

AN EVALUATION: THE EFFICACY OF AN INTERPERSONAL COGNITIVE PROBLEM-  
SOLVING SKILLS PROGRAM FOR TEENAGE STUDENTS WITH ADHD-LIKE  
SYMPTOMS

by

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## Abstract

An Interpersonal Cognitive Problem-Solving Skills (ICPS) program was implemented in a Special Education classroom, over a 5-week period, for adolescents who have ADHD-like symptoms. All of the students in the investigation attend the Special Education classroom for at least one teaching block three times per week. Eight students (3 female and 5 male students), average age of 14.75 years, in grades eight ( $n = 3$ ), ninth ( $n = 3$ ), and tenth ( $n = 2$ ) participated in this study. Students attended the 50-minute ICPS program twice a week, demonstrated significantly improved. This study compared the social competency of the participants at Pre-test (1 week before the start of program) and Post-test times (3 weeks following program completion) by considering the opinions and observations of school staff, and parents and the students themselves. Each student was asked to respond orally to a self-report scale of behaviour, the Behavior Assessment System for Children (Reynolds & Kamphaus, 1997). Also, changes in problem-solving skill levels were considered with an ICPS Task. Consideration of questionnaires for school staff addressed generalizability from the ICPS group setting to other areas outside the ICPS group environment. The described experience of the ADHD students throughout the process was essential to monitoring the effectiveness of the ICPS Program.

The BASC-SRP found that many of the eight students in this study experienced social problems that are typical of diagnosed ADHD students. Two of eight students reported having emotional symptoms, three of eight students reported experiencing school problems, one of eight students reported problems with anxiety and social stress, and lack of personal coping strategies, two of eight students reported having problems in their relationships with peers and parents.

The Semi-Structured Questionnaire found that students enjoyed substantial decreases negative social behaviours like bullying (38%), being argumentative (63%), dominating time in class (50%), and refusing to participate in class activities (50%). Also between 50% and 63% of students seemed to increase their use of positive ways to mediate the roles they played in group

interactions and 63% of the students increases the frequency of maintaining eye contact with a speaker, and speaking to others about ones ability. When asked how often they use the six steps of problem-solving, between 38% and 50% of students reported increasing their use of 'understanding what others say', 'generating options to solve problems,' 'recognizing consequences of actions,' (Step 4), 'choosing between alternatives,' and 'evaluating past solutions.' Even though the ICPS program didn't seem to have the immediate impact of increasing students' ability to relate with peers or in making friends, it is the researcher's opinion that the new skills set learned during the ICPS program would eventually allow for increased social competencies leading to increases in relationships with peers and making friends.

The comparison of students performance on solving social problems at Pre-test and Post-test yielded results that suggest little change in problem-solving ability occurred for most students. Only two out of seven students (29%) improved in their total score on the ICPS Task at Post-test, two more students (29%) stayed the same on their performance of the problem-solving task, and three other students (43%) actually showed a decrease in performance on the ICPS Task at Post-test.

The ICPS Task found that 50% of participants of this study seemed to learn the skill of 'determining the source of the problem.' And 38% of students seemed to learn the skill of 'determining consequences of alternatives.' Tall the students performed poorly on 'generating alternative solutions' and evaluating chosen solutions'.

According to school staff, all of the seven students were reported to enjoy very specific changes in how they related to others in the classroom setting from increasing participation in classroom activities, sharing more opinions with fellow classmates, being more patient and ignoring things that are unimportant when dealing with conflicts with peers, and being less physically invasive when joking around with others. Of particular interest was the report that students also seemed to develop skills in the areas of using self-talk to curb swearing and other

inappropriate behaviour, and using of self-control to better manage disruptive behaviour, combating what Barkley (1998) calls a developmental delay in inhibition.

When the students were asked to report, in the Open-Ended Questionnaire for Students , five of eight students (63%) agreed that they experienced positive changes in social behaviour at Post-test such as listening when interacting with others. Two of eight (25%) experienced changes in relating to others in the classroom environment, four of eight (50%) of students reported noticing changes in the amount of social support received from others, while three of seven (43%) of school staff reported positive change in the amount of support received from others.

When asked to evaluate the ICPS program at Post-ICPS test time, overall the students found the ICPS program very useful for learning something about social competency. It was found that six of eight (75%) of the students reported that they did learn something from the program. When specifically asked what they liked about the ICPS program, there answers included the role-plays and the Feeling Word games. When the students were asked what they learned, five of eight (63%) reported learning how to cooperate better with classmates, how to learn more about the kinds of people their classmates are, and how to be more respectful of others. All of these things could likely lead to a better grasp at taking the perspective of others

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## Chapter One: Introduction to the Problem

Every September, new students enter high school. This physical transition is also accompanied by a symbolic transition from childhood to adolescence. New Grade 8 students walk through the large school doors filled with questions and insecurities. At the same time, there is an excitement as they embark on a mysterious journey to further a sense of self. This desire to develop an identity is difficult, especially when teenagers face daily peer pressure, social anxiety, self-doubt, and confusion.

Additionally, some teenagers have to cope with Attention-Deficit Hyperactive Disorder. For them, schoolwork is a constant struggle, friendships are hard to come by, and controlling their own behaviour does not come naturally. These teenagers with Attention-Deficit Hyperactive Disorder often find themselves failing in school, and having few friends due to disruptive and aggressive behavior, communication problems, and social-information processing problems. Schools requirement to stay focused on academic tasks, and positively interact with peers are social expectations that far exceeds the actual social skills of many students dealing with ADHD.

Much public interest and controversy have surrounded ADHD, introduced as a disorder in the late 1960s. Because three to five percent of the school-aged population is ADHD, most of the general public has passing knowledge of this disorder (Wick-Nelson & Israel, 1997). More boys than girls receive diagnosis of ADHD, with the ratio being about four to nine boys to one girl diagnosed with the disorder (Wick-Nelson & Israel, 1997).

### *Diagnosis*

According to the DSM-IV (American Psychological Association, 1994, p.83-84), to be diagnosed with ADHD a person has to exhibit either symptoms of **inattention** or symptoms of **hyperactivity-impulsivity** before the age of 7, across 2 or more live settings, and these symptoms must impair functioning in social, academic or occupational realms. To be classified

as **ADHD Predominantly Inattentive Type**, six or more symptoms of **inattention** must have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level. These symptoms include difficulties and problems with: (a) attending to details; (b) sustaining attention; (c) listening when spoken to; (d) following through on instructions or duties; (e) organizing tasks and activities; (f) sustaining mental effort at tasks; (g) losing things; (h) distraction by extraneous stimuli; (i) forgetfulness in daily activities. To be classified as **ADHD Predominantly Hyperactive-Impulsive Type**, six or more symptoms of **hyperactivity-impulsivity** must have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level. These symptoms include difficulties and problems with: (a) fidgeting or squirming; (b) leaving seat inappropriately; (c) running about or climbing inappropriately, or restlessness; (d) playing quietly; (e) behaving as if “on-the-go” or as if “driven by a motor”; (f) talking incessantly; (g) blurting out answers before questions completed; (h) awaiting turn; (i) interrupting or intruding on others. To be diagnosed with **ADHD Combined Type** both the criteria for inattentive type and hyperactive-impulsive type will be met.

### *Etiology*

The search for causes of ADHD implicates several variables, but no single factor explaining the disorder. The possible medical causes include biological functioning, pregnancy and birth complications, genetics, diet, environmental lead poisoning and psychosocial factors (Barkley, 1998).

However, this view of ADHD as a medical condition has long been the subject of debate. Armstrong (1996) questioned “whether this ‘disorder’ really exists in the child at all, or whether, more properly, it exists in the relationships that are present between the child and his or her environment” (p.425). The argument of DuPaul, Guevremont, and Barkley (1991) that ADHD symptoms vary between individuals and across settings also lends credence to Armstrong’s

question of the existence of ADHD. It is interesting to note that approximately 70% of ADHD adolescents recover from all symptoms of ADHD by adulthood. Could it be that they did not have a 'disorder' in the first place and that the diagnostic tools are flawed? Armstrong (1996) indicates three main concerns regarding the use of subjective testing to diagnose ADHD. First, with no objective criteria, these tests could be biased "by teachers and parents who may have a deep, and often subconscious, emotional investment in the outcome" (Armstrong, 1996, p. 425). Second, the assessment tests compare students hypothesized to be ADHD with a collection of data gathered from individuals previously diagnosed as ADHD. How were these original children tested and were the assessment procedures used accurate enough to allow for such generalization? Finally, since the traits used to analyze typical ADHD behavior, deemed 'normal' within certain parameters (i.e. fidgeting and inattention), at which point do they become 'abnormal'?

Whether or not one truly believes in the diagnosis of ADHD, the fact remains that some children have more difficulty participating socially in home, school, and community life. The needs of these adolescents must be addressed.

#### *Current Interventions*

Current interventions within the school setting involve the use of medicinal, behavioral, or cognitive-behavioral interventions that seek to improve these psychosocial factors. These medications are reported to produce short-term enhancement of impulse control, attention span, social interactions, academic productivity, and compliance in approximately 70% to 80% of the students (Schwiebert, Sealander, and Tollerund, 1995). Although successful in controlling some of the behavioral problems associated with ADHD, medical treatments fail to address deficiencies in cognitive ability and social interaction skills. Additionally, the benefits experienced last only as long as the individual continues to be medicated. Therefore, additional

strategies are required to assist individuals with ADHD to improve their social skills and intellectual abilities. (Schwiebert et al., 1995)

Used since the 1930s, psychostimulant medications, such as methylphenidate (Ritalin), dextroamphetamine (Dexedrine), and pemoline (Cylert), are the most common treatment for ADHD. Sixty to ninety percent of diagnosed children receive psychostimulant medication for prolonged periods during their school careers (Bramlett, Nelson, and Reeves, 1997; Schwiebert et al., 1995; Smelter, Fleming, Nazo, and Baranowski, 1996). These medications are reported to produce short-term enhancement of impulse control, attention span, social interactions, academic productivity, and compliance in approximately 70% to 80% of the students. Some of the potential side effects of psychostimulant medication are decreased appetite, headaches, insomnia, irritability, sudden mood changes, and growth suspension (Bramlett et al., 1997; Gomez & Cole, 1991; Gower, 1999; Schwiebert et al., 1995). The remaining 20% to 30% show little or no response to the medication. In fact, in some cases the introduction of psychostimulant medication actually intensifies ADHD symptoms (Schwiebert et al., 1995).

Behavioral interventions are used alone or in combination with psychostimulant medication. Of the two, the greater amount of improvement in the behavior of individuals with ADHD is shown when both approaches are used concurrently (Gomez & Cole, 1991; Gower, 1999). The focus is on the management of disruptive and hyperactive behaviour and self-regulation of behaviour (Barkley, 1998). Some techniques used are behavioral contingency, self-instructional training, modeling, and role-playing. The two basic categories of behavioral interventions are antecedent and consequence interventions (Gower, 1999; Schwiebert et al., 1995). The former promotes adaptations to one's environment and/or activities to promote decreased distractibility and increased structure (e.g. arranging desks in rows). The latter is based on operant conditioning principles (e.g. token economies). Although these techniques are successful, they are not without problems. With or without the addition of medical treatments,

behavioural modification interventions were not shown “to achieve the same degree of behavioural improvement as the stimulants” (Barkley, 1998, p. 17).

One slant on behavioural interventions is cognitive-behavioural interventions. Early cognitive-behavioural modification techniques stressed the need for students to develop “self-directed speech ...to guide their ... attention to immediate problem situations, to generate solutions to these problems, and to guide their behaviour as solutions were performed” (Barkley, 1998, p. 30). These approaches did receive some success in reducing impulsiveness in a laboratory setting, but did not generalize to home or school settings (Barkley, 1998, p.30). More recent cognitive training interventions involves teaching self-monitoring, self-reinforcement. In particular it teaches a set of self-directed steps to follow when performing a task or solving a problem situation (Barkley, 1998). Unfortunately the success of the intervention is also at the mercy of outside forces. For example, cognitive-behavioral training is a time consuming venture, which relies heavily on the skill level and dedication of teachers, parents and support workers. Additionally, there has been little empirical evidence of long-term retention of behavior and attitudinal change with this treatment plan (Gomez & Cole, 1991). This internalization of control is thought to promote generalization to different settings, as the source of motivation is not reliant on external rewards (Gomez & Cole, 1991; Gower, 1999).

One intervention that has come to the attention of this researcher is the cognitive behavioural approach of teaching Interpersonal Cognitive Problem-Solving Skills. Spivak, Platt and Shure (1976) argue that the gap between actual and expected social skills can be addressed by focusing on the improvement of deficits in generating solutions to interpersonal problem situations, conceptualizing step-by-step ways to reaching specific goals, and seeing interpersonal situations from the perspective of others. Based on these findings, Shure (1992) developed the Interpersonal Cognitive Problem-Solving Skills program (ICPS) that she believed could be used to enhance interpersonal cognitive skills. The purpose of this research paper is to test the

efficacy of this ICPS program in facilitating the development of social competency for students with ADHD-like symptoms.

Overall, it would seem a combination of interventions rather than one in isolation would be the most beneficial course of action for counteracting the effects of ADHD. As well, in order to produce as much generalization of newly acquired knowledge or skills as possible, a multi-faceted approach, which includes involvement of regular classroom teachers, special education assistants (SEAs), and involvement at home with the parent or guardian would be ideal.

