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**AN EVALUATION OF THE CUMULATIVE EFFECTS OF PARTICIPATION IN
A PRIMARY PREVENTION PROGRAM**

by

JO-ANN MONKER

A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfilment of
the requirements for the degree of

Master of Arts

Department of Psychology

Carleton University

Ottawa, Ontario

April 15, 1996

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A PRIMARY PREVENTION PROGRAM"**

submitted by Jo-Ann Monker, B.A.
in partial fulfilment of the requirement for the degree of
Master of Arts

Chair

Department

Thesis Supervisor

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Date: May 15, 1996

Abstract

The impact of a 50-lesson, social-cognitive problem-solving training program on sixth grade students was assessed. Students who received the full program from grades two to six were compared with a group of students who had not been taught the program. The dependent measures included two measures of problem-solving skills, a measure of interpersonal competence, a measure of self-concept, and a measure of class/school satisfaction. Students also participated in a telephone interview, which was designed to assess their use of cognitive problem-solving skills and behaviors taught in the program. Program girls scored significantly higher than program boys on measures assessing interpersonal competence and anxiety. Girls scored significantly higher than boys on measures assessing problem-solving skills. The results of this evaluation suggest that the program appears to be having a limited effect on its' participants. Suggestions for program change are made.

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There are approximately 63 million children under the age of 18 in the United States alone (Hobbs, 1982, cited in Weissberg & Allen, 1986). Estimates suggest that at least 10 percent of children under 18 have mental health problems which are serious enough to require some form of intervention (Hobbs, 1982, cited in Weissberg & Allen, 1986). Unfortunately, less than 10 percent of children who require mental health intervention actually receive it. Children whose problems are mild to moderate are often not considered for intervention until their problem gets worse, at which stage it is more resistant to intervention strategies (Gesten & Weissberg, 1986). This approach to intervention is costly, both to the mental health system and to the children themselves. Interventions which are implemented late in the development of a disorder often involve intensive, long-term treatment, which is usually very costly to the health care system. Children who receive intervention when their disorder is developed and well-established are less likely to respond positively to intervention (Gesten & Weissberg, 1986), and thus remain afflicted with a serious disorder throughout their adolescence and adult life.

Primary prevention programs offer a financially sound alternative to mental health intervention. Programs which help children enhance their skills and competencies before disorders develop reduce the likelihood that targeted

children will develop future mental health problems (Cowen, 1983b), and thereby reduce the number of expensive interventions which will be required in the future.

The ability to effectively resolve interpersonal problems is an important skill for children to develop. Children lacking in problem-solving skills are rejected by their peers, and deprived of opportunities to learn and practice social skills necessary for positive interpersonal relationships (Asarnow & Callan, 1985; Piaget, 1926; Richard & Dodge, 1982; Rubin & Rose-Krasnor, in press). Interpersonal problem-solving programs are important because they encourage children to learn and practice positive interpersonal problem-solving skills which are related to peer acceptance and opportunities for further social development.

The present research project offers a unique opportunity to examine the impact of an intensive, long-term, social problem-solving program. This program evaluation will make an important contribution to the development of a well-established primary prevention program. It will help to determine the extent to which the program's objectives have been attained, which parts of the program are functioning effectively, and which parts are functioning less effectively. It will also help identify the components of the program which need to be altered in order to increase its effectiveness. The current evaluation

will also provide valuable normative data about the problem-solving skills of grade six students. Finally, this project will provide information about the impact of a social problem-solving program on children's self-perceptions, an area which to date has been largely overlooked by research.

The present research project was developed in order to assess the impact of a school-based primary prevention, interpersonal problem-solving program entitled "Children Learning for Living". "Children Learning for Living" was established by the Ottawa Board of Education in 1975. The aim of this program is to improve children's ability to deal with the interpersonal problems they encounter in daily life. The program focuses on helping children enhance the problem-solving skills and interpersonal competence that are prerequisites to coping effectively with their "social and emotional concerns" (Elementary School Mental Health Committee of the Ottawa Board of Education, 1989; Ottawa Board of Education, 1991, p. 1). Children participating in the program are taught problem-solving skills which promote positive, nonaggressive conflict resolution.

"Children Learning for Living" is based on Weissberg's social problem-solving approach to prevention programs. The problem-solving process is viewed as being a "stepwise procedure" which consists of several integrated skills (Gesten & Weissberg, 1986). These skills are: the ability to identify one's own feelings as well as the feelings of

others, the ability to identify the problem, the ability to identify one's goals, the ability to control impulses, the ability to generate several alternative solutions, the ability to identify potential consequences of the solutions, the ability to select an effective solution, the ability to engage in means-end thinking, and the ability to select an alternative solution if the initial solution fails to be effective (Gesten & Weissberg, 1986). This social problem-solving approach attempts to improve children's cognitive problem-solving skills, in addition to teaching them effective problem-solving behaviors. This is in contrast to the interpersonal cognitive problem-solving (ICPS) approach of Spivack and Shure (Spivack, Platt, & Shure, 1976; Spivack, & Shure, 1974), which focuses solely on cognitive problem-solving skills.

The current evaluation was requested by the Ottawa Board of Education. This evaluation will examine the long term, cumulative impact of the "Children Learning for Living" program. Subjects will be grade six students. The study will consist of two groups of students: those who attend program schools and have participated in the program from grades two to six, and those who attend non-program schools and have not participated in the problem-solving program at any time. The current program evaluation will compare the social skills and social competence of students in the schools where the program is in place with the skills

and competence of students in schools where the program has not yet been implemented. It is hypothesized that students who have received the complete curriculum for the "Children Learning for Living" program will demonstrate social problem-solving skills that are superior to those demonstrated by children who have not taken part in this program (Gesten, Rains, Rapkin, Weissberg, de Apocada [sic], Cowen & Bowen, 1982; Weissberg, Gesten, Carnrike, Toro, Rapkin, Davidson, & Cowen, 1981; Weissberg, Gesten, Rapkin, Cowen, Davidson, de Apodaca [sic], & McKim 1981). It is also hypothesized that program children will feel more competent at dealing with interpersonal problems than non-program children (Caplan, Weissberg, Grober, Sivo, Grady, & Jacoby, 1992; Weissberg et al., 1981a).

Primary Prevention Programs

Primary prevention programs are designed to help people acquire important skills and behaviors which will improve their current functioning and prevent the development of future problems (Cowen, 1983; Durlak & Jason, 1984). Cowen (1983b) states that primary prevention has two main components: "actions designed to prevent the development (rate of occurrence) of...disorder, and interventions to promote well-being as an inoculant against dysfunction" (p. 12). Primary prevention programs are aimed at large groups of people. Groups may consist of "essentially well" individuals, or they may be comprised of individuals who

have been identified as being at high risk for the development of future problems (Weissberg & Allen, 1986, p. 156; Cowen, 1983b; Durlak, 1983). Unlike primary prevention, which targets asymptomatic populations (Durlak, 1983), secondary and tertiary prevention target specific individuals who have been identified as having psychological problems (Cowen, 1983a, 1983b). Secondary prevention attempts to prevent less severe disorders from becoming prolonged and debilitating, while tertiary prevention attempts to minimize the negative consequences of established, serious disorders (Cowen, 1983a; Cowen, 1983b; Price & Smith, 1985).

Primary prevention programs refer to a set of "procedures designed to promote many different kinds of wellness and forestall diverse dysfunctions" (Cowen, 1983b, p. 12). These programs often differ in terms of their specific outcome objectives. All primary prevention programs attempt to promote wellness and prevent dysfunctions. Primary prevention programs in mental health however, focus on promoting psychological wellness, and preventing the development of psychological disorders, such as maladjustment (Cowen, 1983a, 1983b; Durlak, 1983). According to Cowen (1983a, p. 15), these programs "engineer structures, processes, situations and events that maximally benefit in scope and temporal stability, the psychological adjustment, effectiveness, happiness, and coping skills of

many (as yet unaffected) individuals". In order to be identified as a potential mental health, primary prevention program, a program must be group oriented (i.e. not target specific individuals), it must be designed for people who are essentially well, (or at risk of developing a disorder), and it must be based on information which suggests that the program has the potential to promote psychological well-being and prevent psychological disorders (i.e. it must be intentional) (Cowen, 1983a, 1983b). In order to be a mental health, primary prevention program, a program must have empirically demonstrated positive outcomes, such as improved psychological health or decreased incidence of psychological disorders (Cowen 1983a, 1983b; Durlak, 1983).

The development of primary prevention programs in mental health is based on a two-step process. The generative stage involves making decisions about the need and rationale for a mental health, primary prevention program. Decisions are based on observations and empirical demonstrations of relationships between processes, situations, experiences, qualities or characteristics of people and positive or negative psychological outcomes (Cowen 1983a, 1983b). The executive stage involves implementing, conducting, and evaluating the program (Cowen 1983a, 1983b). Program objectives (psychological well-being and prevention of psychological disorders) are achieved through one or both of two main strategies: 1) the reduction

of stress, and 2) the improvement of people's coping skills, competencies and resources through training or environmental change (Cowen, 1983a, 1983b; Durlak, 1983). Environmental change involves identifying and increasing an environment's positive effects, and decreasing its identified negative effects (Durlak, 1983). This change may also involve discovering the best possible person/environment match for different subject populations (Durlak, 1983).

There are several different types of mental health, primary prevention programs. Mental health education (MHE) attempts to promote mental health by helping people acquire knowledge, attitudes and behaviors that develop and maintain mental health (Cowen, 1983a, 1983b). Other programs attempt to improve people's strengths and resources in order to diminish the negative consequences of stressful life events, such as marital problems, job loss, and death. These programs are based on the belief that stressful life events which are improperly dealt with can result in potentially serious, long-lasting, "psychological scars", while those that are properly dealt with strengthen adjustment and improve future coping skills (Cowen, 1983a, p. 669; Cowen, 1983b). Skill or competence enhancement programs operate on the belief that certain core skills (which differ depending on the age of the target group) mediate positive adjustment (Cowen, 1983a, 1983b). Interpersonal problem-solving programs are one example of skill enhancement programs.

Interpersonal problem-solving refers to "the ability to resolve successfully and appropriately conflicts or problems that arise in real-life interpersonal situations" (Durlak, 1983). Interpersonal problem-solving programs are skill training, mental health, primary prevention programs which attempt to promote psychological well-being and prevent psychological disorders by teaching people interpersonal problem-solving skills. The most popular interpersonal problem-solving programs are school-based, affective education programs. Affective education programs are designed to teach children "certain intrapersonal and interpersonal skills considered to be important in promoting psychological growth and social development" (Durlak & Jason, 1984, p. 104). These programs aim to modify children's social-cognitive and emotional development, and to indirectly improve their overt behavioral adjustment (Durlak & Jason, 1984). Affective education programs usually focus on intrapersonal, social-cognitive and behavioral goals (Baskin & Hess, 1980). Interpersonal goals involve increasing self-esteem, and fostering the development of positive attitudes towards school (Baskin & Hess, 1980). Social-cognitive goals include improving social-cognitive problem-solving skills, while behavioral goals focus on improving children's behavioral adjustment (Baskin & Hess, 1980). The purpose of the present study is to examine the impact of a school-based, affective

education, mental health, primary prevention program which teaches children interpersonal problem-solving skills.

Problem-Solving

The present study will evaluate the effectiveness of a school-based, primary prevention, interpersonal problem-solving program. Problem-solving refers to "a behavioral process, whether overt or cognitive in nature, which (a) makes available a variety of potentially effective response alternatives for dealing with the problematic situation and (b) increases the probability of selecting the most effective response from among these various alternatives" (D'Zurilla & Goldfried, 1971, p. 108). There are two types of problem-solving. "Impersonal problem-solving" (Spivack & Shure, 1974) refers to impersonal problems, such as word problems, mathematical problems, and puzzles, all of which may involve and be resolved by one individual in isolation. Interpersonal problem-solving refers to problems between two or more individuals, which are resolved by those individuals involved in the dispute.

Interpersonal problem-solving consists of two main components: a problem, and its solution. D'Zurilla and Goldfried define a problem as "a specific situation or set of related situations to which a person must respond in order to function effectively in his environment" (1971, p. 107). A situation becomes a problem when an effective response is not "immediately available" to the individual(s)

who are presented with the problematic situation (Davis, 1966; D'Zurilla & Goldfried, 1971, p. 108). A solution is "a response or pattern of responses which alters the situation so that it is no longer problematic to the individual and at the same time maximizes other positive consequences and minimizes other negative ones" (D'Zurilla & Goldfried, 1971, p. 109). These consequences include short-term, long-term, personal and social consequences of an individual's response to the problem, such as the development or avoidance of additional problems, positive or negative self-perceptions, and social approval or reproach (D'Zurilla & Goldfried, 1971). Implied in this definition of a solution is the assumption that effective solutions minimize negative consequences. Interpersonal problem-solving refers to the process individuals go through in order to arrive at an effective solution to a problematic situation. Interpersonal problem-solving is a multi-step process which involves the identification of the problem, identification of a desired goal, the generation of several alternative solutions to the problem, comparison of solution consequences, selection of the appropriate and effective solution to the problem, implementation of the chosen solution (the response), and evaluation of the impact of the response on the environment (D'Zurilla & Goldfried, 1971; Spivack et al., 1976; Tisdelle & Lawrence, 1986).

The ability to effectively resolve interpersonal

problems has a large impact on an individual's peer relationships. Behavior that is socially skilled can lead to popularity and acceptance by one's peers, while behavior that is unskilled can lead to unpopularity and peer rejection (Rubin & Rose-Krasnor, in press). Ladd (1983) observed popular and unpopular children on the playground during recess and found that popular children engaged in significantly more cooperative play and significantly less argumentative behavior than unpopular children. Coie, Dodge, and Coppotelli (1982) studied third, fifth, and eighth grade students and found that peer acceptance was related to cooperative behaviors, while peer rejection was related to disruptive behaviors. Asher and Renshaw (1981) presented popular and unpopular kindergarten children with hypothetical conflict situations. They found that the responses made by unpopular children were less friendly and effective than those generated by popular kindergarten children. Solutions generated by unpopular children were much more aggressive in nature. Aggressive responses were suggested in 12 percent of unpopular children's responses as compared with only two percent of popular children's responses. Similar results were found by Richard and Dodge (1982) who examined popular, aggressive, and isolated boys in grades 2 through 5. The researchers found that popular children generated more solutions to interpersonal problems than aggressive and isolated boys. The initial solutions

(to each problem) offered by all 3 groups of boys were rated as being effective. The effectiveness of subsequent solutions however, was dependent upon subject status. Popular boys continued to generate effective solutions, while the additional solutions generated by aggressive and isolated boys tended to be aggressive and less effective. Asarnow and Callan (1985) presented fourth and sixth graders with hypothetical problem situations and found that popular children generated more alternative solutions than unpopular children. Research conducted by Gottman, Gonso, and Rasmussen (1975) supports these findings. Olson, Johnson, Belleau, Parks, and Barrett (1983, cited in Hymel & Rubin, 1985, p. 284) found that teacher ratings of peer interaction were significantly positively correlated with the "number of solutions and the proportion of relevant solutions generated by preschoolers on a social problem-solving measure". Research also suggests that in addition to generating more aggressive solutions and fewer alternative solutions than popular children, unpopular children also exhibit deficiencies in the identification of potential consequences of problem-solving solutions. Asarnow and Callan (1985) found that unpopular fourth and sixth grade students gave aggressive responses more positive evaluations than popular students. Unpopular students also gave positive problem-solving responses less favourable evaluations than did popular children.

Additional support for the relationship between problem-solving and peer relations comes from research on problem-solving programs. Spivack and Shure (1974) studied girls who were rated by their teachers as being maladjusted (either impulsive or inhibited) prior to participation in a cognitive problem-solving program. The researchers found that the female students demonstrated significant increases in peer likeability following completion of the program. Peer likeability was rated by teachers and defined as "being sought out by other children" and "others enjoy being with the child" (p. 101). Weissberg et al. (1981a) conducted a study in which 563 second through fourth grade children were exposed to a 42 lesson, problem-solving training program. Pre and post measures of student likeability (assessed using a five point rating scale) were obtained for both program and control group children. The researchers found that the likeability scores of program children improved significantly following participation in the problem-solving program. Taken together, these results are summed up by Hymel and Rubin (1985, p. 282) who state: "the extant evidence does indicate a significant relation between social problem-solving and peer acceptance".

Poor problem-solving ability has a negative impact on social development. Piaget (1926) believed that through discussion, negotiation, and conflict with peers children learned to understand the emotions, thoughts, motives and

intentions of others. This ability enabled children to think about the consequences of their behaviors, and therefore behave in ways that were both appropriate and effective (Piaget, 1926; Rubin & Rose-Krasnor, in press). Peers provide children with a supportive relationship within which children can practice and develop various social skills (Ladd & Asher, 1986). Patterson, Littman, and Bricker (1967) have shown that children tend to refrain from using interpersonal aggression when interacting with peers who resist their aggressive strategies. Children who observe peers exhibit prosocial behaviors tend to exhibit similar behaviors themselves (Rushton, 1976). Children who resolve conflicts poorly and ineffectively may be rejected by their peers, which in turn can lead to withdrawal, hostility, negative expectations and self-perceptions of incompetence (Combs & Slaby, 1977, cited in Tisdelle & Lawrence, 1986; Harter, 1982; Kelly, 1982; Rubin & Rose-Krasnor, in press). Children lacking supportive peer relationships may not acquire and develop the social skills necessary for positive interpersonal relationships, and therefore continue to be rejected by their peers (Rubin & Rose-Krasnor, in press), and to be deprived of opportunities for social development. The ability to effectively resolve interpersonal problems is an important skill for children to develop. Research has indicated that children lacking in problem-solving skills are rejected by their peers, and thus

deprived of peer friendships which provide the opportunity to learn and practice social skills necessary for positive interpersonal relationships. Programs like "Children Learning for Living" are important because they encourage children to learn and practice positive interpersonal problem-solving skills which are related to peer acceptance and opportunities for further social development.

Primary Prevention, Problem-Solving Programs: Past Research

Research looking at the impact of primary prevention programs and interpersonal problem-solving skills has been divided. Early researchers (e.g. Spivack et al., 1976; Spivack & Shure, 1974) believed the interpersonal problem-solving process consisted of a set of interrelated cognitive skills. Spivack and Shure (Spivack, et al., 1976; Spivack & Shure 1974) believed that an individual's success or failure in resolving an interpersonal conflict depended on how he/she thought about the problem. The individual's thought process was manifest through his/her set of cognitive skills (Spivack et al., 1976). It was further believed that an individual's interpersonal cognitive problem-solving (ICPS) skills modified his/her social adjustment (Spivack & Shure, 1974). Problem-solving programs implemented by these researchers (eg. Spivack & Shure, 1974) attempted to improve children's success at solving interpersonal problems and subsequently their social adjustment by teaching them interpersonal cognitive problem-

solving (ICPS) skills (Spivack & Shure, 1982). These skills included: the ability to recognize the existence of a problem, the ability to generate several alternative solutions to the problem, the ability to use "means-ends thinking" (identification of the steps required to reach a goal) to attain social goals, the ability to generate possible consequences to social behaviors, and the ability to identify and comprehend the motives and behaviors of others (Shure, Spivack, & Jaeger, 1971; Spivack et al., 1976; Spivack & Shure, 1974).

A series of studies conducted by Spivack, Shure, and their colleagues investigated the relationship between interpersonal cognitive problem-solving skills and adjustment. Spivack et al. (1971) found that four-year-old children exhibiting poor school adjustment (as judged by their teachers) were deficient in both the quality and quantity of solutions they generated in response to interpersonal problems. When compared to their more adjusted peers, poorly adjusted children generated solutions which were less acceptable and effective than those generated by children in the "better-adjusted" (1971, p. 1801) group. Spivack et al. (1976) reviewed research on cognitive problem-solving skills and found that well-adjusted children performed better on tests measuring the ability to recognize problems, the ability to recognize the feelings of others, the ability to generate alternative

solutions to problems, and the ability to anticipate potential consequences of generated solutions than their maladjusted peers.

Additional research conducted by Spivack and Shure (1974) evaluated the effectiveness of their interpersonal cognitive problem-solving program for four- and five-year-olds. The program, entitled "Head Start" consisted of daily lessons taught by classroom teachers over a period of 12 weeks. Program lessons emphasized basic language skills, the identification of emotions, the generation of alternative solutions to problems, the identification of possible consequences to solutions, and the pairing of solutions to consequences. Lessons were taught to groups of six to eight children, and centred around games, storybooks, puppets, and small group discussion. One hundred and thirteen preschool children received the program, compared to 106 children in the no program control group. Prior to the program, the behavioral adjustment of each child was rated by his/her classroom teacher. Children were classified into one of three behavioral groups: impulsive, inhibited, and adjusted. Post program assessment indicated that all three behavioral groups significantly improved their ability to generate alternative solutions, their ability to identify the possible consequences of solutions, and their ability to pair alternative solutions with possible consequences. Program children also significantly

decreased their use of coercive and aggressive problem-solving solutions. This finding is in contrast to the solutions generated by control children, who significantly increased their use of aggressive solutions. Gains in behavioral adjustment were also found. Prior to the program, 36 percent of the program children, and 47 percent of the no-program children were perceived as being adjusted by their teachers. After training the number of program children perceived as being adjusted significantly increased to 71 percent. Fifty percent of the program children initially judged as being impulsive were rated as adjusted after participation in the program, while 75 percent of those initially judged to be inhibited were rated as adjusted after completing the program. The number of children in the control group rated as being adjusted increased to 54 percent, however this was not a significant increase. Gains in adjustment were found to be significantly positively related to gains in alternative solution generation. Follow-up data was collected six months after the completion of the problem-solving program. Eighty-six percent of the program children rated as being adjusted immediately following the program were perceived as being adjusted six months later. Sixty-six percent of the control group children maintained their adjustment status.

Spivack and Shure (1974) believe that specific cognitive problem-solving skills mediate adjustment, and

that improving these skills will lead to improvements in adjustment. While some research has supported this view (e.g. Denham & Almeida, 1987; Shure & Spivack, 1979; Spivack & Shure, 1974) other studies have either failed to demonstrate increases in adjustment (e.g. McClure, Chinsky, & Larcen, 1978) or have been unable to find a relationship between improved problem-solving skills and improved adjustment (e.g. Weissberg et al., 1981a; Weissberg et al., 1981b).

