time 2 passive means generation was related to Time 1 home IPS behavior (r = .35). The face valid IPS self report (pre and post) was related to Time 2 home IPS (r_{pre} = .38; r_{post} = .30). As this suggests, the cross-lagged comparison favors the primacy of school IPS ability (26 r's > +/-.24) over home IPS behavior (15).

For males, this causal direction appears even stronger. While only 12% of the r's in Table IX are significant at p=.05, most of these involve school Time 1 IPS predicting home Time 2 IPS. In fact, there are 28 such r's greater than or equal to .25 and none in the opposite direction (home->school). The only problem is the valence of those r's. Except for protagonist feeling identification (with r's ranging from .29 to .41), school IPS performance, Time 1 (alternative solutions: r = -.22 to -.40, active means: r = -.39 to -.53, nonprotagonist feelings (MEPS): r = -.23 to -.46), apparently leads to poorer home IPS behavior, Time 2.[5] The cross-sectional correlations with males' home IPS are also generally in the "wrong" direction: including that with passive means (r = .37) and alternative solution (r=-.33) generation at Time 1 and prosocial consequences generation (r = -.37) and protagonist feelings recognition (r = -.33) at Time 2. This last r even reverses the above positive correlation with Time 1 protagonist feelings. Only the face-valid IPS report at Time 2 correlates (r=.34) as expected with home IPS.

Although these negative (or, in the case of passive means, positive) correlations between parent IPS ratings and IPS interview scores are perplexing, the fact that, at least at post-testing, girls' and particularly boys' Face Valid Problem Solving Measure correlated consistently with all of the home problem solving scales (r= .2 (ns) to .5; Tables VIII and IX) and not at all with the CAAP Scale (Tables VI and VII) supports the ChIPS Scale as a valid measure of uniquely IPS behavior.

Tables X and XI show that school adjustment is related to home adjustment using different raters with different measures at different times. Among the 32 cross-sectional and cross-lagged correlations between female subjects' total home adjustment and both teachers, and observers' ratings of behavioral problems, competencies, likability, and global adjustment, only two are non-significant and all are in the right direction (r's ranging from .20 to .57). Although 78% of all the r's in Table X are significant, the magnitude of the associations between teacher and parent ratings of behavior is not as evenly distributed across the CAAP subscales as it is for the independent observers. Teachers' ratings of adjustment are most strongly correlated with parent ratings of productivity. To the extent that productivity at home is predictive of productivity at school, the above result suggests that teachers may focus on girls' productivity more than other elements of adjustment. The fact that the smallest correlations, both for teachers' and observers' ratings of school adjustment, are with parent-rated peer relations may be due to parents observing less of their children's peer relations than other aspects of their behavior.

Only 22% of the boys' home and school adjustment correlations were significant (Table XI). The only consistent correlations (ranging from r = .18 (ns) to r = .49) were between teacher ratings (pre and post) and pretest parent ratings. Regarding boys'CAAP (home) subscales, teacher ratings of adjustment are related, not only to parent ratings of productivity, but also to hostility, peer relations, and to a lesser extent withdrawal.

Tables XII and XIII examine correlations (32% being significant at p < .05 in the former and 40% in the latter) between IPS behavior at home and adjustment in school. For both male and female students, parent IPS ratings were more consistently related to teacher ratings of adjustment than to observer ratings. The most striking comparison in both tables is

the causal direction that is suggested by the cross-lagged r's: home IPS to school adjustment leads the reverse 18 to 7 (r's > +/-.24) for girls and 27 to 17 for boys.

Tables XIV and XV are posttest correlations between problem solving and adjustment at home and in school partialling the same variables at pretest so as to exhibit relationships over time. Table XVI presents the same analyses between just the home measures of problem solving and adjustment. The proportions of significant r's listed in these tables are 15%, 17%, and 44%, respectively. Although controlling for pretest scores as well as verbal ability (PEP test) reduced most synchronous posttest correlations substantially, this strategy was chosen in order to avoid the analysis of "simple" change scores which are considered generally unreliable (Cohen & Cohen, 1975). Thus, the usage of "change," "improvement," etc. in this section is for clarity and is based on "regressed" rather than simple change scores.

Girls' improvement in consequential thinking (regarding anti-social reactions to problems) in the IPS interview was related to improved parent ratings of adjustment (r = .47 with subscale r's ranging from .24 (ns) for peer relations to -.45 for hostility; Table XIV) and problem-solving behavior ($r_{subscale}$ =.30). Increased withdrawal among girls at home (CAAP) was associated with an increase in "passive means" responses in school IPS testing (r = .38).

For males (Table XV), change in peer relations was the only home adjustment subscale significantly related to change in antisocial consequential thinking (r=.36) while home problem solving changes were more broadly related to it ($r_{general}$ = .42). Compare this last statistic with the corresponding ones for prosocial consequences (r_{total} = -.40) and total consequences (r_{total} = -.02). Thus, the reader should note the importance of considering and distinguishing between consequential thinking related to prosocial and anti-social solutions. The only other pattern that emerges from the interview variables is surprising: for males, a

decrease in home IPS ratings was related to <u>greater</u> (Means-Ends) protagonist feelings identification (r = -.44). Changes in home IPS behavior correlated highly and positively with changes in the face-valid IPS self-report (r = .63), again confirming the validity of the ChIPS measure.

Turning to home problem solving subscales for both sexes, change in school anti-social and total consequential thinking was fairly consistently related to change in all home IPS factors <u>except</u> consequential thinking. This suggests, on the one hand, possible validity problems for the school and/or the home measure of consequential thinking, but on the other hand, that the effects of consequential thinking on out-of-school behavior appear robustly broad.

High test-retest correlations in the teacher ratings (see Table XIX, for example) might explain the relatively low partial correlations with the parent ratings (most of the explained variance is being usurped by the pretest teacher covariate). Another way of looking at it is as a strong "halo effect:" in which a child is unable to change a teacher's opinion even if his/her behavior has changed according to parents and independent observers. The result is that, contrary to the pattern of zero-order correlations, <u>change</u> in home problem solving and adjustment <u>appears</u> to be more strongly related to change in observer ratings of adjustment than to change in teacher ratings (the bottom halves of Tables XIV and XV). For girls, change in observer ratings of adjustment correlated positively with changes in home adjustment ($r_{competency}$ = .34, $r_{problem}$ = .37) and problem solving ($r_{competency}$ = .27, $r_{problem}$ = .29). For boys, improvements in observer-ratings of behavioral adjustment were unexpectedly associated with <u>decreases</u> in parental adjustment ratings and a decrease in boys' total home IPS behavior was

related to <u>increases</u> in observer-rated competency behavior (r = -.38), likability (r = -.40), and global adjustment (r = -.43) in school.

Not surprising were the strong and consistent correlations between parent ratings of behavioral adjustment and problem solving. Table XVI shows the posttest r's controlling for both pretest variables. Increases in parent ratings of dependency and hostility and a decrease in productivity were all related to a decrease in ratings of home IPS behavior. While the possible causal direction of these effects will be more carefully examined and discussed in the next section, a simple comparison of cross-lagged zero-order r's among the parent scales and subscales in Table XVII (74% significant r's) sheds some interesting light on this issue. For males, as expected, home IPS appears to influence later adjustment (r's > +/-.24=27) more than the reverse (19). For females, however, it appears that home adjustment may be prior to home IPS behavior (r's > +/-.24 = 36 versus 22 for the reverse).

DISCUSSION

<u>Cross-lagged panel correlations</u>

Cross-lagged correlational analysis is a method of inferring the probable causal direction between two variables measured at two or more points in time. While problems in interpretation make reliance upon cross-lagged analysis unadvisable except under certain circumscribed conditions (Cook & Campbell, 1979), selected panels are presented here (Tables XVIII and XIX) primarily for the purpose of illustrating relationships of interest over time. They are meant merely to complement the foregoing analyses, not to replace them, and their inferential limitations will be discussed.

The panel correlations in Table XVIII expose several common problems in interpreting "cross lags." For most, the assumption of equivalence of temporal stability between the two variables is seriously violated. Cook and Campbell (1979) point out that, all else being equal (including cross-variable causal paths), the variable with the greater autocorrelation (stability) will appear to be caused by the less stable variable. It would thus be misleading to assume that the substantially greater r between pretest IPS skills as measured in school and post-test home problem solving and adjustment is necessarily meaningful. In the opposite cases-- where more stable home factors appear to bear causal responsibility for school IPS performance-- there is another problem to consider: the lack of "stationarity," as evidenced by the change in the synchronous correlations. In Table XVIII the four such apparent effects include girls' home problem solving and adjustment on passive means generation, and the negative influence of boys' productivity at home on their ability in school to generate possible consequences of antisocial reactions to problem situations. Of the four, only the apparent negative effect of boys' home problem solving on "prosocial" consequential thinking does not involve a valence change in synchronous correlation.

A third condition for the interpretability of cross-lagged r's, according to Cook and Campbell (1979), is the unlikelihood of confounding negative and positive causation. Despite the modest size of the correlations, the opposite valence pattern between boys and girls seems unmistakable. As noted above, there are several interesting valence contrasts among the cross-variable r's. One not shown in Table XVIII, for example, is that the small negative r (-.16) between active means generation and maladjustment for girls turns positive (.17) in the post-test. Turning IPS theory on its head for a moment, with the array of positive and negative r's in the panels, one might indeed wonder whether, in addition to whatever advantages well-

adjusted children may have in terms of IPS skills (prosociability allows greater opportunity to practice those skills), for other children the ability to merely generate "means" and "solutions" may simply help them out of frequent trouble (thus labelling them as maladjusted) without their appreciating the other IPS components, such as feeling identification and consequential thinking. It appears as if boys (showing inverse relationships between the ability to generate means and solutions, on the one hand, and positive home behavior, on the other) may be especially susceptible to such "junior Machiavellianism." A final caveat: the relatively modest (only 7 of 24 are significant at a=.05) and contradictory synchronous cross-correlations in Table XVIII are no guarantee of Cook and Campbell's (1979) fourth condition for interpreting cross-lagged panels -- the plausibility of no synchronous cross-causation.

The panel correlations presented in Table XIX are more readily interpretable. Eight of ten panels suggest acceptable stationarity and there is a much narrower discrepancy in temporal stability between each of the variable pairs. While an absence of synchronous cross-causation may still not be completely plausible, at least the cross-variable valences are unique within panels. Table XIX lends some support to the hypothesis that generalized interpersonal problem solving skills, as recognized by parents, can lead to better behavioral adjustment for boys at home and in school, the final panel notwithstanding. The third, fourth, and fifth panels for girls, on the other hand, would seem to suggest that for them adjustment at home precedes informal IPS ability.