### *The Problem*

In the school environment all students are asked to stay focused on academic tasks, and positively interact with peers to create a safe and comfortable learning atmosphere. Unfortunately for many ADHD students, social expectations far exceed their actual social skills. Dumas (1999) claims approximately 50% of children with ADHD experience significant peer relationship problems due to “disruptive and aggressive behavior, communication problems, and social-information processing problems.” He suggests that social problems of preadolescents continue into the adolescent years. Often these children find themselves failing in school, being labeled as ‘behavior problems’, developing internalized disorders (e.g. depression or suicidal tendencies), and/or developing serious conduct disorders in adulthood.

Because the actions of ADHD students are at odds with the wishes of others and situational task demands, the underlying goal of most support programs is to attempt to create a better fit between the child and the social environment (Serpas, 1997). This fit is further complicated by the usual communication problems of ADHD adolescents, including: inability to make small talk; difficulty listening; difficulty waiting for others to finish speaking; misunderstanding the message; making inappropriate remarks; forgetting what the conversation was about; acting bossy, aggressive and belligerent or quiet and passive. All of the above communication behaviours do not often lead to peer acceptance, so ADHD adolescents either

withdraw or act inappropriately out of desperation (Silver, 1984).

### *Summary and Rationale for the Study*

Studies have shown that traditional medical, behavioural, and cognitive-behavioural interventions do not fully address the gap between social expectations and the actual social skills of students with ADHD-like symptoms within the school environment. Traditional school support programs for these students have emphasized academic remediation and behaviour modification. However, studies have shown that even with these supports in place, there have not been significant improvements in actual social skills of ADHD students. These students often experience little or no school success, sometimes become labeled as a behaviour problem, and often carry with them a poor sense of self throughout their lives. In attempting to support students with ADHD-like symptoms, a program was developed by this researcher and three colleagues to facilitate social competency or adjustment by teaching interpersonal cognitive problem-solving skills to a group of teenage peers. The ICPS Skills program was intended to provide an opportunity for students with ADHD-Like symptoms to gain social support from teachers in a Special Education Program and in regular classrooms, Special Education Assistant's, parents and from their peers in the program.

A program to support students with attention disorders should modify the attitudes and beliefs of those who work with them, the environments in which they live and learn, and their behavior (Dawson, 1998). The goal of this ICPS program for students with ADHD-like symptoms is to teach ICPS skills so that the social competency of participants can improve. It is the hope of this researcher that the teaching of interpersonal cognitive problem-solving skills will allow participants to experience less social problems and enjoy more appropriate relationships with others.

To determine the effect of an ICPS program on level of social competency of students in grades 8 through 11, this project implemented the ICPS program then completed an outcome



evaluation of it. To enhance generalization of newly acquired ICPS skills to other domains in the students' lives, this project employed a multi-faceted approach, involving classroom teachers, special education assistants (SEA's), and involvement at home with the parent or guardian.

If schools are to fulfill the obligation to educate the ADHD population, it is essential that they attempt to facilitate the development of social competencies of these students. To accomplish this task of improving social skills, parents, teachers, counsellors, and administrators need to recognize the limitations of ADHD students' social competency and actively teach social competency skills in the school environment. It is the belief of this researcher that focusing on improvement of social skills will have positive effects on ADHD students' learning experiences, will improve the social lives of these students, and could limit problems faced by staff dealing with this population. Therefore the purpose of this study was to teach social competency skills that could allow participants to have the tools necessary to appropriately mediate social situations, and solve social problems. To ensure that this new skill set was generalized to other environments, classroom teachers, Special Education Assistants (SEA's) and parents were involved in this program.

For the purpose of evaluating the effectiveness of the ICPS program in teaching social competency skills this research study addressed six questions. The first research question addresses: *Do the students report problems in social competency and or problems in general / overall functioning? And is there any change after the completion of the ICPS Program?* The second research question addresses: *What is the frequency and nature of social problems reported by the student? And is there any change after the completion of the ICPS Program?* Two measures used in the study illuminated these questions: the Behavioural Assessment for Children-Self Report Scale, and a Semi-Structured Questionnaire for Students. The third research question of this study asked: *What are the students' ICPS skill levels before the*

*program? Are there any changes in skill level after the program is finished?* One measure, the Interpersonal Cognitive Problem-Solving Skills (ICPS) Task illuminated this question.

The fourth research question of this study asked: Do school staff and parents report changes in social competency after the ICPS program completion that is generalized to other settings outside the ICPS classroom? What is the reported effect of changes on the students' ability to relate to others and the amount of support received from others. One measure, an Open-Ended Questionnaire for Teachers, SEA's and Parents illuminated this research question. The fifth research question asked: Do the students' perceive behavioral changes in social competency after the ICPS program completion? If yes, what is the effect of this behavioural change on the student's ability to relate to others and the amount of support received from others? One measure, the Open –Ended Questionnaire for Students, illuminated this question. The last research question asked: *What is the experience of participating in the ICPS program / group? Was it useful?* One measure, a Program Evaluation Questionnaire for Students, illuminated this research question. The Program Evaluation questionnaire was completed only atPost-ICPS test time, three weeks following program completion.

## Chapter Two: Literature Review

### *Interpersonal Cognitive Problem-Solving Programs*

Intervention programs use ICPS skills to attempt to enhance interpersonal cognitive skills, and thus lead to successful alterations in overt social behavior. These ICPS programs, which enhance critical thinking, creativity, and reasoning skills, are concerned more with *how* a person thinks rather than *what* a person thinks (Spivack, Platt and Shure, 1976)

These ICPS Programs are developed mainly to deal with the social problems of children and adolescents (Spivak et al, 1976), reported that adolescents with social problems generally have deficits in generating solutions to interpersonal problem situations, conceptualizing step-by-step ways to reach specific goals, and seeing interpersonal situations from the perspective of others. Interpersonal cognitive problem-solving skills, (ICPS) a term coined by Spivak et al. (1976), mediate the quality of social interaction with others. Since ICPS skills can be used to generate thoughts in problem situations without intense anxiety or fear, Spivak et al (1976) believe ICPS skills can be used to teach adolescents to improve their emotional and social well being.

Spivak, Platt, and Shure (1976) outlined the elements of programs that enhance interpersonal cognitive problem-solving (ICPS) skills and lead to successful alterations in overt social behaviour. For Spivak et al (1976), one element of an effective ICPS program was engaging the participants in active and relevant thinking around solving real-life interpersonal problems with which the participants can identify. Other important elements for success were having the participants discuss and generate thoughts themselves (brainstorming) about a problem, and giving the participants an opportunity to practice ICPS skills in a structured way through repeated exercises. Spivack, Platt and Shure (1976) also suggested that the order of teaching ICPS skills is important. They suggested that generating problem solutions should be taught before generating thoughts about consequences to the problem. They also stressed the

necessity of teaching prerequisite skills of problem-solving as a first step to any problem-solving skills training program. These prerequisite skills included: learning the language of problem solving, orientation towards problem solving, and identifying social problems before teaching ICPS skills. It was suggested that adolescent and adult groups would benefit greatly from the use of role-plays in an ICPS program because perspective taking plays a much larger role in interpersonal problem solving in these age groups. Essentially role-playing was thought to give participants training in appreciating different roles. A final element of ICPS programs was that learning to administer such a program does not require prior professional training as a therapist or teacher. Therefore even students who previously participated in the program could be employed to teach future programs.

According to Spivack, Platt and Shure (1976), no studies offering ICPS training have “demonstrated a direct relationship between change in cognition and change in social adjustment” (p. 99). However, correlational evidence linking interpersonal cognitive problem and behavioural adjustment did suggest the possibility of a relationship. Studies of interpersonal cognitive problem solving in adults suggested continuity but not complete congruence with respect to the relationship between interpersonal cognitive problem solving and adjustment in adolescence (Spivack et al., 1976). This lead them to put in the call for more effort into evaluating ICPS programs, instead of assuming that such programs “must be worthwhile simply because what they intend to use as a teaching technique seems reasonable or have been found to work in other contexts, or that what is being taught is so worthwhile that any program to teach it is acceptable without examination.” (Spivack et al., 1976, p. 295). But they warned against measuring only change in cognition or only change in social behaviour (adjustment) when evaluating social cognitive programs, as this kind of evaluation ignores the possibility that a combined change may result (cognition may induce changes in social behaviour or visa versa). This kind of evaluation also prevents distinguishing which of the six ICPS skills where actually

learned by participants as it merely evaluates whether or not a change took place in cognitive skills or social behaviour.

A very successful ICPS program evaluation by Shure and Spivack (1973; 1975) (cited in Spivack et al., 1976) measured ICPS skills and overt behavioural adjustment of youngsters before and after training. This allowed the researchers to examine both cognition and social adjustment as a function of training. "The fact that trained youngsters who improved most in certain ICPS skills as a function of training also improved most at the overt behavioural level provided strong evidence that it was change in ICPS skills that mediated improved social adjustment, and not an extraneous selective feature of the work with the trained group that brought about improved overt behaviour." (cited in Spivack et al., 1976, p. 295).

Some problem solving programs have been specifically designed for use with ADHD children. The Think Aloud program, (Camp and Bash, 1975), was designed specifically for hyperactive students between the ages of 6 and 8 who manifest poorly controlled behaviour. For six weeks, daily 25-minute lessons and games were taught to children to aid the development of inner dialogue needed to problem-solve. Lessons also included the teaching of ICPS skills, "helping these children to elicit alternative solutions to interpersonal problems, to consider possible consequences, and to decide upon a plan of action" (cited in Spivack et al., 1976, p. 191). Another ICPS program put forth by Shure and Spivack (1974) was a Mental Health Program for Kindergarten Children, for kindergarten children displaying impatience, impulsiveness or withdrawal was very similar in design to the Camp and Bash (1976) program. Unlike the Shure and Spivack program, the Think Aloud program, placed more emphasis on modeling, the reinforcement of correct responses, having the teacher model what to think and say. The Shure program for hyperactive children encouraged the child's own thinking instead of offering solutions or consequences (cited in Spivack et al., 1976).

Although Spivack et al. (1976) outlined the main elements of a successful ICPS skills

program; the developmental problems associated with being an adolescent and the unique experience of having ADHD-like symptoms warrant consideration of other factors when developing a program to improve social competency for this population. First the developmental age and abilities of the participants in such an ICPS Skills program has to be considered when developing a program for teens exhibiting ADHD-like symptoms. From two previous studies (cited in Spivack et al., 1976) of interpersonal cognitive problem solving in adolescents by Spivack & Levine (1963) and Platt et al. (1974), the developmental sequencing of adolescence was illuminated. Specifically Spivack and Levine (1963) compared the means-end cognition of a group of adolescent boys exhibiting poor self-regulation at a residential treatment center with that of a matching group in the normal population. They found that when asked to provide a middle to a story about an interpersonal theme, for example one dealing with how to regain a lost friendship, the boys in the treatment center generated less numbers of means or steps to help move towards the goal. They also found that their ability to think of consequences of behaviour before they acted also was impaired. The study by Platt et al. (1974) compared hospitalized male and female adolescents diagnosed with schizophrenia or adjustment reaction with normal adolescents and found that the hospitalized adolescents were deficient in their ability to generate means-ends cognition. Although to two groups differed on IQ, it was found that means-ends thinking was not a function of IQ. Spivack et al. (1976) reviewed many other studies of the interpersonal skills of children and found that "the capacity to think in terms of means-ends is not present in preschool children but emerges and relates to adjustment during middle latency years and continues as a significant mediator in adolescence." (p. 99). Also the ability to conceptualize a range of alternative solutions to problem situations was thought to be present in preschool and develops throughout middle childhood, but the spontaneous tendency to think of consequences (pros and cons) before making a decision did not seem to begin developing until the adolescent years (Spivack et al., 1976). "Perspective-taking was found to be quite

significantly related to adjustment among teenagers” according to Spivack et al. (1976, p. 100). This multiple perspective thinking, an important part of problem-solving, was thought to exceed the capacity of younger children, but is evident in the more intimate relationships developed in adolescents.

Some studies were useful in illuminating the interplay between interpersonal cognitive problem-solving skills and adolescence. Spivack et al. (1976) called for more intensive study of interpersonal problem solving in adolescents to aid in understanding what roles various problem-solving skill play in the social adjustment process and to give more proof about when certain problem-solving skills appear along the developmental sequence.

Training programs that enhance the participant’s ability to take different social perspectives decrease the frequency of subsequent delinquent behavior (Chandler, 1973). Therefore, an Interpersonal Cognitive Problem-Solving Skills program would need to focus on increasing perspective taking in ADHD teens. Role-taking skills will be indirectly accessed to enrich the quality of interpersonal cognitive problem-solving through practice without associated uncomfortable feelings.

For the present study, main elements and steps for fostering ICPS skills were adapted from Spivack et al. (1976) to create an ICPS program for students with ADHD-like symptoms. An evaluation of the efficacy of this program was conducted using a ‘systems’ view, considering the generalization of skills to the home and school environments, as well as investigating the students’ experience of the ICPS program. The exercises of the program taught cognitive mediation steps to problem-solving, which may lead to social-behavioral change.