Subsequent researchers, such as Weissberg and colleagues (e.g. Gesten et al., 1982; Weissberg et al., 1981a; Weissberg et al., 1981b) have stressed the importance of problem-solving behaviors. This approach is different from that of Spivack and Shure (1974) who emphasize cognitive problem-solving skills. Weissberg and his colleagues have designed prevention programs which emphasize the acquisition of appropriate problem-solving behaviors in addition to various cognitive skills (Gesten & Weissberg, 1986). The term "social problem-solving" has been used to represent the type of problem-solving process taught by these programs, and reflects a shift in emphasis to the behavioral components of problem-solving (Gesten & Weissberg, 1986). Weissberg and Allen (1986, p.21) define social problem-solving as: "a cognitive-behavioral process that focuses on how children think about and resolve interpersonal problems". Social problem-solving programs

are based on social learning theory: problem-solving behaviors are acquired through role-play and exposure to appropriate models.

A series of studies conducted by Weissberg and colleagues investigated the effectiveness of their social problem-solving primary prevention programs. The initial study (Gesten et al., 1982) assessed the effectiveness of a 17 lesson, in-class program for 201 second and third grade students. Lessons were approximately 40 minutes long, and emphasized six problem-solving steps including: recognition of the problem, identification of goals, thinking before acting, generation of multiple solutions to the problem, identification of possible consequences of each solution, and application of the solution (the response). Lessons involved small group discussion, video modelling, role-playing, and educational games. Three groups of students were compared. One experimental group, the full curriculum group, received the complete 17 lesson, problem-solving curriculum. The second experimental group, the videotape only group, received a brief overview of each of the program problem-solving steps. Each overview was then followed by a videotape, with pauses for group discussion on the current lesson topic. This group received five 40 minute lessons. The third group of students was a no-program control group. Dependent variables included problem-solving measures and behavioral adjustment measures. Data was collected prior to

the program, as well as immediately following the program and one year later. Students who received the full curriculum improved significantly more than students in both the videotape curriculum and the control group on problem-solving measures assessing alternative solution generation and identification of possible solution consequences. The videotape group did not improve significantly on measures of problem-solving skills. The full curriculum students also generated significantly more alternative solutions to a simulated conflict situation than students in both the videotape and control groups. Only the control group showed significant changes in pre to post teacher rated measures of total competence. The authors also found that for second grade subjects, improvements in problem identification, generation of alternative solutions, and identification of possible solution consequences was significantly positively correlated with increases in teacher ratings of competence.

One year later follow up data was collected on 138 of the subjects who participated in the initial study. The follow up data indicated that full curriculum students continued to maintain their gains in the identification of potential solution consequences. Both experimental groups received better scores than controls on seven out of ten teacher rated problem and adjustment measures, including the teacher rated competence score. Teacher ratings of total competence improved between the immediate and delayed

posttest for both the experimental groups. Teacher ratings of total competence for the control group returned to their original pre-program level on the delayed posttest.

Weissberg et al., (1981b) conducted a second study in which they examined the effects of a modified version of the problem-solving prevention program used in the previous study (Gesten et al., 1982). The program was extended from two months to four months, and the number of lessons was increased from 17 to 52. Lessons consisted of five major topics: recognition of feelings in oneself and others, identification of problems, generation of several alternative solutions, identification of potential solution consequences, and problem-solving integration, which teaches students to consider all elements of effective problem-solving such as tone of voice and timing. Problem-solving steps were similar to those used in the previous program, and included: look for upset feelings, state the problem, choose a goal, think before acting, generate many solutions, identify potential consequences of the solutions, pick a good solution and try it, if the initial solution doesn't work, try another. Lessons involved class discussions, video modelling, role-playing, competitive games, and use of workbooks. Two groups of third-grade students were compared: a program group and a no program control group. Subjects were from urban and suburban schools. Pre- and posttest measures were obtained.

Results were similar to those found in the previous study. Program children improved significantly more than controls on measures assessing the number of alternative solutions generated, and the effectiveness of alternative solutions. Post program measures indicated that program children performed better than controls on measures assessing identification of problems and identification of solution consequences. Program students were also found to generate more solutions and to demonstrate greater persistence than control children in a simulated problem situation. The researchers also found that suburban program children, when compared to controls, improved significantly on seven out of nine teacher-rated scores, including the total competence score and the total problem score. Urban program children were rated significantly more poorly than controls on teacher-rated scores including total competence and peer sociability. A relationship between problem-solving gains and adjustment gains was not found.

In a third study (Weissberg et al., 1981a) Weissberg and colleagues assessed the impact of a 42 lesson, social problem-solving program, which is an extension of the program used in the previous study. Lesson format, major topics, and problem-solving steps were the same as those used in the previous program. Subjects were urban and suburban second, third, and fourth grade students. Dependent variables included problem-solving and adjustment

measures. Pre-and posttest measures were collected. Two groups of students were compared: a program group and a no-program control group. Students in the program group improved significantly more than controls on measures assessing the number of alternative solutions generated, and the effectiveness of generated solutions. Program students were also found to generate more solutions and to demonstrate greater persistence than control children in a simulated problem situation. Suburban program children attempted more solutions than rural children during the simulated conflict situation. Students in the program group improved more than control students on teacher-rated scores of total problems, total competence, likeability, and school adjustment. There were no significant group differences on measures of peer sociometric ratings. Urban students, compared to suburban students, were found to exhibit greater increases on measures of total problems, total competence, and school adjustment, independent of condition. Gains in social problem-solving and adjustment were found to be unrelated.

Caplan et al., (1992), found similar results when they assessed the impact of a school-based social competence prevention program designed for use with six and seventh grade students. The program consisted of a problem-solving unit, which focused on the four major topics similar to those included in the previous problem-solving programs:

identification of the problem, generation of alternative solutions, evaluation of solution consequences, and strategy implementation. Students in the program demonstrated significantly greater improvements on teacher-rated measures assessing constructive, peer-related conflict resolution and popularity when compared to no-program control students.

The Weissberg et al. (Caplan et al., 1992; Gesten et al., 1982; Weissberg et al., 1981a; Weissberg et al., 1981b) studies provide valuable information about the impact of social problem-solving programs on children's problem-solving skills and adjustment. Students who participated in the problem-solving programs demonstrated gains in problem-solving skills such as identification of problems, and generation of alternative solutions. Program students generated more solutions in a simulated conflict solution than control students, and showed greater persistence in their attempts to resolve the problem. Program students also demonstrated gains in teacher-rated measures of competence, although in some cases (e.g. Gesten et al., 1982) these gains did not appear until a year after students had completed the program.

The programs in the Weissberg et al. (Caplan et al., 1992; Gesten et al., 1982; Weissberg et al., 1981a; Weissberg et al., 1981b) studies were fairly extensive, some had as many as 52 lessons. These problem-solving programs were short-term however. The entire problem-solving

curriculum was taught to students within a single grade level. Furthermore, the student competence data collected in these studies was based on teacher-ratings. The results of this student competence data need to be interpreted cautiously: teachers were not blind to the fact that their students had participated in a problem-solving program.

Further studies need to be conducted in order to examine the impact of long-term problem-solving programs on children's problem-solving skills. Perhaps students benefit more from programs that are taught over several grade levels. Future studies are also needed to determine the effect of problem-solving programs on students' self-perceived interpersonal competence.

The present research project will evaluate the effectiveness of primary prevention, problem-solving program entitled "Children Learning for Living". The program is based on Weissberg's social problem-solving approach to prevention, and focuses on teaching children problem-solving skills similar to those taught in the social problem-solving programs developed by Weissberg and his colleagues. Instructional format (e.g. small group discussion, video modelling, educational activities) and steps to solving problems are also similar to those used in the programs developed by Weissberg et al. Unlike the social problem-solving programs developed by Weissberg and his colleagues however, "Children Learning for Living" is a long-term

program, taught to children from kindergarten to grade six. While the "Children Learning for Living" program teaches children the same problem-solving skills taught in the Weissberg et al. programs, the lessons are spread out over a five year period. A single problem-solving skill is focused on at each grade level. For example, during grade two problem-solving lessons, students are taught all about identifying feelings in themselves and others. Lessons are taught to small groups of eight to ten children, with ten lessons being taught at each grade level.

Unlike the Weissberg et al. (Caplan et al., 1992; Gesten et al., 1982; Weissberg et al., 1981a; Weissberg et al., 1981b) programs, where lessons are taught by trained classroom teachers, lessons in the "Children Learning for Living" program are taught by Mental Health Workers. Mental Health Workers are extensively trained school personnel, who are each specifically hired to teach and promote the "Children Learning for Living" program within a single school.

An evaluation of this program will add to the existing research by providing information about the impact of an intense, long term primary prevention, social problem-solving program. The present evaluation will also examine the impact of "Children Learning for Living" on children's self-perceptions.

"Children Learning for Living"

The purpose of the present study is to evaluate the impact of the primary prevention, interpersonal problem-solving program entitled "Children Learning for Living". "Children Learning for Living" is a primary prevention program which was designed to promote positive social development in all children. "Children Learning for Living" attempts to educate children about interpersonal problems, and to equip them with the social problem-solving skills necessary for positive, effective conflict resolution. The program also attempts to instill in children a feeling of confidence about their ability to apply their problem-solving skills to interpersonal conflicts. The program model consists of two main components: a set of activities and a mental health worker who is responsible for the implementation of the activities. The activities can be classified into four categories, including education, counselling, consultation, and special projects, the most important of which is education (Elementary School Mental Health Committee of the Ottawa Board of Education, 1989).

The educational component of "Children Learning for Living" is based on a mental health curriculum, designed for children in kindergarten to grade six. Small groups of eight to ten children meet once a week with the mental health worker, for a period of approximately ten weeks. Meetings take place in the classroom of the mental health

worker. Each group consists of children from a single grade. Small discussion groups are utilized because it is believed that talking through problems is one of the best methods for dealing with the problems encountered throughout life, and because use of discussion to solve problems can be easily applied to environments outside the school (Legg, 1989). Lessons proceed in a stepwise manner, which each lesson building on the previous weeks' lesson. The program is based on a social problem-solving approach. Cognitive and behavioral problem-solving skills are taught through small group discussion, exposure to appropriate models and to a limited extent, role-playing. Effective problem-solving techniques are modelled through books, videotapes, and by the mental health worker herself.

"Children Learning for Living" presents problem-solving as a two step process. Step one involves talking about the problem. Children are encouraged to discuss what happened, what the problem is, who has the problem, and what their goal is (i.e. what they would like to see happen when the problem is resolved). Step two involves taking action. Children are encouraged to think about ways the problem could be resolved, to test their ideas by identifying potential consequences of each possible solution, to choose the best solution, try the solution, and if the chosen solution fails, to select and try other solutions until one works. Inherent in this two step process is the skill of

impulse control. Children are taught to think about and discuss the problem before reacting to the conflict situation.

Throughout the program children are encouraged to develop and practice the problem-solving skills necessary for this two-step approach to effective interpersonal problem-solving. The ability to identify the problem, the ability to recognize and identify one's feelings and the feelings of others, the ability to identify and express one's goals (i.e. what the student would like to see happen), the ability to listen while the other expresses his/her feelings and goals, the ability to control one's impulses, the ability to generate several possible solutions to the problem, the ability to anticipate the consequences of alternative solutions, the ability to select and implement the most appropriate solution, and the ability to select and utilize alternate solutions in the event that the first solution fails to be effective are component skills of problem-solving that are emphasized throughout the program. Students are taught to identify the potential outcomes of their alternate solutions because it is believed that this solution-consequence pairing encourages children to generate more adaptive conflict solutions (Weissberg, 1985). In addition, students are taught the importance of calming down before attempting to resolve a conflict. Students learn that there are many different ways of calming down, and that

different methods work best for different people. Students are also taught to use "I talk" to express their feelings and interpersonal problem goals. "I talk" uses first person statements, in which the speaker emphasizes his\her feelings and goals rather than relying on accusatory statements which blame others involved in the conflict. "Children Learning for Living" operates within the regular classrooms. A series of six bright, colorful posters have been designed which capture and convey the major points underlying the program. Poster topics include: the two step process to problem solving (poster title: "Steps to Problem-Solving"), the process of managing conflict (poster title: "Steps for Managing Conflict"), examples of "I talk" (poster title: "I Talk"), a wheel of possible solutions to conflict (poster title: "Constructive Ways to Handle Conflict"), examples of ways to calm down (poster title: "Calming Down Ideas"), and feelings (poster title: Feelings). While the "Steps to Problem Solving" poster represents the basic problem-solving concepts of the program, a second poster entitled "Steps for Managing Conflict" was created to reflect the need for calmness when dealing with interpersonal conflict situations. The "Steps to Problem Solving" poster outlines the program's two-step approach to problem-solving. These steps are to be used in any problem situation, such as having a problem with nightmares. "Steps for Managing Conflict" was designed for use in interpersonal conflict

situations, and depicts a stoplight, with each of the three coloured lights outlining a different step. The red light instructs students to "Stop and Think", the yellow light to "Agree to Talk it Over", and the green light to "Make a Deal". Classroom teachers are encouraged to model and assist students in using the problem-solving process when conflict situations arise within their classrooms.

The program "Children Learning for Living" consists of a series of ten lessons at each grade level. Weissberg (1985) believes that the behavior of students in social problem-solving programs changes after children have learned and practised the component skills necessary for problem-solving (i.e. after the ten lessons), and not while students are learning the individual problem-solving skills. Long term social skill gains therefore, may be dependent on the extent to which children are provided opportunities to practice and "master the application" of problem-solving skills (Weissberg, 1985, p. 237). Students in the "Children Learning for Living" program are given the opportunity to practice their skills in their individual classrooms (and assisted when needed by the teacher and the posters), and during individual counselling sessions with the mental health worker. Additional practice and review is offered in the form of "booster" sessions, in which the mental health worker and/or teachers conduct special activities designed to reinforce the concept of problem-solving. Activities may

be limited to a single classroom, or they may occur throughout the school. For example, a classroom teacher may decide to show his/her class a video on feelings, followed by a class discussion and/or activities taken from the literature accompanying the video.

"Children Learning for Living" also offers a parent workshop. The workshop consists of a series of five lessons, taught over a period of five weeks. Lessons are conducted by an experienced mental health worker and focus on teaching parents the "Children Learning for Living" problem-solving approach to conflict situations. Teaching parents the problem-solving process facilitates children's practice of their own problem-solving skills. Parents who are familiar with the problem-solving process can model its use during domestic conflict situations, aid their children in the application of problem-solving skills, and encourage their children to practice their own problem-solving skills. The parent workshop therefore, indirectly facilitates children's post-curriculum practice of the problem-solving process.

The second activity component of the "Children Learning for Living" program is the counselling. Children who require assistance dealing with social and emotional problems are encouraged to visit the mental health worker for a one-to-one counselling session. Students from grade four to grade six are encouraged to refer themselves to the

mental health worker whenever they find themselves facing a problematic situation. Students in kindergarten through to (and including) grade three must be referred to the mental health worker by a guardian, teacher, principal, or other school professional, such as the school psychologist. Statistics suggest that 10 to 20 percent of students in program schools are seen by the mental health worker for individual counselling (Elementary School Mental Health Committee of the Ottawa Board of Education, 1989). Problems discussed in these private counselling sessions range from difficulty with peer relations to problems experienced at home, such as divorce or death in the family. Problems are discussed using the program's two-step problem-solving approach: the mental health worker assists the student in identifying his/her problem, and then along with the student, identifies and examines the possible solutions to the student's problem. Some situations (i.e. a death) require that the mental health worker help the child accept the fact there may be no real solution to the problem. In these situations, the mental health worker helps the child accept and adjust to the new situation. These individual counselling sessions are important because they encourage students to apply the problem-solving skills they have learned in school to problematic situations which occur beyond the school yard. This practice facilitates the generalization of these newly developed problem-solving

skills (Gesten & Weissberg, 1986).

Consultation is the third activity component of the "Children Learning for Living" program. Mental health workers in the "Children Learning for Living" program have regular contact (both formal and informal) with parents/guardians, teachers, principals and other school professionals. These meetings enable parents and school staff to consult with the mental health workers about particular students. These meetings also provide mental health workers with an opportunity to discuss their social skills curriculum with teachers, while at the same time encouraging teachers to promote the two-step conflict management process.

Special projects are the fourth activity component of the "Children Learning for Living" program. The most successful current project of the program is the toy lending library, which is in place in most program schools (Elementary School Mental Health Committee of the Ottawa Board of Education, 1989). The toy lending library enables parents and young children to meet prior to children's entry into kindergarten. Kindergarten teachers in program schools have found that participation in the toy lending libraries of program schools has facilitated children's entrance into kindergarten (Elementary School Mental Health Committee of the Ottawa Board of Education, 1989).

"Children Learning for Living" was initially evaluated

by Webster and Heyland in 1983. The purpose of the study was to "establish the significance of the resident school mental health workers, acting within the boundaries of the program...in the nurturance of children's mental health" (Webster & Heyland, 1983a, p. 13; Webster & Heyland, 1983b, p. 6). Evaluation objectives included an examination of the relationship between the program and conditions in the school environment which promote children's mental health, and the relationship between the program and variables associated with children's mental health (e.g classroom adjustment). The evaluation was conducted over a three year period, from September of 1980 to June of 1983. Measures obtained from two elementary program schools were compared with those obtained from two comparable nonprogram comparison schools. Questionnaires, interviews, teacher records, and archival research were used to collect data. Ninety-one percent of teachers responding to a questionnaire indicated that the school atmosphere had become more positive since the implementation of the problem-solving program. Program school staff members developed "more positive attitudes and approaches to problems" (Webster & Heyland, 1983b, p. 17), as well as a greater awareness of children's mental health. Interviews with principals and mental health workers at program schools indicated that the atmosphere between teachers and students became less confrontational during the three years in which the study

was conducted. Teachers indicated that students' behavior became less hostile and aggressive. The number of program students referred to the Psychology and Social Services departments of the OBE declined over the three year period, and were lower than the average number of referrals for similar sized schools. The demand for individual student counselling (by the mental health worker) also declined in program schools over the three year duration of the study. Teacher ratings on the Classroom Adjustment Scale (CARS, Lorion, Cowen, & Caldwell, 1975) indicated that program children demonstrated increases in school adjustment over the three year period. Webster and Heyland also found evidence of problem-solving gains: most program students had learned at least one of the social problem-solving concepts taught in the group discussions. In their recommendations, Webster and Heyland suggest that future research examine the essential components of children's mental health, and "children's acquisition of competency as a result of exposure to the education component of the program" (Webster & Heyland, 1983a, p. 301; Webster & Heyland, 1983b, p. 25).

Evaluation of Primary Prevention Programs

Establishment of a primary prevention, social skills training program is an ongoing process, consisting of several components. These include design, implementation, and evaluation. Social skills training programs are implemented because individuals believe that it's possible

to teach students the skills necessary for coping successfully with real-life situations (Daniels, personal communication, February, 1995). Outcome evaluations of programs are conducted in order to determine whether or not program objectives have been met (Price & Smith, 1985). Evaluation is necessary because it enables researchers to determine the extent to which a program's objectives have been attained, which parts of the program are functioning effectively, and which parts are functioning less effectively (Daniels, 1995; Mash & Terdal, 1988). Evaluation enables individuals to determine what parts of a training program need to be altered in order to make the program more effective (Daniels, 1995; Price & Smith, 1985).

Weissberg and Gesten (1982) reported that several modifications were made to their social problem-solving program over a three year period. The most recent version of their program differed significantly from the original, and was demonstrated to be the most successful (Weissberg et al., 1981a). Durlak and Jason (1984) discuss school-based prevention programs and conclude: "the challenge that remains for investigators is to identify what growth-enhancing factors exist in affective education programs in order to develop new programs or modify existing ones as needed" (p. 109). Evaluation also enables researchers to assess a program's utility as a primary prevention program. Primary prevention programs, by definition (e.g. Cowen,

1983a,b), are programs which promote well-being and prevent the development of disorders. Evaluation is needed in order to provide empirical support of a program's effectiveness as a form of primary prevention.

Evaluation of a primary prevention, social skills program is a multi-step process. Cowen (1980) has developed a framework for conducting primary prevention research. Cowen's (1980) framework consists of the following six dimensions: focus, content direction, target specificity, knowledge-gathering mode, research type, and temporal perspective. Focus refers to the purpose of the research project. Is the project an attempt to gather preliminary information which will then be used to make decisions about the need and rationale for a program (i.e. is it part of the generative stage of program development) (Cowen, 1980; Cowen, 1983a,b; Lorion, 1983)? Or is the project an evaluation of an existing program (i.e. is it part of the executive stage of program development) (Cowen, 1980; Cowen, 1983a,b; Lorion, 1983)? The current project is part of the executive stage of program development for the social problem-solving training program entitled "Children Learning for Living". Content direction deals with the purpose of the prevention program. Does the program have a preventive or enhancement function (Lorion, 1983)? Preventive programs attempt to prevent people from acquiring certain disorders, while enhancement programs attempt to help people acquire

certain skills and competencies which will then enhance their quality of life (Lorion, 1983). The present project involves the evaluation of an enhancement primary prevention program.

Target specificity refers to the population directly and indirectly targeted by the prevention program. Successful evaluation of a program involves assessing the impact of the program on its specified target population (Lorion, 1983), and selection of appropriate (with respect to the population age and capability) measures. The program in the current evaluation targets students from kindergarten to grade six. Only grade six students will be assessed in the current evaluation however, therefore age appropriate measures will be used to evaluate the program's impact on this population.

Experimental and control subjects must be selected carefully. Lorion (1983, p. 262) points out that "cooperative schools tend to be either in the inner city or in upper-middle-class neighbourhoods in which parents actively support innovation". Use of volunteer subjects may reduce the generalizability of the results, and/or underestimate the size of a program's effects. In the current study, potential comparison schools were approached by the researchers and given an outline of the proposed project. Schools whose principals consented to participation in the study were then included in the

project. Principles who agreed to participate were motivated, valued research, believed in the importance of problem-solving skills, and were interested in the "Children Learning for Living" program. The comparison schools used in the present study may not represent the general school population. Children attending these schools may be more socially skilled than students in the general population. Comparisons using these children therefore, may underestimate the impact of the social problem-solving program.