Methodological Issues

The results of the repeated measures analysis of variance on the IPS interview variables (not reported) suggest a methodological problem. Overall between group effects were fairly consistent, with all three program groups performing better on average than the

control group. While there was also some significant improvement over time across groups, there were no significant group X time interaction effects (i.e., no program effects) on either the home or the school problem-solving measures. The only group X time effects were for teacher and observer ratings of behavioral adjustment (with the treatment groups, especially 1-year intensive treatment boys and 2-year intensive treatment girls, improving compared to the control group). This is in direct contrast with previous research which report effects on IPS measures but not on adjustment. Part of the problem appears to be that, at Time 1, the 1-year experimental groups were already significantly better than controls at school-tested alternative solution and variant generation.

This might also help explain why girls' level of training and home behavior (adjustment and problem solving) were already slightly correlated at Time 1 (Table V). A comparison of group means (Table IV) suggests that this correlation is not due to the previous training of the 2-year-training group. The main cause of the pretest correlations with training level appears, rather, to be a school effect: higher parent ratings of overall adjustment and problem-solving behavior among female students (especially the 1-year training group) at School A. The fact that, unlike School B, the Time 1 testing was completed at this school prior to the commencement of training suggests that the difference is largely demographic in nature, or at least unrelated to IPS training.

Thus, two admitted weaknesses of the present study's design are the confounding of school with treatment group and the lack of an alternative treatment comparison group (although there is variation in duration and intensity of treatment). In particular, the lack of a control group at the school with the most homogeneously white, middle-class population presents a possible confound between demographic background and performance on all the

measures. Even with a control group at one school and treatment variation at the other, treatment "contamination" throughout a given school must always be considered a strong possibility. These issues have been neglected in other IPS intervention studies (Urbain & Kendall, 1980) and, while they were beyond the researchers' control in this study, they should be taken into consideration in future research. These methodological limitations confirm what was suspected from the outset: that this study would probably have better success focusing on theoretical reconnaissance (correlations) than on program evaluation (if for no other reason than one cannot be sure of the meaning of the "pre-existing" group differences).

Even with the above design weaknesses and even using the present correlational data, much more could be done in terms of multivariate analyses. For example, multiple regression could be used at least two ways: (1) to predict home adjustment and problem solving from Time 1 school IPS while controlling for stability in the predicted variable; (2) to predict adjustment from IPS, both at Time 2, while controlling for variation in both measures at Time 1. Furthermore, path analysis might provide more readily interpretable information regarding causation than do the above cross-lagged panels.

Conclusions

Let us now review the results of the present study vis-a-vis the stated hypotheses. Trained subjects failed to show significantly more improved adjustment (H1) or problem-solving behavior (H2) at home than did control subjects. Indeed, Table IV suggests considerable stability over time in the parent data. As noted above, however, looking at relationships between IPS and adjustment across groups was more fruitful. Change in certain IPS scores in school was associated with change in adjustment (H3) and problem-solving behavior (H4) at home (Tables XIV & XV). Specifically, improvement in consequential

thinking was related to improved parental ratings of adjustment (primarily for girls) and problem-solving behavior (especially for boys). Improvement in boys' home IPS behavior was also strongly related to improvement in their self report of IPS ability but underlined negatively related to greater protagonist feelings identification in the MEPS section of the interview.

School adjustment was associated with home adjustment (H5) three ways: cross-sectionally and cross-lagged (Tables X & XI) and in terms of regressed change (Tables XIV & XV). There was broad cross-sectional and "lagged" agreement between parents and both teachers and observers regarding female subjects' behavioral adjustment. For boys, however, the only consistent zero-order correlations were between teacher ratings (pre and post) and pretest parent ratings of adjustment. When controlling for pretest ratings, however, it is observer-rated adjustment that is related positively to girls' home adjustment and negatively to boys' home adjustment. A decrease in boys' total home IPS behavior was related to increases in observer-rated competency behavior, likability, and global adjustment in school.

IPS scores in school were associated with problem-solving behavior at home (H6). For females, home IPS behavior, both Time 1 and Time 2, was related to the following IPS school IPS measures: prosocial consequential thinking (especially in response to prosocial solutions), Time 1 solution generation, and Time 2 maximum solution effectiveness and passive means generation (Table VIII). The face valid IPS self report (pre and post) was related to Time 2 home IPS. For males, most of the correlations were the reverse of what was expected (Table IX). Protagonist feeling identification, Time 1, and the face-valid IPS report, Time 2, correlated positively with Time 2 home IPS. But, generation of Time 1 alternative solutions, active means, and nonprotagonist feelings were related to poorer home IPS behavior, Time 2. Furthermore, home IPS was positively related to passive means generation

at Time 1 and inversely related to prosocial consequences generation and protagonist feelings recognition at Time 2.

The positive correlations between pretest home problem solving and boys' pretest and girls' posttest passive means generation (Tables VIII and IX) appear to contradict the expected link between IPS and the various "control" theories, such as behaviorism's learned helplessness/attributional style paradigm (Seligman, 1975) and social learning's "self efficacy" (Bandura, 1977) and locus of control theory (Rotter, 1954). Passive means generation may, however, be a poor proxy for externality/helplessness.

Home problem solving was clearly associated with home adjustment, as rated by parents (H7). In particular, increases in parent ratings of dependency and hostility and a decrease in productivity are all related to a decrease in ratings of home IPS behavior (Table XVI & XVII). The cross-lagged panels (Table XIX) suggest that boys' interpersonal problem solving skills, as recognized by parents, can lead to better behavioral adjustment at home. For girls, however, it appears that home adjustment leads to better home IPS ability.

Looking back to the introduction at the novel aspects of the present study, what can we conclude? First, separation of the evaluator's role with those of program trainer, supervisor, and/or teacher was a mixed blessing: While it did ensure greater objectivity, it created some difficult problems with site entree and accessibility and, even more important, with experimental design. Second, the importance of attending to sex differences (particularly critical among latency-aged and early adolescent children) into account was borne out by these results whether the raters are parents, teachers or trained observers. It may be, for example, that girls' less aggressive and more "feeling-oriented" problem-solving style is more effective and should be stressed in boys' IPS curriculum.

Finally, regarding the effects of IPS training on children's out-of-school social adjustment and coping (problem-solving) behavior, clear and consistent results continue to be elusive. It is important to note that while trained children did show slightly greater gains in teacher and observer-rated adjustment, they failed to improve in IPS skills relative to controls in hypothetical (interview) problem solving situations. Thus, it is difficult to judge the extent to which <u>trained</u> IPS skills generalize to behavior and adjustment outside the classroom and school as it is unclear how much any IPS skill improvement was due to training. The many, albeit complicated, associations between IPS and adjustment at home and across school boundaries are promising, however, and certainly warrant further investigation.

Thus, the results of this study suggest that IPS theory requires considerably greater refinement in order to adequately explain, for a variety of demographically different populations, the complex relationship between the various components of problem solving, and how and where they are measured, and the various aspects of childhood adjustment, and how and where they are measured. Thus, while implementation may be considered a key variable in the success of both IPS programs and research, it is only a necessary and not a sufficient condition. Even the best program is limited by the quality of the model driving it.

NOTES

1. The two main programs of theoretical and empirical work in this area have been referred to as "interpersonal cognitive problem solving" on the one hand and "social problem solving" on the other. In order to avoid confusion with other interpretations of "cognitive" and "social" problem solving, I prefer and will use instead the term "interpersonal problem solving," or simply IPS.

2. The word "reproduce" was judiciously chosen here instead of "replicate" because few, if any, IPS studies have been strict replications of the Hahnemann paradigm. For example, Allen et al. (1976) did not emphasize either the prerequisite first eight weeks' content or teachers' informal IPS "dialoguing," both of which were part of Spivack and Shure's program (Weissberg & Allen, in press). Such implementation differences could, of course, explain the differences in outcome.

3. The OM-PI/C involves the following four problem situations: (1) two children each want to take the class gerbil home over the weekend when a classmate also wants to, (2) a child wants to stop others from teasing about a new haircut, (3) a child wants to ride a bike that someone else has been using a long time, and (4) a child borrow's a friend's favorite toy and loses it.

4. The R-MEPS involves two stories that "pull" for prosocial means (a new child in the neighborhood ends up with many friends and a child spills ink on the teacher's book but the teacher ends up smiling at the child) and two stories that "pull" for antisocial means (a child gets pushed in the mud and winds up getting even and a child is forbidden to stay overnight at a friend's house and ends up staying with the friend).

5. Although the coding direction was checked twice, there is always the possibility that unexpected valence may be due to some human error.

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List of Tables and Appendices

Appendix C: Child Interpersonal Problem Solving (ChIPS) Scale

Appendix D: Face Valid Problem Solving Measures

Table I. Factor Structure:[a] Child and Adolescent Adjustment Profile

	Pre-test					Post-test[b]				
A. Peer Relations	A	B	C	D	E	A	B	C	D	E
1. Gets along	.48		.51			.73				
2. Joins freely	.77					.80				
3. Invites others	.75					.85				
4. Laughs/smiles				.32	.49	.71				
B. Dependency										
5. Wanted help		.84					.85			
6. Discouraged		.61					.57			
7. Help figuring		.89					.88			
8. Questions		.81					.81			
C. Hostility										
9. Flared up			.81					.85		
10. Upset			.81					.77		
11. Quarrels	.33		.61					.34[b]		
12. Undisciplined			.54				.42	.59		
D. Productivity										
13. Works hard				.84					.86	
14. Stays at work				.78					.84	
15. Uses abilities				.75					.83	
16. Careful				.80					.85	
E. Withdrawal										
17. Inactive					.79	.33				.72
18. Slow					.67					.49[b]
19. Indifferent					.65				.32	.32[b]
20. Daydreams					.73					.87

[a] Loadings are based on varimax rotation. Only those > .3 are shown.

[b] Not reported is a sixth factor which emerged in the post-test consisting of items 11, 18, and 19 with loadings of -.73, .66, and .63, respectively.

Table II. Factor Structure:[a] Child Interpersonal Problem Solving Scale

Conceptual Subscales:	Pre-test				Post-test				
Consequential Thinking	1	2	3	4	1	2	3	4	5
1. Consequences-behavior	.76				.72				
2. Learns from mistakes	.79				.39	.60			
4. Avoidable fights	.36	-.41	.45						.89
10. Curious		.81				.61		-.46	
3. Surprised when scolded			.81		-.47	.42			.45
7. Non-forceful			.45	.49			.74		
Alternative Solutions									
5. Creative	.59	.44				.78			
6. Needs to be told			.45			.74			
8. Tries other ways		.64		.38			.84		
9. Comes to others				.83				.89	
Feeling Consideration									
11. Own feelings	.36	.58			.52	.35	-.32	-.37	
12. Others' feelings	.75				.77				.34

[a] Loadings are based on varimax rotation. Only those > .3 are shown.