### *Adolescent Development*

It has become clear from the previous section of this paper, that the developmental problems associated with being an adolescent and the unique experience of having ADHD-like symptoms are important factors to consider when developing a program to improve social

adjustment behaviour for adolescents with ADHD-like symptoms. The first factor was briefly discussed in the previous section outlining some the problem solving skills that should be present during normal development when children enter adolescence. The developmental sequence of adolescence will be elaborated on in this section. The second factor, the specific experience of having ADHD-like symptoms, will be discussed in the following section.

The term 'adolescence,' derived from the Latin verb meaning "to grow up", is sociologically defined as "the transition period from dependent childhood to self-sufficient adulthood," psychologically defined as the time where behavioural adjustments towards adulthood must be made, and chronically as the "time span from approximately twelve or thirteen to the early twenties" (Muuss, 1975, p. 4).

The answer to the question 'What is adolescence?' is dependent upon the theoretical perspective taken to explain adolescent development. However, the characteristics of adolescence are often described in similar ways throughout history. Aristotle has been quoted to describe teens as "having "big aspirations: for they have never been humiliated by the experience of life and are yet unacquainted with its limiting forces." (cited in Schinke, 1984) It seems that he alluded to the passionate and flighty nature of the adolescent. Adolescence was always marked by an attempt to move away from an allegiance to family and a drive towards increased sense of individual identity. An increased lack of regard for school or home responsibilities and the acquisition of competencies in the realm of sexual behaviour seemed to create much conflict between teens and adults who struggle for power. Today's researchers however, also stress the psychological ups and downs that accompany a rapid physical growth towards adulthood before the youth is capable of functioning in an adult role. The increased rate of teenage suicide and ideation, the use of drugs, and criminal offenses involving teens is a testament to the fact that "increasing numbers of adolescents do not negotiate this period of



change successfully.” (Schinke, 1984, p. 2) This limbo has become even longer for today’s teens as society has allowed a longer delay in the assumptions of adult roles.

The various theories of human development can be used to shed some light on the nature of adolescence. G. Stanley Hall, in his work *Adolescence* (1916) put forth a theory of recapitulation, based on evolutionary explanation of development. Hall believed that human development follows the same pattern of development that has occurred during the history of mankind, with individuals going from primitive, animal-like savagery to more civilized ways of interacting (cited in Muuss, 1975). Hall proposed four stages of development: infancy, childhood, youth, and adolescence. Unlike currently used theories, Hall described adolescence as the period from puberty (12 years) until full adult status is attained (cited in Muuss, 1975). Gesell, Freud, Lewin, and Piaget are reported to believe that the appearance of secondary sex characteristics and other physiological changes guide and drive adolescent behaviour and development (Muuss, 1975). Mead (1950) “deemphasize the influence of physiological changes” in favour of the power of environmental forces and social expectations respectively on adolescent development (cited in Muuss, 1975, p. 264).

A cognitive view of development, provided by the work of Piaget around 1947 (Schinke, 1984), outlined two critical cognitive processes that adolescents seek to balance as they move towards cognitive maturation: assimilation and accommodation. Assimilation is the process whereby adolescents perceive and absorb new experiences into current thinking patterns. When new conflicting experiences or information have to be incorporated, adolescents were reported to accommodate or shift and enlarge their whole cognitive structure. This process of “modifying new information to fit preexisting mental schema” and “adjusting the schema themselves to fit new information” is believed to lead to a state of ‘equilibration’ (Schinke, 1984, p. 8). Piaget and his followers believed that at adolescence there is an improvement in information-processing capacity that allow adolescents to mentally symbolize in abstract ways something that is not

concretely present. The slow process of cognitive maturation is marked by egocentrism, self-consciousness, risk-taking behaviour, and a failure to accurately differentiate thoughts of others from their own. For Piaget, increased exposure to the experiences and beliefs of others through social interactions was believed to guide the development of more realistic and mature belief system.

Ericson, a follower of Freud's Psychoanalytic view of development, emphasized the roles and contribution to society that adolescents must make in order to develop properly. He believed that the goal of adolescence was the constant struggle to create a sense of personal identity (Schinke, 1984). Erikson, in *Identity; Youth and Crisis* (1968) (cited in Muuss, 1975), began to shift the emphasis from the sexual nature of Freud's eight stages of development to emphasize the impact of social concerns on the instinctual drives that govern adolescent development. Instead of focusing in the body part that Freud believed was the drive at each stage of development, Erikson, spoke about a social crisis that the adolescent must overcome at each of the eight stages of development.

For Erikson, identity confusion occurred when the adolescent failed to work on his/her own identity formation and ask questions about where he came from and what he will become. Erikson believed that the main foundations for the development of identity at adolescence were through interactions with others, exploration of sexual roles and vocational choice. Healthy adolescents were seen to be able to "develop a dependable sense of who they are and where they are going in terms of the roles and responsibilities offered by their society" (Schinke, 1984, p. 4).

James Marcia expanded Erikson's concept of the attainment of a mature identity to include the two essential variables of crisis and commitment.

Crisis refers to times during adolescence when the individual seems to be actively involved in choosing among alternative occupations and beliefs.

Commitment refers to the degree of personal investment the individual expressed in an occupation or belief (Muuss, 1975, p. 69).

Marcia applied four identity statuses to expand Erikson's developmental stage of 'identity versus role diffusion': 1) identity diffused subject, 2) foreclosure subject, 3) moratorium subject, and 4) identity achieved subject. At the identity defused status, individuals are said to experience no identity crisis nor commitment to vocation or beliefs and he/she attempts to get for himself/herself whatever he/she can get away with. It was believed that at the foreclosure status the individual had not experienced crisis, but had made a commitment towards goals and values because of the influence of parents or peers. Foreclosure subjects were thought to conform to authority figures and go along with conventional beliefs. Marcia points out that schools seem to encourage foreclosure and conformity and discourage the search for personal identity (Muuss, 1975). Moratorium subjects struggled to overcome an acute state of crisis and find an identity but had not fully committed to the identities which were tried on.

If the adolescent, while experiencing moratorium, has sufficient opportunity to search, experiment, play the field, and try on different roles, there is a good chance that he will find himself, develop an identity, and emerge with commitments to politics, religion, and vocational career (Muuss, 1975, p. 77).

The identity achieved subjects were believed to have experienced and resolved crisis in their own terms. These individuals have been able to commit to a personal value system encapsulating beliefs about occupation, religion and sexuality (Muuss, 1975).

### *ADHD Development*

The transition from childhood to adolescence is tumultuous for everyone due to cognitive, emotional, and biological changes. The nature and challenge of development for some individuals is complicated by ADHD. In accordance with Piaget's theory of development, as information is pouring into adolescents minds, they must adapt new ideas and create different ways of understanding the world. However, ADHD students, according to an 8-year study by Barkley, Fischer, Edelbrock, and Smallish (1990), were more likely than normal children to have limited intellectual development. The study found "ADHD children manifesting an average of 7 to 15 points below control groups on standardized intelligence tests" (cited in Barkley, 1998, p. 97). This limited intellectual development sometimes accompanied by ADHD could also interfere with the development of identity, which is so important in adolescence. Following Erikson's view of Psychosocial Development, during adolescence, the major task is the establishment of an independent identity through the "organization of the individual's drives, abilities, beliefs, and history into a consistent image of self" (Woolfolk, 1995, p.69). If the adolescent in this stage fails to complete this task, role confusion may result. ADHD adolescents may have difficulty developing the independent self due to frequent removal from regular classrooms for remediation assistance and as a result of severe behavior disruptions, in some instances.

Research has supported the fact that environmental stressors such as family conflict and lack of support confound the already difficult task for an adolescent to conform to school rules and expectations (Barkely et al., 1990). These negative environmental factors, in addition to aggression and impulsivity, create few if any positive interactions with others. Often these students experience strained parental relationships, low-socioeconomic status, negative teacher interactions, lack of peer support, and academic failure. With this lack of control and the inability to express themselves positively, their worldview is distorted (Barkley et al., 1990).

A high prevalence of anti-social behavior was also reported for students with ADHD, leading to further social problems. This high prevalence can be related to the comorbid existence of other behavior disorders such as conduct disorder, oppositional defiant disorder, anxiety, and depression (Barkley et al, 1990). A study (cited in Barkley, 1998) conducted by Barkley, Anastopoulos, Guevremont, and Fletcher (1991), showed 68% of ADHD students were diagnosed with Oppositional Defiant Disorder and 39% of ADHD students were diagnosed with Conduct Disorder. Barkley (1998) found similar instances of comorbidity, with 59% of a hyperactive group meeting DSM-III-R requirements for ODD, and 43% of hyperactive group meeting the requirements for CD. These adolescents with ADHD must face much adversity when dealing with social situations.

Because ADHD-like symptoms are also closely related to Oppositional Defiant Disorder and Conduct Disorder, it is very difficult to diagnose it. Even the existence of ADHD as a disorder has been called into question by the works of DuPaul et al. (1991) and Armstrong (1996). These studies suggested that the demands of the child's environment might create pressures that manifest themselves in ADHD-like characteristics. Because the question of the existence of ADHD still lingers in the literature, DSM IV diagnosis was not a requirement for participation in the Interpersonal Cognitive Problem Solving Skills to improve social competency or behaviour.

Other reported problems associated with ADHD included: poor academic performance, learning disabilities, speech impairments, delayed internalization of private speech, and memory difficulties. It is the belief of this researcher that the nature of the difficulties faced by ADHD students would likely result in problems with school performance. The fact that ADHD students have tremendous difficulty with academic performance and do poorly in the classroom because of their restless, impulsive nature is supported in the work of Barkley (1998). When rigorous approaches to diagnosing learning disabilities are employed, up to 39% of ADHD children are

likely to have a reading disability, up to 30% are likely to develop a math disability and up to 27% are likely to have a spelling disorder (Barkley, 1998). ADHD children are more likely to have fluency problems and problems organizing their speech than normal children “when confronted with tasks in which they must organize and generate speech in response to specific task demands” (Barkley, 1998, p. 102). Also ADHD children do not use as often as normal children the adaptive strategy of internalizing speech, or using self-speech to control behaviour and focus attention on a task. A number of studies also documented deficits in working memory for ADHD children. Working memory allows an individual to hold information in the mind to guide a subsequent response. A deficit in working memory would lead to difficulties in dealing with objects, spatial location, and digit spans.

It was reported that adaptive social functioning of children with ADHD is also often diminished as compared to the functioning of normal children (Barkley, 1998). This social functioning includes development of age-appropriate motor skills, self care abilities, personal responsibility to complete chores or tasks, and peer relationships (Barkley, 1998). The tremendous impact of social impairment on the future performances of ADHD children was supported by the 1997 study by Greene, Biederman, Farone, Sienna, and Garcia-Jetton (cited in Barkley, 1998). The study showed that the greater the degree of social impairment,” the greater the risk at a 4-year follow-up that the ADHD children will have comorbid psychiatric disorders and substance abuse” (Barkley, 1998, p. 99). It is this impact of social impairment on the lives of ADHD students that motivates this study of the effectiveness of an Interpersonal Cognitive Problem Solving Skills program.

Barkley (1998) stated that “Although it is not yet widely accepted, some investigators suggest that poor rule-governed behaviour, or difficulties with adherence to rules and instructions, may also be a primary deficit or at least an associated condition of ADHD in children” (p. 103). Rules, especially verbal rules, were known to be helpful in organizing

behaviour over time, in increasing the capacity of retaining the rule in the working memory, and inhibiting other behavioural responses that compete with the rule (Barkley, 1998). Some studies gave supporting evidence to the notion that ADHD children display less rule-governed behaviour. ADHD children have been found to display greater variety of responding to reaction-time tasks and continuous performance tasks, performed better on tasks where there were immediate rewards, had greater problems staying on task when delays were imposed, and were less able to stay on task for delayed rewards when given delayed-gratification tasks (Barkley, 1998).

This theory about the delay in rule-governed behaviour was also supported by studies that show “that ADHD children are less adequate at problem solving and are less likely to use organizational rules and strategies in their performance of memory tasks” (Barkley, 1998, p. 105). Because of this problem solving delay, it was not surprising that Hall, Halperin, Schwartz, and Newcorn (1997) had shown that ADHD is associated with deficits in response decision-making and response organization (cited in Barkley, 1998).

Hindsight, forethought and planning deficiencies have also been suggested for ADHD children, based on certain findings. Difficulties in the ability to alter subsequent responses based on immediate past mistakes (hindsight) were reported in ADHD children when card sort tests were completed (Barkley, 1998). The Tower of London (TOL) task, used to assess forethought or planning abilities, found that ADHD children performed more poorly than normal children. The task required mentally representing and testing out various ways to remove and replace disks on a set of pegs (Barkley, 1998).

Barkley (1998) reiterated the notion that ADHD students experience problems, like inattention, distractibility, impulsiveness, and behavioural inhibition, which make it difficult to behave appropriately in social situations. He also put forth the new concept in the field that a developmental delay in inhibition experienced by ADHD students suggests that ADHD children

have deficits in the executive functions that interfere with self-regulation (Barkley, 1998) of behaviour. An Interpersonal Cognitive Problem-Solving Skills program will be employed in this study to address deficits in executive functioning.