The program schools participating in the current study were not randomly selected. Those schools which have a program are schools where principals perceive a need for this type of program, and who have teachers motivated to be involved in such a program. Since program schools were not randomly assigned the program, this study is a non-equivalent comparison group design, and this limits the interpretation of causality.

Knowledge gathering mode refers to the methods used to gather data. Measurement selection depends on which aspects of the program are to be assessed. Program impact, implementation characteristics, financial cost, and user reaction may be assessed using a variety of measures (Durlak, 1983). Program impact may be assessed through direct observation, self-reports, behavioral ratings, interviews, and/or archival records. Decisions must be made

regarding the specific measures to be used in the research. Lorion (1983, p. 262) notes: "measurement limitations are the second major threat to the validity of prevention research findings". Measures selected for use in a study should be reliable, valid, and sensitive (Lorion, 1983, Price & Smith, 1985). Established measures should be used whenever possible (Lorion & Loundsbury, 1981, cited in Lorion, 1983). Inadequate measures produce nonreplicable results, and threaten the identification of effective program strategies (Lorion, 1983).

The current research project is a quasi-experimental field study, with six dependent variables. Measures were selected on the basis of their sensitivity to program effects, their psychometric properties, and their appropriateness for the target population. Whenever possible, established measures were selected. In some cases however, appropriate measures could not be found, therefore ones were developed by the researchers and those individuals involved in the program development.

Research type is related to the nature of a project's statistical analysis. Will the project's results indicate the nature and magnitude of relationships between the dependent variables (Lorion, 1983) or will the results indicate the magnitude of the intervention (Lorion, 1983)? Will variables be examined in terms of their unique or interactive effect (i.e. will univariate or multivariate

analyses be used) (Lorion, 1983)? The present study will examine the interactive effect of the variables. The nature of the relationships between the dependent variables will also be examined. Temporal perspective refers to the temporal organization of the research. Will data be collected pre- and/or post intervention (Lorion, 1983)? On a single occasion or multiple occasions (i.e. will there be immediate and delayed posttests) (Lorion, 1983)? In the current program research, measures will be administered approximately four months following the completion of the social problem-solving program. Pre program measures will not be collected. In order to obtain these measures the students would have to have been assessed in grade two, prior to participation in the program.

The preceding dimensions served as guidelines in the development of the current program evaluation.

The Current Evaluation

"Children Learning for Living" has two main objectives: to improve students' problem-solving skills, and to improve students' feelings of interpersonal competence (Elementary School Mental Health Committee of the Ottawa Board of Education, 1989). The current evaluation will compare the social skills and social competence of grade six students who have completed all five years of the program curriculum, in a school with a Mental Health Worker trained in social problem-solving strategies, with the skills and competence

of grade six students in schools where the program has not yet been implemented. The experimental group will consist of students who have participated in the "Children Learning for Living" program from grades two through to grade six. Students in the non-equivalent comparison group will come from non-program schools.

Numerous researchers (e.g. Green & Forehand, 1980; Gresham & Elliott, 1984; Gresham & Lemanek, 1983; Harris, 1985; Hughes & Sullivan, 1988; Kelly, 1982; Lorion, 1983; Maag, 1989; Weissberg, Zelek Caplan, & Sivo, 1989) have stressed the importance of designing a "multimethod assessment" when evaluating the effects of social skills training programs. According to Maag (1989), "multimethod" assessments should involve measures at each of two levels. Measures at the specification level are used to determine whether or not target behaviors have improved as a result of the training program. Impact measures are used to determine whether or not the program has had positive impact on outcomes which are socially valued such as school adjustment, and peer acceptance (Gresham & Elliott, 1984).

Based on these suggestions, a program evaluation was designed that utilized a multimethod approach. Students' problem-solving skills will be assessed using three specification measures: a specific knowledge self-report questionnaire (What Do You Think?, Daniels, & Monker, unpublished), a general knowledge self-report questionnaire

(Taxonomy of Problematic Social Situations for Children, TOPS, Dodge, McClaskey, & Feldman, 1985), and one telephone interview. Students' interpersonal competence will be assessed using one specification measure, consisting of a self-report questionnaire (Interpersonal Competence Questionnaire, Buhrmester, Furman, Wittenberg, & Reis, 1988). The evaluation also consists of two impact measures: a self-report questionnaire designed to assess how students feel about themselves (Piers-Harris Self-Concept Scale, Piers, 1964), and a self-report rating scale, designed to measure students' levels of classroom and school satisfaction (How Satisfied Are You?, Daniels & Monker, unpublished). Self-report questionnaires were chosen as the primary method of assessment because they are easy to administer and score, and because they are economical (Hughes, 1990). Self-report measures were also chosen because the majority of the "Children Learning for Living" program focuses on meta-cognitive skills which cannot be observed. Self-report measures offer a means of assessing cognitive changes and affective changes in internal state.

In order to evaluate a program, it is necessary to identify the program objectives, and to select outcome measures that are "closely linked" to them (Price & Smith, 1985, p. 105). "Children Learning for Living" has two main objectives: to improve students' problem-solving skills, and to improve students' feelings of interpersonal competence

(Elementary School Mental Health Committee of the Ottawa Board of Education, 1989). Two measures were selected for use in assessing student's problem-solving skills. A specific knowledge questionnaire was designed to evaluate student's knowledge of social-cognitive problem-solving. Test items were developed in consultation with a mental health worker, and are based on material covered in the course curriculum. "Children Learning for Living" is a unique problem-solving training program, therefore a specific knowledge questionnaire had to be designed for use in this study.

General problem-solving ability is assessed using a general knowledge questionnaire (Taxonomy of Problematic Social Situations for Children, TOPS, Dodge et al. 1985). This assessment measure was chosen because it is short, easy to administer, and appropriate for use with elementary school students. This outcome measure was also selected for use because it presents students with 15 problematic situations that frequently occur in school and result in peer relationship problems (Dodge et al. 1985). The TOPS was modified for use in the current study. This questionnaire was originally designed as a role-play exercise, which scored students' behavioral responses to hypothetical conflict situations. This format was modified to a multiple choice questionnaire.

The second program objective, improving students'

feelings of interpersonal competence will be assessed using an interpersonal competence questionnaire (the Interpersonal Competence Questionnaire, ICQ, Buhrmester, Furman, Wittenberg, & Reis, 1988). This questionnaire was chosen because it has a conflict management subscale which asks students to indicate how competent they would feel in a variety of interpersonal conflict situations. This questionnaire was also modified for use in the current study. The Interpersonal Competence Questionnaire was designed to be administered to university undergraduates. Some of the words and phrases had to be modified so that they would be appropriate for use with grade six students.

Behavioral interviews were selected for inclusion in the current program evaluation. Asking students to describe their problem-solving approach to conflict is both direct and efficient (Maag, 1989). Behavioral interviews are less artificial than role-play, and enable researchers to identify the "antecedent, sequential, and consequent conditions" affecting an individual's problem-solving efficiency (Elliott, Gresham, & Heffer, 1987, cited in Maag, 1989). Additional considerations, such as generalizability and the need to evaluate the process of problem-solving, also led to the decision to include behavioral interviews in the present evaluation.

In their review of 31 social skills training programs Gresham and Lemanek state: "One of the biggest problems in

the social skills literature is the failure to either assess or demonstrate generalization effects" (1983, p. 255). Similar findings have been reported by other researchers (e.g. Hughes & Sullivan, 1988; Tisdelle & Lawrence, 1986). One of the main assumptions of social skills training programs however, is that participation in a social skills program will improve students' performance of certain skills in situations which are different from those in which the skills were originally taught (Hughes & Sullivan, 1988; Tisdelle & Lawrence, 1986; Urbain & Kendall, 1980). This assumption of skill generalization across settings needs to be evaluated (Tisdelle & Lawrence, 1986). According to Ladd and Mize, the generalization of social skills refers to "a process in which the learner progresses from performing new skills in a relatively controlled, risk-free context, to one in which he or she is expected to use the skills in the course of normal social interaction in real-life situations" (1983, p. 135). Setting generalization refers to the performance of a social skill in a setting which is different from the setting in which the skill training took place (Gresham & Lemanek, 1983; Hughes & Sullivan, 1988).

The use of telephone interviews in the current program evaluation will enable the researchers to assess problem-solving skill generalization across settings. Krasnor and Rubin (1981) suggest that what people say they will do in a given situation, and what they actually do in that situation

may differ. Kelly (1982) points out that self-report measures reflect an individual's self-perceptions of his/her behavior (in this case social skills), and may not always correspond with observations of his/her behavior made by an objective observer. Telephone interviews will enable researchers involved in the current study to determine whether or not students in program schools are applying their problem-solving skills (assessed using self-report questionnaires) to actual conflict situations.

Weissberg et al. (1989) report that researchers often design program evaluations that focus on the assessment of individual skills instead of processes (e.g. Richard & Dodge, 1982; Lochman & Lampron, 1986; Shure et al., 1971; Spivack & Shure, 1974). Waters and Stroufe (1983) have noted however, that assessing component skills rather than processes accounts for a very small proportion of the variance in social competence. Assessing the problem-solving process also enables researchers to determine the effectiveness with which students can work through the conflict resolution process. This has more construct validity because real-life problem-solving is a process, (D'Zurilla & Goldfried, 1971) not an individual skill. The telephone interview was selected for inclusion in this study because it would account for a larger proportion of variance in social competence and because it was believed to have greater construct validity than measures assessing

individual skills.

Several researchers (e.g. Gresham, 1985; Gresham & Elliott, 1984; Gresham & Lemanek, 1983; Hughes & Sullivan, 1988; Maag, 1989) have identified the need to evaluate the social importance of the effects of participation in social skills training programs. According to Gresham and Lemanek (1983), research needs to determine whether or not "the quantity and quality of behavior change make[s] a difference in terms of the individual's functioning in society" (p. 256). Socially important behavior changes should "enhance the quality of a student's life" (Wolfe, 1978; quote from Maag, 1989). In a review of 31 social skills training programs, Gresham and Lemanek (1983) found that only 20 percent of the studies assessed social importance. The Piers-Harris Self-Concept Scale (Piers, 1964), and the classroom/school satisfaction scale (How Satisfied Are You?, Daniels & Monker, unpublished) were selected to determine whether or not the problem-solving training program "Children Learning for Living" produced behavioral outcomes which were socially valued. The Piers-Harris (Harris, 1964) assesses individual's feelings about themselves. This measure was chosen for use in the current evaluation project because it was believed to be a socially important outcome. Research has found that children's self-concepts are moderately correlated with measures of peer acceptance. Children with "moderately high" (Hartup, 1983, p. 134) self-

concepts are accepted more by peers than children with low self-esteem (Helper, 1958; Reese, 1961; Withycombe, 1973). The Piers-Harris was also chosen because of its high reliabilities. The classroom/school satisfaction scale was designed to asses how much students like their class and school, and how happy and comfortable they feel with their class and school. Rubin and Coplan state:

"...despite the primacy of cognitive and language developmental goals in institutionalized care and school settings, there has been a growing recognition that these more academic goals will not be met if the classroom constituents cannot get along with their peers, if they violate or are victimized by their peers, and if they feel inadequate in the company of their peers" (1992, p. 522).

Peer group rejection during childhood has been found to be an important predictor of high school drop-out and academic failure (Parker & Asher, 1987). The classroom/school satisfaction measure was included in the current study because it was believed to be a socially important outcome. Children who like school are more likely to have positive peer relations (Richard & Dodge, 1982; Spivack & Shure, 1974) than socially unskilled students. Students with positive peer relations will feel more comfortable and satisfied with their class and school, and will be less at risk for later academic difficulties and school drop-out

than students with poor peer relationships.

The questionnaires (and the interview) will be administered four months after students in the experimental group have completed the grade six component of the program. Students in the experimental group will have been in the program from grade two through to grade six.

Researchers have suggested that the effects of participation in problem-solving programs may not appear until sometime after the program has been completed (T. Daniels, personal communication, April 9, 1995). This idea has been supported by Schneider (1992), who reviewed 79 studies of social skills training. Twenty-six studies involved pre, post, and delayed posttest measures. Two studies administered delayed posttests four to six months after the initial posttest, and one study administered a delayed posttest seven to 11 months after the initial posttest (exact numbers were not given). Schneider reports that the average effect size for the three studies was larger between the pretest and delayed posttest than between the pretest and initial posttest. These studies support the idea that social skills continue to be learned after the training program has been completed, thus necessitating long-term measures. The current evaluation is important because it examines learning effects four months after the completion of the problem-solving program, something which very few other social skills program assessment studies have

done (Weissberg & Allen, 1986).

Urbain and Kendall (1980) stress the importance of using a control group matched for variables such as attention. They suggest that use of a "no-treatment" control group makes it difficult to determine the extent to which program outcomes were due to the problem-solving training itself, and not due to factors such as expectancy for change and special attention. Schneider (1992) conducted a review of 79 studies of social skills training. Fifty-four studies (68%) consisted of attention/placebo control groups. Schneider (1992) found that: "Contrary to expectations, the average effectiveness of social skills training in comparison with attention/placebo control (mean $Z = .48$) was greater than the average effect size training in comparison to no treatment (mean $Z = .31$). This difference was statistically significant... $p < .01$ " (1992, p. 374). Further examination of these differences revealed that while the no treatment control groups exhibited very slight gains or losses on measures assessing social skills, the attention/placebo control groups exhibited much more variation, with some groups demonstrating declines in socially skilled behavior. Schneider (1992) suggests that these differences are due to difficulties with credibility, and "difficulties in maintaining the children's attention and decorum during unsystematic placebo procedures that lack focus" (1992, p. 377). This program evaluation will consist

of a non-equivalent comparison control group. The long duration of the "Children Learning for Living" program (from grade two through to grade six, ten lessons at each grade level) meant that considerable time and financial commitment would be required in order to implement attention/placebo control groups. Use of a no treatment comparison group provides a large sample of normative data regarding the problem-solving skills of grade six students. Gresham and Elliott (1984) state that normative data on samples of children at varying ages is "fundamental to both research and practice" (1984, p. 299). Normative data could aid in the selection of social skills to be taught to socially maladjusted students, as well as providing outcome guidelines for social skills intervention programs (Gresham & Elliott, 1984; Tisdelle & Lawrence, 1986).

At the request of the Ottawa Board of Education, gender differences in problem-solving ability will also be examined. Research examining the effect of gender on social skills training programs is very limited. Examination of the nature and organization of children's friendships suggests that gender effects may play a role in the effectiveness of problem-solving training programs. In their review of studies examining children's prosocial behaviors, Radke-Yarrow, Zahn-Waxler, and Chapman (1983) found that the majority of studies reported no differences in the frequencies of cooperation and sharing exhibited by

boys and girls. Ahlgren and Johnson (1979) however, compared children from grades two to twelve and found that girls demonstrated more positive attitudes towards cooperation than boys. These differential attitudes towards cooperation may be partly due to differences in the nature of friendships formed by boys and girls. Hartup (1983) reports that girls tend to interact with one another in pairs (often a best friend), while boys interact in larger groups. This finding has been supported by other researchers as well (e.g. Crombie, 1988; Larosa & Brophy, 1972; Lever, 1978; Waldrop & Halverson, 1975). These differences have been found to exist in preschool, middle childhood, and adolescence (Hartup, 1983).

The dyadic nature of girl's relationships involves an element of social risk. When two girls are involved in a conflict, failure to resolve the conflict means that each member of the dyad risks losing her main play partner, who is often a best friend. Boys tend to interact in larger groups. When two boys are involved in a conflict, failure to resolve the conflict may result in the loss of a friend (or friends, if some other group members decide to side with the other individual). Seldom will it result in the loss of the entire play group however, as it would with two girls who are unable to resolve their differences. According to Hartup the "social extensiveness" of male relationships "supports a quest for autonomy" while the "intensiveness" of

female peer relations "supports a need for close, intimate friendships" (1983, p. 110). Crombie states: "For girls, making a new best friend and acquiring the ability for sustained dyadic interaction and intimate friendships may be of greater importance" (1988, p. 117). Girls tend to place greater importance on interpersonal relationships than boys (Crombie, 1988). Interpersonal conflict involves more social risk for girls than for boys, therefore girls may be more motivated to utilize newly acquired problem-solving strategies. Furthermore, studies examining the effect of group size on group interaction have found that members of small groups of students tend to be more cooperative with one another than members of larger groups (Hertz-Lazarowitz, Sharan, & Steinberg, 1980). The small group nature (i.e. dyads) of female interactions suggests that female students will exhibit more cooperation in response to conflict than male students interacting in much larger groups. The nature of parent-child relationships may also have an impact on gender differences in social skills training effectiveness. Crombie argues that because parents tend to reinforce girls' appeals for aid more often than boys (Fagot, 1978), "it is quite likely that...seeking out teachers, and solving problems by soliciting the intervention of a teacher have quite different functional meanings in a girl's constellation of social behaviors than a boy's" (1988, p. 118).

The current problem-solving program encourages students to generate many different solutions to a problem. Students are taught that if they cannot resolve a problem on their own, they should approach a teacher for assistance. Early socialization experiences may mean that girls feel more comfortable approaching a teacher than boys, therefore girls may use this problem-solving strategy more often than boys.

Additional studies have found that program effectiveness may be related to the gender composition of the target group. Schneider and Byrne (1985) conducted a review of social skills training programs and found that program effectiveness increased as the proportion of female students increased. This finding may be due to early parental reinforcement of girl's requests for aid. Girls learn to pay greater attention to adults than boys do, therefore interventions which use adult trainers may be more successful with girls than with boys (Crombie, 1988).

The current problem-solving program uses adult female trainers, therefore female students participating in the program may show greater problem-solving gains than participating male students. The nature of female friendships, the group size of their interactions, and the early socialization experiences of young girls suggests that female students in the "Children Learning for Living" program may exhibit problem-solving abilities which are superior to those exhibited by male students in the program.

Summary

The purpose of the present study is to evaluate the impact of a school-based, primary prevention, interpersonal social problem-solving program. Children who have completed five years of the program curriculum in a school with a Mental Health Worker trained in social problem-solving strategies will be compared to grade six students in schools where the program has not yet been implemented. It is hypothesized that students who have received the complete curriculum for the "Children Learning for Living" program will demonstrate social problem-solving skills that are superior to those demonstrated by children who have not taken part in this program.

An additional hypothesis of this study is that children who have participated in the program will acquire problem-solving skills, and as a result will feel more competent at dealing with interpersonal problems, and will have a more positive self-concept. This hypothesis is supported by Weissberg et al. (1989), who suggest that participation in a social competence promotion program may "enhance children's beliefs that they are capable of handling certain social tasks effectively..." (Bond & Compas, 1989, p. 284). Children who have not participated in the program are expected to exhibit lower levels of perceived social competence and a less positive self-concept.

It is also hypothesized that children attending schools

which have implemented the "Children Learning for Living" program will exhibit higher levels of satisfaction with their classes and schools.

Lastly, it is hypothesized that female students will engage in more cooperation and requests for adult assistance in response to conflict situations than male students confronted with conflict. This hypothesis will be tested by comparing students' responses to questions posed during the behavioral interview.

The ability to effectively resolve interpersonal problems is an important skill for children to develop. Children lacking in problem-solving skills are rejected by their peers, and deprived of opportunities to learn and practice social skills necessary for positive interpersonal relationships (Asarnow & Callan, 1985; Piaget, 1926; Richard & Dodge, 1982; Rubin & Rose-Krasnor, in press). Programs like "Children Learning for Living" are important because they encourage children to learn and practice positive interpersonal problem-solving skills which are related to peer acceptance and opportunities for further social development.

The present research project offers a unique opportunity to examine the impact of an intensive, long-term, social problem-solving program. This program evaluation will make an important contribution to the development of a well-established primary prevention

program. It will help to determine the extent to which the program's objectives have been attained, which parts of the program are functioning effectively, and which parts are functioning less effectively. It will also help identify the components of the program which need to be altered in order to increase its effectiveness. The current evaluation will also provide valuable normative data about the problem-solving skills of grade six students. Finally, this project will provide information about the impact of a social problem-solving program on children's self-perceptions, an area which to date has been largely overlooked by research.

Method

Subjects

One hundred and nineteen grade six students participated in the questionnaire portion of the present evaluation. The experimental group consisted of 68 program students who had received the complete (grades two through six) "Children Learning for Living" curriculum. Program students came from both regular (n=62) and enriched classrooms (n=6). Students in the experimental group came from nine program schools. The comparison group consisted of 51 students who had not received the "Children Learning for Living" Curriculum. Non-program students came from both regular (n=32) and enriched classrooms (n=19). Students in the comparison group came from four non-program schools.

The two groups of students were comparable on age, gender, and sociometric status variables. The total sample consisted of 59 boys and 60 girls.

Comparison schools were selected on the basis of the Ottawa Board of Education's Focus on Future ranking system. This system ranks OBE schools on several variables, including: the number of English as a second language students, number of school personnel transfers and retirements, number of single parent families, household income, percent of the population with less than a grade 9 education, and the percent of the school population in public housing. Schools are ranked in terms of need and student risk status, with lower numbers (range is from one to 48) indicating higher degrees of need and risk. The Focus on Future ranking system is used in order to aid the Board in making decisions regarding the allocation of resources.

Fifty-nine students participated in the phone interview portion of the evaluation. The experimental group consisted of 36 students (four from an enriched program), from seven program schools while the control group consisted of 23 students (nine from an enriched program), from four none-program schools. The experimental and control groups were comparable on age, gender and sociometric variables. Twenty-five boys and 34 girls participated in the phone interviews.

Dependent Measures

Questionnaires.

Students were given a specific knowledge questionnaire ("What Do You Think", Daniels, & Monker, unpublished), designed to test their knowledge of the social-cognitive conflict resolution skills taught in the program (see Appendix B). The questionnaire consists of 25 multiple choice questions, each with four possible solutions. Each correct response received a score of one, for a total score of 25. High scores indicate higher levels of specific problem-solving knowledge. Cronbach's reliability analysis of the questionnaire items resulted in an alpha of .31. This questionnaire was designed for students in grade six, and created by individuals who have been involved in the implementation of the program.