Table III. Estimates of the Reliability of the Parent Measures (CAAP, ChIPS)

CAAP Scale	Pre-test Alpha (n=118)[d]	Post-test Alpha (79)	Standardization Sample[a]	
			Alpha (157)	Test-retest (105)
General Adjustment	.86	.88		
Subscales				
A. Peer Relations	.63	.81	.80	.81
B. Dependency	.84	.84	.83	.78
C. Hostility	.74	.71	.87	.89
D. Productivity	.84	.91	.90	.86
E. Withdrawal	.75	.77	.87	.81

ChIPS Scale	Pre-test Alpha (n)	Post-test Alpha (n)
Total Scale	.58 (117)	.64 (80)
Subscales (Items)		
General Problem Solving (1,2,4-6,10-12)	.74 (76)	.73 (76)
Consequential Thinking (1,2,4,10)	.56[b](76)	.32[c](76)
Alternatives & Feelings (5,6,11,12)	.65 (76)	.68 (76)
Alternative Solutions (5,6)	.41 (76)	.58 (76)
Feeling Consideration (11,12)	.50 (117)	.66 (80)

[a] Primarily mothers and teachers rating normal male and female children (mean age = 11.8), with probation officers also rating for test-retest purposes (Ellsworth, 1981).

[b] Alpha=.72 if item 10 is deleted.

[c] Alpha=.55 if item 4 is deleted.

[d] In this and all tables below, the sample size (n) or degrees of freedom (df) may vary slightly depending on the variables analyzed. The number reported is generally the maximum sample or df, with some variables possibly having 1 or 2 additional missing values.

Table IV. Repeated Measures (Pre-Post) ANOVAs

Measure	Group	Sex	(n)	X̄-T1 (SD)	X̄-T2 (SD)	Effect	F^a (df)
Overall	Control	Female	(12)	2.22 (.40)	2.27 (.49)	Group	.72 (3,69)
Home		Male	(7)	2.01 (.37)	1.86 (.31)	Sex	.05 (1,69)
Adjust-	1 year-	F	(6)	2.21 (.52)	2.12 (.39)	Time	.00 (1,69)
ment	Partial	M	(3)	2.13 (.58)	2.22 (.78)	Group X Time	.22 (3,69)
(CAAP)b	1 year-	F	(12)	1.83 (.42)	1.96 (.43)	Group X Sex	1.32 (3,69)
	Intensive	M	(15)	2.09 (.38)	2.00 (.45)	Sex X Time	.26 (1,69)
	2 year-	F	(15)	2.02 (.37)	2.02 (.39)	Group X Sex	
	Intensive	M	(7)	2.04 (.27)	2.10 (.30)	X Time	1.24 (3,69)
Overall	Control	F	(12)	3.41 (.20)	3.33 (.30)	Group	1.19 (3,70)
Home		M	(7)	3.46 (.24)	3.62 (.18)	Sex	.15 (1,70)
Problem	1 year-	F	(7)	3.46 (.49)	3.36 (.31)	Time	.77 (1,70)
Solving	Partial	M	(3)	3.56 (.63)	3.31 (.43)	Gp. X Time	1.30 (3,70)
Ability	1 year-	F	(12)	3.69 (.43)	3.53 (.33)	Group X Sex	.38 (3,70)
(ChIPS)	Intensive	M	(15)	3.54 (.34)	3.68 (.40)	Sex X Time	2.48 (1,70)
	2 year-	F	(15)	3.52 (.42)	3.51 (.31)	Group X Sex	
	Intensive	M	(7)	3.43 (.39)	3.49 (.43)	X Time	1.59 (3,70)

[a]No effects were statistically significant at p=.1.

[b]The CAAP scale was coded so that the higher means indicate poorer adjustment.

Table V. Correlations between Level[a] of IPS Training and Parent IPS and Adjustment Measures

Parent Measure	Females: Time 1 r	(n)	Time 2 r	(n)	Males: Time 1 r	(n)	Time 2 r	(n)
Overall Adjustment[b]	$.18^c$	(65)	$.26^d$	(46)	-.13	(52)	.15	(32)
Subscales:								
A. Peer Relations[b]	$.18^c$	(65)	.06	(46)	-.08	(52)	-.18	(32)
B. Dependency	-.04	(65)	-.09	(46)	-.07	(52)	.07	(32)
C. Hostility	-.11	(65)	-.18	(46)	-.01	(52)	-.02	(32)
D. Productivity[b]	$.18^c$	(63)	$.34^e$	(46)	-.18	(51)	-.20	(31)
E. Withdrawal	-.12	(63)	-.17	(46)	$.23^c$	(51)	.04	(31)
Interpersonal Problem Solving Behavior	$.19^c$	(65)	$.22^c$	(47)	-.02	(50)	-.02	(32)
(no subscales approach significance)								

[a] Training Levels: None= 0, 1-year partial training= 1, 1-year intensive= 2, 2 years of intensive training =3.

[b] The valence of the r coefficients was reversed for the CAAP and subscales A and D to reflect positive "adjustment."

[c] $p \leq .1$, 1-tailed.

[d] $p \leq .05$ 1-tailed.

[e] $p \leq .01$, 1-tailed.

Table VI. Home Adjustment and School IPS Correlations: Females

Home (CAAP):[a] Pretest (n=57)   Posttest (n=40)

School (IPS)[b]	Total	A	B	C	D	E	Total	A	B	C	D	E
OM-PI/C: (11 r's ≥ +/-.25)							(11)					
Alt. Solutions	-.06	-.14	.13	.08	-.17	-.20	-.07	-.07	.14	.15	-.17	-.20
P Alts./Variants	-.24^c	-.28^c	-.05	-.16	-.12	-.34^d	-.28^c	-.28^c	-.01	-.00	-.31^c	-.36^c
Max.Effective	.07	.00	.13	.15	.05	-.10	.05	-.08	.06	.26^c	.10	-.16
R Consequence-Pro.	-.35^d	-.28^c	-.34^d	-.29^c	-.24^c	-.13	-.27^c	-.17	-.26^c	-.24	-.23	-.11
Conseq-Antisoc.	-.14	-.08	.04	-.13	-.27^c	-.12	-.09	.03	-.01	.00	-.21	-.07
E Total Conseq.	-.29^c	-.21	-.17	-.25^c	-.30^c	-.14	-.20	-.07	-.15	-.13	-.30^c	-.04
Feeling-Protag.	.01	-.13	.11	-.00	.04	.01	-.13	-.26^c	-.04	.12	-.09	-.20
T Feel-Nonprotag.	.00	-.07	.05	.01	-.05	.05	.09	-.00	-.03	.11	.05	.18
Means-Ends PS:												
E Active Means	-.16	-.08	-.30^d	-.10	-.08	-.06	.18	.12	-.12	.08	.23	.26^c
Passive Means	.05	.08	.06	.13	-.04	-.10	.06	.12	-.09	.06	.10	.00
S Feeling-Protag.	.02	.05	.05	-.05	-.10	.20	.16	.16	.13	.09	-.03	.29^c
Feel-Nonprotag.	-.05	.08	-.06	.01	-.18	.02	-.03	-.09	-.04	-.09	.01	.10
T												
Face Valid:	.02	-.04	.01	-.01	.10	.00	-.02	.08	-.08	-.09	-.07	.08
P OM-PI/C: (5)							(14)					
Alt. Solutions	-.09	-.13	-.06	-.04	-.02	-.11	-.20	-.22	-.06	-.10	-.16	-.17
O Alts./Variants	-.13	-.14	-.12	-.06	-.05	-.13	-.19	-.23	-.04	-.08	-.15	-.17
Max.Effective	-.21	-.24^c	-.22^c	-.21	-.00	-.26^c	-.25	-.28^c	-.07	-.25	-.17	-.14
S Consequence-Pro.	-.20	-.17	-.14	-.14	-.18	-.15	-.23	-.25	.01	-.22	-.23	-.11
Conseq-Antisoc.	-.12	-.17	.03	-.09	-.07	-.12	-.50^d	-.40^d	-.26^c	-.42^d	-.41^d	-.33^c
T Total Conseq.	-.19	-.21	-.06	-.13	-.15	-.16	-.44^d	-.39^d	-.16	-.39^d	-.39^d	-.27^c
Feeling-Protag.	.02	.06	-.04	-.16	.13	.11	.10	-.05	.04	-.18	.18	.30^c
T Feel-Nonprotag.	.18	.19	.08	.05	.21	.12	.18	.08	.03	.13	.24	.13
Means-Ends:												
E Active Means	.05	.04	-.14	.20	.14	-.09	.17	.17	-.13	.06	.26^c	.17
Passive Means	-.26^c	-.18	-.28^c	-.26^c	-.05	-.28^c	-.11	-.22	-.19	-.10	.01	.04
S Feeling-Protag.	.04	-.01	-.06	.09	.03	.05	.18	.11	.18	.13	.10	.14
Feel-Nonprotag.	-.01	.05	.04	.04	-.17	-.02	-.01	.03	-.04	.20	-.10	-.04
T												
Face Valid:	-.06	-.04	-.13	-.08	-.02	-.00	-.05	-.05	-.02	-.06	-.03	-.03

[a]CAAP Subscales: A. Peer Relations, B. Dependency, C. Hostility, D. Productivity, E. Withdrawal. Higher scores reflect maladjustment.

[b]Verbal ability was partialed out of all IPS interview correlations.

[c] $p \leq .05$, 1-tailed. [d] $p \leq .01$, 1-tailed.   Total sig.=14%.