This review of the literature suggests that diminished adaptive functioning, poor rule-governed behaviour, poor problem-solving ability, and poor self-regulation of behaviour are the main problems experienced by ADHD children. All of these cognitive difficulties can have a detrimental effect on social competencies of ADHD children. Correlational studies, outlined in D’Zurilla (1986), suggested a positive relationship between social problem-solving and maladaptive behaviour. Interpretations of these findings could mean that deficits in problem solving may contribute to social maladjustment, or factors associated with social maladjustment could produce problem-solving deficits (D’Zurilla, 1986). Therefore it can be suggested that addressing the problem-solving difficulties of ADHD adolescents could also impact their social skills. One problem solving intervention that can be used to address ADHD students social competency issues is an adaptation of an ICPS program, originally developed by Spivack et al. (1976) and then further flushed out by Shure (1992).

#### *Other Features of Social Competency/Adjustment Programs*

A model of competent social behavior, devised by Burton and Kagan (1995), outlined six component parts of social skills: awareness of self, others, external world, internal events; social behaviour rules, observation and interpretation of social situations, plans or strategies for implementing more effective ways of relating, and a consideration of the context to decide the sequences of interactions required. Burton and Kagan’s (1995) model outlined the social capabilities of most people to learn social skills. This work emphasized that complex social skills have to be learned and can be refined over time. This work also stressed that most people, even those with learning disabilities, can learn to act appropriately in most situations, when given the right instruction (Burton and Kagan, 1995).



Gallen (1998) suggested that poor results of social skills training programs for ADHD children, may occur because ADHD children may value and pursue different social outcomes and goals than the program they were trained in. It was believed that in order to maximize the social benefits for the ADHD adolescents, the teens themselves, teachers, and parents must all have to play some part in the needs assessment and in organizing the educational curriculum of the training program. Gallen (1998) believed that this would potentially make the process of learning social skills more personally motivating for the participants.

Green (1989) stressed the importance of addressing all the domains that may be affecting an adolescent with ADHD in order to offer an effective treatment. This can be done by working closely with the school staff, parents, friends and the community when developing a suitable education plan at school. The role of the smaller family system in the reduction of ADHD symptoms was enhanced by Spivak, Platt and Shure (1976), who found that certain child-rearing practices enhanced the development of childrens' socially learned interpersonal cognitive problem-solving (ICPS) skills. Such child-rearing practices included: encouraging the child's thoughts about a problem situation, modeling or guiding problem-solving attempts, and reinforcing decision-making based on the choices generated by the child. Essentially, the data suggested that child-centered families, that "value their children's ideas about the social world and encourage the expression of these ideas as part of family interchange," would foster the development of social competency. (Spivak et al, 1976, p.154) These researchers also believed specifically that the styles and techniques of formal ICPS training programs could be incorporated into daily conversations between parents and children. Parents could ask guiding questions about problem situation that lead the children to "think things through" and make their own decisions and carry out their ideas. Therefore, it is the belief of this researcher that an ideal ICPS Skills program for ADHD adolescents should include a training component for parents.

Other research also reiterated the importance of a parent-training component within a social competency program for ADHD. Serpas (1997) suggested that certain parental interactional characteristics can influence the development of ADHD symptomatology (e.g. conduct disorder, behavior problems, truancy etc.). Serpas (1997) found that parents of adolescents with ADHD issued commands, repeated more instructions, and exhibited less nurturance when interacting with their children, than parents of adolescents without ADHD. The study then questioned whether the interactional style of the parent led to the onset of ADHD characteristics. This researcher recognizes the importance of parental interactions to the development of social competencies in their children.

### Chapter Three: Methodology

Patton (1987) claimed that making methodology decisions involves considering the “interplay of resources, practicalities, methodological choices, creativity and personal judgment” (p. 9). Qualitative methods permit the gathering of in-depth data and direct quotes that capture the richness of peoples’ emotional experiences and basic perceptions in their own words in written or oral format (Patton, 1987). Collecting these perceptions in the form of a written Open-Ended Questionnaire format reduced the time required to transcribe interview data. Given that the goal of this evaluation research was to assess the effect of an ICPS social competency program on students with ADHD-like symptoms according to the opinions of Teachers, SEA’s , parents and the student’s themselves, qualitative methodology seemed ideal. However, one limitation to collecting written open-ended qualitative data from students with ADHD-like symptoms is that the reading and writing skills and attention required to complete open-ended interview questions are known to be difficult for the target population. Therefore some more semi-structured questionnaires were employed to allow participants with ADHD-like symptoms to share their experience of the ICPS program and their lived experience. Also tests using quantitative data, in particular the Behavioural Assessment Scale for Children - Self Report Scale of Personality (BASC-SRP) and an Interpersonal Cognitive Problem-Solving Skills Task (ICPS Task) score, were also administered to ADHD participants to support the findings of the semi-structured interviews. The BASC-SRP results helped determine the degree and extent of ADHD-like symptoms in participants and helped rule out internalizing disorders like Depression and Low Self-Esteem as reasons for social problem-solving difficulties. This quantitative methodology helped fit data into predetermined, standardized categories to describe the population. The ICPS Task considered which of the six main problem-solving skills, outlined in Spivack et al. (1976), the participants use in solving social problems typically seen by adolescents. Table 3.1 will help illustrate how the qualitative and quantitative data were

employed for this research.

**Table 3.1      Design of Evaluation Study**

	<b>Pre - ICPS Intervention</b>	<b>Post - ICPS Intervention</b> 3 weeks After Program completion
<b>STUDENTS</b>		
Leader & Extern. Evaluators	1 - BASC (self-report scale)  2 - Semi-Structured Interview (Oral)	1 - BASC (self-report scale)  2 - Semi-Structured Interview (Oral)
Leader & Extern. Evaluators	3 - ICPS Test (Oral & Audio Tape Transcribed)	3 - ICPS Test (Oral & Audio Tape Transcribed)  4 - Open-ended Questionnaire (Orally Read and Written by evaluator)  5 - Program Evaluation (Audio taped and Transcribed)
<b>School Staff</b>		
Leader Eval.	Open-ended Questionnaire (Written form)	Open-ended Questionnaire (Written form)
<b>PARENTS</b>		
Leader Eval.		Open-ended Questionnaire

### *Design*

The purpose of this type of evaluation was to measure and judge the success of the program from an outcome perspective, considering a variety of stakeholders' opinions. Within this specific program, the stakeholders that were considered were the ADHD students themselves, their regular classroom teachers, the Special Education Teacher, their SEAs, and the parents of the ADHD students.

To determine the effectiveness of a training program in Interpersonal Cognitive Problem-Solving Skills, in changing the social competencies of students with academic, behavioural, and

attentional difficulties, the ICPS program was implemented in the Special Needs classroom at a lower-mainland British Columbia secondary school. The ICPS group ran twice a week for ten 50 minute sessions over a period of 5 weeks. A quasi-experimental Pre-test, and Post-test design involving qualitative written questionnaires for teachers, SEAs, parents and the student participants; and structured quantitative questionnaires and tests for students with ADHD-like symptoms were used in this outcome study. To determine the effectiveness of this ICPS program with ADHD students, data about the social competencies of participants one week before the onset of the program, and 3 weeks following program completion were collected. Since the evaluator of the program also participated in it as the leader, an external reviewer was brought in to assist the scoring of the ICPS Task. During the Pre-ICPS Task and at the Post-ICPS Task the external reviewer was employed to reduce bias when determining which of the six problem-solving skills the participants seem to use when solving social problems.

This study considered students' actual social-skills and their opinions about their performances, and the opinions and observations of regular and special classroom teachers and Special Education Assistants (SEAs), and parents. Each student was asked to respond orally to a self-report scale of behavior (the Behavior Assessment System for Children created by Cecil R. Reynolds & Randy W. Kamphaus, 1997). Also, to assess interpersonal cognitive problem-solving skills of students before the implementation of the program, students were individually read a unique problem situation and asked to respond to it. Oral responses were audio-taped and transcribed by the research/evaluator and the external reviewer and given a score, based on whether or not the six appropriate steps to problem-solving were taken and how detailed these steps were evolved. (See Table 4.11. for specific information on what was seen as essential for each of the steps in problem solving.) Then a total score on the ICPS situation was obtained by adding the individual scores obtained for each of the six stages of problem solving. Finally the ADHD students were asked to respond to an orally administered semi-structured questionnaire.

In consideration for the reading and writing difficulties faced by an ADHD population, questions were read aloud along with categories of responding and the evaluator will record the response. All questionnaires and tests were also administered at the two test times: before, and after the completion of the program.

Open-Ended written Questionnaires allowing teachers, SEAs, and parents to respond at their own pace, were collected from either one regular classroom teacher, or Special Education Teacher, or one SEA, or one Child Care Worker for each of the student participants. Only the student participant number was connected to the questionnaires and only the school staff person completing the application and the researcher had access to the questionnaires to protect anonymity. All student participants were assured that the responses to the questionnaires would not affect student grades and each participant and their parents would be able to review the findings of the questionnaires during a follow-up interview outlining any progress that has been made in social skills competency. The questionnaire was given out 1 week before beginning the program and 3 weeks after the programs completion. Opinions about social competency from parents of participants who receive ICPS training, was also attempted to be collected as secondary information to support results found by teachers and SEAs. Parents were requested to respond to the open-ended written questionnaire or an orally administered phone questionnaire one month following the completion of the ICPS program.

One of the most important program evaluation considerations was the generalizability of ICPS skills program to other settings outside of the group sessions. Comparison of the questionnaires for parents, teachers and SEAs over the two test periods addressed generalizability from the ICPS group setting to other areas outside the ICPS group environment.

#### *Program Description*

The focus of these 10 sessions were to recognize others' perspectives, improve understanding of messages from others, generate alternative solutions to solving social problems,

and the recognition of possible consequences of certain actions. The sessions themselves included guided imagery relaxation exercises, instruction on using an ICPS strategy, discussion and practice utilizing the strategy, and finally a homework assignment involving real life reflection on the newly learned skill.

### *Participants*

For this study, there were three different groups of participants. The main participants in the evaluation were the students with ADHD-like symptoms; without them the program would not be possible or indeed necessary. The described experience of the ADHD students throughout the process was essential to monitoring the effectiveness of the ICPS Program. The second group of participants highlighted in this evaluation was the school staff (regular teachers, a Special Education teacher, SEAs, and Child Care Workers) who instructed the targeted ADHD students in the regular classroom. Because of their frequent interactions with these students, their observations of changes in the students' social skill and overall behavior was invaluable. The third group of participants for this program evaluation were the parents of the participants. Parents' attitudes about social competency were to be considered in a questionnaire given three-weeks following program completion at Post-test.

All of the students from a Special Education classroom already containing students experiencing limited school success, academically and socially, and who have been found to test below grade levels in either numeracy or literacy served as the participants for this research. Because of the debate about the existence of ADHD disorder and the difficulty attaining a medical diagnosis, DSM IV (APA, 1994) ADHD diagnosis was not a requirement for participation in this group. However, all participants must have displayed ADHD-like symptoms (academic, social and attentional) as evidenced in their G4 reports. Note that all classmates completed the ICPS program, and the test / questionnaire data was collected from participants only after consent was achieved.

### *Consent*

Student participants were taken from an established Special Education classroom upon consent from the parents and the students themselves. Consent was also given by the Administration of the New Westminster Secondary School (NWSS) where the research data was collected. Before the study began an information package was sent home to parents informing them about the ICPS program and the evaluation procedures. A letter asking for informed consent was included for their consideration. Also a parent training package outlining procedures parents could follow to assist the learning of ICPS skills was included. (See Appendix A.)

Because the main participants of this project were younger than 19 years old and are classified as minors, appropriate consideration of potential for harm was considered by a legally authorized person. Therefore parental authority or consent to participate in this research was required, but the students were asked to volunteer their participation, or give their assent. Consent was also required from school staff before completing open-ended questionnaires about participants social competencies at the two test times; before, and 3 weeks following program completion. All participants were informed that they were free to withdraw their participation in the project at any time. Because the role of teachers/SEAs/Child Care Workers in the research was that of providing data on the social competence of student participants in the school environment, their information package on the study was much less detailed. Included in the School Staff consent form was the Open Ended Questionnaire for School Staff and Parents that the teacher/SEAs were asked to complete for students in their classrooms 1 week before the ICPS Program begins and 3 weeks following the program completion. Parents were also asked to complete this questionnaire at program completion. (See Appendix B.)

To meet American Counseling Association (1998) standards, at the initial Pre-test time with students, in addition to achieving consent, participants were informed of the purpose of the



study and the content and limitations of the programs. Also, at the parent evening and prior to the teachers completing evaluation measures, the purpose of the program was explained to these stakeholders.

### *Procedures and Data Collection*

The Interpersonal Cognitive Problem Solving Skills program was comprised of ten 50-minute working sessions that began after the Pre-test session. The sessions were held twice a week in the Learning Centre during a Learning Support Services block at a lower mainland secondary school in British Columbia. The research evaluator served as the group leader of the program because of her training and experience in working with ADHD students and familiarity with the Interpersonal Cognitive Problem-Solving Skills approach to social competency. The researcher administered and scored the BASC-SRP's before and after the ICPS program, the ICPS Task before and after the ICPS program, and distributed the Open-Ended school staff Questionnaires before and after the ICPS program, and the same Open-Ended Questionnaire to Parents after the program is completed. Finally the researcher and the teacher and SEA involved in helping to run the program administered to the group a Semi-Structured Interview for students to outline their actual social behaviour. (See Appendix C.) To collect the qualitative lived experience of the student participants, the researcher and the teacher and SEA facilitated in the completion of the Open-Ended Questionnaire by reading the questions aloud and helping students write out their responses. In order to minimize the bias of having the program group leader also evaluate the program, a separate External Reviewer was employed to check the interpretation of the BASC-SRP profiles before and after program completion and also to score how many of the six problem-solving skills the students employ while doing the ICPS Task before and after the program completion. Transcripts of student responses to ICPS Tasks were given to the external reviewer and the scores given by both the external reviewer and the researcher were compared and agreement was made.