Students were also asked to complete a more general questionnaire consisting of 15 multiple choice questions, each with four or five possible solutions (see Appendix C). The questionnaire is a revision of a measure developed by Dodge, McClaskey, and Feldman (1985) as part of their Taxonomy of Problematic Social Situations for Children (TOPS). In the Dodge et al. (1985) study the 15 situations were presented to 73 grades two, three, and four children, who were asked to act out how they would respond in each situation. Performance was then rated by an observer. The internal consistency for all 15 items was found to be .73.

In the present study, the measure was presented as a multiple choice questionnaire. Students were asked to indicate how they should respond in each situation. Multiple choice responses were generated by the present researchers (Daniels and Monker), and were based on the scoring keys for each situation which were generated by Dodge et al. (1985). Descriptions of each level of responding are given in the scoring manual provided by Dodge et al. (1985). Responses were scored on a scale of zero to four. Responses demonstrating socially unskilled behavior (e.g. aggression) received a score of zero, while responses demonstrating socially skilled behavior were given a score of four. The highest possible total score was 60, with higher scores indicating greater levels of social skilfulness and problem-solving knowledge. Cronbach's reliability analysis resulted in an alpha of .28 for this questionnaire.

Students were asked to complete an interpersonal competence questionnaire ("What I Am Like", Buhrmester, Furman, Wittenberg, & Reis, 1988), consisting of 40 items (see Appendix D). This self-report, five-point scale was originally designed to assess how competent undergraduate university students feel in different interpersonal situations. Vocabulary used in the questionnaire was modified so that it would be appropriate for use with grade six students. Each questionnaire item asked the student to

rate how good he/she would be at handling a specific situation. For example, item two stated: "How good are you at telling a friend you don't like the way he or she has been treating you?". Students responded by selecting a point on a five-point scale ranging from "I'm poor at this" to "I'm very good at this". This questionnaire was designed to assess five areas of interpersonal competence including: initiating relationships, disclosing personal information, asserting displeasure with others, providing emotional support and advice, and managing interpersonal conflict. Scores for each of the five dimensions were obtained by averaging the eight items which make up each dimension. High scores indicate greater feelings of interpersonal competence within a specific area.

Internal consistency reliabilities for this scale ranged from .77 to .87 with a mean of .83. Test-retest reliability correlations for a four week interval were .89 for the initiation subscale, .79 for the negative assertion subscale, .75 for the disclosure subscale, .76 for the emotional support subscale, and .69 for the conflict management subscale.

Students were asked to complete the Pier-Harris Self-Concept Scale ("More About What I Am Like", Piers, 1964) (see Appendix E). This scale is designed to assess how children feel about themselves. The scale consists of 80 first-person statements, to which the student is asked to

respond with either yes or no. The questionnaire contains statements such as: "I am a happy person", "I usually want my own way", "I am good in music", "I have pretty eyes", and "I feel left out of things". The scale has been tested on children from grades four to 12. The scale contains six subscales: intellectual and school status, behavioral conduct, physical appearance and attributes, anxiety, popularity, happiness and satisfaction, and a measure of overall self-concept. Subscales are scored in the direction of positive self-concept, with higher scores indicating a higher level of self-concept. Internal consistency reliabilities were calculated for a normative sample of 297 students in grades six and ten. Reliability estimates ranged from .88 to .93 (Piers, 1973). Test-retest reliabilities ranged from .96 for a four week interval, to .42 for an eight month interval. The Piers-Harris Self-Concept Scale was chosen for use in the present study because it is well-established and widely used.

Students were asked to complete a short self-report questionnaire, designed to assess students' classroom and school satisfaction ("How Satisfied Are You?", Daniels, & Monker, unpublished) (see Appendix F). This measure consists of eight statements which students are asked to rate on a scale of one to five. The questionnaire contains statements such as "On most days, how much do you like your class?" and "If you could change your school, how much would

you change it?". Pilot testing with grade six students indicated that children at this grade level are capable of responding to questions using a five-point rating scale. Ratings will be summed, with a maximum total satisfaction score of 45. A high score will indicate a high level of classroom/school satisfaction. A principal components factor analysis with varimax rotation yielded a one factor solution for the eight questionnaire items. Cronbach's reliability analysis resulted in an alpha of .89. This questionnaire was designed by researchers for use in this particular study because an appropriate existing measurement could not be found. A self-report, rating scale format was chosen because it is direct, efficient, and allows for objective scoring (Kelly, 1982).

Telephone interviews.

In order to assess the external generalizability of the program, individual students were randomly contacted (by phone) at home during the evenings. Students were asked to recall their most recent conflict. Students were next asked a series of questions designed to provide a detailed description of the conflict, the feelings of the individuals involved in the conflict, the nature of its settlement (if there was one), the extent to which the participants were satisfied with the outcome, and how the student felt about the outcome. (Please see Appendix N for a list of the questions asked during the structured interview, "Conflict

Interview Form"). Responses to these questions were recorded on a questionnaire which was filled out by the interviewer during the time of the phone call. Students' ability to use problem-solving techniques learned inside the classroom in situations outside the classroom were assessed using this structured interview technique.

The phone interviews were selected for use in this study because they offered a way to assess students' metacognitive skills and behavioral solutions to interpersonal conflict. While behavioral observations allow direct observation of overt behaviors in a naturalistic situation, the nature of metacognitive skills makes them difficult to observe.

Procedure

Students were given the questionnaires in a quiet location, such as an empty classroom or a part of the library. The questionnaires were administered in a single testing session, which lasted approximately one hour. The questionnaires were presented in booklet form, by trained university graduate students. Each questionnaire was preceded by a set of instructions and a sample question. Questionnaire items were then read aloud to the students, in order to ensure that each student read the question in the same manner. Only students who had obtained parental consent, and who demonstrated proficiency for the English language were tested. Subjects were debriefed following the

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conclusion of the testing session. The questionnaires were later scored by trained individuals who were blind to the program status of the students.

Interviews were conducted by calling students at home during weekday evenings between four and eight pm. The interviews were approximately 15 minutes in length, and were conducted by four trained, university graduate students. Interviewers were blind to the program status of the students. Only students who had received parental consent, and who demonstrated proficiency for the English language were interviewed. Students were debriefed following the conclusion of the phone interview.

Design

The project consisted of a 2 X 2 between subjects design, with two independent variables: program membership and gender. Program membership consisted of two subgroups: students who have participated in the "Children Learning for Living" program from grades two to six (the experimental group) and students who have not participated in this program at all (the non-equivalent comparison group). Subject gender also consisted of two subgroups: male and female students.

Data Analysis

Measurements were scored and then entered into a computer data file. The computer statistical package SPSS was used to analyze the data. Group differences were

analyzed using a 2 X 2 (program membership X gender) between groups factorial MANOVA with five dependent variables (students' scores on each of the following: the specific knowledge questionnaire, the general knowledge questionnaire, the interpersonal competence questionnaire, the self-concept questionnaire, and the classroom/school questionnaire). Two additional 2 X 2 (program membership X gender) between groups factorial MANOVAs were conducted on students' interpersonal competence and self-concept subscale scores.

Multivariate analysis of variance was selected as the main method of analysis because of its conservative approach to type I errors.

Results

Data Screening

Preliminary examination of the results indicated that students' questionnaires scores were normally distributed. Examination of stem-and-leaf plots did not reveal any univariate outliers. Mahalanobis distance analysis did not identify any multivariate outliers.

Elimination of Enriched Students

One hundred and nineteen students participated in the questionnaire portion of this study: 68 program students and 51 non-program students. The two groups differed in the proportion of normal and enriched students in each. Nine percent ($n = 6$) of the program students received an enriched

academic program, while 37 percent ($n = 19$) of the non-program students received an enriched academic program. In order to determine whether or not regular and enriched program students were comparable in terms of problem-solving knowledge, a 2 (program membership: program and non-program students) $\times$ 2 (student status: regular and enriched program students) ANOVA was conducted on student's scores on the specific-problem solving questionnaire. The results yielded a significant main effect for student status, $F(1, 115) = 12.42$, $p < .001$. Enriched students ($M = 17.02$) scored significantly higher than regular students ($M = 11.81$). A series of univariate post-hoc comparisons indicated that program enriched students ($M = 18.83$) scored significantly higher than program regular students ($M = 12.44$), $F(1, 66) = 6.23$, $p < .05$, and that non-program enriched students ($M = 15.21$) scored significantly higher than non-program regular students ($M = 11.19$), $F(1, 66) = 6.75$, $p < .05$. These results indicate that regular and enriched students differ significantly from one another, and that the "Children Learning for Living" program has a differential effect on regular and enriched program students. Due to the differences between the normal and enriched students, and the limited size of the sample of enriched students who participated in the "Children Learning for Living" program, it was decided to exclude all the enriched students from subsequent analyses. This was done for several reasons.

Enriched students were removed from the analyses in order to ensure that differences between the groups were due to program effects, and not to differential enrichment effects. In addition, the program, enriched students sample was too small to allow the use of additional analyses which would enable the researchers to examine the effect of student status (enriched and regular program) on the "Children Learning for Living" program. The following results are based on a sample of 94 students: 62 program students and 32 non-program students; 45 male and 49 female students.

Mobility

Selection criteria for the current study required that only program students who have participated in the program from grades two to six be included in this study. This might have caused student mobility to become a confounding variable: control students might have changed schools more often than program students. In order to determine whether or not student mobility was confounded with program membership, a series of analyses was conducted on student mobility scores. Prior to completing the questionnaires students were asked to fill out a form indicating the number of times they had changed schools. A mobility score was then calculated for each student, and reflected the number of school moves he/she made to date.

A univariate t-test was conducted in order to determine whether or not student mobility was a confounding variable.

Results of the t-test indicated that non-program students ($M = 1.59$) had changed schools significantly more often than program students ($M = 0.18$), $F(1, 92) = 22.61$, $p < .01$.

Pearson's correlation coefficients were then calculated for student mobility and students' scores on each of the five questionnaires: the specific knowledge questionnaire ($r = -.13$, $p > .05$), the general knowledge questionnaire ($r = -.02$, $p > .05$), the interpersonal competence questionnaire ($r = -.02$, $p > .05$), the self-concept questionnaire ($r = -.15$, $p > .05$), and the classroom/school questionnaire ($r = -.11$, $p > .05$). All correlations were small and non-significant.

A one way MANOVA indicated that student mobility (number of student moves, ranged from zero to three moves) did not have a significant effect on students' scores on any of the five questionnaires: for the specific problem-solving questionnaire, $F(3, 89) = 0.67$, $p > .05$, for the general problem-solving questionnaire, $F(3, 89) = 0.59$, $p > .05$, for the interpersonal problem-solving questionnaire, $F(3, 89) = 1.62$, $p > .05$, for the self-concept questionnaire, $F(3, 89) = 0.64$, $p > .05$, and for the classroom/school satisfaction questionnaire, $F(3, 89) = 1.82$, $p > .05$.

These results indicated that although program and non-program students differed significantly on the basis of average number of school moves, school mobility was not significantly correlated with any of the questionnaires used in this study. Furthermore, school mobility did not have a

significant effect on students' scores on any of the five questionnaires. On the basis of these findings, it was decided that it would not be necessary to include school mobility as a covariate in subsequent analyses.

MANOVA Analyses

The reported questionnaire results were based on three 2 X 2 (program membership X gender) between groups factorial MANOVAs. The three MANOVAs were based on: 1) students' total scores on each of the questionnaires, 2) students' total scores on each of the interpersonal competence subscales, and 3) students' total scores on each of the self-concept subscales. The overall results for each MANOVA are reported, followed by an examination of their univariate results.

MANOVA One: Questionnaire Totals

A 2 X 2 (program membership X gender) between groups factorial MANOVA was conducted on students' total scores on the specific problem-solving knowledge questionnaire, the general knowledge problem-solving questionnaire, the interpersonal competence questionnaire, the self-concept questionnaire, and the class/school satisfaction questionnaire. No significant main effects for program were found, $F(1, 90) = 1.80, p > .05$. A significant main effect for gender was found however, $F(1, 90) = 3.65, p < .05$. A significant interaction was also found, $F(1, 90) = 2.36, p < .05$. These results are examined more closely in the

following sections, where the univariate results for each questionnaire are reported. Univariate Fs reported are from the above MANOVA analysis. Power levels and effect sizes for these analyses are reported in Table 1.

 Insert Table 1 about here

Specific Problem-Solving.

A 2 X 2 (program membership X gender) between groups factorial ANOVA was conducted on students' scores on the specific problem-solving knowledge questionnaire. This questionnaire was designed to assess student knowledge of social-cognitive conflict resolution skills. No significant main effects for program were found, $F(1, 90) = 2.46, p > .05$. Program students ($M = 12.58$) did not score significantly higher than non-program students ($M = 10.65$). A significant main effect for gender was found, $F(1, 90) = 12.59, p < .001$. Girls mean specific problem-solving score ($M = 13.80$) was significantly higher than boys' mean problem solving score ($M = 9.43$). No significant interactions were found, $F(1, 90) = 0.002, p > .05$.

General Problem-Solving.

The general problem-solving questionnaire was selected for use as a measure of social skilfulness and problem-solving knowledge. Student's scores on this questionnaire were analyzed using a 2 X 2 (program membership X gender)

between groups factorial ANOVA. No significant main effects for program were found, $F(1, 90) = 1.73, p > .05$. Program students ($M = 47.39$) did not score significantly higher than non-program students ($M = 49.14$). A significant main effect for gender was found, $F(1, 90) = 4.82, p < .05$. Girls ($M = 49.73$) scored higher than boys ($M = 46.81$). No significant interactions were found, $F(1, 90) = 1.64, p > .05$.

Interpersonal Competence.

The interpersonal competence questionnaire was a modified version of the Interpersonal Competence Questionnaire (ICQ) developed by Buhrmester, Furman, Wittenberg, and Resi (1988). This questionnaire provided a global measure of perceived interpersonal competence as well as five more specific measures of interpersonal competence including: relationship initiation, disclosure of personal information, negative assertion, emotional support, and conflict management. The highest possible total score is 200, while subscales are each scored out of 40.

A 2 X 2 (program membership X gender) between groups factorial ANOVA was conducted on students' total scores on the interpersonal competence questionnaire. No significant main effects for program or gender were found, $F(1, 90) = 0.43, p > .05$, and $F(1, 90) = 0.24, p > .05$, respectively. Program students ($M = 138.69$) did not report feeling significantly more socially competent than non-program students ($M = 141.98$). Female students ($M = 141.57$) did not

report feeling significantly more socially competent than male students ($\underline{M} = 139.10$).

The results yielded a significant interaction, $\underline{F}(1, 90) = 6.53, p < .05$. A series of bonferroni post-hoc comparisons was conducted in order to determine which groups were significantly different. The interaction indicated that program girls ($\underline{M} = 146.35$) did not report feeling significantly more interpersonally competent than non-program girls ($\underline{M} = 136.80$), $\underline{F}(1, 47) = 2.58, p > .05$. Program boys ($\underline{M} = 131.03$) in comparison, reported feeling less competent than non-program boys ($\underline{M} = 147.17$), and these differences approached significance, $\underline{F}(1, 43) = 3.75, p > .05$ ($p = .0594$). Program girls ($\underline{M} = 146.35$) reported feeling significantly more socially competent than program boys ($\underline{M} = 131.03$), $\underline{F}(1, 60) = 6.92, p < .05$. Non-program boys ($\underline{M} = 147.17$) did not report feeling significantly more socially competent than non-program girls ($\underline{M} = 136.80$), $\underline{F}(1, 30) = 1.66, p > .05$. (See Table 2.)

 Insert Table 2 about here

Self-Concept.

The Piers-Harris Self-Concept scale provides a measure of how children feel about themselves. The questionnaire consists of a global measure of self-concept, as well as six more specific measures of self-concept including:

intellectual and school status, behavioral conduct, physical appearance and attributes, anxiety, popularity, and happiness and satisfaction. The highest possible total score on this measure is 80.

A 2 X 2 (program membership X gender) between groups factorial ANOVA was conducted on students' total scores on self-concept questionnaire. No significant main effects for program $F(1, 90) = 0.38, p > .05$, were found. Program students ($M = 61.31$) did not have a significantly higher self-concept than non-program students ($M = 59.84$). No significant main effects for gender $F(1, 90) = 2.63, p > .05$, were found on this measure. Male students ($M = 62.52$) did not have a significantly higher self-concept than female students ($M = 58.63$). No significant interactions were found, $F(1, 90) = 2.91, p > .05$.

Classroom/School Satisfaction.

The classroom/school satisfaction questionnaire was designed for use in the current study, and was included as a measure of students' satisfaction with their classroom and school. Scores are out of a total of 45.

Student scores on the classroom/school satisfaction questionnaire were analyzed using a 2 X 2 (program membership X gender) between groups factorial MANOVA. Program students ($M = 27.05$) did not report feeling more significantly more satisfied with their class and school than non-program students ($M = 25.16$), $F(1, 90) = 1.74$,

$p > .05$. No significant main effects for gender were found, $F(1, 90) = 0.16$, $p > .05$. Female students ($M = 26.39$) did not feel significantly more satisfied with their class and school than male students ($M = 25.82$). No significant interactions $F(1, 90) = 0.003$, $p > .05$ were found.

MANOVA Two: Interpersonal Competence Subscale Totals

A 2 X 2 (program membership X gender) between groups factorial MANOVA was conducted on students' total scores on the five interpersonal competence subscales: initiation, negative assertion, disclosure, emotional support, and conflict management. No significant overall effects for program were found, $F(1, 90) = 0.34$, $p > .05$. No significant overall effects for gender were found, $F(1, 90) = 1.71$, $p > .05$. No significant overall interaction effects were found, $F(1, 90) = 1.69$, $p > .05$. These results are examined more closely in the following sections, where the univariate results for each questionnaire are reported. Univariate Fs reported are from the above MANOVA analysis. Power levels and effect sizes for these analyses are reported in Table 1.

Initiation.

A 2 X 2 (program membership X gender) between groups factorial ANOVA was conducted on students' scores on the initiation subscale of the interpersonal competence questionnaire. This subscale assesses student self-perceived competence at initiating interactions and relationships with peers. No significant main effects for

program, $F(1, 90) = 0.73$, $p > .05$, or gender, $F(1, 90) = 0.10$, $p > .05$, were found on this subscale. Program students ($M = 28.61$) did not feel significantly more competent at initiating interactions and relationships than non-program students ($M = 29.68$). Female students ($M = 29.34$) did not feel significantly more competent than male students ($M = 28.94$) at initiating interactions and relationships with peers.

Although the MANOVA did not detect a significant interaction, the univariate test for the initiation subscale did, $F(1, 90) = 8.15$, $p < .01$. This should be interpreted with caution however, because of the increased risk of a type one error. A series of bonferroni post-hoc comparisons was conducted in order to determine which groups were significantly different. The interaction indicated that program girls ($M = 30.59$) did not report feeling significantly more competent at initiating interactions and relationships than non-program girls ($M = 28.10$), $F(1, 47) = 2.75$, $p > .05$. Program boys ($M = 26.64$) on the other hand, reported feeling significantly less competent than non-program boys ($M = 31.25$), $F(1, 43) = 5.17$, $p < .05$. Program girls ($M = 30.59$) reported feeling significantly more competent at initiating interactions and relationships than program boys ($M = 26.64$), $F(1, 60) = 8.19$, $p < .05$. Non-program boys ($M = 31.25$) did not feel significantly more competent than non-program girls ($M = 28.10$), $F(1, 30) =$

2.13, $p > .05$. (See Table 3.)

 Insert Table 3 about here

Negative assertion.

The negative assertion subscale assesses self-perceived competence in the ability to assertively express displeasure with the requests or behaviors of others. Students' scores on this subscale were examined using a 2 X 2 (program membership X gender) between groups factorial ANOVA. No significant main effects for program or gender were found, $F(1, 90) = 0.68$, $p > .05$, and $F(1, 90) = 0.65$, $p > .05$, respectively. Program students ($M = 28.64$) did not feel significantly more competent at asserting displeasure with friends than non-program students ($M = 29.69$). Male students ($M = 29.68$) did not feel significantly more competent at asserting displeasure with friends than female students ($M = 28.65$). No significant interactions were found, $F(1, 90) = 3.07$, $p > .05$.

Disclosure.

The disclosure subscale was designed to assess students' self-perceived competence at disclosing personal information about themselves to friends. A 2 X 2 (program membership X gender) between groups factorial ANOVA was conducted on students' scores on this subscale of the interpersonal competence questionnaire. No significant main

effects for program were found, $F(1, 90) = 0.34, p > .05$. Program students ($M = 24.76$) did not feel significantly more competent at disclosing personal information than non-program students ($M = 25.51$). No significant effects for gender were found on this subscale, $F(1, 90) = 0.53, p > .05$. Female students ($M = 25.60$) did not report feeling significantly more competent at disclosing personal information than male students ($M = 24.67$). No significant interactions were found, $F(1, 90) = 3.09, p > .05$.

Emotional support.

The emotional support subscale of the Interpersonal competence questionnaire assesses students' self-reported competence at providing emotional support and advice to their friends. Students' scores on this subscale were analyzed using a 2 X 2 (program membership X gender) between groups factorial ANOVA. No significant main effects for program, $F(1, 90) = 0.04, p > .05$ were found on this subscale. Program students ($M = 29.49$) did not score significantly higher than non-program students ($M = 29.73$). Females students ($M = 30.56$) did not feel significantly more competent at providing emotional support than male students ($M = 28.88$), $F(1, 90) = 2.56, p > .05$.