Table VII. Home Adjustment and School IPS Correlations: Males

School (IPS)[b]	Home (CAAP):[a] Pre-test (n=44)						Post-test (n=26)					
	Total	A	B	C	D	E	Total	A	B	C	D	E
OM-PI/C *(3 c's >±.24)*							*(13)*					
Alt. Solutions	.14	.02	.06	.20	.16	.04	.18	.08	.36[c]	.11	.03	.00
P Alts./Variants	.10	.04	.08	.25[c]	.16	.11	-.13	.04	.20	.22	-.06	-.04
Max.Effective	.04	.17	-.10	-.03	-.05	.09	.11	.43[c]	.17	.03	-.17	-.01
R Consequence-Pro.	.11	.08	-.07	.07	.19	.04	.16	.25	.09	.13	.19	-.06
Conseq-Antisoc.	.18	.09	.12	.07	.13	.12	.06	.17	.21	-.11	-.02	-.06
E Total Conseq.	.17	.10	.03	.08	.18	.09	.13	.25	.18	.01	.10	-.07
Feeling-Protag.	.18	.09	.33[c]	-.10	.20	.02	-.19	-.27	-.02	-.32[c]	-.04	-.06
T Feel-Nonprotag.	.08	-.19	.14	.27[c]	-.00	-.06	.22	.11	.13	.18	.23	.08
Means-Ends PS												
E Active Means	.16	-.03	.13	.11	.18	.04	.34[c]	-.18	.38[c]	.15	.38[c]	.41[c]
Passive Means	.00	-.06	.17	-.20	-.07	.18	-.21	-.24	.01	-.13	-.13	-.23
S Feeling-Protag.	-.18	-.08	-.14	.10	-.22	-.17	-.34[c]	-.23	-.24	-.11	-.36[c]	-.20
Feel-Nonprotag.	.04	-.01	.09	-.06	.14	-.04	.04	-.10	.22	-.04	.06	-.03
T												
Face Valid	-.24	-.05	-.19	-.05	-.15	-.24	-.26	-.14	-.22	-.17	-.23	-.18
P OM-PI/C *(2)*							*(2)*					
Alt. Solutions	-.07	.02	-.17	-.01	.10	-.12	.04	-.04	.12	.20	.07	-.18
O Alts./Variants	-.10	-.04	-.14	-.08	.06	-.10	-.04	-.05	.10	.07	-.03	-.21
Max.Effective	-.06	.08	-.24	.17	-.05	-.09	-.15	-.13	-.24	.24	-.18	-.12
S Consequence-Pro.	.11	.18	-.08	-.01	.19	.06	.08	.10	.12	-.02	.08	-.01
Conseq-Antisoc.	.14	.12	.06	.05	.25[c]	.07	-.26	-.33[c]	-.09	-.05	-.13	-.31
T Total Conseq.	.14	.17	-.00	.03	.25[c]	.08	-.11	-.13	.02	-.05	-.03	-.18
Feeling-Protag.	-.02	-.19	.09	.04	.13	-.20	.08	-.00	.14	.02	.18	-.15
T Feel-Nonprotag.	-.04	-.05	.05	.01	-.12	-.06	.07	-.06	-.09	.15	.03	.21
Means-Ends												
E Active Means	-.02	-.06	.03	-.08	.08	-.18	-.01	-.14	.02	-.04	.08	.00
Passive Means	.12	.13	.06	.02	.12	.14	.14	.15	.10	-.01	.10	.18
S Feeling-Protag.	.12	.08	.12	-.11	.09	.23	-.00	.08	.19	-.17	-.03	-.13
Feel-Nonprotag.	-.03	.02	-.11	-.03	-.11	.19	-.16	.19	-.29	.09	-.29	-.12
T												
Face Valid	.24	-.15	-.21	-.14	-.01	-.06	-.15	-.04	-.15	-.14	-.11	-.04

[a]CAAP Subscales: A. Peer Relations, B. Dependency, C. Hostility, D. Productivity, E. Withdrawal. Higher scores reflect maladjustment.

[b]Verbal ability was partialed out of all IPS interview correlations.

[c] $p \le .05$, 1-tailed. [d] $p \le .01$, 1-tailed. *Total sig. = 5%.*

Table VIII. Home and School Interpersonal Problem Solving Correlations: Females

School (IPS)[b]	Home (ChIPS):[a] Pre-test (n=57)						Post-test (n=41)					
	Total	A	B	C	D	E	Total	A	B	C	D	E
OM-PI/C (18 r's > ±.24)							(26)					
Alt. Solutions	.13	.20	.08	.26[c]	.22[c]	.27[c]	.08	.17	.04	.26[c]	.25	.17
P Alts./Variants	.29[c]	.31[d]	.26[c]	.30[c]	.28[c]	.26[c]	.27[c]	.32[c]	.19	.39[d]	.34[c]	.31[c]
Max.Effective	-.09	-.08	-.15	-.01	-.03	-.01	-.06	-.05	-.17	.05	.02	.06
R Consequence-Pro.	.37[d]	.36[d]	.32[d]	.33[d]	.27[c]	.33[d]	.40[d]	.43[d]	.37[d]	.41[d]	.33[c]	.36[d]
Conseq-Antisoc.	.12	.12	.08	.13	.13	.12	.12	.21	.16	.22	.31[c]	.03
E Total Conseq.	.26[c]	.28[c]	.23[c]	.27[c]	.24[c]	.26[c]	.29[c]	.37[d]	.30[c]	.37[d]	.38[d]	.21
Feeling-Protag.	.01	-.02	.04	-.07	-.01	-.13	-.08	.03	-.03	.08	.10	.03
T Feel-Nonprotag.	.06	.04	.07	.02	.02	.04	.07	-.05	-.00	-.08	-.09	-.05
Means-Ends PS												
E Active Means	.09	.14	.10	.14	.10	.16	.02	.16	.17	.13	.06	.16
Passive Means	-.13	-.17	-.21	-.10	-.20	.05	-.08	-.08	-.06	-.09	-.13	-.02
S Feeling-Protag.	-.21	-.16	-.14	-.14	-.14	-.09	-.30[c]	-.05	-.01	-.08	-.03	-.10
Feel-Nonprotag.	.07	.00	-.05	.04	-.08	.17	-.06	-.03	-.02	-.04	-.03	-.04
T												
Face Valid	.21	.17	.09	.21	.22[c]	.15	.38[d]	.37[d]	.25	.42[d]	.30[c]	.40[d]
P OM-PI/C (15)							(28)					
Alt. Solutions	.10	.06	-.01	.10	.21	-.01	.15	.18	.11	.21	.24	.10
O Alts./Variants	.15	.09	.03	.13	.23[c]	.02	.21	.20	.13	.23	.27[c]	.09
Max.Effective	.27[c]	.26[c]	.25[c]	.22[c]	.31[d]	.08	.37[d]	.31[c]	.34[c]	.25	.15	.27[c]
S Consequence-Pro.	.25[c]	.22[c]	.07	.31[d]	.20	.37[d]	.33[c]	.30[c]	.14	.40[d]	.30[c]	.37[d]
Conseq-Antisoc.	.19	.13	.09	.14	.18	.10	.29[c]	.32[c]	.20	.38[d]	.34[c]	.29[c]
T Total Conseq.	.27[c]	.21	.10	.27[c]	.23[c]	.27[c]	.36[d]	.37[d]	.20	.46[d]	.38[d]	.38[d]
Feeling-Protag.	.04	.01	.03	-.00	-.04	.05	.01	-.01	.03	-.04	-.11	.05
T Feel-Nonprotag.	-.09	-.07	-.13	-.01	.08	-.11	-.11	-.05	-.05	-.04	-.02	-.06
Means-Ends												
E Active Means	.03	-.06	-.17	.04	-.01	.07	.11	.10	.07	.11	.10	.09
Passive Means	.35[d]	.36[d]	.35[d]	.31[d]	.38[d]	.16	.32[c]	.26[c]	.23	.24	.25	.15
S Feeling-Protag.	.11	.16	.07	.21	.17	.19	.01	.05	.07	.02	.08	-.05
Feel-Nonprotag.	-.09	-.15	-.13	-.13	-.20	-.02	-.10	-.06	-.11	-.01	-.03	.01
T												
Face Valid	.11	.12	.09	.12	.22	-.05	.30[c]	.30[c]	.26	.29[c]	.20	.28[c]

[a]ChIPS subscales: A. General Problem Solving, B. Consequential Thinking, C. Consideration of Alternatives and Feelings, D. Feeling Consideration, E. Alternative Solutions. Higher scores reflect more effective IPS behavior.

[b]Verbal ability was partialed out of all IPS interview correlations.

[c] $p \leq .05$, 1-tailed. [d] $p \leq .01$, 1-tailed. Total sig.= 29%.

Table IX. Home and School Interpersonal Problem Solving Correlations: Males

School (IPS)[b]	Home (ChIPS):[a] Pre-test (n=42)						Post-test (n=26)					
	Total	A	B	C	D	E	Total	A	B	C	D	E
OM-PI/C	(11 r's >±.24)						(28)					
Alt. Solutions	-.33C	-.27C	-.28C	-.18	-.14	-.14	-.40C	-.32	-.32C	-.25	-.22	-.25
Alts./Variants	-.13	-.09	-.12	-.02	-.08	.06	-.05	-.09	-.04	-.11	-.06	-.14
Max.Effective	-.12	-.21	-.07	-.26C	-.13	-.29C	-.23	-.30	-.27	-.27	-.30	-.22
Consequence-Pro.	-.00	-.07	-.04	-.06	-.06	-.04	.11	.01	-.03	.05	.01	.05
Conseq-Antisoc.	.01	-.02	-.03	-.00	.12	-.13	-.20	-.24	-.23	-.20	-.10	-.27
Total Conseq.	.00	-.05	-.04	-.04	.04	-.10	-.05	-.13	-.15	-.08	-.05	-.13
Feeling-Protag.	.00	.09	.02	.11	.18	-.01	-.10	-.09	-.01	-.14	-.12	-.11
Feel-Nonprotag.	.05	-.05	-.19	.09	.08	.06	-.02	-.13	-.06	-.15	-.13	-.11
Means-Ends PS												
Active Means	-.32C	-.20	-.24	-.10	-.03	-.13	-.42C	-.53d	-.42C	-.50d	-.47d	-.39C
Passive Means	.37d	.40d	.29C	.36d	.47d	.10	-.06	.07	-.01	.13	.25	-.05
Feeling-Protag.	.15	.14	.10	.12	.19	.01	.29	.41C	.34C	.39C	.35C	.30
Feel-Nonprotag.	-.16	-.11	-.14	-.05	.04	-.12	-.38C	-.38C	-.23	-.43C	-.29	-.46d
Face Valid	-.04	-.03	-.21	.13	.09	.13	-.02	-.11	-.05	-.13	-.20	-.04
OM-PI/C	(0)						(12)					
Alt. Solutions	-.01	.06	.11	.01	-.01	.04	-.24	-.13	-.16	-.08	.02	-.16
Alts./Variants	-.00	.07	.05	.07	.03	.08	-.18	-.11	-.08	-.11	.00	-.19
Max.Effective	-.11	-.04	-.09	.01	-.16	.19	.19	.08	.02	.11	.03	.18
Consequence-Pro.	-.17	-.12	-.01	-.17	-.04	-.24	-.37C	-.23	-.21	-.20	-.05	-.29
Conseq-Antisoc.	.01	.06	.16	-.04	.02	-.09	.22	.22	.17	.22	.21	.15
Total Conseq.	-.08	-.02	.10	-.11	-.01	-.18	-.09	-.00	-.02	.02	.10	-.08
Feeling-Protag.	.01	-.09	-.09	-.05	-.00	-.08	-.07	-.05	.01	-.08	-.02	-.12
Feel-Nonprotag.	-.05	-.12	-.13	-.07	-.14	.04	.16	.12	.10	.12	-.02	.24
Means-Ends												
Active Means	-.08	-.06	-.19	.07	.07	.05	-.14	-.18	-.11	-.20	-.06	-.31
Passive Means	-.10	-.04	-.06	-.01	-.08	.07	-.02	-.10	-.01	-.14	-.17	-.07
Feeling-Protag.	-.02	.13	.05	.15	.16	.07	-.33C	-.28	-.15	-.32C	-.19	-.38C
Feel-Nonprotag.	.15	.10	.07	.09	.09	.06	.14	.17	.11	.19	.12	.19
Face Valid	.13	.06	.11	.01	-.08	.11	.34C	.46d	.50d	.37C	.30	.33C

[a]ChIPS subscales: A. General Problem Solving, B. Consequential Thinking,
[b]Verbal ability was partialed out of all IPS interview correlations.
 C. Consideration of Alternatives and Feelings, D. Feeling Consideration,
 E. Alternative Solutions. Higher scores reflect more effective IPS behavior.

d $p = < .01$, 1-tailed. Total sig. = 12%.

c $p = < .05$, 1-tailed.