For the Pre-ICPS Test session with students, each student were asked to respond orally to a Self-Report Scale of Behavior (Reynolds and Kamphus,1997), a test of social competency to ensure the presence of difficulties in social competency. To notice differences in perceived competency, each participant was tested in this area over the Post-ICPS Test time. Also, to assess interpersonal cognitive problem-solving skills of students before the implementation of the program, students were individually read a unique problem situation and asked to respond to it. Oral responses were audio-taped, transcribed and scored for ICPS skills by the evaluator and external reviewer. This procedure was repeated at the Post-ICPS Test session. Finally the students with ADHD-like symptoms were asked to orally respond to a semi-structured questionnaire. In consideration for the reading and writing difficulties faced by the ADHD population, questions were read aloud along with categories of responding and the evaluator recorded the response. During this time the student was also given the opportunity to discuss the questions in an unstructured way. The questionnaire included the following topics: How would you rate your social behaviour at this time?; How would you rate your ability in ICPS skills?; Describe how you get along with your classmates; How would you describe the support you are getting?; What do you do to have positive interactions with others in your class? How often?

As mentioned previously, the evaluation of this ICPS Program for students with ADHD-like symptoms involved considering student's actual social skills and their opinions about their performances, and the opinions of school staff, and parents about their students' social performance. A combination of quantitative and qualitative measures was used to track the ICPS Program's potential effects with the students with ADHD-like symptoms. With these participants, the Open-Ended Questionnaires about social competency was administered before the commencement of the program and after its completion to assess if change has occurred. This follow-up session was included to verify whether skills developed during the program persisted and/or generalized with the absence of direct and systematic interventions.

Regular and Special Education classroom teachers, SEAs, Child Care Workers and student participants were given written Open-Ended Questionnaires to complete 1 week before the onset of ICPS program (at Pre-ICPS Test session), and 3 weeks following the completion of the ICPS program (Post-ICPS Test time). These questionnaires sought to answer the following questions: Has the student changed his / her behaviour?; Tell me about situations where the student displayed appropriate social skills; Has the student experienced changes in relating to others in the classroom setting? If so, what is the nature of that change?; Have you noticed changes in the amount of social support this student receives from others? If so, what is the nature of that support?; Do you have any other comments you would like to share? This open-ended questionnaire was also given to the student participants at program completion to offer a richer understanding of the experience of being in the ICPS program. Four extra questions were asked during this time as a Program Evaluation measure including: What did you like about the ICPS Program?, What would you change about the ICPS Program?, What did you learn about from the ICPS program?, and Is there anything you would like to add about the ICPS Program?.

### *Measures*

#### *BASC-SRP*

The Behavior Assessment System for Children –Self Report Scale (BASC-SRP) was created by Reynolds & Kamphaus (1997) (Impara & Plake, 1998). The BASC is a multidimensional assessment instrument created to assess the both positive and negative components of behaviour, personality, self-perceptions, and social skills in students aged 4 - 18 years. Barkley and Murphy (1998) suggests its use as a “broad-band rating scale covering the major dimensions of child psychopathology” to assist in doing a clinical intake assessment for ADHD. This multimodal method consists of five components, which can stand individually or in combination with one another. For the purpose of this evaluation, only the self-reporting scale was used to assess the students’ perceptions of themselves. This rating scale, focusing on both adaptive and

maladaptive behaviour and social skills, “represents a significant advance in the assessment of children” (Sandoval, 1998, p.128). Choosing an assessment tool that would adequately account for ADHD symptoms was a difficult task. This instrument was chosen mainly because Witt and Jones (1998) found BASC to compare favourably or exceed the quality of existing instruments when judged by traditional psychometric standards.

#### *Semi-Structured Questionnaire for Students*

In addition to the quantitative measure for students with ADHD-like symptoms, the evaluation had two qualitative measures. One such measure with the Semi-Structured Questionnaire. The goal of using interviews with structures and unstructured components was to discover the students’ perceptions of their own social skills, cognitive problem solving skills, and behavior before, and after the completion of the program. This data set was essential for understanding the relevance of such a program to the primary stakeholders. In order to encourage focusing and attention, the semi-structured questionnaires were orally administered and responses were recorded in print. For the Semi-Structured Questionnaires with students each question was read allowed, followed by the choices for each question. Once the student decides on an answer, the researcher or student recorded the responses. All questions were scored using a Likert scale ranging from 0 to 4. For all questions, 0 represented either the absence of a concern, or the lowest frequency for a behaviour. A score of 4 represented the presence of a concern, or the highest frequency of a behaviour.

#### *Open-Ended Questionnaire for School Staff and Parents*

The Open-Ended Questionnaires for School Staff were given to teachers, SEAs, and Child Care Workers and were reviewed and assessed for common themes about observed social behaviour over the two test periods. This questionnaire was administered in a written form so that participants could complete it at their own leisure. As with the previous measure for the students, the questionnaire was administered 1 week before the beginning the program, and

during a follow-up investigation 3 weeks after the program completion. It was essential to monitor the school staff's perceptions of the students' social behaviour throughout the entire process to discover whether others recognize actual changes in social skills with this group. The same Open-Ended Questionnaire was also administered to parents of participating students at Post-ICPS Test time. The resulting themes were supposed to be compared and contrasted with the previously observations of social competency of teachers, SEAs, etc.

### *ICPS Task*

To assess Interpersonal Cognitive Problem-Solving Skills of the students at the two test times, the researcher read aloud an unseen problem-solving situation and asked each participant to orally provide a solution(s). These responses were audio-taped. The researcher and the external reviewer listen to the audiotapes and scored all responses based on whether or not the six appropriate steps to problem-solving were taken and how detailed these steps were evolved. The total score on the ICPS situation was obtained by adding the individual scores obtained for each stage of problem-solving: 1) determining the source of the problem, 2) generating alternative solutions, 3) determining consequences of alternatives, 4) identifying other perspectives towards the problem, 5) choosing from alternative solutions, and 6) evaluating the chosen solution. As mentioned previously, an external reviewer was used when scoring the ICPS task to decrease bias in scoring. The performance pressure created by having the group leader for the ICPS program also evaluate ICPS skills was addressed by having an unbiased evaluator check the test scores and interpretative data scored by the researcher.

Before the school administration, or outside agencies or persons had access to the findings of the ICPS evaluation, all data having identifying markers was given participant codes. Data was destroyed after the termination of this study. No student participant, parent, teacher, or Special Education Assistant had access to the particular results or progress of any other student. However, all participants were invited be meet about discussing the overall findings of the study.

(See Appendix E.)

Each student participant, their parents and the school staff member completing questionnaires for that student were invited to attend a personal feedback session with the researcher of the ICPS program after the project was completed.

## Chapter Four: Results

### *Self-Perception of Social Competency Of Students*

The first research question addresses: *Do the students report problems in social competency and or problems in general / overall functioning? And is there any change after the completion of the ICPS Program?* The second research question addresses: *What is the frequency and nature of social problems reported by the student? And is there any change after the completion of the ICPS Program?* Two measures used in the study illuminated these questions: the Behavioural Assessment for Children-Self Report Scale, and a Semi-Structured Questionnaire for Students. Both of these measures were given to the student participants at Pre-ICPS test time, 1 week prior to the start of the program, and at Post-ICPS test time, 3 weeks following the completion of the program. A comparison of results of the BASC-SRP and the Semi-Structured Questionnaire at both test times yielded answers to these research questions. It is noteworthy that both the BASC-SRP and the Semi-Structured Questionnaire consider only the personal opinions and experiences of the students participating in the study. These measures do not indicate social behaviours observed by others like teachers or parents. Therefore these two measures indicate only students' self-perceptions.

#### *Behavioural Assessment System for Children - Self-Report Scale*

The Self-Report of Personality (SRP) component of the Behavioural Assessment System for Children (BASC) is a scale "on which the child can describe his or her emotions and self-perceptions" (Reynolds and Kamphaus, 1997, p. 1). In the opinion of Reynolds and Kamphaus (1997), the BASC-SRP can be repeated to monitor a child's response to treatment, or progress in specific areas, and improvement in affective states. As measured by the high test-retest reliabilities (correlations with a median of .76) of the BASC-SRP for adolescents (aged 12-18 years) scales and Composites, it is expected that adolescents would show little change over a one-month period in self-reports of emotions and attitudes measured by the BASC-SRP for

adolescents. So changes could be seen as the result of a treatment effect and therefore it is very useful tool for program evaluation (Reynolds and Kamphaus, 1997). "Deficits in adaptive behaviour, such as study skills or social skills, can be identified and addressed in interventions designed to improve a child's overall adaptation" (Reynolds and Kamphaus, 1997, p. 6). As well, the BASC was seen to aid in clinical diagnosis of disorders as "it assesses a variety of symptoms that are noted in the DSM-III-R" (Reynolds and Kamphaus, 1997, p. 5).

Clinical group profiles for children and adolescents diagnosed or classified with specific disorders can aid in interpretation of student profiles. Unfortunately no data has been collected from adolescents (aged 12 – 18) diagnosed with ADHD for the SRP. However, Conduct Disorder, Behaviour Disorder, Emotional Disturbance, and Depression diagnosis constitutes are well represented in the samples of adolescents who took the BASC-SRP. Learning Disabled adolescents are also included. It is noteworthy that white males are more prevalent in the sample, but Hispanic and African Americans and Females are also represented (Reynolds and Kamphaus, 1997, p. 89 – 93, & p. 174 - 177).

When scoring the BASC this researcher interpreted the individual's results using General norms based on a large national sample of the general population of U.S children inclusive of sex, race /ethnicity, and special needs classification. "General norms answer the question, how commonly does this level of rated or self-reported behaviour occur in the general population at this age" (Reynolds and Kamphaus, 1997, p. 9). Because scores on the BASC-SRP tended to show little difference between clinical and non-clinical groups, only extreme cases warrant comparison using clinical norms. (See Table 4.1.)



**Table 4.1 Scales and Composite Score Classification**

<b>Classification</b>		
<b>Adaptive Scales</b>	<b>Clinical Scales</b>	<b>T-Score Range</b>
<b>Very High</b>	<b>Clinically Significant</b>	<b>70 and above</b>
<b>High</b>	<b>At-Risk</b>	<b>60-69</b>
<b>Average</b>	<b>Average</b>	<b>41-59</b>
<b>At-Risk</b>	<b>Low</b>	<b>31-40</b>
<b>Clinically Significant</b>	<b>Very Low</b>	<b>30 and below</b>

Notes: Two-thirds of the general population will score in the *Average* T score range. Scores in the *At-Risk* range are between one and two standard deviations from the mean and indicate the presence of significant problems not severe enough for diagnosis. The *Clinically Significant* range denotes a high level of maladaptive behaviour.

In addition to comparing students of the study to a general group of peers matched for age, a look at how these students score in comparison to a group of people of the same gender would be useful. Close study of how the adolescent population responding on the BASC-SRP showed that most 12 – 18 year olds in general population reported lower raw scores on interpersonal relations, Relations with Parent, Self-Esteem and Self-Reliance. They also report higher raw scores on Typicality, Depression and Somatization (Reynolds and Kamphaus, 1997, p. 99). It became known that more females would exhibit high T scores on the individual scales of Anxiety, Interpersonal Relations, Somatization, and Social Stress scales of the BASC-SRP and the overall Emotional Symptoms Index (ESI). It is also known that more males reported higher scale T scores on Self-Esteem, and School Maladjustment (Reynolds and Kamphaus, 1997, p.96). See Table 4.2 for the definitions of the individual scales for the Self-Report measure of the BASC.

**Table 4 2          SRP Scale Definitions**

<b>Scale</b>	<b>Definition</b>
Anxiety	Feelings of nervousness, worry, and fear; the tendency to be overwhelmed by problems.
Attitude to School	Feelings of alienation, hostility, and dissatisfaction regarding school.
Attitude to teachers	Feelings of resentment and dislike of teachers; beliefs that teachers are unfair, uncaring, or overly demanding.
Atypicality	The tendency toward gross mood swings, bizarre thoughts, subjective experiences, or obsessive-compulsive thoughts and behaviours often considered "odd".
Depression	Feelings of unhappiness, sadness, and dejection; a belief that nothing goes right.
Interpersonal Relations	The perception of having good social relationships and friendships with peers.
Locus of Control	The belief that rewards and punishments are controlled by external events or other people.
Relations with Parents	The positive regard towards parents and a feeling of being esteemed by them.
Self-Esteem	Feelings of self-esteem, self-respect, and self-acceptance.
Self-Reliance	Confidence in one's ability to solve problems; a belief in one's personal; dependability and decisiveness.
Sensation Seeking	The tendency to take risks, to like noise, and to seek excitement.
Sense of Inadequacy	Perceptions of being unsuccessful in school, unable to achieve one's goals, and generally inadequate.
Social Stress	Feelings of stress and tension in personal relations; a feeling of being excluded from social activities.
Somatization	The tendency to be overly sensitive to, experience, or complain about relatively minor physical problems and discomforts.