Although the MANOVA did not detect a significant interaction, the univariate test for the emotional support subscale did, $F(1, 90) = 5.41, p < .05$. This should be interpreted with caution however, because of the increased

risk of a type one error. A series of bonferroni post-hoc comparisons was conducted in order to determine which groups were significantly different. The interaction indicated that program girls ($\underline{M} = 31.83$) did not report feeling significantly more competent at providing emotional support than non-program girls ($\underline{M} = 29.30$), $\underline{F}(1, 47) = 3.16$, $p > .05$. Program boys ($M = 27.15$) did not feel significantly more competent than non-program boys ($\underline{M} = 30.17$), $\underline{F}(1, 43) = 2.37$, $p > .05$. Program girls ($\underline{M} = 31.83$) reported feeling significantly more competent at providing emotional support to others than program boys ($\underline{M} = 27.15$), $\underline{F}(1, 60) = 10.12$, $p < .01$. Non-program boys ($\underline{M} = 30.17$) did not report feeling significantly more competent at providing emotional support than non-program girls ($\underline{M} = 29.30$), $\underline{F}(1, 30) = 0.29$, $p < .05$. (See Table 4.)

 Insert Table 4 about here

Conflict management.

The conflict management subscale measures students' self-perceived competence at handling interpersonal conflicts. Students' scores on this interpersonal competence subscale were examined by using a 2 X 2 (program membership X gender) between groups factorial ANOVA. No significant main effects for program were found, $\underline{F}(1, 90) = 0.0009$, $p > .05$. Program students ($\underline{M} = 27.34$) did not report

feeling significantly more competent at managing interpersonal conflicts than non-program students ($M = 27.38$). No significant main effects for gender were found on this subscale, $F(1, 90) = 0.01, p > .05$. Female students ($M = 27.42$) did not report feeling significantly more competent at managing interpersonal conflicts than male students ($M = 27.29$). No significant interactions were found, $F(1, 90) = 2.53, p > .05$.

MANOVA Three: Self-Concept Subscales

A 2 X 2 (program membership X gender) between groups factorial MANOVA was conducted on students' total scores on the six self-concept subscales: intellectual and school status, behavioral conduct, physical appearance and attributes, anxiety, popularity, and happiness and satisfaction. No significant overall effects for program were found, $F(1, 90) = 1.11, p > .05$. A significant overall effects for gender was found however, $F(1, 90) = 4.18, p < .05$. No significant overall interaction effects were found, $F(1, 90) = 0.52, p > .05$. These results are examined more closely in the following sections, where the univariate results for each self-concept subscale are reported. Univariate Fs reported are from the above MANOVA analysis. Power levels and effect sizes for these analyses are reported in Table 1.

Behavioral conduct.

The Piers-Harris behavioral conduct subscale was

designed to measure the degree to which a child "admits or denies problematic behaviors" (Piers, 1969, p. 38). This subscale is out of a total score of 16. A 2 X 2 (program membership X gender) between groups factorial ANOVA was conducted on students' scores on this subscale. No significant main effects for program were found, $F(1, 90) = 2.07, p > .05$. Program students ($M = 13.82$) did not report significantly fewer behavioural problems than non-program students ($M = 13.00$). (Recall that higher scores reflect a more positive self-concept. In this case higher scores indicate less behavioral misconduct.) No significant main effects for gender were found on this subscale, $F(1, 90) = 0.19, p > .05$. Female students ($M = 13.54$) did not report significantly fewer behavioral problems than male students ($M = 13.29$). No significant interactions were found, $F(1, 90) = 0.19, p > .05$.

Intellectual and school status.

Designed to assess students' assessments of their abilities on intellectual and academic activities, the intellectual and school status subscale is calculated out of a total subscale score of 17. A 2 X 2 (program membership X gender) between groups factorial ANOVA was conducted on students' scores on this subscale. Program students ($M = 13.56$) did not feel significantly more positive about their academic abilities than non-program students ($M = 12.91$), $F(1, 90) = 1.39, p > .05$. No significant main effects for

gender were found on this subscale, $F(1, 90) = 0.03$, $p > .05$. Female students ($M = 13.28$) did not feel significantly more positive about their academic abilities than male students ($M = 13.19$). No significant interactions were found, $F(1, 90) = 0.04$, $p > .05$.

Physical appearance and attributes.

The physical appearance and attributes subscale consists of a total of 13 questions, and assesses a child's attitudes towards his/her appearance and personal attributes. A 2 X 2 (program membership X gender) between groups factorial ANOVA was conducted on students' scores on this subscale of the self-concept questionnaire. No significant main effects for program were found, $F(1, 90) = 0.18$, $p > .05$. Program students ($M = 9.33$) did not feel significantly more positive about their physical appearance and personal attributes than non-program students ($M = 9.00$). Male students ($M = 9.50$) did not feel significantly more positive about their physical appearance and personal attributes than female students ($M = 8.88$), $F(1, 90) = 0.88$, $p > .05$. No significant interactions were found, $F(1, 90) = 1.45$, $p > .05$.

Anxiety.

The anxiety subscale of the Children's Self-Concept subscale consists of 14 items and "assesses general emotional disturbance and dysphoric mood" (Piers, 1969, p. 39). A 2 X 2 (program membership X gender) between groups

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factorial ANOVA was conducted on students' scores on this measure. No significant main effects for program were found, $F(1, 90) = 0.004$, $p > .05$. Program students ($M = 10.44$) did not report feeling significantly less anxious than non-program students ($M = 10.39$). The results yielded a significant main effect for gender, $F(1, 90) = 15.52$, $p < .001$. Male students ($M = 11.88$) reported feeling less anxious than female students ($M = 8.95$). (Recall that higher scores reflect a more positive self-concept. In this case higher scores indicate less anxiety.) No significant interactions were found, $F(1, 90) = 1.64$, $p > .05$.

Popularity.

The Piers-Harris popularity subscale of the Children's Self-Concept Subscale (Piers, 1969) was designed to reflect a measure of children's self-evaluations of their popularity with peers. This subscale has a total score of 12. Students' scores were analyzed using a 2 X 2 (program membership X gender) between groups factorial ANOVA. No significant main effects for program were found, $F(1, 90) = 0.60$, $p > .05$. Program students ($M = 8.25$) did not report feeling significantly more popular with peers than non-program students ($M = 8.75$). Male students ($M = 9.04$) did not report feeling significantly more popular than female students ($M = 7.97$), $F(1, 90) = 2.81$, $p > .05$. No significant interactions were found, $F(1, 90) = 0.45$, $p > .05$.

Happiness and satisfaction.

This final subscale is used to evaluate children's general feelings of happiness and satisfaction with life. This subscale has a total score of 10. A 2 X 2 (program membership X gender) between groups factorial ANOVA was conducted on students' scores on this measure. No significant main effects for program were found, $F(1, 90) = 0.0001$, $p > .05$. Program children ($M = 8.39$) did not feel more happy and satisfied with themselves and their lives than non-program students ($M = 8.38$). No significant main effects for gender were found on this subscale, $F(1, 90) = 1.30$, $p > .05$. Males ($M = 8.51$) did not feel significantly more happy and satisfied than females ($M = 8.13$). No significant interactions were found, $F(1, 90) = 1.57$, $p > .05$.

Pearson Correlations

In order to determine whether or not students' scores on one questionnaire were significantly related to their scores on each of the other questionnaires, Pearson's correlation coefficients were calculated for each possible pair of questionnaires. The specific problem-solving questionnaire was found to be significantly positively correlated with each of the other questionnaires: with the general knowledge questionnaire, $r = .52$, $p < .001$; with the interpersonal competence questionnaire, $r = .21$, $p < .05$; with the self-concept questionnaire $r = .27$, $p < .01$; and with the classroom/school questionnaire $r = .25$, $p < .05$. The general

knowledge questionnaire was significantly positively correlated with students' scores on the interpersonal competence questionnaire, $r = .21$, $p < .05$, and the self-concept questionnaire, $r = .22$, $p < .05$, but not with the classroom/school satisfaction questionnaire, $r = .17$, $p > .05$. The interpersonal competence questionnaire was significantly positively correlated with both the self-concept questionnaire, $r = .35$, $p < .001$, and the classroom/school satisfaction questionnaire, $r = .29$, $p < .01$. The self-concept questionnaire was significantly positively correlated with the classroom/school satisfaction questionnaire, $r = .45$, $p < .001$.

Spearman Correlations

A series of Spearman's rank order correlations were conducted between student's scores on each of the questionnaires and their schools' ranking on the Ottawa Board of Education Focus on Future variable. This was done in order to determine whether or not students's scores on the questionnaires were related to the need and risk status of their schools. The results indicated that students' total scores on the specific knowledge questionnaire, $r = .11$, $p > .05$; the general problem-solving questionnaire $r = .12$, $p > .05$; the interpersonal competence questionnaire $r = -.03$, $p > .05$; the self-concept questionnaire, $r = .008$, $p > .05$; and the classroom/school satisfaction questionnaire, $r = .14$, $p > .05$, were not significantly correlated with their

schools' ranking on the OBE Focus on Future variable.

Phone Interviews

A subsample of 59 students participated in phone interviews: 36 program students, four of whom were in an enriched program at their school, and 23 non-program students, nine of whom were in an enriched program. Due to the differences between the normal and enriched students (referred to in the beginning of the results section) it was decided to randomly balance the number of enriched students in both the program and non-program groups. It was decided to randomly balance the number of enriched students in each group because totally eliminating the enriched subsample would further reduce the already limited sample size. Random balancing of enriched students within the groups was done in order to ensure that differences between the groups were due to program effects, and not to differential enrichment effects.

The following phone interview analyses are based on a sample of 54 students: 36 program students (six enriched) and 18 non-program students (six enriched), 32 female students and 22 male students. A series of univariate t-tests and chi square analyses was conducted in order to determine whether or not program and non-program students responded significantly differently to the interview questions. Univariate t-tests and chi square analyses was also conducted in order to determine whether or not male and

female students differed in their responses to the interview questions. T-tests were conducted because the limited sample size of phone interview students prevented the use of two-way ANOVAs.

Number of disputants.

In order to determine whether or not student conflicts involved the same number of participants, students were asked: "...how many people were involved in the disagreement?" (see Appendix O). Two univariate t-tests (one to assess the effects of program and one to assess the effects of gender) were conducted on students' responses to this question. No significant effects for program were found, $F(1, 52) = 0.662, p > .05$. Program students ($M = 2.94$) did not differ significantly from non-program students ($M = 3.00$) regarding the number of people involved in the disagreement. No significant effects for gender were found, $F(1, 52) = 0.06, p > .05$. Male ($M = 2.73$) and female ($M = 3.13$) students did not differ significantly on the basis of number of people involved in the disagreement.

Importance of solving the problem.

Students were asked: "On a scale of one to five, one being not at all important and five being very important, how important was it to you to solve the problem?" (see Appendix O). This question was asked in order to determine whether or not students' differed in their beliefs as to how important it was to resolve their disagreements. Two

univariate t-tests were conducted on students' responses to this question. No significant effects for program were found, $F(1, 52) = 0.004, p > .05$. Program students ($M = 3.56$) did not differ significantly from non-program students ($M = 3.72$) in terms of how important they felt it was to solve their problem. No significant effects for gender were found, $F(1, 52) = 0.32, p > .05$. Male ($M = 3.32$) and female ($M = 3.81$) students did not differ significantly in their beliefs about how important it was to solve the problem.

Student confidence.

Two univariate t-tests were conducted on students' responses to the question: "...how confident were you that you could solve the problem?" (see Appendix O). Student responses to this question were based on a scale of one to five, one being not at all confident and five being very confident. No significant effects for program were found, $F(1, 52) = 0.004, p > .05$. Program students ($M = 3.50$) and non-program students ($M = 3.39$) had equal confidence in their ability to solve the problem. No significant effects for gender were found, $F(1, 52) = 0.009, p > .05$. Male ($M = 3.68$) and female ($M = 3.31$) students did not differ significantly in their confidence about their ability to solve the problem. All groups had average levels of confidence in their ability to resolve their interpersonal conflicts.

Problem-solving plan.

In order to determine whether or not students had a plan in mind while trying to work out their interpersonal conflicts, students were asked: "Did you have a plan in mind when you were trying to solve the problem?" (see Appendix O). Chi squares were conducted on students' responses to this question. The ordinal nature of the responses (yes or no) made it necessary to use non-parametric analyses. The distribution of the proportions of students' yes/no responses to this question were not significantly different for the program and non-program groups, $\chi^2 (1, N = 54) = 0.19, p > .05$. The proportion of program students who indicated that they had a plan in mind while trying to resolve their conflicts (27.8%) was not significantly different from the proportion of non-program students (22.2%). The distribution of the frequencies of students' yes/no responses to this question were not significantly different for the male and female students, $\chi^2 (1, N = 54) = 1.16, p > .05$. The proportion of female students (31.3%) who reported having a plan did not differ significantly from the proportion of male students (18.2%). Overall 25.92 percent of the 54 students who participated in the phone interview reported having a plan in mind while trying to resolve their conflicts.

Disagreement solutions.

Students were asked to indicate what they did to try

and solve their interpersonal conflicts (see Appendix O). This question was asked in order to determine whether or not there were differences in the way in which students attempted to resolve conflicts. Student responses to this open-ended question were recorded and later coded. Solutions were coded according to whether they were prosocial or aggressive. Appropriate prosocial responses were based on a series of acceptable conflict solutions recognised and taught within the "Children Learning for Living" program. Aggressively coded responses were based on a list developed by the researchers, teachers, and Mental Health Workers (see Appendix R.)

A series of t-tests were conducted on the coded responses to the question "What did you do to try and solve this problem?" Student responses to this question indicated that program students ($M = 1.31$) were generating more solutions to their interpersonal conflicts than non-program students ($M = 1.00$), but these differences were not significant $t(52) = 1.55, p > .05$.

Students' solutions to their conflicts varied, ranging from passive responses (e.g. giving in to the other person, ignoring the other person, or walking away), to positive, constructive responses (e.g. talking things out, getting help from others, compromise, sharing, apologizing, or taking turns), to aggressive responses (e.g. name calling, swearing, pushing, fighting). (See Table 5 for the

percentage of program and non-program students using each of these solutions.) Additional responses included trying to convince others to see things his/her (the subject's) way, bribery, and asking the other person to do something (e.g. stop the offending behavior, or admit the truth).

 Insert Table 5 about here

T-test analyses were conducted in order to determine whether or not there were gender differences in the types of solutions offered by male and female students. Sixty-nine percent of female students generated solutions which involved some form of cooperation (e.g. talking things out, getting help, compromise, taking turns, and sharing), compared to 45 percent of male students. These differences were significant, $t(52) = 1.79$, $p < .05$ (one-tailed). Nine percent of the female students and 14 percent of the male students asked others (usually adults) to help them solve their disagreements. These differences were not significant, $t(52) = 0.48$, $p > .05$. Twenty-three percent of the male students reported generating conflict solutions involving some form of aggression, while none of the female students reported use of aggressive conflict solutions. These differences were significant, $t(52) = 3.11$, $p < .01$.

Agreement.

During the phone interview students were asked: "Were

you able to come to an agreement?" (see Appendix O). This was done in order to determine whether or not program and gender differences existed in students' ability to effectively resolve their conflicts. Chi squares were conducted on students' responses to this question because of the ordinal nature of the data (yes and no responses). Two chi squares were conducted on students' responses to this question. The proportion of program students (72.2%) who said yes to this question was higher than the proportion of non-program students who responded yes (52.9%) to this question. These proportions were not significantly different, $\chi^2 (1, N = 53) = 1.91, p > .05$.

The distribution of the frequencies of students' yes/no responses to this question were significantly different for the male and female students, $\chi^2 (1, N = 53) = 4.31, p < .05$. Seventy-seven percent of the female students reported that they were able to come to an agreement with the other disputant(s), while 50 percent of the male students reported reaching an agreement with those involved in their conflicts.

Satisfaction with problem resolution.

Two univariate t-tests were conducted on students' responses to the interview question "On a scale of one to five, (one being not at all [satisfied] and five being very [satisfied]), how satisfied were you with the way the problem worked out?" (see Appendix O). Program students (M

= 3.81) did not report being more satisfied with the way their conflicts worked out than non-program students ($\underline{M} = 3.50$), $\underline{F}(1, 52) = 0.740$, $p > .05$. Female students ($\underline{M} = 3.66$) did not report being more satisfied with the way their conflicts worked out than male students ($\underline{M} = 3.77$), $\underline{F}(1, 52) = 1.11$, $p > .05$.

Behavioral self-satisfaction.

In order to assess students' feelings about the way they behaved during their conflicts, students were asked: "...how good did you feel about the way you acted?" (see Appendix O). Responses were based on a scale of one to five, with one being not at all good and five being very good. Two univariate t-tests were conducted on students' responses to this interview question. No significant effects for program were found, Program students ($\underline{M} = 3.83$) did not feel better than non-program students ($\underline{M} = 3.39$) about their actions during the disagreement, $\underline{F}(1, 52) = 1.91$, $p > .05$. No significant effects for gender were found, $\underline{F}(1, 52) = 0.56$, $p > .05$. Male ($\underline{M} = 3.68$) and female ($\underline{M} = 3.69$) students did not differ significantly in their feelings about how they acted during the disagreement.

Solution effectiveness.

In order to assess students' beliefs about the effectiveness of their conflict solutions, students who participated in the phone interview were asked: "Do you think your solution will work?" (see Appendix O). Chi

squares were conducted on students' responses to this question because of the ordinal nature of the data (yes and no responses). The results indicated that while the proportion of program students who responded yes to this question (89.3%) was slightly higher than the proportion of non-program students who responded yes to this question (83.3%), the distributions of these proportions was not significantly different, $\chi^2 (1, N = 40) = 0.27, p > .05$. The proportion of female students (91.3%) who believed their solutions would work was slightly higher than the proportion of male students who believed their solutions would work (82.4%). These distribution differences were not significant however, $\chi^2 (1, N = 40) = .72, p > .05$.

Summary of Significant Results

The reported questionnaire results were based on three 2 X 2 (program membership X gender) between groups factorial MANOVAs. Two of these MANOVAs yielded significant results. The first MANOVA, which was based on students' total scores on each of the five questionnaires, revealed a significant main effect for gender, and a significant interaction. Univariate Fs reported in the above MANOVA analysis revealed several other significant results: Female students scored significantly higher than male students on both the specific and general problem-solving measures. Female students in the program scored significantly higher on a measure of total competence than male students in the program.

The second MANOVA analysed students' scores on each of interpersonal competence subscales and did not yield any significant effects. Univariate tests reported in this MANOVA revealed that: program girls reported feeling significantly more competent at providing emotional support to friends than program boys, and that program girls and non-program boys reported feeling significantly more competent at initiating interactions and relationships than program boys. These univariate results should be interpreted cautiously however, because of the increased risk of type one errors.

The third MANOVA, which analysed students' scores on each of the self-concept subscales, also yielded a significant gender effect. Univariate Fs reported in the above MANOVA analysis revealed that: male students reported feeling significantly less anxious than female students.

Data collected in the phone interviews indicated that: Female students were significantly more likely than male students to report using conflict solutions which involved some form of cooperation. Male students were significantly more likely than female students to report using aggressive conflict solutions. The proportion of female students who reported that they were able to come an agreement regarding their conflict was significantly higher than the proportion of male students who reported reaching an agreement.

Normative Data

The current study provides normative data regarding the problem-solving skills and behaviors of grade six students. In general, grade six students have moderate problem-solving skills. (Students scores on both the specific and general problem-solving questionnaires were in the middle range.) Girls appear to have better problem solving skills than boys. Student conflicts involved an average number of three disputants, although the number of disputants involved in a conflict ranged from two to seven people.

Students had an average level of confidence in their abilities to solve their problems. (The mean was three-and-a-half out of five.)

Students' solutions to their conflicts varied, ranging from passive responses (e.g. giving in to the other person, or walking away), to positive, constructive responses (e.g. talking things out, compromise, sharing, or taking turns), to aggressive responses (e.g. name calling, fighting). Girls use more cooperative conflict solutions than boys, while boys use more aggressive conflict solutions than girls.

Female students are more likely to reach an agreement to their interpersonal conflicts. (Almost three quarters of female disputants reached an agreement compared to half of the male disputants.)

Students tend to report moderate levels of satisfaction

with the way they acted during their conflicts, and often report believing that their solutions will be successful.

Grade six students also report moderate levels of self-perceived interpersonal competence ($\bar{M}$ = 140.34, out of 200), and self-concept (M = 60.58, out of 80), although female students reported feeling more anxious than male students.

Finally, grade six students reported average levels of satisfaction with their classrooms and schools, ($\bar{M}$ = 26.02, out of 45).

Discussion

Hypotheses

The first hypothesis of this program evaluation was that students who have received the complete curriculum for the "Children Learning for Living" program would demonstrate social problem-solving skills that were superior to those demonstrated by children who have not taken part in this program. This hypothesis was tested at a number of levels, including: specific social problem-solving knowledge, general social problem-solving knowledge, and behavioral responses to interpersonal conflict with peers (the telephone interview). The results do not provide strong support for this hypothesis. Program students did score higher than non-program students on the specific problem-solving questionnaire, however these differences are not large enough to be significant. Students' scores on the general problem-solving questionnaire indicate that program

students did not score significantly different than non-program students. These results indicate that students who have received the full "Children Learning for Living" curriculum are not demonstrating superior knowledge of interpersonal problem-solving skills. These results conflict with the findings of other studies, which have evaluated the outcomes of similar, cognitively-based interpersonal problem-solving programs. Studies conducted by Gesten et al. (1982), Weissberg et al. (1981a), and Weissberg et al. (1981b) found that second and third grade children who had participated in a social problem-solving training program improved significantly more than control children on measures assessing problem identification skills, the ability to generate alternative solutions, and the ability to identify potential solution consequences. Students in the Weissberg et al. (1981a) evaluation knew significantly more social problem-solving steps (i.e. look for indications of upset feelings, state the problem, identify goals, etc...) than no program controls.

The finding that program students in the current study did not show significantly more problem-solving knowledge than students in the no program comparison group may be due to several factors. The "Children Learning for Living" program consists of ten (one a week) lessons at each grade level, from grades two through to grade six. Students in the Gesten et al. (1982) study participated in a 17 lesson,

nine week program with two 30 to 40 minute lessons a week. Students in the Weissberg et al. (1981a) study participated in a 42 lesson, 14 week program with three lessons each week, while students in the Weissberg et al. (1981b) study participated in a 52 lesson, 13 week program with four 20 to 30 minute lessons each week. Perhaps the "Children Learning for Living" program is not intensive enough. It may be that ten weekly lessons at each grade level is not intense enough to produce significant cognitive problem-solving gains. Program lessons may also be spread too far apart. Students receive the program over a two-and-a-half month period at each grade level. This means that almost ten months pass between students' last problem-solving lesson at one grade level and their first problem-solving lesson at the next grade level. Students in the previously cited studies participated in social problem-solving programs over a period of nine to 14 weeks at a single grade level. The full curriculum was taught within a single grade level. Perhaps students in the "Children Learning for Living" program are forgetting much of what they learn during the nine-and-a-half month, no program period that falls between lessons at each grade level.