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Table X. Home and School and Adjustment Correlations: Females

Home (CAAP):[a]	Pre-test (n=64)						Post-test (n=46)					
School (CBR)[b]	Total	A	B	C	D	E	Total	A	B	C	D	E
Pre-test	*(41 r's >±.24)*						*(34)*					
Teacher Ratings												
Problem Behvr.	$.49^d$	$.35^d$	$.28^c$	$.37^d$	$.53^d$	$.33^d$	$.52^d$	$.27^c$	$.36^d$	$.42^d$	$.55^d$	$.23$
Competency Beh.	$-.44^d$	$-.29^d$	$-.30^d$	$-.33^d$	$-.52^d$	$-.27^c$	$-.40^d$	$-.17$	$-.28^c$	$-.26^c$	$-.45^d$	$-.21$
Likability	$-.37^d$	$-.31^d$	$-.21^c$	$-.25^c$	$-.43^d$	$-.23^c$	$-.50^d$	$-.22$	$-.30^c$	$-.36^d$	$-.53^d$	$-.30^c$
Global Adjust.	$-.50^d$	$-.33^d$	$-.38^d$	$-.33^d$	$-.51^d$	$-.37^d$	$-.51^d$	$-.16$	$-.40^d$	$-.37^d$	$-.54^d$	$-.29^c$
Observer Ratings												
Problem Behvr.	$.31^d$	$.21^c$	$.21^c$	$.26^c$	$.27^c$	$.26^c$	$.38^d$	$.25^c$	$.36^d$	$.26^c$	$.21$	$.35^d$
Competency Beh.	$-.45^d$	$-.30^d$	$-.32^d$	$-.35^d$	$-.37^d$	$-.38^d$	$-.45^d$	$-.35^d$	$-.33^c$	$-.24$	$-.34^c$	$-.50^d$
Likability	$-.29^c$	$-.25^c$	$-.23^c$	$-.14$	$-.18$	$-.38^d$	$-.20$	$-.15$	$-.18$	$.08$	$-.08$	$-.38^d$
Global Adjust.	$-.39^d$	$-.29^c$	$-.23^c$	$-.28^c$	$-.37^d$	$-.36^d$	$-.36^d$	$-.21$	$-.39^d$	$-.16$	$-.25$	$-.31^c$
Post-test	*(30)*						*(33)*					
Teacher Ratings												
Problem Behvr.	$.40^d$	$.23^c$	$.31^d$	$.25^c$	$.39^d$	$.27^c$	$.41^d$	$.09$	$.31^c$	$.43^d$	$.41^d$	$.20$
Competency Beh.	$-.33^d$	$-.17$	$-.29^c$	$-.17$	$-.39^d$	$-.21$	$-.23$	$-.06$	$-.11$	$-.26^c$	$-.30^c$	$-.06$
Likability	$-.34^d$	$-.23^c$	$-.15$	$-.22^c$	$-.45^d$	$-.17$	$-.43^d$	$-.26^c$	$-.16$	$-.39^d$	$-.51^d$	$-.16$
Global Adjust.	$-.42^d$	$-.31^d$	$-.29^c$	$-.23^c$	$-.45^d$	$-.30^c$	$-.48^d$	$-.16$	$-.36^d$	$-.42^d$	$-.49^d$	$-.23$
Observer Ratings												
Problem Behvr.	$.30^d$	$.10$	$.26^c$	$.27^c$	$.29^c$	$.22^c$	$.49^d$	$.18$	$.47^d$	$.49^d$	$.36^d$	$.31^c$
Competency Beh.	$-.44^d$	$-.23^c$	$-.33^d$	$-.36^d$	$-.41^d$	$-.35^d$	$-.57^d$	$-.35^d$	$-.35^d$	$-.44^d$	$-.47^d$	$-.43^d$
Likability	$-.25^c$	$-.03$	$-.20$	$-.29^c$	$-.20$	$-.25^c$	$-.37^d$	$-.27^c$	$-.19$	$-.35^d$	$-.24$	$-.33^c$
Global Adjust.	$-.27^c$	$-.11$	$-.12$	$-.30^d$	$-.23^c$	$-.25^c$	$-.37^d$	$-.19$	$-.21$	$-.31^c$	$-.30^c$	$-.30^c$

[a] CAAP Subscales: A. Peer Relations, B. Dependency, C. Hostility, D. Productivity, E. Withdrawal. Higher scores reflect maladjustment.

[b] The first two are multi-item subscales; the third and fourth in each set are global ratings.

[c] $p \leq .05$, 1-tailed.

[d] $p \leq .01$, 1-tailed.

Total sig. = 78%.

52

Table XI. Home and School and Adjustment Correlations: Males

School (CBR)[b]	Pre-test (n=52) Total	A	B	C	D	E	Post-test (n=32) Total	A	B	C	D	E
Home (CAAP):[a]												
Pre-test	*(14 r's >±.24)*						*(15)*					
Teacher Ratings												
Problem Behvr.	$.43^d$	$.43^d$	-.02	$.37^d$	$.47^d$	.08	.15	-.09	.04	.21	.14	.19
Competency Beh.	$-.44^d$	$-.39^d$	-.06	$-.40^d$	$-.35^d$	-.17	-.20	.12	-.10	-.27	-.16	-.24
Likability	-.18	$-.28^c$	.21	-.22	-.19	-.09	-.06	-.06	.16	-.14	-.04	-.18
Global Adjust.	$-.45^d$	$-.36^d$	-.08	$-.34^d$	$-.40^d$	-.15	$-.34^c$	.03	-.21	$-.35^c$	-.23	$-.41^c$
Observer Ratings												
Problem Behvr.	.16	.02	-.11	.21	$.32^d$	.08	$.31^c$	-.08	.23	.26	$.33^c$	.25
Competency Beh.	.16	-.07	.04	-.15	-.17	-.11	-.23	.17	-.16	-.19	$-.33^c$	-.20
Likability	-.08	-.07	.21	-.22	-.04	-.14	-.11	.26	.01	-.29	-.14	-.20
Global Adjust.	-.10	-.07	.15	-.07	-.19	-.11	-.24	.30	-.10	-.30	$-.34^c$	$-.31^c$
Post-test	*(19)*						*(11)*					
Teacher Ratings												
Problem Behvr.	$.49^d$	$.39^d$	.11	$.41^d$	$.38^d$	.10	.28	.06	.10	.27	.26	.26
Competency Beh.	$-.45^d$	$-.37^d$	-.10	$-.41^d$	$-.37^d$	-.12	-.20	.03	.05	-.28	-.25	-.21
Likability	$-.32^c$	$-.26^c$	.07	$-.41^d$	$-.34^c$	-.19	-.12	-.02	.16	-.09	-.14	-.29
Global Adjust.	$-.48^d$	$-.38^d$	-.11	$-.34^d$	$-.41^d$	-.18	-.29	-.21	-.08	-.12	-.21	$-.36^c$
Observer Ratings												
Problem Behvr.	.09	.20	-.21	.16	.18	.04	-.01	-.22	-.13	.10	.17	.02
Competency Beh.	-.21	-.22	.10	$-.24^c$	-.18	-.12	.05	.22	.18	.01	-.09	-.08
Likability	-.21	$-.26^c$	.14	$-.38^d$	-.05	-.17	-.04	.10	.12	-.26	.07	-.18
Global Adjust.	-.22	$-.36^d$	.15	-.19	-.17	-.18	.13	.22	.26	-.03	.09	-.10

[a] CAAP Subscales: A. Peer Relations, B. Dependency, C. Hostility, D. Productivity, E. Withdrawal. Higher scores reflect maladjustment.

[b] The first two are multi-item subscales; the third and fourth in each set are global ratings.

[c] $p \leq .05$, 1-tailed.

[d] $p \leq .01$, 1-tailed.

Total sig. = 22%.

53

Table XII. Home IPS and School Adjustment Correlations: Females

School (CBR)[b]	Home (ChIPS):[a] Pre-test (n=52)						Post-test (n=32)					
	Total	A	B	C	D	E	Total	A	B	C	D	E
Pre-test *(19 r's >± .24)*							*(7)*					
Teacher Ratings												
Problem Behvr.	$-.41^d$	$-.36^d$	$-.22^c$	$-.43^d$	$-.42^d$	$-.38^d$	$-.37^d$	$-.29^c$	$-.27^c$	$-.26^c$	$-.26^c$	$-.16$
Competency Beh.	$.40^d$	$.33^d$	$.19$	$.40^d$	$.32^d$	$.42^d$	$.24$	$.14$	$.14$	$.12$	$.14$	$.04$
Likability	$.26^c$	$.24^c$	$.13$	$.31^d$	$.33^d$	$.25^c$	$.24$	$.14$	$.13$	$.13$	$.25^c$	$-.07$
Global Adjust.	$.34^d$	$.27^c$	$.13$	$.35^d$	$.33^d$	$.32^d$	$.30^c$	$.22$	$.21$	$.20$	$.24$	$.07$
Observer Ratings												
Problem Behvr.	$.03$	$-.07$	$-.11$	$-.02$	$-.00$	$-.07$	$.03$	$-.05$	$-.12$	$.02$	$-.05$	$.10$
Competency Beh.	$.07$	$.05$	$.03$	$.06$	$-.01$	$.17$	$.01$	$.06$	$.07$	$.05$	$.07$	$.02$
Likability	$.04$	$-.04$	$-.06$	$-.00$	$-.10$	$.14$	$-.12$	$-.11$	$-.08$	$-.11$	$-.08$	$-.11$
Global Adjust.	$.11$	$.12$	$.04$	$.19$	$.09$	$.33^d$	$.01$	$.09$	$.08$	$.08$	$.04$	$.10$
Post-test *(18)*							*(10)*					
Teacher Ratings												
Problem Behvr.	$-.31^d$	$-.24^c$	$-.12$	$-.32^d$	$-.31^d$	$-.29^c$	$-.26^c$	$-.23$	$-.23$	$-.20$	$-.23$	$-.08$
Competency Beh.	$.23^c$	$.18$	$.08$	$.25^c$	$.23^c$	$.22^c$	$.12$	$.09$	$.07$	$.10$	$.15$	$-.02$
Likability	$.25^c$	$.30^d$	$.16$	$.38^d$	$.39^d$	$.30^d$	$.19$	$.20$	$.18$	$.20$	$.21$	$.09$
Global Adjust.	$.29^c$	$.21$	$.12$	$.27^c$	$.28^c$	$.25^c$	$.24$	$.21$	$.24$	$.16$	$.20$	$.03$
Observer Ratings												
Problem Behvr.	$-.16$	$-.13$	$-.09$	$-.17$	$-.17$	$-.19$	$-.29^c$	$-.22$	$-.28^c$	$-.14$	$-.21$	$-.01$
Competency Beh.	$.28^c$	$.21^c$	$.13$	$.26^c$	$.25^c$	$.25^c$	$.32^c$	$.32^c$	$.33^c$	$.27^c$	$.28^c$	$.15$
Likability	$.12$	$-.01$	$-.02$	$.01$	$.05$	$.03$	$.17$	$.10$	$.14$	$.05$	$.18$	$-.13$
Global Adjust.	$.19$	$.08$	$-.03$	$.19$	$.21$	$.20$	$.29^c$	$.21$	$.22$	$.17$	$.27^c$	$-.02$

[a] ChIPS subscales: A. General Problem Solving, B. Consequential Thinking, C. Consideration of Alternatives and Feelings, D. Feeling Consideration, E. Alternative Solutions. Higher scores reflect more effective IPS behavior.