If a student reported Clinically Significant scores (70 or above on clinical scales and 30 or below on adaptive scales) on individual scales and a Clinically Significant score for the Composite encompassing that individual scale, then the researcher broadly interpreted at a composite level (Reynolds and Kamphaus, 1997, Ch 9). But if the scale score was quite different than the composite score, a focus on the meaning of the specific score was required. A look at scores labeled 'At Risk' (clinical scores above 60 or adaptive scores below 40) was also considered to help determine if person may be experiencing difficulties that did not reach 'Clinical Significance' (Reynolds and Kamphaus, 1997, Ch 9).

#### *Validity Indexes of the BASC*

Special indexes (F, L, and V Indexes) assess the validity of a child's responses and detect potentially invalid responding on the part of the child. The **F Index** is a measure detecting excessively negative responses of a child about their own self-perceptions and emotions that are

infrequently reported in normal population. The **F Index** score is a raw score calculated by simply counting how many of 10 specific questions have been marked by the respondent. A high F index score (a raw score of 3 or more) warns researchers to be very cautious in interpreting the respondent's profile as results can be caused by attempts at "faking bad" as well as legitimate acute psychological distress. The **L Index** detects attempts at "faking good" or responding in a way that is socially desirable or overly positive. A high L Index score (a raw score of 8 or more) suggests psychological naiveté and low insight into personal feelings or behaviours, defensiveness against revealing oneself, or random responding or reading problems. L-index in the Extreme Caution range (a raw score of 10 to 14) almost always invalidates the profile and require other forms of investigation. The **V Index** identifies children whose responses are bizarre due to intentional noncooperation, failure to follow direction, reading comprehension problems, and poor contact with reality. A high V Index score (a raw score of 2 or more) usually indicates child is uncooperative, illiterate, mentally retarded, confused or psychotic (BASC, Reynolds and Kamphaus, 1997, Chapter 8, p. 55-57). (See Table 4.3.)

**Table 4.3 Subject's Raw Scores on the F Index, L Index, and V Index**

	S1		S2		S3		S4		S5		S6		S7		S8	
	Pre	Pst	Pre	Pst	Pre	Pst	Pre	Pst	Pre	Pst	Pre	Pst	Pre	Pst	Pre	Pst
<i>Validity</i>		F 4		V 4	L 10	L 12						F 4 V 2		V 3		
<i>Indexes</i>																

Of the eight students who completed the BASC at the two test times, 5 student participants had elevated scores on one or more of the three validity indexes at Post-ICPS test time. These high scores on the validity scales warned the researcher to be very cautious when interpreting the BASC-SRP test results at the Post-ICPS test time. The validity scales (F, L, and V indexes) for S1, S2, S4, S5, S6, S7, and S8 were all within normal range during the Pre-ICPS test time. Therefore, only the BACS-SRP test results at Pre-ICPS test time were trusted as the

students true descriptions of their emotions and self-perceptions. For both **S1 and S6**, two females of about the same age, their F index score reached "Cautious" range (raw score of 4) suggesting that these student had excessively negative responses about their own self-perceptions and emotions at Post-test. A discussion with S1 at our final group meeting supported this measure when she reported being in a bad mood because she did not want the group to end. S6 scored at acceptable levels for the F Index, the L Index and the V-Index at Pre-test. However, at Post-test the F-Index score reached "Caution" range suggesting overly negative responding on the part of the student. When the researcher asked S6 privately about her negative responses at the final group session, she reported being upset about the way she looked now that she was beginning a relationship with one of her classmates. Three students (S2, S6, and S7) also had high V-Index scores at Post-test suggesting that responses reported in the BASC-SRP profile were bizarre and not completely trustworthy. **S2's** Post-test validity score calls into question his BASC results at Post-test time. At Pre-test this student scored at acceptable levels for each of the three Validity of Responses scales (F = 0, L = 2, and V = 0). However, at Post-ICPS test time S2 obtained a raw score of 4 on the V-Index. Such a score suggested intentional non-cooperation, failure to follow direction, reading comprehension problems, poor contact with reality, illiteracy, mentally retardation, or psychotic behaviour. A discussion with the Special Education Classroom teacher suggested that this student's un-cooperative behaviour at Post-test time may be an expression of anger at having been recently forced to begin taking ADHD medication as a condition of remaining in school. As well, **S6's** score of 2 on the V-Index at Post Test suggested that she was not completely cooperative. Another student, **S7** also showed high V-Index scores at Post-ICPS test time. At the test time before the ICPS program, S7 scored at acceptable levels for the F-Index, the L-Index and the V-Index. However, at Post-test the V-Index score of 3 indicated that the student's responses on the BASC-SRP were bizarre and unreliable due to un-cooperation, failure to follow instructions,

reading problems etc. At a discussion reminding him that he needed to complete the test before he could talk to his friends, S7 revealed that his high energy was due to excitement that this was the last week of the school year and due to the fact that he was now tired of having to stay so focused in order to finish up uncompleted schoolwork before he could receive a grade. The BASC-SRP normally takes 30 - 45 minutes of focused attention to complete.

One of the eight students (S3) who completed the BASC at the Pre-ICPS test time and the Post-ICPS test time, had high scores on the L-Index over both the Pre-test and Post-test periods. This result warned the researcher to avoid interpreting S3's BASC-SRP profile because of her tendency to fake acting good or her attempts at responding in a way that she felt was socially desirable or overly positive. At both test times before and after the ICPS program S3 scored at acceptable levels for the F Index and the V Index ( $F = 0$ , and  $V = 0$ ). However, at both Pre-test (raw score 11) and Post-test (raw score 12) the L-Index scores reached "Extreme Caution" range suggesting psychological naiveté and low insight or severe reading problems that invalidate the profile. A look at S3's School Records indicated that she has FAE-like symptoms and some reading comprehension difficulties that require close one-on-one help for this student. A discussion with her Special Education Assistant suggested that the overly positive responding might have been a result of wanting to impress the SEA who helped her complete the questions for the BASC. Due to the high scores on the L-Index, the researcher omitted both the Pre-test and Post-test BASC profiles and gave very little weight to the profile of S3. Other measures were considered more closely.

Another student's BASC-SRP profile, S6's, is highly questionable also because of high scores obtained on both the F-Index and the V-Index at Post-ICPS test time. Her high F-Index score served as a warning that the student gave excessively negative responses that inaccurately suggested acute psychological stress. S6's high V-Index score indicated that she gave bizarre responses to the BASC-SRP that suggest she was uncooperative, failed to follow direction for

the test, had trouble comprehending the test, is in poor contact with reality or has psychotic tendencies. Because the profile of S6 was so questionable at Post-test for two of the Validity Indexes, her profile is also omitted and not given any weight.

**S4, S5, and S8**, three males (two of which have already been labeled with ADHD and currently take medications for hyperactivity), scored within acceptable range at both Pre-ICPS and Post-ICPS test times for each of the three validity of responses scales (F, L and V indexes). Only the validity scores of these respondents were not at all questionable at Pre-test or Post-test times. The profiles of S1, S2, and S7 are somewhat questionable and can only be minimally considered. And the profiles of both S3 and S6 were not considered at all as accurate descriptions of their emotions and self-perceptions about their overall functioning. For the purposes of reporting results, all students BASC-SRP test scores will be mentioned, but interpretation will not be given for students whose test results are untrustworthy

#### *Emotional Symptoms Index (ESI)*

As mentioned in the Methodology section of this paper, the BASC-SRP is an assessment tool that allows students to report their own perceptions of both their adaptive and maladaptive behaviours and their social skills in students aged 8 – 18 years (Reynolds and Kamphaus, 1997). The BASC-SRP profile will yield T scores on an Emotional Symptoms Index (ESI), a School Maladjustment Composite, a Clinical Maladjustment Composite and a Personal Adjustment Composite. All Composite T scores and Scale T scores are interpreted as falling within a score range within which the student's true score is likely to lie. A 90% confidence interval ( $SEM \times 1.64$ ) for the T scores gives a reasonable limit for the score. All of the Composite scores of the BASC-SRP are helpful in summarizing test responses so that researchers can make broad conclusions regarding tendencies towards both adaptive and maladaptive behaviours, overall extent of psychopathy / adaptation and its impact on the individual student (Reynolds and Kamphaus, 1997). The Emotional Symptoms Index (ESI): "is the SRP's [Self-Report of

Personality] Scale's most global indicator of serious emotional disturbance, particularly internalized disorders" (Reynolds and Kamphaus, 1997, p.63). ESI T scores are composed from 6 scale scores: scores on Social Stress, Anxiety, Interpersonal Relations, Self Esteem, Depression and Sense of Inadequacy. ESI T scores of 70 or over suggest serious emotional disturbance having a broad-based impact on individual and ESI T scores of 65 –70 indicate clear pervasive distress (BASC, Reynolds and Kamphaus, 1997, p. 63-64). However, elevated scores may be caused by a few high scale scores or by a group of milder problems may produce severe emotional or behavioural symptoms. If all other composites are consistent with the overall ESI , a broad, pervasive form of behavioural or emotional disturbance is likely to be present (BASC, Reynolds and Kamphaus, 1997, Ch 9).

The ESI is highly correlated with the scales for Anxiety, Social Stress, Depression, Sense of Inadequacy, Interpersonal Relations, and Self-Esteem, with the average correlation of .78 (Reynolds and Kamphaus, 1997, p.159-162).

Clinical scale scores (those in the Clinical Maladjustment and School Maladjustment composites and Depression and Sense of Inadequacy) may be significantly high or low in comparison with overall level of problems, shown by the mean ESI T score, this adds specific detail to the understanding of the child's behaviour, personality and feelings. Adaptive scales (those in the Personal Adjustment composite) can only be compared with an inverted ESI T score. These comparisons can aid in making decisions regarding differential diagnosis and treatment and can be useful in the description of normal variations in personality and behaviour. When each scale's T score is compared with the appropriate mean and it is found that the difference is as large or larger than the mean T score; the difference is statistically significant at the .05 level adjusting for multiple comparisons. This means that it can be said that the student is higher or lower on that scale than on the average of the other scales. Considering how often (the frequency of these differences) such significantly High or Low T scores appear in the

general population should also illuminate the student's problems (Reynolds and Kamphaus, 1997, p. 30).

For S1, one scale score (Self-Esteem), belonging to the Clinical Maladjustment Composite, does reach clinical significance with a T score of 30. Also the extra two scales considered in the profile not belonging to any of the Composite Scales do approach Clinical Significant; a score of 61 on the Depression subscale and a score of 68 on the Sense of Inadequacy scale. This student did mark critical items on her scoring sheet that warrant considerations of suicidality and feelings of isolation.

A close look at the ESI T scores at Pre-ICPS test time and Post-ICPS test time helped answer the first research question of this study: *Do the students report problems in social competency and or problems in general / overall functioning? And is there any change after the completion of the ICPS Program?* (See Table 4.4.) The ESI T scores broadly define the overall level of functioning of the students. Of the three students (S4, S5, and S8), whose BASC-SRP profiles were not called into question by high validity scores at either Pre-test or Post-test times, none of them had ESI T scores of 65 or above, denoting clear pervasive distress. S4's ESI Composite at both test times stayed relatively static (Pre = 52 , Post = 57). S5's ESI T score at Pre-test time was 41 and his ESI T score at Post-test time was 38. S8's measure of overall emotional or psychological functioning surprisingly increased from 47 at Pre-test to 59 at Post-test time. This dramatic increase in emotional distress was not anticipated by the researcher. It was expected that if significant changes were reported in ESI T scores at Post-test, they would be decreases in emotional distress due to the implementation of the ICPS program. Another student (S1) also reported a change in a negative direction, an increase, in emotional distress. S1's ESI T score of 59 on the Pre-test was well within normal range. At Post-test the ESI T score reached a Clinically Significant level of 72, suggesting that the student was experiencing severe psychological distress. Possible interpretations of this surprising finding will be discussed in the



Discussion section of this paper. The T scores of S2, and S7 suggest no presence of severe emotional or psychological distress at either Pre-test or Post-test times. S2's ESI T score remained at non-significant levels from Pre-test to Post-test going from 40 to 41. S7's ESI T scores indicated that overall functioning remain constant during Pre-test and Post-test times from 45 to 44.

**Table 4.4 Student's T-scores on ESI Composite, School Maladjustment Composite, Clinical Maladjustment Composite, and Personal Adjustment Composite at Pre-ICPS Time**

	S1 =AM		S2 =TH		S3 =JE		S4 =TYR		S5 =RO		S6 =VI		S7 =ST		S8 =TYL	
Emotional Symptoms Index	59	72	40	41	49	40	52	57	41	38	40	47	45	44	47	59
School Maladjustment Composite	47	44	63	60	45	38	58	67	46	50	49	64	57	52	60	66
Clinical Maladjustment Composite	50	55	40	36	52	45	53	52	44	46	43	45	48	47	58	64
Personal Adjustment Composite	45	23	54	52	56	58	55	45	59	59	53	38	60	41	54	48

Note. Pre-ICPS test time (1 week prior to start of program) scores are in regular font. Post-ICPS test time (3 weeks after program completion) are set in bold font.

#### *School Maladjustment Composite*

The School Maladjustment Composite is a broad measure of adaptation to school consisting of the scales of Attitude to School, Attitude to Teachers, and Sensation Seeking. T scores of 60 or higher on this composite may suggest that the student is experiencing academic deficiencies and T scores of 70 or above suggests severe problems with schooling and in the school atmosphere and increased risk of dropping out (Reynolds and Kamphaus, 1997, Ch 8, p.63). A look at the School Maladjustment Composite will help determine if student participants experience problems in the school environment and if there is an improvement in functioning at school after the implementation of the ICPS program.