Furthermore, the significant program effects reported in the Gesten et al. (1982), the Weissberg et al. (1981a), and the Weissberg et al. (1981b) studies may be due to the fact that the problem-solving measures used in those studies

assessed problem-solving skills which were different from the problem-solving skills assessed in the current study. The open interview, hypothetical situations measures used in the Gesten et al. (1982), and the Weissberg et al. (1981a, 1981b) studies assessed specific problem-solving skills, such as the ability to identify an interpersonal problem, the ability to generate alternative solutions, and the ability to identify solution consequences. The multiple-choice, problem-solving measures used in the current study were designed to provide a much more general measure of students' problems-solving skills.

The results of the phone interview indicate that program students are generating more solutions to their interpersonal problems than non-program students. These differences are not significant, however. Studies conducted by Gesten et al. (1982), Weissberg et al. (1981a), and Weissberg et al. (1981b) (referred to above), found that students who have participated in a social problem-solving training program generated significantly more solutions than control students in a simulated conflict situation. Similar results were reported by Caplan et al. (1992), who evaluated the impact of a 20 lesson, social competence training program, which contained a section on problem-solving. The program was taught to sixth and seventh grade students. Caplan et al. (1992) found that students who had participated in the program generated significantly more

conflict solutions in response to a hypothetical problem situation (peer pressure to smoke) than students who had not participated in the program.

The number of solutions attempted by program and non-program students in the current study is not significantly different. This may be partly explained by the fact that the "Children Learning for Living" program focuses on teaching students metacognitive strategies to use during conflict, and does not place a strong enough emphasis on behavioral solutions to conflict.

Failure to find significant differences may also be due to methodological biases. In the current study, students are asked to recall a past conflict with a peer, and to indicate what they did to try and solve the problem. The number of alternative conflict solutions repeatedly used by students may be limited by their ability to recall past events. It may be that students tend to recall their effective solutions, and to forget attempted solutions which are unsuccessful. Perhaps program students utilize more conflict solutions than non-program students, but tend to recall only those strategies which resolve their interpersonal dilemmas. (Recall that 89% of program students and 83% of non-program students reported that their conflict solutions worked.) This hypothesis is partially supported by both the Gesten et al. (1982) and the Weissberg et al. (1981a), studies which found that program students

generated significantly more alternative solutions than non-program students when directly observed in a simulated conflict situation.

A second hypothesis of this study was that children who have participated in the "Children Learning for Living" program would perceive themselves to be more competent at dealing with interpersonal problems, and would have a more positive self-concept than students who have not participated in the "Children Learning for Living" program. This hypothesis was tested by comparing students' scores on the Interpersonal Competence Questionnaire (Buhrmester, Furman, Wittenberg, & Reis, 1988), and the Piers-Harris Children's Self-Concept Scale (Piers, 1964). The results of this study suggest that program effects interact with gender. On the total interpersonal competence measure, and on two of its subtests (initiation and emotional support), program girls reported feeling significantly more competent than program boys, and reported more competence than non-program girls, (although this finding is not significant).

Comparisons of students' scores on the conflict management subscale of the interpersonal competence questionnaire however, indicate that program students feel no more competent at managing interpersonal conflicts than non-program students. The results of other studies examining the effects of social problem-solving training on children's interpersonal competence have been mixed.

Studies conducted by Gesten et al. (1982), and Weissberg et al. (1981b) found that no program controls had significantly higher pre-to-post change scores on teacher rated measures of total competence than program students. A study by Caplan et al. (1992) however, found that program students improved significantly on a teacher-rated adjustment measure assessing students' "constructive conflict resolution with peers" (p. 60) following participation in a social problem-solving program. Similar gains were not found for no program control students. Program students in the Caplan et al. (1992) study reported feeling more competent in their ability to effectively resolve interpersonal conflicts. Similar results were found by Weissberg et al. (1981a), who reported that students who had participated in a social problem-solving training program had improved significantly more on pre-to-post scores on a teacher-rated competence measure than students who had not received the social problem-solving training.

Positive findings on teacher-rated measures of student competence must be interpreted cautiously. Teachers in the Caplan et al. (1992) study, and the Weissberg et al. (1981a) study were not blind to the program status of their students. In both studies, program teachers taught the social-skills training program to their students, and after completing the program, rated their students on the competence measures. Program teachers in the Weissberg et

al. (1981a) study volunteered to teach the program to their students. Program students' gains on competence measures in both the Caplan et al. (1992) study, and the Weissberg et al. (1981a) study may be due to the fact that teachers were not blind to the program status of their students, and had a vested interest in the success of the problem-solving training program. In contrast to the Gesten et al. (1982), Weissberg et al. (1981b), and Weissberg et al. (1981a) studies, the current program evaluation assessed the impact of the program on students' self-perceived competence.

The finding that program effects on interpersonal competence interact with gender may be related to students' performance on the two problem-solving questionnaires. Support for this idea is provided by the fact that program girls scored significantly higher than program boys on both the specific and general problem-solving questionnaires, and program girls scored significantly higher than program boys on the interpersonal competence questionnaire. Program boys' failure to show higher levels of interpersonal competence than non-program boys may be due to the fact that the comparison sample in the current study contained a high performance group of no program boys. No program boys scored almost as high as program girls on the total competence score and the emotional support subscale score of the interpersonal competence questionnaire. No program boys scored slightly higher than program girls on the initiation

subscale of the interpersonal competence questionnaire (see Table 4).

The lower levels of interpersonal competence shown by program boys may also be due to the fact that schools who have implemented the "Children Learning for Living" program were not randomly selected to receive the program. Schools with a great deal of need, and whose student population is at high levels of risk for developing future problems are more likely to implement the program than schools where there is little need for additional resources and whose student population has a low risk status. Schools with the "Children Learning for Living" program are more likely to have boys with behavioral problems and low levels of interpersonal competence than schools without the program. Without pre- and post- program measures, it is impossible to tell whether or not program boys have demonstrated gains in their problem-solving skills and levels of interpersonal competence. The design of the current study (use of a no program, comparison group) cannot conclusively reveal whether: 1) the program has no effect on program boys, or 2) the program has an effect, but these effects are not revealed because program boys are compared with non-program boys who may have had much higher levels of interpersonal competence to begin with.

Program boys' lower levels of interpersonal competence may also be due to the fact that the "Children Learning for

Living" program was designed, implemented, and is being taught by women. Program girls may be identifying more closely with the problem-solving techniques taught in the program, and the women who model and teach the techniques, and thus feel more competent after participating in the program. Program boys, on the other hand, may not identify with the problem-solving methods and program instructors, and may be becoming more aware of all the deficiencies in their own problem-solving methods. These gender different cognitive reactions to the program may be resulting in girls' higher levels of self-perceived interpersonal competence and boys lower levels of self-perceived interpersonal competence.

Students' scores on the self-concept questionnaire indicate that while program students do have a more positive self-concept than non-program students, these differences are not significant. This finding is supported by other studies examining the effects of social problem-solving training programs. Weissberg et al. (1981b), examined the outcome effects of a 52 lesson, problem-solving program taught to grade three students. Students were asked to fill out the McDaniels-Young Children's Self-Concept Scale, which consists of 40 questions and is a modified version of the Piers-Harris Children's Self-Concept Scale. Weissberg and his colleagues failed to find significant differences between program and no program controls on the McDaniels-

Young Children's Self-Concept Scale.

Gesten et al. (1982) examined the effects of a 17 lesson, social problem-solving program on the self-esteem of second and third grade students. Students were asked to complete a modified, 25 item version of the Coopersmith Self-Esteem Inventory. Students filled out the questionnaire both prior to, and after completion of the program. The researchers failed to find significant improvements in the self-esteem scores of program students.

Caplan et al. (1992) evaluated the impact of a 20 lesson, social competence training program, which contained a section on problem-solving. The program was taught to sixth and seventh grade students. Students were asked to complete the Self-Worth Scale of the Self-Perception Profile for Children (Harter, 1985) both prior to and following completion of the program. The researchers found that the self-worth change scores of program students were not significantly different from the self-worth change scores of non-program students.

The results of these studies suggest that participation in a social problem-solving training program may not have a significant impact on the self-concept of program students. It may not be reasonable to expect that a problem-solving program will have a significant effect on students' global self-concept. This hypothesis is supported by Piers (1969, p. 1) who states: "Self-concept, as assessed by this

instrument, [the Piers-Harris Children's Self-Concept Scale] is defined as a relatively stable set of self-attitudes reflecting both a description and an evaluation of one's own behavior and attributes".

It was also hypothesized that students attending schools which have implemented the "Children Learning for Living" program would exhibit higher levels of satisfaction with their classes and schools than students who have not received the "Children Learning for Living" curriculum. This hypothesis was tested by comparing students' scores on the Classroom/School Satisfaction Scale (Daniels & Monker, unpublished). The results did not support this hypothesis. While program students do report feeling slightly more satisfied with their classrooms and schools than the comparison sample of non-program students, these differences were not significant.

Lastly, it was hypothesized that female students would engage in more cooperation and requests for adult assistance in response to conflict situations than male students confronted with conflict. This hypothesis was tested by comparing students' responses to questions posed during the telephone interview. The results of the telephone interview partially support this hypothesis.

Student responses to the question "What did you do to try and solve this problem?" indicate that female students are significantly more likely than males to report using

some form of cooperation in their attempts to resolve their interpersonal problems. Female students however, are not more likely than male students to request adult assistance while attempting to resolve interpersonal conflicts.

The results of the current study support research by Algren and Johnson (1979) who compared students from grades two through 12 and found that girls had more positive attitudes towards cooperation than boys. The finding that female students are more likely to use cooperative interpersonal conflict solutions may be due to the fact that the "Children Learning for Living" program was designed, implemented, and is being taught by women, and strongly emphasizes cooperation. Program girls may identify more closely with the prosocial, cooperative, problem-solving techniques taught in the program, and the women who model and teach these techniques, while program boys may not be identifying with the problem-solving methods and female program instructors.

Schneider and Byrne (1985) conducted a review of social skills training programs and found that program effectiveness increased as the proportion of female students increased. This finding suggests that female students may benefit more from problem-solving programs than male students. This hypothesis is supported in the present study: female students scored significantly higher than male students on measures of social-cognitive problem-solving

skills. Perhaps female students are more likely to use cooperative conflict solutions because they respond more to problem-solving programs which emphasize cooperative problem-solving behaviors.

Limitations of the Current Evaluation

Small sample size.

The sample size of the current program evaluation was small, and thus limited the power of the statistical analyses used in this evaluation. The power levels reported in the current study ranged from .13 to .97. The limited power of the analyses used in this evaluation meant that it could not be conclusively determined whether the differences between the program and no program groups were due to chance, or to the effects of the "Children Learning for Living" program.

Comparison Sample.

The current evaluation was designed to assess the full impact of the "Children Learning for Living" program. This curriculum is taught to students in grades two through to grade six. In order to assess the direct impact of the program on its participants, a longitudinal study with pre and post measures was needed. Unfortunately this methodology was not feasible at the time this study was undertaken. Instead, students who had been in the program from grades two through six were compared with a sample of students who had never received the "Children Learning for

Living" program.

Comparison schools were selected on the basis of the Ottawa Board of Education's Focus on Future ranking system. This system ranks OBE schools on several variables, including: the number of English as a second language students, number of school personnel transfers and retirements, number of single parent families, household income, percent of the population with less than a grade 9 education, and the percent of the school population in public housing. Schools are ranked in terms of need and student risk status, with lower numbers (range is from one to 48) indicating higher degrees of need and risk. With the assistance of Ottawa Board personnel, the researchers attempted to select comparison schools which had similar rankings to the program schools participating in the evaluation. This was not always possible however; not all desirable comparison schools were able or willing to participate. As a result, many of the comparison schools are not directly comparable to the program schools on the basis of the Focus on Future ranking system.

The comparison sample was also found to contain a subsample of high-functioning boys who had not received the "Children Learning for Living" program. On several of the interpersonal competence measures (the total competence, the initiation competence subscale, and the emotional support competence subscale), the no program boys scored almost as

high (or higher in one case) as the program girls.

In conclusion, the no program, comparison sample was not equivalent to the program sample. School comparisons were needed in order to compare program schools with closely ranked non-program schools. These comparisons were not possible however, due to the limited sample size of many of the participating schools.

Research Measures.

The research measures selected for use in this study may have limited the findings of this evaluation. The assessment measures selected for use may not have been sensitive enough to detect significant differences between program and non-program students. The "Children Learning for Living" program attempts to improve students' existing interpersonal problem-solving skills. Skill enhancement may be harder to detect than skill acquisition. Significant findings may not have been found because the measures selected for use in the current study are inappropriate. The interpersonal competence, self-concept, and classroom/school questionnaires were selected for use in the present study because it was believed that students who have higher levels of interpersonal competence, who have a positive self-concept, and who like their class and school would be less likely to have adjustment problems such as poor peer relations, academic dropout, and academic failure (Parker & Asher, 1987; Richard & Dodge, 1982; Spivack &

Shure, 1974; Withycombe, 1973). Perhaps it is unreasonable to believe that students who have participated in a ten-lesson-a-year problem-solving program will have a more positive self-concept, and higher levels of interpersonal competence and classroom/school satisfaction than students who have not participated in a problem-solving program.

Many of the measures selected for use in this study are relatively new questionnaires that do not have established validity. The specific problem-solving questionnaire was designed by the researchers and Mental Health Workers specifically for use in the current evaluation, and thus it has face validity and nothing more. The classroom/school satisfaction questionnaire was also designed specifically for use in this study. Unfortunately, these questionnaires may not have had adequate validity, and have yet to be established as psychometrically sound assessment measures. Both the general problem-solving questionnaire and the interpersonal competence questionnaire were modified for use in this particular study. The general problem-solving questionnaire was originally designed as a role-play exercise, which scored students' behavioral responses to hypothetical conflict situations. This format was modified to a multiple choice questionnaire. The interpersonal competence questionnaire was originally designed for use with university undergraduates. Some of the words and phrases in this questionnaire were modified so that they

were more appropriate for use with sixth grade students. Changes made to both the general problem-solving questionnaire and the interpersonal competence questionnaire may have limited or altered their validity estimates.

Finally, significant findings may not have been found because the measures used in this study were not reliable. Both the specific and general problem-solving questionnaires had low (.31 and .28 respectively) Cronbach's alpha reliability, indicating that the questionnaire items may not have been assessing the same constructs.

Need for Delayed Posttests.

The impact of the "Children Learning for Living" study was evaluated by administering questionnaires and interviews to students approximately four months after they had completed the full problem-solving curriculum. The results of the data indicate that while many of the findings are in the desired direction (i.e. the specific problem-solving questionnaire, the female subsample of the interpersonal competence questionnaire, the self-concept questionnaire, and the classroom/school satisfaction questionnaire) these results are not significant. It has been suggested however, that changes in students' problem-solving skills and self-perceptions may not occur until long after they have completed their social skills training (T. Daniels, personal communication, April 9, 1996). In a survey of studies assessing social skills training, Schneider (1992) reports

that the average effect sizes was larger between the pretest and delayed posttest (which occurred four to 11 months after the training) than between the pretest and immediate posttest. This hypothesis is supported by Gesten et al. (1982) who found that program students improved more than no program controls on a pre- to delayed (one year after training) posttest measures of total competence.

(Additional research needs to be conducted however; Schneider (1992) found only three studies out of 79 which administered delayed posttests more than three months after the program training ended.) Perhaps students in the "Children Learning for Living" program have continued to improve their problem-solving skills and self-perceptions since the data for this evaluation was collected.

Additional research needs to be conducted on the "Children Learning for Living" program to determine whether or not this process is occurring.

Program Recommendations

There are a few ways in which the "Children Learning for Living" program might be improved. The program could be lengthened so that students receive more than ten lessons at each grade level. Students may be forgetting much of what they learn during the nine- and-a-half months between the last lesson at one grade level and the first lesson at the next grade level. Regularly scheduled reinforcement lessons/activities would shorten the time gap between

lessons at different grade levels and provide students with additional opportunities to practice what they have learned. While mental health workers in the program do provide students with additional "booster" activities, these activities are not regularly scheduled and are limited by the time constraints facing teachers and mental health workers. Students should continue to receive regularly scheduled reinforcement lessons even after completion of the formal curriculum.

Outcome expectations of the "Children Learning for Living" program need to be clearly outlined. Failure to find significant differences between the number of conflict solutions attempted by program and non-program students may be due to the fact that the program emphasizes metacognitive problem-solving strategies. If significant behavioral outcomes are desired, then perhaps the program should focus on a more behaviorally-oriented approach. For example, increased use of role-play and modelling techniques to teach students appropriate behavioral solutions to conflict.

The program could also focus more on role play activities. While role-play is offered as one of the program's teaching methods, its use appears to be greatly limited. Role play offers students a simulated conflict situation in which to practice problem-solving behaviors learned in the group discussions. One of the advantages of role-play is that role-play experiences can have an

affective component (T. Daniels, personal communication, March 12, 1996). At times individuals may get "caught up in the moment" of role-play situations and actually begin to feel some of the emotions they are portraying. Role play exercises offer students a chance to try out and practice conflict solutions in a potentially emotional situation similar to those they experience in regular, everyday interpersonal conflict situations.

Summary and Conclusions

There are several hypotheses which can be drawn from the results presented in this program evaluation. It may be that the "Children Learning for Living" program is not having a significant effect on the students who participate in the program. If this is the case, then the program needs to be implemented in an alternative manner. It may be however, that the program itself is effective, but that the measures used to assess its effectiveness are inappropriate. Primary prevention programs are designed to help people acquire important skills and behaviors which will improve their current functioning and prevent the development of future problems (Cowen, 1983; Durlak & Jason, 1984). The interpersonal competence, self-concept, and classroom/school satisfaction measures were chosen for use in the current study because it was believed that the program would have a positive impact on these areas, and it was believed that children who perceived themselves to be interpersonally

competent, who had a positive self-concept, and who were satisfied with their class and school would be less likely to develop future problems. Perhaps primary prevention problem-solving programs do not have a significant effect on children's self-concept or satisfaction with their class and school.

Research in the field of problem-solving programs needs to determine what these programs impact on, and whether or not these program effects prevent future adjustment problems in their target population. Most of the research to date has focused on problem-solving programs and pre- to post-program adjustment gains. To date, findings in this area have been mixed (e.g. Denham & Almeida, 1987; McClure et al., 1978; Shure & Spivack, 1979; Spivack & Shure, 1974; Weissberg et al., 1981a; Weissberg et al., 1981b).

Perhaps the "Children Learning for Living" program is effective, but the measures selected for use in the current study were not sensitive to the changes that were occurring. The measures may not be sensitive to the enhancement of students' problem-solving skills and self-perceptions which occur as a result of participation in the program.

Many of the measures are new, without established psychometric properties. Other measures have been modified for use in this study, which may have altered their psychometric properties. The measures are also more stringent than those used in other studies which have

demonstrated significant program effects. Measures in the current study are based on students' self-reports, and not on ratings conducted by teachers who had a vested interest in the success of their programs.

An alternative hypothesis is that the program does work, but the impact of the program was not revealed because the program students were compared to a non-equivalent comparison group. The comparison sample contained a subsample of high-functioning boys who had not received the "Children Learning for Living" program. On several of the interpersonal competence measures the no program boys scored almost as high (or higher) as the program girls. Furthermore, many of the comparison schools are not directly comparable to the program schools on the basis of the Focus on Future ranking system. This occurred because suitable comparison schools were not always willing, or able to participate in the study.

It could also be hypothesized that the program does improve students' problem-solving skills and self-perceptions, but that these changes do not occur until more than four months after students have completed the full curriculum. Schneider's (1992) review of social skills training programs suggests that the benefits of participation in a social skills training program may not appear until four to eleven months after the program has been completed. One of the challenges facing researchers in

the field of social problem-solving programs is to determine whether or not these programs have a delayed impact on their participants, when the impact occurs, and whether or not it is maintained over time.

In conclusion, additional research needs to be conducted on the "Children Learning for Living" program in order to determine which of the above hypotheses are correct. The results of this evaluation suggest that the program appears to be having a limited effect on its participants, and that implementation changes may be required.

Future Research

There are several areas which future research needs to address. More studies are needed to determine whether or not students who have participated in social problem-solving programs show delayed gains in problem-solving skills, interpersonal competence, positive self-concept, and classroom/school satisfaction. In particular, additional program evaluations need to be conducted on the "Children Learning for Living" program to determine whether or not program gains are occurring four months or more after completion of the complete curriculum.

Future evaluations of the "Children Learning for Living" program should include naturalistic observations. Naturalistic observations enable researchers to observe children's behaviors in their natural setting at the time

they occur (Gresham & Elliot, 1984; Maag, 1989). Use of naturalistic observations in the present study would have enabled researchers to directly observe students' problem-solving behaviors, rather than relying on student reports of past events, which are limited by the subject's memories of the event and their willingness to self-report emotionally charged events. Furthermore, naturalistic observations have been found to be sensitive to the treatment effects of social skills training programs (Hughes, 1990). Use of naturalistic observations in the present study might have provided researchers with a more sensitive measure of students' problem-solving behaviors.

Future evaluations of the "Children Learning for Living" program should take into account the need for large sample sizes. The small sample size of the current evaluation limited the power of the statistical analyses. As a result, it could not be conclusively determined whether the differences between the program and no program groups were due to chance, or to the effects of the "Children Learning for Living" program.

Additional program evaluations also need to be conducted on the "Children Learning for Living" program in order to determine whether or not the gender differences in interpersonal competence which were found in the present study are due to a gender bias inherent in the design of the program (the fact that the program is designed, implemented,

and taught by women) or to the use of a well-functioning comparison subsample (the no program boys).