[b] The first two are multi-item subscales; the third and fourth in each set are global ratings.

[c] $p \leq .05$, 1-tailed.

[d] $p \leq .01$, 1-tailed.

Total sig. = 32%.

Table XIII. Home IPS and School Adjustment Correlations: Males

School (CBR)[b]	Pre-test (n=52)						Post-test (n=32)					
Home (ChIPS):[a]	Total	A	B	C	D	E	Total	A	B	C	D	E
Pre-test (27 r's > ±.24) ... (17)												
Teacher Ratings												
Problem Behvr.	-.54d	-.45d	-.27C	-.48d	-.35d	-.44d	-.40C	-.36C	-.53d	-.18	-.30C	-.02
Competency Beh.	.37d	.31C	.17	.35d	.19	.39d	.22	.22	.37C	.06	.13	.01
Likability	.30C	.27C	.12	.34d	.30C	.25C	-.07	-.06	.08	-.16	-.00	-.26
Global Adjust.	.40d	.40d	.26C	.40d	.27C	.39d	.22	.25	.36C	.12	.14	.09
Observer Ratings												
Problem Behvr.	-.22	-.23	-.11	-.27C	-.17	-.29C	-.20	-.24	-.20	-.24	-.39C	-.03
Competency Beh.	.24C	.22	.15	.23	.14	.23	.26	.26	.20	.26	.37C	.07
Likability	.23	.19	.17	.16	.13	.14	.19	.18	.23	.11	.20	-.02
Global Adjust.	.28C	.25C	.11	.31C	.24C	.27C	.25	.26	.28	.21	.31C	.05
Post-test												
Teacher Ratings (27) ... (12)												
Problem Behvr.	-.43d	-.46d	-.37d	-.42d	-.26C	-.42d	-.33C	-.37C	-.47d	-.24	-.35C	-.09
Competency Beh.	.41d	.41d	.31C	.39d	.28C	.34d	.30C	.36C	.49d	.20	.36C	-.03
Likability	.33C	.32C	.18	.36d	.23	.36d	.10	.10	.16	.04	.20	-.14
Global Adjust.	.41d	.44d	.30C	.44d	.26C	.46d	.23	.30C	.31C	.26	.35C	.10
Observer Ratings												
Problem Behvr.	-.22	-.14	-.10	-.14	-.14	-.09	-.12	-.11	-.25	.01	-.11	.10
Competency Beh.	.32C	.23	.21	.19	.14	.17	.06	.05	.09	.01	.07	-.06
Likability	.25C	.17	.11	.18	.19	.09	-.05	-.03	.03	-.07	.13	-.22
Global Adjust.	.32C	.21	.09	.26C	.25C	.17	.03	-.03	.13	-.14	-.01	-.22

[a] ChIPS subscales: A. General Problem Solving, B. Consequential Thinking, C. Consideration of Alternatives and Feelings, D. Feeling Consideration, E. Alternative Solutions. Higher scores reflect more effective IPS behavior.

[b] The first two are multi-item subscales; the third and fourth in each set are global ratings.

[c] $p \leq .05$, 1-tailed.

[d] $p \leq .01$, 1-tailed.

Total sig. = 40%.

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Table XIV. Post-test Correlations Partialling Both Pretest Variables: Females

	Home:	Adjustment (CAAP Scale):[a]						Problem Solving (ChIPS Scale):[b]					
School:[c]		Total	A	B	C	D	E	Total	A	B	C	D	E
P	OM-PI/C:												
R	Alt. Solutions	-.21	-.22	-.08	-.16	-.20	-.11	.15	.20	.16	.17	.09	.13
O	Alts./Variants	-.09	-.15	.03	-.10	-.05	-.06	.13	.14	.14	.11	.09	.02
B	Max.Effective	-.13	-.17	.08	-.17	-.25	.05	.26^d	.19	.24	.14	-.12	.28^d
L	Conseq-Prosoc.	-.20	-.03	.03	-.17	-.29^d	-.05	.18	.15	.05	.21	.18	.15
E	Conseq-Antisoc.	-.47^e	-.24	-.34^d	-.45^e	-.33^d	-.31^d	.21	.30^d	.15	.38^e	.23	.33^d
M	Totl.Consequen.	-.41^e	-.17	-.20	-.38^e	-.38^d	-.23	.22	.26^d	.12	.34^d	.23	.27^d
	Feeling-Protag.	.14	-.14	.08	-.11	.12	.32^d	-.03	-.03	.01	-.06	-.11	.02
S	Feel-Nonprotag.	.07	-.08	-.02	.12	.13	.07	-.07	.01	.04	-.06	-.12	.01
O	Means-Ends PS:												
L	Active Means	.10	.14	-.08	-.09	.14	.25	.15	.19	.20	.12	.16	.04
V	Passive Means	.16	-.13	-.06	.03	.09	.38^e	.08	.00	.03	.02	-.04	.06
I	Feeling-Protag.	.26	.17	.28^d	.11	.12	.16	-.12	-.10	.03	-.20	-.07	-.21
N	Feel-Nonprotag.	.00	-.05	-.07	.19	.07	-.01	-.07	.05	-.04	.11	.17	.00
G													
	Face Valid:	.03	-.11	.14	.03	.10	-.12	.20	.18	.16	.15	-.03	.24
A	Teacher Ratings												
D	Problem Behvr.	-.08	-.28^d	-.11	.24	-.07	.01	.09	-.09	-.09	-.03	-.12	.09
J	Competency Beh.	.16	.08	.25	-.17	.08	.20	.01	.08	.01	.10	.11	.03
U	Likability	.02	-.25	.19	-.17	-.01	.23	-.10	.04	.09	-.01	-.22	.22
S	Global Adjust.	-.16	-.01	-.09	-.29^d	-.07	.01	-.05	.10	.13	.02	.01	-.02
T	Observer Ratings												
M	Problem Behvr.	.37^e	.09	.33^d	.40^e	.24	.13	-.29^d	-.20	-.29^d	-.06	-.10	.06
E	Competency Beh.	-.34^d	-.20	-.13	-.34^d	-.27^d	-.10	.27^d	.28^d	.36^e	.15	.11	.08
N	Likability	-.35^d	-.41^e	-.07	-.37^e	-.21	-.18	.25	.24	.24	.16	.25	-.08
T	Global Adjust.	-.24	-.18	-.01	-.21	-.25	-.17	.33^d	.26	.32^d	.12	.23	-.13

[a] CAAP Subscales: A. Peer Relations, B. Dependency, C. Hostility, D. Productivity, E. Withdrawal. Higher scores reflect maladjustment.

[b] ChIPS subscales: A. General Problem Solving, B. Consequential Thinking, C. Consideration of Alternatives and Feelings, D. Feeling Consideration, E. Alternative Solutions. Higher scores reflect more effective IPS behavior.

[c] Verbal ability was partialed out of all IPS interview correlations. The degrees of freedom are 38 for the IPS measure and 40 for adjustment.

[d] $p \le .05$, 1-tailed.

[e] $p \le .01$, 1-tailed.

Total sig. = 15%.

Table XV. Post-test Correlations Partialling Both Pretest Variables: Males

School:[c]	Home: Adjustment (CAAP Scale):[a]						Problem Solving (ChIPS Scale):[b]					
	Total	A	B	C	D	E	Total	A	B	C	D	E
P OM-PI/C												
R Alt. Solutions	.05	−.09	.12	.29	.05	−.14	−.19	−.16	−.21	−.03	.11	−.15
O Alts./Variants	.04	−.06	.13	.13	.04	−.14	−.28	−.21	−.18	−.13	.00	−.21
B Max.Effective	−.13	−.16	−.11	.18	−.19	−.09	.30	.13	.07	.11	.09	.09
L Conseq-Prosoc.	.02	.01	.15	.07	.01	−.13	−.40[d]	−.23	−.26	−.17	−.06	−.23
E Conseq-Antisoc.	−.22	−.36[d]	−.07	.19	−.04	−.32	.40[d]	.42[d]	.24	.43[d]	.34[d]	.39[d]
M Totl.Consequen.	−.15	−.31	.02	.13	−.01	−.25	−.02	.09	−.02	.15	.17	.07
Feeling-Protag.	.12	.11	.11	−.00	.13	−.02	−.09	.01	.08	−.07	−.01	−.09
S Feel-Nonprotag.	.13	−.02	−.13	.18	.13	.34[d]	.22	.26	.23	.17	.04	.25
O Means-Ends PS:												
L Active Means	−.04	−.11	−.03	.00	.02	.11	−.09	−.17	.03	−.27	−.06	−.40[d]
V Passive Means	.13	.15	.09	−.03	.07	.19	.12	−.06	.06	−.15	−.16	−.11
I Feeling-Protag.	−.15	.01	.12	−.18	−.15	−.40[d]	−.35[d]	−.44[d]	−.17	−.43[d]	−.24	−.48[e]
N Feel-Nonprotag.	−.18	.22	−.31	.14	−.28	−.33	.12	.20	.11	.24	.12	.28
G												
Face Valid:	.02	.07	−.00	−.03	−.07	.01	.35[d]	.63[e]	.55[e]	.54[e]	.51[e]	.39[d]
A Teacher Ratings												
D Problem Behvr.	.16	.22	−.01	.07	.27	.18	−.00	−.04	.09	−.16	−.22	−.06
J Competency Beh.	.04	−.04	.29	−.01	−.13	−.07	.09	.16	.23	.15	.36[d]	−.12
U Likability	.06	.07	.15	.30	−.02	−.16	.08	.06	.08	.09	.27	−.20
S Global Adjust.	.05	−.26	.15	.32[d]	.02	−.06	−.03	.04	−.01	.13	.34[d]	−.14
T Observer Ratings												
M Problem Behvr.	−.36[d]	−.36[d]	−.38[d]	−.16	−.07	−.28	.12	.09	−.18	.25	.31[d]	.11
E Competency Beh.	.40[d]	.26	.38[d]	.38[d]	.24	.13	−.38[d]	−.33[d]	−.19	−.28	−.29	−.18
N Likability	.17	.04	.16	.09	.24	−.01	−.40[d]	−.30	−.19	−.26	−.06	−.32
T Global Adjust.	.65[e]	.23	.51[e]	.53[e]	.56[e]	.35[d]	−.43[d]	−.46[e]	−.14	−.51[e]	−.42[d]	−.41[d]

[a]CAAP Subscales: A. Peer Relations, B. Dependency, C. Hostility,
D. Productivity, E. Withdrawal. Higher scores reflect maladjustment.
[b]ChIPS subscales: A. General Problem Solving, B. Consequential Thinking,
C. Consideration of Alternatives and Feelings, D. Feeling Consideration,
E. Alternative Solutions. Higher scores reflect more effective IPS behavior.
[c]Verbal ability was partialed out of all IPS interview correlations. The degrees
of freedom are 24 for the IPS measure and 28 for adjustment.
[d] $p \leq .05$, 1-tailed.