Of the three students (S4, S5, and S8) whose BASC-SRP profiles were not called into question by high validity scores at either Pre-test or Post-test times, none showed the expected

decrease in dissatisfaction with schooling, school staff, or the structure of education after the implementation of the ICPS program. In fact all three students actually increased in their dissatisfaction with school at Post-test time. **S5's** increase in dissatisfaction was only slight and the T score did not suggest that he had problems in school functioning. **S4** and **S8** seemed to have substantial problems in functioning at school that increased at Post-test. **S4's** School Maladjustment Composite T score increased from 58 and did reach the 'At Risk' level with a T score of 67 during the Post-test time. **S8's** School Maladjustment Composite t score also increased from 60 at Pre-test to 66 at Post-test and also reached the 'At Risk' level. (See Table 4.1.) These scores, located between one and two standard deviations from the mean, indicates the presence of significant problems in school functioning that are not severe enough for diagnosis. Another student, **S2** also had a fairly high School Maladjustment T score at Pre-test that increased at Post-test. Although his V-Index makes his BASC-SRP profile somewhat questionable, it is interesting that **S2's** School Maladjustment T scores also were at the 'At Risk' level, with 63 at Pre-test and 60 at Post-test. These findings suggest that three of eight students did experience a general dissatisfaction with school and probably academic deficiencies that are not experienced by the average student.

Three of eight students (**S1**, **S2**, and **S7**) actually reported the anticipated decrease in school distress that was hoped for by this researcher, after the ICPS program was implemented. For **S1** there was a decrease in the School Maladjustment Composite over the two test times with the Composite T score falling from 45 to 38. **S7's** School maladjustment Composite T score decreased from 57 to 52 over the two test times. There was also a decrease in school distress for **S2** after the ICPS program.

### *Clinical Maladjustment Composite*

The Clinical Maladjustment Composite is a broad index of distress that discloses clinical internalizing problems experienced by participants, such as high anxiety, severe social stress, externalized locus of control, and lack of personal coping strategies. The Clinical Maladjustment Composite is comprised from scores on the individual scales of Anxiety, Atypicality, Locus of Control, Social Stress, and Somatization in the BASC-SRP. This composite may identify students having serious internalizing problems due to cumulative effects of the problems experienced, but who may not show marked elevation on any individual SRP scale. T scores of 60 or above indicate that internalized functioning may be impaired and T scores of 70 or above indicate the definite presence of serious internalizing problems (Reynolds and Kamphaus, 1997).

Only one student, **S8**, actually reported having internalizing problems like anxiety, social stress, and a sense that his life was out of his control. At both Pre-test and Post-test time his Clinical Maladjustment Composite T scores stayed around the 'At Risk' T score range with scores of 58 and 64 respectively. Unlike this student, **S4** and **S5** did not report internalizing problems leading to difficulties in social competency and general functioning. **S4** remained in the 'Average' T score range with a score of 53 at Pre-test and 52 at Post-test. **S5** also reported scores in the 'Average' T score range with a score of 44 at Pre-test and 46 at Post-test. **S1's**, **S2's**, and **S7's** Clinical Maladjustment Composite T scores also showed no elevated scores and no internalizing problems that could impair functioning.

It was expected that students who reported having internalizing problems before the ICPS program was implemented would show a reduction in their Clinical Maladjustment Composite T scores at Post-test. Unfortunately only one of the students (**S2**), whose BASC-SRP profile can be considered, actually showed the expected decrease in internalizing problems at Post-test. Results for **S2** showed a decrease in Clinical Maladjustment Composite T scores from 40 at Pre-

test to 36 at Post-test. In opposition to the results that were expected if the ICPS program was effective in helping build social competencies and reduce social stress, S8 and S1 actually showed a marked increase in internalizing problems after the implementation of the program. S8's Clinical Maladjustment Composite T score increased from 58 to 64, and S1's Clinical Maladjustment Composite T score increased from 50 to 55.

#### *Personal Adjustment Composite*

The Personal Adjustment Composite is comprised of the individual scales of Relations with Parents, Interpersonal Relations, Self-Reliance, and Self-Esteem scales on the BASC-SRP. Lower composite scores indicate negative levels of adjustment and can be manifested in adjustment disorders and Axis II personality disorders outlined in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III-R, American Psychiatric Association, 1987). T scores of 40 and below (at the 'At Risk' T score range) "suggest problems with interpersonal relationships, self-acceptance, identity development, and ego strength" (Reynolds and Kamphaus, 1997, p.63). T scores of 30 or below (at the 'Clinically Significant' T score range) depict withdrawn students with very poor coping skills, disturbed peer relationships and a tendency to repress uncomfortable feeling or thoughts (Reynolds and Kamphaus, 1997, Ch 8).

Personal Adjustment Composite T scores for S4, S5, and S8 all suggested that they did not experience problems in peer relationships, self-acceptance and identity development. For S4 and S8, the Personal Adjustment Composite T score remained at the 'Average' T score range although it did drop from 55 to 45 at Post-test for S4, and from 54 to 48 at Post-test for S8. S5's Personal Adjustment Composite T scores of 59 on both the Pre-test and Post-test times approached the 'High' T score range. This suggested that in comparison with other students of his age, S5 had a higher opinion of his ability in interpersonal relationships than the average student. S2 also had 'Average' level Personal Adjustment Composite T scores at Pre-test and

Post-test, with scores of 54 to 52 respectively. Therefore it can be said that four students report having no problems in functioning in the domain of interpersonal relationships.

Two students, **S1** and **S7**, did report problems with peer relationships and coping skills when considering their Personal Adjustment Composite. **S1**'s score showed no concerns with Personal Adjustment scores at Pre-test. The Personal Adjustment Composite score reached Clinical Significance (23) at Post-test and all of the scale scores within the Composite went down in comparison with Pre-test scores. The Relations with Parents scale score went from 47 to 32, the Interpersonal Relations scale score went from 57 to 31, the Self Esteem scale score went from 30 to 26, and the Self Reliance scale score went from 52 to 30, reaching Clinical significance at the Post-test. A closer look at her overall profile indicated that Social Stress, Anxiety, Depression scale scores went up at Post test and Depression scores even reached Clinical significance with a score of 74. **S7**'s Personal Adjustment Composite T scores decreased greatly at Post-test from 60 to 41, almost reaching the 'At Risk' T score range. This placed **S7**'s T score at Post-test between one and two standard deviations from the mean T score for that age group. A closer look at the individual scales within the Composite reported a decrease in Self-Reliance scores from 69 to 32, approaching Clinical significance. Also the Relations with Parents scale T score at the Post-test declined greatly to approach Clinical Significance with a score of 35. For **S7**, no other lower order Composite T scores show Clinically Significance. Therefore it can be said that **S1** experienced disturbed peer relations, deficient coping skills and a lack of social support at Post-test time. As well, it can be said that **S7** experienced problems in interpersonal relations, ego strength, and self-acceptance at Post-test that he did not experience at Pre-test.

It was expected that if the ICPS program were effective, the students would report increased T scores on the Personal Adjustment Composite after the ICPS program was completed. None of the students, with BASC-SRP profiles that were valid and trustworthy

according to the Validity Indexes of the BASC, reported an increase in interpersonal relationships, self-acceptance, ego strength, or identity development at Post-test. However, five of six students, whose profiles were included in this study, did actually show a decrease in Personal Adjustment Composite T scores at Post-test.

#### *Semi-Structured Questionnaire for Students*

The second research question: *"Do the students report problems in social competency and or problems in general / overall functioning? And is there any change after the completion of the ICPS Program?"* was addressed through the Semi-Structured Questionnaire for Students. The Semi-Structured Questionnaire is composed of 5 main questions asking students to report on the (1) the frequency of their social behaviours, (2) how often they use the six steps of problem solving as outlined in Spivak, Platt & Shure (1976), (3) how often they use certain socially appropriate thoughts to govern their interaction with classmates, (4) how often they have certain positive interactions in class, and (5) the frequency of concern about the social support they receive. After the questions and the choices of answers were read allowed to the students, the questions were scored using a Likert Scale ranging from 0 to 4. For all questions 0 represented either the absence of a concern or the lowest frequency for behaviour. A score of 4 represented the presence of concern or the highest frequency of behaviour.

A closer look at the Semi-Structured Questionnaire showed that this measure not only considers the usefulness of the ICPS program in creating change in the nature and frequency of the social behaviours of the students. It also addresses specific questions like: Have the students increased social behaviour; Have the students acquired any of the ICPS social skills taught?; Have the students experienced changes in the roles played within groups?; Have the students gained more social support?; Have the students increased positive interactions like an increase in the number of friendships or agreement for ideas in the classroom; Have the students used more confident postures like sitting in front of room or looking speaker in the eye, spoken more about

his/her ability, and increased in speaking up in classroom. Appendix C outlines the exact questions asked in the Semi-Structured Questionnaire.

One of the most important program evaluation considerations is the generalizability of ICPS skills program to other settings outside of the group sessions. The above questions addressed the generalizability from the ICPS group setting to other areas of the school environment. Time constraints do not permit a consideration of generalizability to home environments. Please see *Limitations Section* for further explanations.

For this study, the results of the Semi-Structured Questionnaire were used to help answer the research question "*Do the students report problems in social competency?*". These results gave a clearer picture of the kinds of social problems reported by the students and the frequency of such problems. See Table 4.5 for a comparison of the frequency of social behaviours before the start of the ICPS program and after the ICPS program was completed.

**Table 4.5 Comparison of Reported Social Behaviours over Pre-ICPS Time and Post-ICPS Time for all students**

	Increase	Decrease	No Change
<i>Negative Behaviours</i>			
Bullying		S4 (-1) S6 (-1) S8 (-3)	S1 S2 S3 S5 S7
Being Argumentative	S5 (+2)	S1 (-2) S2 (-1) S4 (-1) S7 (-1) S8 (-3)	S3 S6
Using Inappropriate language	S5 (+1)	S8 (-1)	S1 S2 S3 S4 S6 S7
Lying	S1 (+1) S7 (+2) S8 (+1)	S3 (-2) S4 (-1) S5 (-2)	S2 S6
<i>Positive Behaviours</i>			
Anger Management	S4 (+3) S6 (+1)	S3 (-1) S8 (-1)	S1 S2 S5 S7
Relationship with Peers	S2 (+4)	S5 (-1) S6 (-1) S7 (-1) S8 (-1)	S1 S3 S4
Making Friends	S8 (+1)	S1 (-2) S3 (-1) S4 (-1) S6 (-2) S7 (-1)	S2 S5

A look at how often the student's in the ICPS program reported using the six steps of Problem-Solving, outlined by Spivack et al. (1976), before and after the program was completed helped determine whether or not the ICPS training helped teach the students to use the six steps. A change in the reported frequency of use of the six steps could suggest that the ICPS program gave the students practice in using them. Table 4.6 reports these findings.



**Table 4.6 Comparison of Reports of How Often the Six Steps of Problem-Solving are used over Pre-ICPS Time and Post-ICPS Time for all students**

	Increase	Decrease	No Change
<b>Recognizing others Point of View</b>	S1 (+1) S4 (+1)	S 3 (-2) S6 (-1)	S2 S5 S7 S8
<b>Understanding What other Say</b>	S2 (+1) S7 (+2) S8 (+4)	S1 (-2) S3 (-2) S5 (-1)	S4 S6
<b>Thinking about Options to Solve Problems</b>	S2 (+1) S5 (+1) S6 (+2) S8 (+3)	S3 (-1)	S1 S4 S7
<b>Recognizing the Consequences of What you Do</b>	S1 (+2) S4 (+4) S7 (+2) S8 (+3)	S3 (-3) S5 (-1) S6 (-1)	S2
<b>Choosing between Alternatives</b>	S1 (+1) S2 (+1) S6 (+2) S8 (+4)	S3 (-2) S4 (-1)	S5 S7
<b>Looking Back at your Past Choices</b>	S1 (+3) S2 (+1) S4 (+1) S8 (+2)	S3 (-3) S5 (-3) S7 (-1)	S6

A look at the self-talk that governed the students' interactions illuminated the group roles that students normally choose to play when interacting in a group or classroom. See Table 4.7 for a look at self-talk used to govern interactions with classmates and if there are changes in self talk used after the implementation of the ICPS Program.