Future studies also need to examine the effects of more behavioural-oriented problem-solving programs. Perhaps program students in the current study would have attempted more conflict solutions if the program had focused more on teaching students effective behavioural solutions to interpersonal conflict, rather than on metacognitive strategies. To date few problem-solving programs have been able to demonstrate that skills learned within the classroom generalize to situations outside the classroom (Gresham & Lemanek, 1983; Hughes & Sullivan, 1988; Tisdelle & Lawrence, 1986; Urbain & Kendall, 1980).

Additional studies are needed to examine the effects of social problem-solving programs on students' interpersonal competence. Research to date has produced conflicting findings (e.g. Caplan et al., 1992; Gesten et al., 1982; Weissberg et al., 1981a; Weissberg et al., 1981b).

More research is needed to determine how problem-solving programs impact on their target population, and whether or not these program effects prevent future adjustment problems in their target population.

Future studies should be conducted in order to further examine the impact of social problem-solving programs on male and female students. If problem-solving programs have a differential effect on male and female students, then

perhaps social problem-solving programs should be designed to address members of a specific gender (i.e. either males or females but not both).

Additional research is needed in order to determine whether or not problem-solving programs have a differential effect on students who are in an enriched academic program. Results of the current study indicate that enriched students might be benefitting more from interpersonal problem-solving programs than students who are in a regular academic program. These effects need to be further examined.

Finally, future researchers should utilize findings from the conflict resolution field. Methods and results reported in this field may be relevant to the primary prevention, problem-solving program area of research. For example, future research on primary prevention problem-solving programs could assess individual changes in conflict style, rather than on social-cognitive change. Such changes could be assessed by using conflict style measures provided in the conflict resolution field of literature.

The conflict resolution field also suffers from methodological issues similar to those found in the primary prevention, problem-solving field. Concerns such as: the need to assess program impact on individuals and schools, the need to examine the effects of gender, and the need for longitudinal studies (Jones, 1995) confront researchers in both fields. The primary prevention, problem-solving field

and the conflict resolution field overlap to a large degree. This is important because it provides researchers in both fields with the opportunity to learn one another.

Conclusion

The evaluation of primary prevention programs is very difficult. Primary prevention programs aim to prevent the development of future problems (Cowen, 1983; Durlak & Jason, 1984). Evaluations of primary prevention programs therefore, should demonstrate that program children do not develop future difficulties. Yet how do you measure failure to develop problems? One way is to compare program children with non-program children, to see if non-program children exhibit more future difficulties than program children. This evaluation has demonstrated however, that there are many difficulties associated with the generation of an adequate no program, comparison sample (e.g. comparison schools which are similar to program schools with regards need and risk status).

Additional difficulties confronting primary prevention program evaluations include the need for more valid and reliable assessment measures, and the need for measures which are sensitive to program effects, such as interviews and behavioral observations.

The present evaluation offered a preliminary examination of the "Children Learning for Living" program, and provided important information regarding the

methodological issues which need to be considered in future evaluations of this program, and in the field of primary prevention evaluation in general.

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Appendix A

General Instructions to Students

Hi, my name is Jo-Ann and I am a student at Carleton University. I am here today because I want to learn more about students your age, what you are like, what you think about things, and how you behave in certain situations.

I 'm going to ask you to fill out some forms (show forms). These forms have questions on them, which I would like you to answer. When you are done filling out these forms, I am going to take them and use them to help me learn more about people your age.

This is not a test. These forms are called surveys, and that means there are no right or wrong answers. A survey is a group of questions that ask you what you think about things. OK? Since people are all very different from one another, we all have different ideas and feelings about things, and we all give different answers to the questions on a survey. This is why there are no right or wrong answers to the questions that I am going to ask you today.

Your answers to these questions will be kept private. The only people who will see your answers will be myself, and the other researchers from Carleton University who are helping me. Your teachers, your parents, and your friends will not be allowed to see your answers to these questions.

You don't have to answer any question that you do not feel comfortable answering.

Now, we are going to fill out these surveys one at a time. For each survey, I will give you the instructions, then we will practice with a sample question. When I am sure that you understand how to fill out the survey, I will ask you to finish it on your own.

Please do not talk while you are answering the questions, and don't look to see what the person next to you is doing. Remember, you have the right to keep your answers private, so if you think someone is

looking at your answers cover them with a book, or tell me and I will ask that person to sit somewhere else.

If you have any questions or concerns about these forms, please ask. Are there any questions? (Answer any questions that are asked).

OK, let's start.

Appendix B

"What Do You Think?" Instructions

For this next survey we would like to know what you think about things. This survey has multiple choice questions, so we want you to read ALL the possible answers for each question, then circle the answer you think is BEST.

Please turn to page 3.

FOR EXAMPLE, the sample question says:

Baseball is...

- a) a game I don't like and try to avoid playing.
- b) a game I REALLY don't like.
- c) a game I like.
- d) a game I only play when my friends and I can't think of something better to do.

Now, think about baseball. How much do you like to play it?
(Pause for a minute to let students think). If you don't like baseball and try to avoid playing it, circle the letter a. If you REALLY don't like baseball circle the letter b. If you like playing baseball circle the letter c. If you only play baseball when you can't think of anything better to do, circle the letter d.

Any questions? (Answer any questions that are asked.)

OK, now you can begin answering the questions. Please stop when you have reached the end of question twenty-five.

Appendix C

"What Do You Think" Questionnaire

SAMPLE QUESTION:

Baseball is...

- a) a game I don't like and try to avoid playing.
- b) a game I REALLY don't like.
- c) a game I like.
- d) a game I only play when my friends and I can't think of something better to do.

PLEASE STOP HERE AND WAIT UNTIL YOUR INSTRUCTOR ASKS YOU TO CONTINUE.

1. Which of the following best describes conflicts with others?
 - a) conflicts are things that have no solution.
 - b) conflicts are bad and should be avoided at all costs.
 - c) conflicts are alright if you are the one that wins.
 - d) conflicts are only a problem if people don't listen to each other.
2. If you disagree with someone at school, what do you do?
 - a) try to smooth things over so the other person doesn't get mad.
 - b) try to make the other person agree with you.
 - c) try to come up with a solution where both people give a little and get a little.
 - d) walk away and forget about it.
3. When a fight occurs on the playground the best thing is...
 - a) for everyone to ignore it.
 - b) for the people involved to talk it out.
 - c) for the students involved to be sent to the principal's office.
 - d) for their friends to back them up and join in the fight.

4. If someone tried to start a fight with you, would you...
 - a) feel that you have to stand up for yourself and fight back.
 - b) feel that its OK to walk away.
 - c) feel like telling the person off.
 - d) feel that you could talk it out and fix the problem.

5. When a friend gets angry with you, do you usually...
 - a) keep your feelings to yourself.
 - b) get just as angry with your friend.
 - c) try to tell your friend how you feel.
 - d) get angry but take it out on someone else.

6. A student you don't know has been giving you dirty looks and making comments about you to others. Would you...
 - a) give back dirty looks.
 - b) talk to the person and find out what is going on.
 - c) tell the person to back off or they will be sorry.
 - d) ignore the person.

7. Two of your friends are always picking on each other and putting each other down. Would you...
 - a) side with the person you feel is right
 - b) side with the person you like best.
 - c) ignore these friends and find other friends to play with.
 - d) listen to both sides and try to help them work it out.

8. When you are angry with someone do you usually...
 - a) try to talk to the person about it.
 - b) keep it to yourself.
 - c) do something to make the other person pay.
 - d) get your friends to ignore the person you are angry with.

9. When you have a disagreement with another person the most important thing is:
- a) to get what you want.
 - b) to make sure the other person still likes you.
 - c) to satisfy both people.
 - d) to get even with the other person.
10. When someone accuses you of something you didn't do would you...
- a) get angry and tell the other person off.
 - b) stay calm and try to talk it out.
 - c) ignore it and walk away.
 - d) get angry and get in a fight about it.
11. When you have a problem with someone do you usually think...
- a) that it will eventually end in a fight.
 - b) that it should be possible to work it out.
 - c) that the best thing is to walk away and ignore it
 - d) that there is nothing you can do to fix it.
12. The best way to stop an argument from turning into a fight is to...
- a) get other people to back you up and take your side.
 - b) focus on the problem rather than on each other.
 - c) show the person that you are not afraid to fight them.
 - d) threaten the person and tell them to back off.
13. An argument will most likely turn into a fight if you don't...
- a) listen to the other person's concerns.
 - b) make the other person see that you are right.
 - c) make sure the other person knows you won't back down.
 - d) try to smooth things over.

14. What is the best way to let people know they are bugging you?
- a) tell the person to get lost.
 - b) tell the teacher.
 - c) tell the person how you feel when they bug you.
 - d) threaten to beat the person up if they don't leave you alone.
15. The best way to solve a problem with someone is to...
- a) stay out of the person's way.
 - b) get an adult to decide who is right.
 - c) tell the person you will do something bad to them if you don't get your own way.
 - d) tell the person your feelings and listen carefully to theirs.
16. When you have a problem at home or at school you should...
- a) do whatever people in your class tell you to do.
 - b) think of one perfect solution to the problem.
 - c) think of several solutions that might solve the problem.
 - d) use the same solution you used the last time you had a problem.
17. A put-down is:
- a) alright if you say you're sorry afterwards.
 - b) alright if you say you're just kidding.
 - c) alright if you are mad at the person.
 - d) never alright because it hurts people's feelings.

18. What is the best way of dealing with a "put-down" if the person hurts your feelings?
- a) don't let the person know that they hurt your feelings.
 - b) talk the problem over and tell the person how you felt after hearing the put-down.
 - c) wait for a chance to put the person down when they are not expecting it.
 - d) don't let the person know that they hurt your feelings.
19. Why should you calm down when you are angry with another person?
- a) because it is easier to plan your revenge when you are calm.
 - b) calming down is not important.
 - c) because it is easier to ignore the problem when you are calm.
 - d) because it is easier to talk to the other person and work out a solution when you are calm.
20. What are the steps you would go through to work out a problem with another student?
- a) tell a teacher, then talk about the problem with the teacher and student.
 - b) beat the student up, then tell the student why the problem should be solved your way.
 - c) talk to the student about the problem, come up with ideas about how you could solve the problem, try these ideas out.
 - d) try to ignore the problem and if that doesn't work, tell the student off and get all your friends to tell the student off.

21. What does the word "consensus" mean?
- a) people can agree.
 - b) people make sense.
 - c) people convince you to do something.
 - d) people think of many solutions to problems.
22. How can one person encourage another person to talk?
- a) tell the person about yourself.
 - b) stare at that funny scar on their face while they're talking.
 - c) by looking at the person and nodding while they speak.
 - d) say "talk to me".
23. What does a good leader do?
- a) tell people what they have to do.
 - b) ask everyone for ideas and pick the best one.
 - c) let everyone do what they want.
 - d) helps a group of people decide what they want to do.
24. Conflict situations usually occur because:
- a) the other person is out to get you.
 - b) the other person has a problem.
 - c) each person has their own point of view and neither is 100% correct.
 - d) the other person is not your friend.

25. You are at home and your brother/sister won't let you watch your favourite program because he/she wants to watch something different. Would you...
- a) threaten to beat him/her up if you can't watch your program.
 - b) go and tell a parent what's happening.
 - c) decide to let your brother/sister watch his/her program tonight if you can watch your favourite program tomorrow night.
 - d) find something else to do.

Appendix D

"What Should You Do?" Instructions

In this next survey we would like to know what you think you should do in different situations. Each question will describe a specific situation, and then give you several answers to choose from. Remember to read ALL the possible answers for each question, then circle the answer you think is BEST.

Please turn to page 8.

FOR EXAMPLE, the sample question says...

Imagine that it's in the evening, and you are at home. You have just sat down to do your math homework. As you dump your books out of your schoolbag, you realize that you have left your math textbook at school.

What should you do in this situation?

Should you...

- a) Forget about your math homework and watch T.V. instead.
- b) Call up a friend who is in your math class and ask if you can do your math homework with him/her.
- c) Ask your parents to go out and buy you a new math textbook.
- d) Copy a friend's math homework when you get to school the next day.
- e) Tell the teacher you did your math homework but the dog ate it.

Now think about what you should do in this situation, and circle your answer.

Any questions? (answer any questions that are asked).

O.K. you can start now. Please stop when you have reached the end of question 15.

Appendix E

"What Should You Do?" Questionnaire

SAMPLE QUESTION:

Imagine that it's in the evening, and you are at home. You have just sat down to do your math homework. As you dump your books out of your schoolbag, you realize that you have left your math textbook at school.

What should you do?

- a) Forget about your math homework and watch T.V. instead.
- b) Call up a friend who is in your math class and ask if you can do your math homework with him/her because you forgot your textbook at school.
- c) Ask your parents to go out and buy you a new math textbook.
- d) Copy a friend's math homework when you get to school the next day.
- e) Tell your teacher you did your homework but the dog ate it.

PLEASE STOP HERE AND WAIT UNTIL YOUR INSTRUCTOR ASKS YOU TO CONTINUE.

1. Imagine that you are outside at recess playing tag. All of a sudden you notice Jessica standing all alone. You walk over to Jessica and you see that she has been crying and there are tears in her eyes.

What should you do?

- a) Offer to play a game with Jessica.
- b) Ask Jessica what happened.
- c) Walk the other way.
- d) Offer to tell a teacher that Jessica is crying.

2. Imagine that your friends are playing a board game after lunch. They're playing a really neat game. You come into the classroom and see them. You really want to play the game with them.

What should you do?

- a) Sit down at your desk and watch them play the game.
- b) Ask one of your friends to play a different game with you.
- c) Say "Can I play the game with you?"
- d) Say "Boy that's really neat. Can I play?"
- e) Say "What are you guys doing?"

3. Imagine that you are in the lunchroom carrying a tray of food. Mathew is walking right beside you carrying his tray of food. Mathew wants to sit with another friend. He accidently bumps you and you drop your whole tray on the floor. Mathew looks back at you.

What should you do?

- a) Say "You idiot, you better clean this up!"
- b) Threaten to tell a teacher.
- c) Ask the janitor to clean up the mess.
- d) Say "Accidents happen, can you help me pick up the food?"

4. Imagine that the teacher has come in and told the whole class to get in line for lunch. You are standing in line. Andrew comes over and cuts in front of you. He says "I'm standing here now."

What should you do?

- a) Say "I was here first."
- b) Tell the teacher that Andrew cut in front.
- c) Say "You have to go to the end of the line."
- d) Push Andrew out of the way.

5. Imagine that some kids in your class are playing a new video game. You can see that it looks like a lot of fun. Your classmates are taking turns playing the game. You walk up to them and ask "Can I have a turn?" and Tammy turns around and says "No. You have to wait until I say you can play".

What should you do?

- a) Say "When can I have a turn?"
- b) Say "That's not fair. I'm going to tell a teacher."
- c) Walk away and not say anything.
- d) Push the other kids out of the way so you can play.
- e) Wait for a turn, and then say "When will you be done?"

6. Imagine that you are in class. You have some free time and want to talk to someone. You see Steven sitting at his desk. You decide to talk to him.

What should you do?

- a) Go up to Steven and say "Why are you just sitting there?"
- b) Go up to Steven and say "I heard you failed the spelling test."
- c) Go up to Steven and say "Do you want to talk?"
- d) Go up to Steven and say "You know what? I m really good at playing baseball."
- e) Go up to Steven and say "Hi, do you want to play a board game with me?"

7. Imagine that you are using your coloured pencils to draw a picture for a class project on birds. You are drawing a blue bird. Donna is drawing too, but some of her pencils are lost. She asks you "Can I use your blue pencil?".

What should you do?

- a) Say "No, I'm using it."
- b) Say "Yes, you can use it when I'm finished with it."
- c) Say "What do you need it for?"
- e) Say "Yes but give it back or I'll tell the teacher."

8. You are in class. The teacher is handing back math papers. When the teacher gives you your paper you smile because you got all of the answers correct. Then you notice that Paul missed six problems and is almost ready to cry.

What should you do?

- a) Say "Try harder next time."
- b) Say "Maybe you can do better next time."
- c) Feel badly but say nothing.
- d) Say "Why did you get six wrong?"
- e) Say "Nobody's perfect. Why don't you try practicing with your parents at home?"

9. Imagine that some students in your class have started a club. It's a really fun club and they do some neat things. Samantha is in the club. You wish you could join the club, too. One day you see Samantha walking down the hall on her way to a club meeting.

What should you do?

- a) Say nothing.
- b) Say "Samantha, how can I join the club?"
- c) Say "Can I be in the club?"
- e) Say "Are you going to a club meeting?"

10. Imagine that when you get ready for school your mother tells you that you can't leave unless you put on your rubber boots and your ugly black raincoat. When you get to school all the other students have on shorts and tennis shoes. When Peter sees you he starts laughing.

What should you do?

- a) Take off your raincoat and boots.
- b) Say "Quit laughing at me, it's not funny."
- c) Say "Well you look pretty funny too."
- d) Say "How would you like it if your mom made you wear these?"
- e) Tell a teacher.

11. Imagine that your teacher has given you an assignment to write a report about reptiles. You don't even know what a reptile is or how to spell the word. You notice Susan going right to the encyclopedia to start her report. You go over to see what's going on. You are really upset because you think you are going to get a really bad grade.

What should you do?

- a) Say "Can I look in the encyclopedia with you?"
- b) Ask a teacher for help.
- c) Say "Hurry up, I want to use the encyclopedia."
- d) Say "I don't care about this dumb report!"

12. Imagine that Cory brought his new marbles to school. He lets you play with them and says you can use them for the whole recess. Halfway through recess he comes over to you and says "I want my marbles back right now."

What should you do?

- a) Say "You can't have them back."
- b) Say "Fine. I'll never borrow your toys again."
- c) Say "Why can't I use the marbles all recess like you promised?"
- d) Say "I'm going to tell the teacher."
- e) Say "You said I could play with the marbles all recess."

13. Imagine that you are in gym class. The teacher is having the class run some races. Natalie is a really fast runner and ends up winning almost every race. At the end of class, the teacher says Natalie will get to race against kids from other schools. You walk back to class with Natalie.

What should you do?

- a) Say "Can you help me to practice running?"
- b) Say "Why do you always have to beat everyone?"
- c) Say "Why do you run so fast?"
- d) Say "That's good, but next time don't show off so much."
- e) Say "That's really good. I wish I were the fastest."

14. Imagine that you and Colin are playing checkers during your free time at school. Colin has three kings and you don't have any. Colin is almost ready to jump your last man.

What should you do?

- a) Say "Don't jump my checker, O.K.?"
- b) Say "That's not fair."
- c) Say "You're going to win. Want to play again?"
- d) Say "It's just a game."

15. The whole class is working on a big picture to hang in the hall. The teacher is going to choose one person to be in charge and decide what the class is going to draw on the picture. You would really like to be the person in charge. The teacher says to Jennifer: "Jennifer I'm going to let you be in charge. What shall we draw?"

What should you do?

- a) Say to Jennifer "I've got some ideas for the class picture."
- b) Say to Jennifer "I wish I were in charge, you're lucky."
- c) Say to the teacher "I don't want to draw."
- d) Say to Jennifer "Can I be the leader if you don't want to?"
- e) Say "The teacher should have picked me instead."

Appendix F

"What I Am Like" Instructions

Please turn to page 14.

I have some sentences here and, as you can see from the top of your sheet where it says "What I am like", I'm interested in what each of you is like, what kind of a person you are like. This is a survey, not a test. There are no right or wrong answers. Since people are very different from one another, each of you will be putting down something different.

First let me explain how these questions work. There is a sample question at the top of the first page. I'll read it out loud and you follow along with me. This question describes a type of situation, and I want to know how good you would be handling this type of situation.

The first question says:

How good are you at taking apart a bike and putting it back together?

Now I would like you to think about taking apart a bike and putting it back together. How well would you be able to do this? If you feel that you would do this poorly, and would be so unable to do this that you would avoid it if possible, then circle the number 1.

(pause for a second)

If you feel that you are only fair (so-so) at taking apart a bike and putting it back together and that you would have lots of difficulty doing this, then circle the number 2.

(pause for a second)

If you feel that you are OK at taking apart a bike and putting it back together, but would have some difficulty doing this, then circle the number three.

(pause for a second)

If you feel that you would be good at taking apart a bike and putting it back together, and you would be able to do this, then circle the number four.

(pause for a second)

If you feel that you are very good at taking apart a bike and putting it back together, and that you could do this very well, then circle the number five.

(pause for a second)

OK, now let's move on to the rest of the questions. I'm going to read each question out loud. After I read each question, I would like you to circle the number that goes with how well you would handle the situation.

Are there any questions? (Answer any questions that are brought up.)

Please note: Each student is to be given a copy of the five points on the rating scale and a description of what each point represents (See Appendix F).

Appendix G

"What I Am Like" Rating Scale Numbers

- 1 = I am poor at this; I would be unable to do this, I'd avoid it if possible.
- 2 = I'm only fair at this; I would have lots of difficulty doing this.
- 3 = I'm OK at this; I would have some difficulty handling this.
- 4 = I'm good at this; I would be able to do this.
- 5 = I'm very good at this; I would do this very well.

Appendix H

"What I Am Like" Questionnaire

SAMPLE QUESTION:

How good are you at taking apart a bike

and putting it back together? 1 2 3 4 5

PLEASE STOP HERE AND WAIT UNTIL YOUR INSTRUCTOR ASKS YOU TO CONTINUE.