[e] $p < .01$, 1-tailed.

Total sig. = 17%

Table XVI. Post-test Correlations Partialling both Pretest Variables:

Home Measures

ChIPS Scale:[a]	Total	A	B	C	D	E
CAAP Scale:						
Females (df=40):						
Total	-.37^c	-.38^c	-.37^c	-.28^b	-.12	-.22
Subscales:						
A. Peer Relations	-.06	-.14	-.09	-.14	.05	-.25
B. Dependency	-.40^c	-.40^c	-.42^c	-.26^b	-.25	-.11
C. Hostility	-.37^c	-.38^c	-.45^c	-.27^b	-.23	-.16
D. Productivity	-.34^b	-.27^b	-.22	-.25	.01	-.36^c
E. Withdrawn	-.12	-.16	-.11	-.13	-.12	-.01
Males (df=28):						
Total	-.44^c	-.42^b	-.38^b	-.46^c	-.44^c	-.30
Subscales:						
A. Peer Relations	-.23	-.17	-.09	-.23	-.33^b	-.13
B. Dependency	-.51^c	-.45^c	-.35^b	-.46^c	-.50^c	-.50^c
C. Hostility	-.34^b	-.19	-.27	-.12	-.14	-.15
D. Productivity	-.45^c	-.42^b	-.47^c	-.35^b	-.26	-.31
E. Withdrawn	.15	.15	.11	-.16	-.17	-.13

[a]ChIPS Scale:A. General Problem Solving, B. Consequential Thinking,
C. Consideration of Alternatives and Feelings, D. Feeling Consideration,
E. Alternative Solutions. Higher scores reflect more effective IPS behavior.
[b] $p \leq .05$, 1-tailed.
[c] $p \leq .01$, 1-tailed.

Total sig. = 44%.

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Table XVII. Correlations between Home IPS and Adjustment Measures

Females — ChIPS Scale[a]

CAAP Scale:[b]	Pre-test (n=65) Total	A	B	C	D	E	Post-test (n=46) Total	A	B	C	D	E
Pre-test (n=65)	(35 r's > ± .24)						(36)					
Total	.64d	.66d	.55d	.64d	.55d	.59d	.61d	.61d	.55d	.57d	.48d	.49d
Subscales:												
A. Peer Relations	.50d	.54d	.43d	.55d	.51d	.46d	.49d	.47d	.43d	.43d	.33c	.40d
B. Dependency	.56d	.44d	.39d	.41d	.30d	.43d	.51d	.45d	.44d	.40d	.27c	.41d
C. Hostility	.48d	.49d	.50d	.40d	.40d	.34d	.44d	.50d	.46d	.46d	.43d	.34c
D. Productivity	.46d	.59d	.51d	.55d	.45d	.52d	.34d	.46d	.48d	.39d	.36d	.29c
E. Withdrawal	.38d	.34d	.17	.43d	.34d	.44d	.48d	.39d	.28c	.43d	.36d	.37d
Post-test (n=46)	(22)						(32)					
Total	.44d	.42d	.34c	.42d	.46d	.30c	.60d	.58d	.56d	.52d	.45d	.41d
Subscales:												
A. Peer Relations	.36d	.35d	.27c	.36d	.35d	.29c	.38d	.37d	.33c	.35d	.21	.41d
B. Dependency	.22	.16	.13	.16	.14	.18	.45d	.42d	.46d	.33c	.27c	.27c
C. Hostility	.36d	.36d	.41d	.24	.34c	.05	.51d	.54d	.60d	.41d	.44d	.21
D. Productivity	.47d	.50d	.39d	.50d	.52d	.35d	.50d	.51d	.47d	.47d	.39d	.39d
E. Withdrawal	.15	.10	-.02	.19	.22	.13	.32c	.26c	.17	.29c	.30c	.17

Total sig = 87%.

Males — ChIPS Scale[a]

CAAP Scale:[b]	Pre-test (n=50) Total	A	B	C	D	E	Post-test (n=32) Total	A	B	C	D	E
Pre-test (n=50)	(18 r's > ± .24)						(19)					
Total	.47d	.45d	.34d	.43d	.28c	.42d	.44d	.46d	.37c	.46d	.41d	.40c
Subscales:												
A. Peer Relations	.47d	.37d	.24c	.37d	.42d	.17	.23	.18	.18	.15	.22	.06
B. Dependency	.10	.07	.11	.03	-.14	.20	.44d	.41d	.26	.47d	.20	.58d
C. Hostility	.39d	.45d	.55d	.22	.19	.17	.29	.31c	.43d	.16	.38c	.07
D. Productivity	.42d	.41d	.17	.49d	.34d	.48d	.17	.25	.09	.32c	.25	.33c
E. Withdrawal	-.02	.04	-.21	.12	.03	.17	.13	.09	.05	.10	.08	.09
Post-test (n=32)	(27)						(31)					
Total	.38c	.59d	.35c	.63d	.42d	.56d	.58d	.68d	.53d	.68d	.62d	.56d
Subscales:												
A. Peer Relations	.12	.30c	.12	.37c	.37c	.20	.21	.30c	.15	.36c	.44d	.20
B. Dependency	.21	.32c	.18	.36c	.06	.50d	.61d	.64d	.43d	.69d	.53d	.75d
C. Hostility	.13	.38c	.38c	.26	.30c	.11	.30c	.37c	.45d	.24	.40c	.05
D. Productivity	.36c	.45d	.22	.52d	.37c	.44d	.48d	.55d	.45d	.54d	.41c	.48d
E. Withdrawal	.40c	.52d	.29	.58d	.36c	.55d	.29	.39c	.26	.42d	.31c	.37c

Total sig = 61%.

[a] ChIPS Scale: A. General Problem Solving, B. Consequential Thinking, C. Consideration of Alternatives and Feelings, D. Feeling Consideration, E. Alternative Solutions. Higher scores reflect more effective IPS behavior.

[b] The valence of the r coefficients was reversed for the CAAP total and subscales A and D so that all reflect "positive" adjustment.
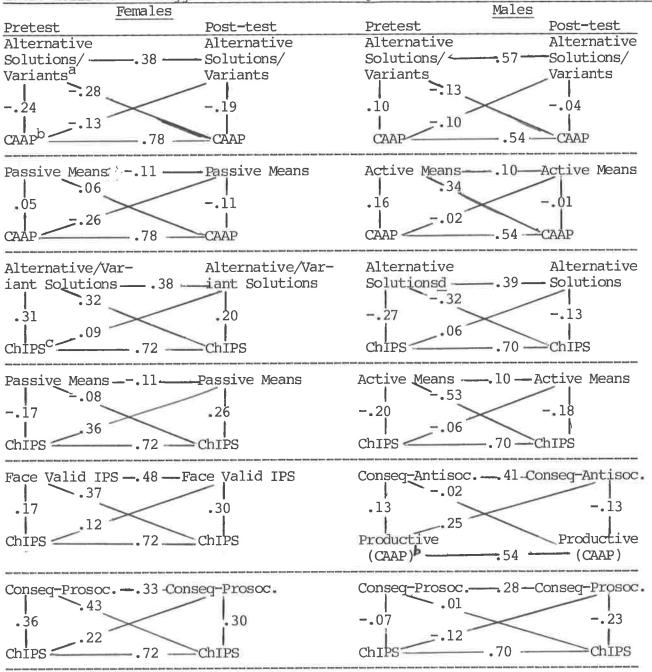
[c] $p \le .05$, 1-tailed.

[d] $p \le .01$, 1-tailed.

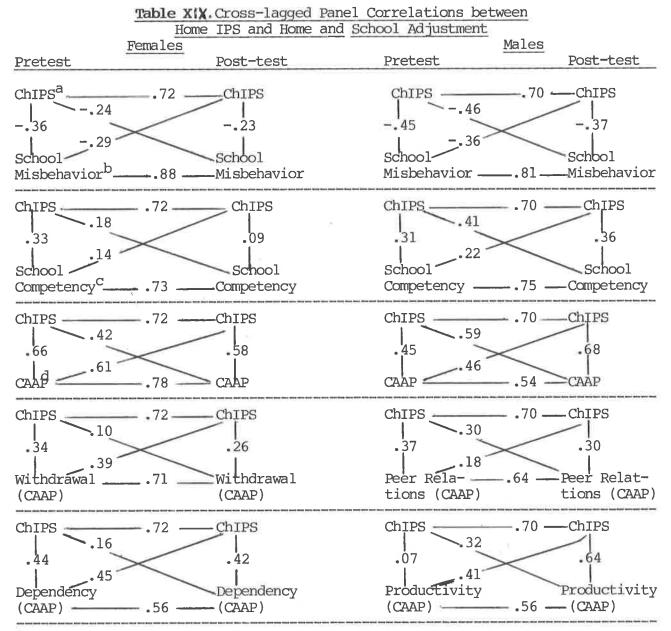**Table XVIII.** Cross-lagged Panel Correlations between School IPS and Home Measures

	Females		Males	
	Pretest	Post-test	Pretest	Post-test

Panel 1 (Females)
Alternative Solutions/Variants[a] ——— .38 ——— Alternative Solutions/Variants
-.28
-.24   -.19
-.13
CAAP[b] ——— .78 ——— CAAP

Panel 1 (Males)
Alternative Solutions/Variants ——— .57 ——— Alternative Solutions/Variants
-.13
.10   -.04
-.10
CAAP ——— .54 ——— CAAP

Panel 2 (Females)
Passive Means ——— -.11 ——— Passive Means
.06
.05   -.11
-.26
CAAP ——— .78 ——— CAAP

Panel 2 (Males)
Active Means ——— .10 ——— Active Means
.34
.16   -.01
-.02
CAAP ——— .54 ——— CAAP

Panel 3 (Females)
Alternative/Variant Solutions ——— .38 ——— Alternative/Variant Solutions
.32
.31   .20
.09
ChIPS[c] ——— .72 ——— ChIPS