1. How good are you at suggesting to
someone new that you get together and
do something, such as going to a
movie together? 1 2 3 4 5

2. How good are you at telling a friend
you don't like a certain way he/she
has been treating you? 1 2 3 4 5

3. How good are you at revealing some-
thing private about yourself while
talking to someone you are just
getting to know? 1 2 3 4 5

4. How good are you at helping a close
friend work through his/her ideas and
feelings about a major decision, such
as whether or not to skip school for
the week? 1 2 3 4 5

5. How good are you at being able to
admit that you might be wrong when an
argument with a close friend begins to
turn into a serious fight? 1 2 3 4 5
6. How good are you at finding and
suggesting things to do with new people
you find interesting? 1 2 3 4 5
7. How good are you at saying "no" when a
friend asks you to do something you
don't want to do? 1 2 3 4 5
8. How good are you at telling a new
friend private thoughts and letting
him/her see your inner self? 1 2 3 4 5
9. How good are you at being patient while
listening to a friend "let off steam"
while talking about problems he/she is
having? 1 2 3 4 5
10. How good are you at being able to put
angry feelings aside when having a
fight with a close friend? 1 2 3 4 5
11. How good are you at talking with someone
new who you think you might like to get
to know? 1 2 3 4 5

12. How good are you at turning down an unreasonable request made by a friend? . 1 2 3 4 5
13. How good are you at telling a close friend things about yourself that you're embarrassed about?1 2 3 4 5
14. How good are you at helping a close friend get solve a problem he/she is having?1 2 3 4 5
15. When having a conflict with a close friend, how good are you at really listening to his/her complaints and not trying to "read" his/her mind? . . . 1 2 3 4 5
16. How good are you at being an interesting and enjoyable person to be with when first getting to know people?1 2 3 4 5
17. How good are you at standing up for your rights when a friend is being thoughtless and insensitive?1 2 3 4 5
18. How good are you at letting a new friend get to know the "real you"? . . . 1 2 3 4 5
19. How good are you at helping a close friend cope with family problems?1 2 3 4 5

20. How good are you at being able to
see your friend's side in a fight and
really understand his/her point of
view?1 2 3 4 5
21. How good are you at introducing
yourself to someone you might like to
get to know?1 2 3 4 5
22. How good are you at telling a friend
that he/she is doing something that
embarrasses you?1 2 3 4 5
23. How good are you at letting down your
protective "outer shell" and trusting
a close friend?1 2 3 4 5
24. How good are you at being a good and
sensitive listener for a friend who is
upset?1 2 3 4 5
25. How good are you at stopping yourself
from saying things that might cause an
argument to build into a big fight? . . .1 2 3 4 5
26. How good are you at calling a new
friend to set up a time to get together
and do something?1 2 3 4 5

27. How good are you at standing up to your close friend when he/she has done something that embarrasses you?1 2 3 4 5
28. How good are you at telling a close friend about things that secretly make you feel anxious or afraid?1 2 3 4 5
29. How good are you at being able to say and do things to support a close friend when he/she is upset?1 2 3 4 5
30. How good are you at being able to work through a specific problem with a companion without blaming the other person and saying things like "You always do that"?1 2 3 4 5
31. How good are you at presenting yourself in a positive way to people you might like to become friends with?1 2 3 4 5
32. How good are you at telling a friend that he or she has done something to hurt your feelings?1 2 3 4 5
33. How good are you at telling a close friend how much you appreciate and care for him or her?1 2 3 4 5

34. How good are you at being able to show
real concern even when a friend's
problem is uninteresting to you? 1 2 3 4 5
35. When angry with a friend, how good are
you at being able to accept that their
point of view is O.K even if you don't
agree with it? 1 2 3 4 5
36. How good are you at going to parties
where you don't know people well in
order to make new friendships? 1 2 3 4 5
37. How good are you at telling a friend
that he or she has done something to
make you angry? 1 2 3 4 5
38. How good are you at knowing how to
move a conversation with a friend
beyond the surface so that you can
really get to know each other? 1 2 3 4 5
39. When a close friend needs help and
support, how good are you at being able
to give advice in ways that your friend
will feel O.K about? 1 2 3 4 5
40. How good are you at not exploding at a
close friend (even when you have a good
reason to) in order to avoid a fight
that could ruin your friendship? 1 2 3 4 5

Appendix I

"More About What I Am Like" Instructions

I have called this next survey, "More About What I am Like" because I want you to tell me a little bit more about yourself.

As you can see, this survey has a list of sentences, to which you are asked to answer either yes or no.

For EXAMPLE, the first sentence says "My classmates make fun of me." I want you to think about this sentence, and whether or not it is true for you. (pause to let students think about sentence) If this sentence is true for you, then circle the yes. If this sentence is not true for you, then circle the no.

For each sentence, please circle either yes or no, but not both.

Are there any questions? (Answer any questions that are asked.)

Now we have some more sentences. Please read and answer each one. Stop when you have reached the end of the survey, which is question number 80.

Appendix J

"More About What I Am Like" Questionnaire

1. My classmates make fun of me.	yes	no
2. I am a happy person.	yes	no
3. It is hard for me to make friends.	yes	no
4. I am often sad.	yes	no
5. I am smart.	yes	no
6. I am shy.	yes	no
7. I get nervous when the teacher calls on me.	yes	no
8. My looks bother me.	yes	no
9. When I grow up, I will be an important person.	yes	no
10. I get worried when we have tests in school.	yes	no
11. I am unpopular.	yes	no
12. I am well behaved in school.	yes	no
13. It is usually my fault when something goes wrong.	yes	no
14. I cause trouble to my family.	yes	no
15. I am strong.	yes	no
16. I have good ideas.	yes	no
17. I am an important member of my family.	yes	no
18. I usually want my own way.	yes	no
19. I am good at making things with my hands.	yes	no
20. I give up easily.	yes	no
21. I am good in my school work.	yes	no
22. I do many bad things.	yes	no
23. I can draw well.	yes	no
24. I am good in music.	yes	no
25. I behave badly at home.	yes	no
26. I am slow in finishing my school work.	yes	no
27. I am an important member of my class.	yes	no
28. I am nervous.	yes	no

29. I have pretty eyes.	yes	no
30. I can give a good report in front of the class.	yes	no
31. In school I am a dreamer.	yes	no
32. I pick on my brother(s) and sister(s).	yes	no
33. My friends like my ideas.	yes	no
34. I often get into trouble.	yes	no
35. I am obedient at home.	yes	no
36. I am lucky.	yes	no
37. I worry a lot.	yes	no
38. My parents expect too much of me.	yes	no
39. I like being the way I am.	yes	no
40. I feel left out of things.	yes	no
41. I have nice hair.	yes	no
42. I often volunteer in school.	yes	no
43. I wish I were different.	yes	no
44. I sleep well at night.	yes	no
45. I hate school.	yes	no
46. I am among the last to be chosen for games.	yes	no
47. I am sick alot.	yes	no
48. I am often mean to other people.	yes	no
49. My classmates in school think I have good ideas	yes	no
50. I am unhappy.	yes	no
51. I have many friends.	yes	no
52. I am cheerful.	yes	no
53. I am dumb about most things.	yes	no
54. I am good-looking.	yes	no
55. I have lots of pep.	yes	no
56. I get into a lot of fights.	yes	no
57. I am popular with boys.	yes	no
58. People pick on me.	yes	no
59. My family is disappointed in me.	yes	no

60. I have a pleasant face.	yes	no
61. When I try to make something, everything seems to go wrong.	yes	no
62. I am picked on at home.	yes	no
63. I am a leader in games and sports.	yes	no
64. I am clumsy.	yes	no
65. In games and sports, I watch instead of play.	yes	no
66. I forget what I learn.	yes	no
67. I am easy to get along with.	yes	no
68. I lose my temper easily.	yes	no
69. I am popular with girls.	yes	no
70. I am a good reader.	yes	no
71. I would rather work alone than with a group.	yes	no
72. I like my brother (sister).	yes	no
73. I have a good figure.	yes	no
74. I am often afraid.	yes	no
75. I am always dropping or breaking things.	yes	no
76. I can be trusted.	yes	no
77. I am different from other people.	yes	no
78. I think bad thoughts.	yes	no
79. I cry easily.	yes	no
80. I am a good person.	yes	no

Appendix K

"How Satisfied Are You?" Instructions

For this survey, I would like to know how you feel about the people in your class and your school. This survey is a bit different from the other surveys you have been given. This survey has a list of questions, and for each question you are asked to show how you feel by circling a number on a scale.

Please turn to page 18.

FOR EXAMPLE the sample question at the top of the page says...

On most days, how much do you like pizza?

Now think about pizza. How much do you like pizza? (pause for a bit) If you don't like pizza at all, then circle the number one, which is written under the words NOT AT ALL (show location of number one). If you like pizza a little, then circle the number three, which is written under the words A LITTLE (show location of number three). If you like pizza a lot, then circle the number five, which is written under the words A LOT (show location of number five). If you like pizza a very little bit, then circle the number two, which is written below and between the words NOT AT ALL and A LITTLE (show location of number two). If you like pizza more than a little, but not a lot, then circle the number four, which is written below and between the words A LITTLE and A LOT (show location of number four).

.ny questions? (Answer any questions that are asked.)

OK, now you can begin answering the questions. Please stop when you have reached the end of the survey, which is question number nine.

Appendix L

"How Satisfied Are You?" Questionnaire

SAMPLE QUESTION:

On most days, how much do you like pizza?

NOT AT ALL		A LITTLE		A LOT
I _____	I _____	I _____	I _____	I _____
1	2	3	4	5

PLEASE STOP HERE AND WAIT UNTIL YOUR INSTRUCTOR ASKS YOU TO CONTINUE.

1. On most days, how much do you like your class?

NOT AT ALL		A LITTLE		A LOT
I _____	I _____	I _____	I _____	I _____
1	2	3	4	5

2. On most days, how comfortable do you feel with your class?

NOT AT ALL		A LITTLE		A LOT
I _____	I _____	I _____	I _____	I _____
1	2	3	4	5

3. On most days, how happy do you feel with your class?

NOT AT ALL		A LITTLE		A LOT
I _____	I _____	I _____	I _____	I _____
1	2	3	4	5

4. If you could change your class, how much would you change it?

NOT AT ALL		A LITTLE		A LOT
I _____	I _____	I _____	I _____	I _____
1	2	3	4	5

5. How satisfied are you with the way you get along with your classmates at school?

NOT AT ALL		A LITTLE		A LOT	
I _____	I _____	I _____	I _____	I _____	
1	2	3	4	5	

6. On most days, how much do you like school?

NOT AT ALL		A LITTLE		A LOT	
I _____	I _____	I _____	I _____	I _____	
1	2	3	4	5	

7. On most days, how comfortable do you feel at school?

NOT AT ALL		A LITTLE		A LOT	
I _____	I _____	I _____	I _____	I _____	
1	2	3	4	5	

8. On most days, how happy do you feel at school?

NOT AT ALL		A LITTLE		A LOT	
I _____	I _____	I _____	I _____	I _____	
1	2	3	4	5	

9. If you could change your school, how much would you change it?

NOT AT ALL		A LITTLE		A LOT	
I _____	I _____	I _____	I _____	I _____	
1	2	3	4	5	

Appendix M

Questionnaires: Student Debriefing

Thank you for filling out these forms today. Your answers to these questions will really help me understand more about students your age.

I asked you to fill out these surveys because I am studying a program called "Children Learning for Living". I wanted to know if students who have taken part in this program think differently than students who have not taken part in this program. I hope the surveys you filled out today will help me answer this question.

Do you have any questions before I go? (answer any questions that are asked).

Once again, thank you for your help.

Appendix N

Conflict Interview Instructions

"Hi _____ (insert name of student), my name is _____ and I am a student at Carleton University. A little while ago some other students from Carleton came to your school and asked you to fill out some surveys. I'm calling today because I would like to ask you some more questions over the phone. Your parents have given me permission to call you and ask you these questions. Do you have the time to answer these questions now? (It will take about 10 minutes)."

NOTE: If response is yes proceed with the rest of the interview. If response is no arrange a tentative call back time.

"I want you to know that this is not a test. There are no right or wrong answers to the questions that I am going to ask you.

Your answers to these questions will be kept private. The only people who will see your answers will be myself, and the other people from Carleton University who are helping me. Your teachers, your parents, and your friends will not be allowed to see your answers to these questions so it is important that you answer as honestly as you can.

You don't have to answer any question that you don't feel comfortable answering.

Do you have any questions before we begin? (Answer any questions.) O.K., let's start.

Did you have an argument or problem* with another student at school today?

If response is yes, then say..."Try to remember as much as you can about what happened."

If response is no, then say..."I'd like you to think about the most recent argument or problem* you had with someone at school. Try to remember as much as you can about what happened."

*If the student cannot remember an argument, you can ask whether or not they had any problems with another student at school. I'm looking for recall of a problem situation, which may or may not have developed into an argument (i.e. situations involving students putting down one another, student(s) spreading rumours about other students, students deciding to ignore/leave a previous friend out of group activities etc...).

Appendix O

Conflict Interview Form

1. What happened? (What did you do? What did the other person(s) do?)

2. How long ago did this happen? (check one)

today _____

in the past week _____

(approx.) two weeks ago _____

(approx.) three weeks ago _____

(approx.) one month ago _____

(approx.) two months ago _____

(approx.) three months ago _____

more than three months ago _____ (specify) _____

3. Not including yourself, how many people were involved in the disagreement? (Specify) _____. Who was involved in the disagreement? (NOTE: For each person, check off the characteristics on the list below).

person #1 male _____ female _____

best friend _____

friend _____

someone from class _____

someone older (higher grade) _____

someone younger (lower grade) _____

other (specify) _____

person #2 male _____ female _____
 best friend _____
 friend _____
 someone from class _____
 someone older (higher grade) _____
 someone younger (lower grade) _____
 other (specify) _____

person #3 male _____ female _____
 best friend _____
 friend _____
 someone from class _____
 someone older (higher grade) _____
 someone younger (lower grade) _____
 other (specify) _____

Note: If more than three other people were involved, use the space below to document them and describe them using the above criteria (best friend, friend, male, female, etc..)

4. What did you want to see happen? (What did you want?)

5. "On a scale of one to five, one being not at all important and five being very important, how important was the problem?"

NOT AT ALL SOMEWHAT VERY

1 2 3 4 5

6. "On a scale of one to five, one being not at all important and five being very important, how important was it to you to solve the problem?"

NOT AT ALL		SOMEWHAT		VERY
1		2		3
				4
				5

7. "On a scale of one to five, one being not at all (clearly) and five being very (clearly), how clearly were you thinking?"

NOT AT ALL		SOMEWHAT		VERY
1		2		3
				4
				5

8. "On a scale of one to five, (one being not at all and five being very), how in control of your actions were you?"

NOTE: Use words in brackets if needed.

NOT AT ALL		SOMEWHAT		VERY
1		2		3
				4
				5

9. How did you feel at the time? Did you feel...

angry? _____ sad? _____ hurt? _____

frustrated? _____ embarrassed? _____ jealous? _____

Did you have any other feelings at the time? _____.

Note: If last response is a yes, please record additional emotions.

10. How strong were your feelings? (NOTE: If the student responded angry to the above question ask: "Did you feel REALLY ANGRY, somewhat angry, a little angry?" Repeat this statement for each emotion the student felt.).

feeling	strength of feeling (really, some, a little)
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

11. "On a scale of one to five, (one being not at all and five being very), how confident were you that you could solve the problem?"

NOTE: Use words in brackets if needed.

NOTE : If needed substitute "sure" for "confident".

NOT AT ALL SOMEWHAT VERY

1 2 3 4 5

12. Did you have a plan in mind when you were trying to solve the problem?

yes _____ no _____ a little _____ (check one)

13. What did you do to try and solve this problem?

14. Were you able to come to an agreement? yes _____ no _____

15. "On a scale of one to five, (one being not at all and five being very), how satisfied were you with the way the problem worked out (the outcome)?"

NOTE: Use words in brackets if needed.

NOT AT ALL		SOMEWHAT		VERY				
1		2		3		4		5

16. "On a scale of one to five, (one being not at all and five being very), how good did you feel about the way you acted?"

NOTE: Use words in brackets if needed. Did you feel good about the way you acted?

NOT AT ALL		SOMEWHAT		VERY				
1		2		3		4		5

17. What do you think will happen now? (i.e. Do you think your solution will work?)

Appendix P

March 27, 1995

Consent Form: Letter to Parents

Dear parent(s) or guardian(s),

A study is being conducted by researchers from Carleton University in order to assess the impact of the Children Learning for Living program. This project has been approved by the Ottawa-Carleton Research Advisory Committee and by the principal of your school. The purpose of this study is to assess the extent of learning exhibited by children who have received the complete curriculum for the primary prevention program entitled "Children Learning for Living". In order to measure the effectiveness of this prevention program we need to compare the performance of children who have participated in the program with those who have not.

We would like to include your son/daughter in this project. The study takes place at the school your child attends. Grade six students will be asked to complete several pencil and paper questionnaires about how they settle disagreements with peers, and how comfortable they feel initiating friendships, providing emotional support to peers, and settling conflicts with peers. The questionnaires will be administered to groups of students during class time. Activities will be completed in a single, one hour session, and will be conducted in a quiet location such as the library. Activities will be scheduled at the classroom teacher's convenience in order to minimize interference with daily routine. In addition, students will be contacted (by phone) at home during the evenings. Phone calls will occur at a prearranged time agreeable to you. These phone calls will enable us to interview students, in order to further assess the effectiveness of the Children Learning for Living program.

Participation in this study is completely voluntary, and your son/daughter may withdraw at any time. Only students with written consent may participate. Participation by your son/daughter will be kept strictly confidential: the results will be reported in ways that ensure complete confidentiality, and will not appear in any school records.

If you have any questions, please call Jo-Ann Monker at 788-2600, extension 1413, or Dr. Tina Daniels at 788-2600, extension 2686. If you have any ethical concerns, please contact Dr. Lise Paquet (Carleton University Ethics Committee), at 788-2600, extension 2692. Please complete the attached consent form and return it to the school as soon as possible.

Thank you for your cooperation.

Jo-Ann Monker

3 of/de 3

PM-1 3½"x4" PHOTOGRAPHIC MICROCOPY TARGET
NBS 1010a ANSI/ISO #2 EQUIVALENT

PRECISIONSM RESOLUTION TARGETS

Appendix Q

Consent Form

March 27, 1995

Consent Form

This information is confidential and is protected under the Municipal Freedom of Information and Protection of Privacy Act, 1989.

I have read and understood the request for my son/daughter to participate in the study of "An Evaluation of the Cumulative Effects of Participation in a Primary Prevention Program". I have discussed it with my son/daughter and...

_____ I give permission for my son/daughter to participate.

_____ I do not give permission for my son/daughter to participate in the telephone interview.

_____ I do not give permission for my son/daughter to participate in any aspect of the study.

Name of Student: (please print) _____

Name of Parent/Guardian (please print) _____

Signature of Parent/Guardian: _____

Date: _____

Your answers to the following questions will help us determine the effectiveness of the "Children Learning for Living" program.

1. How many children do you have? _____.
2. What are their ages? _____.
3. Have any of your children been in a program (Children Learning for Living) school? _____. If yes, which children ?
_____.
4. Have you participated in the 5 week parent outreach programme conducted by the "Children Learning for Living"? _____.

Appendix R

Coding Scheme for Students' Responses to the Phone InterviewQuestion: "What did you do to try and solve this problem?"

1. Constructive Solutions

- talk it out
- compromise
- walk away
- distract
- chance game (e.g. flip a coin)
- share
- get help (from an adult)
- postpone
- apologise
- take turns
- ignore/avoid (scored on a case by case basis)

2. Physically Aggressive Solutions

- hitting, punching
- kicking
- pushing, shoving

3. Verbally Aggressive Solutions

- threats
- teasing
- arguing
- spread rumors
- foul language
- put-downs, insults
- name-calling
- sarcasm
- ignore (scored on a case by case basis)

4. Other Solutions

- giving in
- bribery
- "dropping" the problem
- ask to stop, leave alone
- convince others to do something (e.g. see things your way)

Table 1Power and Effect Sizes for MANOVAs 1, 2, and 3

Analyses	Comparisons		
	Program	Gender	Program X Gender
MANOVA 1	.68 (.111)	.96 (.205)	.77 (.131)
MANOVA 2	.41 (.072)	.97 (.228)	.20 (.035)
MANOVA 3	.13 (.020)	.57 (.091)	.56 (.089)

Note. Effect sizes appear in brackets.

Table 2Interpersonal Competence Total Score: Subgroup Means and Standard Deviations

Group	n	Mean	Standard Deviation
Program			
Boys	33	131.03a	24.80
Girls	29	146.34b	20.46
Non-Program			
Boys	12	147.17	24.49
Girls	20	136.80	20.41

Note. Maximum score = 200

Note. Means with different subscripts differ significantly
at $p < .05$.

Table 3

Interpersonal Competence Initiation Subscale Score: Subgroup Means and Standard Deviations

Group	n	Standard	
		Mean	Deviation
<hr/>			
Program			
Boys	33	26.64a	5.93
Girls	29	30.59b	4.78
Non-Program			
Boys	12	31.25b	6.28
Girls	20	28.10	5.67

Note. Maximum score = 40

Note. Means with different subscripts differ significantly at $p < .05$.

Table 4

Interpersonal Competence Emotional Support Subscale Score: Subgroup Means and Standard Deviations

Group	n	Mean	Standard Deviation
Program			
Boys	33	27.15a	6.17
Girls	29	31.83b	5.29
Non-Program			
Boys	12	30.17	4.65
Girls	20	29.30	4.23

Note. Maximum score = 40

Note. Means with different subscripts differ significantly at $p < .05$.

Table 5Percentages of Program and Non-Program Students Using Conflict Solutions

Solutions	Group	
	Program	No Program
Talk it Out	32.65	33.33
Compromise	6.12	4.76
Walk away	8.16	0.00
Distract	0.00	0.00
Chance Game	0.00	0.00
Share	0.00	4.76
Get Help	10.20	4.76
Postpone	4.08	0.00
Apologise	0.00	4.76
Take Turns	2.04	4.76
Ignore/Avoid	4.08	9.52
Hitting	2.04	4.76
Kicking	0.00	0.00
Pushing	4.08	0.00

(table continues)

Table 5 Continued

Solutions	Group	
	Program	No Program
Threats	0.00	0.00
Teasing	0.00	0.00
Arguing	0.00	0.00
Rumors	0.00	0.00
Foul Language	2.04	0.00
Insults	0.00	0.00
Sarcasm	0.00	0.00
Ignore/Avoid	0.00	0.00
Give In	4.08	4.76
Bribery	2.04	0.00
"Drop" Problem	0.00	4.76
Ask to stop/leave	10.20	4.76
Convince	2.04	0.00

END

2011-96

FIN