Panel 3 (Males)
Alternative Solutions[d] ——— .39 ——— Alternative Solutions
-.32
-.27   -.13
.06
ChIPS ——— .70 ——— ChIPS

Panel 4 (Females)
Passive Means ——— -.11 ——— Passive Means
-.08
-.17   .26
.36
ChIPS ——— .72 ——— ChIPS

Panel 4 (Males)
Active Means ——— .10 ——— Active Means
-.53
-.20   -.18
-.06
ChIPS ——— .70 ——— ChIPS

Panel 5 (Females)
Face Valid IPS ——— .48 ——— Face Valid IPS
.37
.17   .30
.12
ChIPS ——— .72 ——— ChIPS

Panel 5 (Males)
Conseq-Antisoc. ——— .41 ——— Conseq-Antisoc.
-.02
.13   -.13
.25
Productive (CAAP)[b] ——— .54 ——— Productive (CAAP)

Panel 6 (Females)
Conseq-Prosoc. ——— .33 ——— Conseq-Prosoc.
.43
.36   .30
.22
ChIPS ——— .72 ——— ChIPS

Panel 6 (Males)
Conseq-Prosoc. ——— .28 ——— Conseq-Prosoc.
.01
-.07   -.23
-.12
ChIPS ——— .70 ——— ChIPS

[a] Verbal ability was partialed out of all IPS interview correlations.
[b] Higher scores reflect maladjustment.
[c] Subscale A of the Child Interpersonal Problem Solving measure (General Problem Solving) was used rather than the total scale due to its greater internal consistency reliability (see Table III).
[d] Unlike for girls, variant solution generation does not seem to be related to boys' problem solving at home and so was left out of this panel.
[e] Similarly, passive means generation seems to be a more important IPS component for girls than active means generation.

Table XIX. Cross-lagged Panel Correlations between
Home IPS and Home and School Adjustment

	Females			Males	
Pretest		Post-test	Pretest		Post-test

ChIPS[a] ———— .72 ———— ChIPS   ChIPS ———— .70 —— ChIPS
| -.24 | | -.46 |
-.36   -.23   -.45   -.37
| -.29 | | -.36 |
School ———— .88 ———— School   School ———— .81 —— School
Misbehavior[b]   Misbehavior   Misbehavior   Misbehavior

ChIPS ———— .72 ———— ChIPS   ChIPS ———— .70 —— ChIPS
| .18 | | .41 |
.33   .09   .31   .36
| .14 | | .22 |
School ———— .73 ———— School   School ———— .75 — School
Competency[c]   Competency   Competency   Competency

ChIPS ———— .72 ——— ChIPS   ChIPS ———— .70 —— ChIPS
| .42 | | .59 |
.66   .58   .45   .68
| .61 | | .46 |
CAAP[d] ———— .78 ——— CAAP   CAAP ———— .54 — CAAP

ChIPS ———— .72 ——— ChIPS   ChIPS ———— .70 — ChIPS
| .10 | | .30 |
.34   .26   .37   .30
| .39 | | .18 |
Withdrawal ———— .71 ——— Withdrawal   Peer Rela- ———— .64 — Peer Relat-
(CAAP)   (CAAP)   tions (CAAP)   tions (CAAP)

ChIPS ———— .72 ——— ChIPS   ChIPS ———— .70 — ChIPS
| .16 | | .32 |
.44   .42   .07   .64
| .45 | | .41 |
Dependency ——— Dependency   Productivity   Productivity
(CAAP) ———— .56 ——— (CAAP)   (CAAP) ———— .56 — (CAAP)

[a] Subscale A of the Child Interpersonal Problem Solving measure (General
  Problem Solving) was used rather than the total scale due to its greater
  internal consistency reliability (see Table III).
[b] Teacher rated interpersonal problem behaviors.
[c] Teacher rated interpersonal competency behaviors.
[d] The valence of the r coefficients was reversed for the CAAP total and
  the subscales reported in this table so that all reflect "positive"
  adjustment.

APPENDIX A: Child Behavior Rating Scale

Child's Name _____

Teacher's Name _____

1978-79 Problem Solving Program
November 30, 1978

Section I: Listed below are specific behavior and adaptation problems which some children experience. Please rate each item in Section I with one number on the following scale of problem severity:

1 = not a problem   3 = moderate problem   5 = very serious problem
2 = very mild problem   4 = serious problem

___ Disruptive in class
___ Talks out of turn, disturbs others while they are working
___ Overly aggressive to peers (fights, is overbearing, belligerent)
___ Impulsive, is unable to delay
___ Shy, timid

___ Unable to express feelings
___ Worried, frightened, tense
___ Lacks self-confidence
___ Reacts poorly to disappointment
___ Depends too much on teacher to solve problems
___ Has difficulty learning

Section II : Because we are interested in children's strengths or competencies we have developed a list of items identifying children's positive resources. Please rate each item in Section III with one number from the following scale:

1 – not at all   2 = a little   3 = moderately well   4 = well   5 = very well

Please note that 5 represents the most positive rating

___ Feels good about himself or herself
___ Shares things with others
___ Can accept things not going his way
___ Defends his views under group pressure
___ Resolves peer problems on his own
___ Copes well with failure
___ Is able to question rules that seem unfair or unclear to him

___ Anger, when displayed, is justified
___ Expresses ideas willingly
___ Well liked by classmates
___ Makes friends easily
___ Thinks before acting
___ Accepts legitimate imposed limits
___ Expresses needs and feelings appropriately
___ Functions well in unstructured situations

Section III: From your experience with this child, please circle the number where he would lie on the following dimensions.

A)
Child seems difficult to like   Child seems easy to like

     1   2   3   4   5   6   7

B)
Child has significant school adjustment problems   Child has no school adjustment problems

     1   2   3   4   5   6   7

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CHILD AND ADOLESCENT ADJUSTMENT PROFILE

(CAAP SCALE)

Your Name

1. Today's Date 2 / 10 / 83
   Month / Day / Year

2. Your Relationship to Youngster (Check one)

   (1)_X_ Mother (stepmother, foster mother)

   (2)___ Father (stepfather, foster father)

   (3)___ Teacher

   (4)___ Counselor

   (5)___ Other (please specify)_____

3. Sex of Youngster (Check one)

   (1)___ Male   (2)_X_ Female

4. Age 10   5. Grade in School 5th

INSTRUCTIONS:

A. Please describe this youngster's behavior as you have observed it during the past month by answering each question.

B. Please answer all questions on this and the reverse page, even though you may feel somewhat unsure of some answers.

C. Mark your answer to each question by making a ✓ in the box under the Answer Choices" like this .... ☑

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DURING LAST MONTH, HAS HE/SHE... (Please answer each statement below)	Answer Choices			
	1 Rarely	2 Some-times	3 Often	4 Almost Always
1. Tried to get along with others?		X		
2. Joined others freely of own accord?		X		
3. Invited others to play with him/her?			X	
4. Laughed and smiled easily?	X			

DURING LAST MONTH, HAS HE/SHE... (Please answer each statement below)	Answer Choices			
	1 Never	2 Rarely	3 Some-times	4 Often
5. Wanted help in things he/she could have done on own?	X			
6. Became discouraged when attempted something on own?			X	
7. Asked for help when could have figured things out?			X	
8. Asked unnecessary questions instead of working on own?		X		

DURING PAST MONTH, HAS HE/SHE... (Please answer each statement below)	Answer Choices			
	1 Never	2 Rarely	3 Some-times	4 Often
9. Flared up if couldn't have own way?			X	
10. Become upset if others did not agree with him/her?			X	
11. Picked quarrels with others?	X			
12. Not responded to discipline?			X	

DURING LAST MONTH, HAS HE/SHE...	Answer Choices			
(Please answer each statement below)	1 Rarely	2 Some- times	3 Often	4 Almost Always
13. Worked hard at tasks or assignments?		✗		
14. Stayed with work or assignment until finished?				✗
15. Made full use of abilities?		✗		
16. Done work carefully?				✗

DURING PAST MONTH, HAS HE/SHE...	Answer Choices			
(Please answer each statement below)	1 Never	2 Rarely	3 Some- times	4 Often
17. Sat and stared without doing anything?			✗	
18. Done things very slowly?			✗	
19. Appeared indifferent and uninterested in things?				✗
20. Daydreamed?	✗			

Thank you for providing the information requested. Please check back to make sure you have not missed answering any questions.

If you would like to make any comments about the person you have rated, please use the opposite section for this.

COMMENTS:

PARENT'S QUESTIONAIRE # 2

Name of Child	Your Name	Date

·INSTRUCTIONS:

Please follow the same instructions as on the other questionaire, circling the number which corresponds to the best answer to each question.

DURING THE LAST MONTH.....:	Never	Rarely	Sometimes	Often	Always
1. When your child misbehaves, does s/he tend to think about the consequences of that misbehavior?	1	2	3	4	5
2. Does s/he learn from his/her mistakes?	1	2	3	4	5
3. Does s/he seem genuinely surprised when caught or scolded for something?	1	2	3	4	5
4. Does s/he get into many verbal or physical fights which could have been avoided?	1	2	3	4	5
5. Does s/he solve problems or carry out tasks in a creative way?	1	2	3	4	5
6. Does s/he need to be told what to do?	1	2	3	4	5
7. Does s/he try to get what s/he wants in a non-forceful way?	1	2	3	4	5
8. If s/he can't get what s/he wants one way, does s/he try other ways?	1	2	3	4	5
9. Does s/he come straight to others in the family when s/he has a problem instead of trying to solve it alone?	1	2	3	4	5
10. Is your child curious (does s/he ask why certain things happen)?	1	2	3	4	5
11. Does s/he talk about her own feelings?	1	2	3	4	5
12. Does s/he consider the feelings of others?	1	2	3	4	5

Thank you for providing all the requested information.
Please use the back of this sheet for any comments or clarifications.

"WHAT I'M LIKE"

Name _____   Grade _____

Teacher _____   Date _____

School _____

1. It's   HARD   /   NOT HARD   to know what other people are feeling.

2. I   CAN   /   CAN'T   get my own way if I keep on trying.

3. If I'm in trouble with someone, I   ALWAYS   /   SOMETIMES   do the very first thing I think of to make things better.

4. If I'm upset, I usually   KNOW   /   DON'T KNOW   why.

5. If another kid in my class doesn't like me, I   CAN DO SOMETHING   / CAN'T DO ANYTHING   about it.

6. When I'm in trouble, there is usually   ONLY ONE WAY   /   MORE THAN ONE WAY to make things okay.

7. If a kid my age decided to fight me, there   IS   /   ISN'T   a lot I could do to stop them.

8. If another kid bothers me in class, I   DON'T GO   /   GO   to the teacher.

9. If something is hard for me to do, I   STOP   /   DON'T STOP   doing it.

10. If another kid teases me, I   DON'T KNOW   /   KNOW   what to do about it.

11. It's   EASY   /   NOT EASY for me to make friends.

12. I   GET   /   DON'T GET into fights with other kids.