**Table 4.7 Comparison of Self Talk used to Govern interactions with Classmates over Pre-ICPS Time and Post-ICPS Time for all students**

	<b>Increase</b>	<b>Decrease</b>	<b>No Change</b>
<b>I like to take up a lot of time in the group or class</b>	S2 (+2) S6 (+1)	S3 (-3) S4 (-2) S5 (-3) S8 (-2)	S1 S7
<b>I don't agree and I don't care</b>	S5 (+2) S7 (+2)	S1 (-1) S4 (-1) S6 (-3)	S2 S3 S8
<b>I don't feel like participating right now</b>	S1 (+1) S6 (+2)	S3 (-1) S4 (-1) S7 (-2) S8 (-1)	S2 S5
<b>I'd rather use humour when things get uncomfortable</b>	S1 (+2) S2 (+1) S3 (+1) S4 (+1) S5 (+4) S6 (+1) S7 (+4) S8 (+4)		
<b>I've done some important things I need to share with people</b>	S5 (+1) S8 (+2)	S1 (-1) S3 (-1)	S2 S4 S6 S7
<b>I know what we should do</b>	S4 (+3) S8 (+4)	S2 (-2) S3 (-1)	S1 S5 S6 S7
<b>I value you and your contribution</b>	S1 (+2) S4 (+3) S6 (+1) S7 (+3) S8 (+2)		S2 S3 S5
<b>I know some things that are important that I can share</b>	S1 (+1) S2 (+1) S6 (+2) S8 (+4)	S3 (-2)	S5 S7
<b>I just want to make sure that everyone gets along</b>	S4 (+3) S6 (+2) S7 (+4) S8 (+2)	S1 (-1)	S2 S3 S5
<b>Sure what you are saying is important, but here is the most important thing we need to discuss.</b>	S2 (+1) S4 (+1)	S3 (-3) S5 (-1) S8 (-1)	S1 S6 S7

The fourth question asked in the Semi-Structures interview with students before and after the ICPS Program helped to determine which specific kinds of positive interactions the students engage in with their classmates and at what frequency. This information, outlined in Table 4.8,

gave the researcher a better indication of the nature and frequency of social problems experienced by the students in the study.

**Table 4.8 Comparison of Reported Positive Interactions with Classmates over Pre-ICPS Time and Post-ICPS Time for all students**

	<b>Increase</b>	<b>Decrease</b>	<b>No Change</b>
Sit in Front of the room	S6 (+1)	S3 (-2) S7 (-3)	S1 S2 S4 S5 S8
Look the speaker in the eye	S2 (+1) S4 (+2) S6 (+2) S7 (+2) S8 (+2)	S3 (-4) S5 (-1)	S1
Speak about your ability	S1 (+3) S2 (+3) S6 (+2) S7 (+1) S8 (+4)	S3 (-2)	S4 S5

A comparison of the reported kinds of support received by the students in the study gave a very concrete understanding of how social support translates into actual friends and companions for these students. This final question in the Semi-Structured Questionnaire asked if there has been any change in the reported number of friendships and in classroom cooperation with the students after the ICPS Program had been completed. Table 4.9 compared the reported concerns about the amount of and kind of support being given by friends over the two test times.

**Table 4.9 Comparison of Reported Concerns About the Amount of and Kind of Support being given by friends taken over Pre-ICPS Time and Post-ICPS Time for all students**

	<b>Increase</b>	<b>Decrease</b>	<b>No Change</b>
Number of Friendships	S1 (+4) S4 (+4) S6 (+4)	S5 (-4) S7 (-4)	S2 S3
Classroom support or agreement for ideas	S1 (+3) S3 (+1) S4 (+4) S7 (+2)	S5 (-3)	S2 S6
Other Parents	S4 (+3)		

Note. S8 did not respond to this question at Post-ICPS Time, so no data can be entered comparing the responses over the two test times.

### *Interpersonal Cognitive Problem-Solving Skill (ICPS) Level of Students*

The third research question of this study asked: *What are the students' ICPS skill levels before the program? Are there any changes in skill level after the program is finished?* One measure, the Interpersonal Cognitive Problem-Solving Skills (ICPS) Task illuminated this question. A comparison of scores on the ICPS Task at both Pre and Post test times revealed whether or not there was a change in skill level in problem-solving due to the teaching of ICPS skills during the 5-week program.

As mentioned in the Methodology section of this paper, the ICPS Task was given at the two test times, one week before and again three-weeks following the ICPS program completion. This was done to assess if the students performance on the Interpersonal Cognitive Problem-Solving Skills Task changed after the program was over. For the ICPS Task, the researcher read aloud, unseen problem-solving situations and asked each participant to orally provide a solution(s). Both the Pre and Post ICPS tasks had one unseen problem situation each. The responses on these questions were audio taped and transcribed. Table 4.10 includes a review of the questions asked. The researcher and an external tester scored the questions by simply counting how often the student participants conformed to steps in problem solving. The students were given one point for every response given that conforms to the components of pre-problem solving skills as outlined in Shure (1992) and the six steps in problem-solving as outlined in Spivack et al. (1976). Nonsensical or non-related responses were not scored. The total score on the ICPS task was obtained by adding the individual scores obtained for each of the six steps of problem-solving. Higher scores indicated that the student followed problem-solving steps. Higher scores did not indicate that a student had a higher quality of responding to a problem-solving situation.

**Table 4.10 ICPS Task Questions**

<b>Pre - ICPS Task Questions:</b>	<b>Post - ICPS Task Questions:</b>
1) You forgot your gym clothes at home and today you have Physical Education class. <ol style="list-style-type: none"> <li>What is the problem?</li> <li>Do you need to solve this problem right away? Why or why not?</li> <li>What are three possible solutions to this problem?</li> <li>Which solution would work best and why?</li> <li>What steps do you have to take to put your plan into action?</li> <li>What are two possible results of your choice?</li> <li>What else do you need to do?</li> <li>How can you prevent a similar problem from happening?</li> <li>What did solving this problem help you to learn?</li> </ol>	1) Your family is going on vacation to a cabin. You really don't want to go to the cabin. Your friend asked you to go with his/her family to Florida during the same week where you could do lots of fun things. <ol style="list-style-type: none"> <li>What is the problem?</li> <li>Do you need to solve this problem right away? Why or why not?</li> <li>What are three possible solutions to this problem?</li> <li>Which solution would work best and why?</li> <li>What steps do you have to take to put your plan into action?</li> <li>What are two possible results of your choice?</li> <li>What else do you need to do?</li> <li>How can you prevent a similar problem from happening?</li> <li>What did solving this problem help you to learn?</li> </ol>

Note. All problem situations and questions taken from "Problem Solving for Teens; An Interactive Approach to Real-Life Problem Solving" by Barbara J. Gray (1990)

Spivack, Platt and Shure (1976) outline 6 main steps of problem-solving to include: (1) determining the source of the problem, (2) generating alternative solutions, (3) determining consequences of alternatives, (4) identifying other perspectives towards the problem, (5) choosing from alternative solutions, and (6) evaluating the chosen solution. Shure (1992) further elaborated on these steps to include a Pre-Problem-Solving Skills component in her problem-solving skills programs designed for primary and intermediate grade levels. Shure (1992) further outlines the importance of having the Pre-Problem Solving skills including, using pre-problem solving vocabulary, a sensitivity towards the feelings of self and others, a consideration of other peoples point of view, and an understanding of the impact of one's behaviour upon others. When scoring each student's problem-solving ability, points were given for the use of particular pre-problem-solving skills at step 1 (determining the source of the problem), step 3 (determining the consequences of alternatives), step 4 (identifying others perspectives towards the problem) and at step 6 (evaluating the chosen solution). The questions for both the Pre and Post ICPS

Task, taken from a book by Gray (1990), were scored to determine whether these six steps were employed by the student participants while solving problems. Table 4.11 provides the scores on Pre and Post ICPS tasks and will outline how they were scored.

The results for this ICPS Task can be divided into two main areas: scores on individual problem-solving skills steps and total scores outlining performance in solving a problem situation. It is the belief of this researcher that both sets of results can be very meaningful. Therefore, the student's scores on each of the six steps to problem-solving will be discussed below. Each students overall performance on problem solving, shown by each student's total score at each test time, is outlined in Table 4.12

For Step 1 of problem-solving, 'determining the source of the problem', four out of eight students (50%) showed an increase in performance of this step. And oddly enough, two out of eight students actually showed a decrease in performance of this Step 1 at the Post-test. For Step 2, 'generating alternative solutions', no students displayed an increase in performance of this task. However, the scores of two out of eight students (25%) did actually decrease at Post-test. For Step 3 of problem-solving, 'determining consequences of alternatives', three out of eight students did increase their scores at Post-test. Only one person decreased in their score of this step. Little gains were made in the students' performance for Step 4, 'identifying other perspectives towards the problem'. Only one person actually improved their score at Post-test and one person actually performed more poorly at Post-test. For Step 5 of the problem-solving, 'choosing from alternative solutions', three out of seven students actually decreased in problem-solving scores at Post-test, indicating a reduction in performance of this step. Finally, for Step 6 of problem-solving, 'evaluating the chosen solution', two students enjoyed an increase in performance, shown by their increased scores at Post-test time. It is interesting though that five other students actually found a decrease in their performance of this step in problem-solving, marked by lower scores at Post-test time.

**Table 4.11 ICPS Task Scores at Pre-test and Post-test**

<b>Determining the Source of the Problem:</b>	<b>Pre-ICPS Task</b>	<b>Post-ICPS Task</b>
A) What's the problem? <i>* Score one point for every response that includes any of the following points of understanding the problem.</i> <ul style="list-style-type: none"> <li>✓ Use of problem-solving vocabulary</li> <li>✓ Consideration other people's point of view (other info)</li> <li>✓ Identification of Feeling of self and others</li> <li>✓ Impact of one's behaviour on others</li> <li>✓ General Understanding of problem situation</li> </ul> B) Do you need to solve this problem right away? Why or why not? <i>* Score one point for every reasonable reason listed.</i>	S1 = 2 S2 = 1 S3 = 2 S4 = 3 S5 = 2 S6 = 1 S7 = 3 S8 = 2	S1 = 7 S2 = 4 S3 = 3 S4 = 2 S5 = 3 S6 = 1 S7 = 1 S8 = 2
<b>2) Generating Alternative Solutions:</b>	<b>Pre-ICPS Task</b>	<b>Post-ICPS Task</b>
A) What are three possible solutions? <i>*Score one point for every relevant solution listed (maximum 3 points).</i>	S1 = 3 S2 = 2 S3 = 2 S4 = 3 S5 = 2 S6 = 3 S7 = 3 S8 = 3	S1 = 3 S2 = 2 S3 = 2 S4 = 3 S5 = 2 S6 = 2 S7 = 1 S8 = 3
<b>3) Determining Consequences of Alternatives:</b>	<b>Pre-ICPS Task</b>	<b>Post-ICPS Task</b>
A) Which solution would work best and why? <i>*Score one point for the solution chosen and one point for every reason including any of the following:</i> <ul style="list-style-type: none"> <li>✓ Use of problem-solving vocabulary</li> <li>✓ Consideration of other people's point of view (other info)</li> <li>✓ Identification of Feeling of self and others</li> <li>✓ Impact of one's behaviour on others</li> </ul>	S1 = 2 S2 = 2 S3 = 1 S4 = 2 S5 = 0 S6 = 2 S7 = 2 S8 = 2	S1 = 3 S2 = 2 S3 = 1 S4 = 2 S5 = 2 S6 = 2 S7 = 0 S8 = 3
<b>4) Identifying Other Perspectives Towards the Problem:</b>	<b>Pre-ICPS Task</b>	<b>Post-ICPS Task</b>
A) What steps do you have to take? (Who else is involved?) <i>*Score one point for every step mentioned and one point for the inclusion of the following:</i> <ul style="list-style-type: none"> <li>✓ Consideration of other people's point of view (other info)</li> </ul>	S1 = 2 S2 = 1 S3 = 2 S4 = 2 S5 = 3 S6 = 2 S7 = 2 S8 = 2	S1 = 3 S2 = 1 S3 = 2 S4 = 2 S5 = 3 S6 = 2 S7 = 1 S8 = 2
<b>5) Choosing from Alternative Solutions:</b>	<b>Pre-ICPS Task</b>	<b>Post-ICPS Task</b>
A) What are two possible results of your choice? <i>*Score one point for every result listed (maximum of two points).</i>	S1 = 2 S2 = 2 S3 = 2 S4 = 2 S5 = 4 S6 = 2 S7 = 3 S8 = 4	S1 = 2 S2 = 2 S3 = 2 S4 = missing S5 = 2 S6 = 2 S7 = 2 S8 = 2
B) What else do you need to do? <ul style="list-style-type: none"> <li>• <i>Score one point for mention of anything else that would need to be done.</i></li> </ul>		
<b>6) Evaluating the Chosen Solution:</b>	<b>Pre-ICPS Task</b>	<b>Post-ICPS Task</b>
A) How can you prevent a similar problem from happening? <i>*Score one point for every way listed that could prevent the problem and one point for the following:</i> <ul style="list-style-type: none"> <li>✓ Use of problem-solving vocabulary</li> </ul>	S1 = 2 S2 = 1 S3 = 3 S4 = 1 S5 = 3 S6 = 2 S7 = 3 S8 = 3	S1 = 6 S2 = 1 S3 = 1 S4 = 2 S5 = 1 S6 = 1 S7 = 0 S8 = 1
B) What did solving this problem help you to learn? <i>*Score one point for every thing learned and one point for the following:</i> <ul style="list-style-type: none"> <li>✓ Use of problem-solving vocabulary</li> </ul>		

These marked decreases in performance for students during Steps 2, 5, and 6 of problem-solving seem to indicate that the overall performances of the students on the problem-solving task at Pre and Post-test times did not change positively. In fact it did change in the negative direction for three out of the seven students whose data was complete for both test times. See Table 4.12 for more details.

**Table 4.12 Total Problem-Solving Skills Scores at Pre Test and Post-test**

Participant	Pre-ICPS Task	Post-ICPS Task
S1	13	24
S2	9	12
S3	12	11
S4	13	11 *Two questions were inaudible and not able to be recorded.
S5	14	13
S6	12	10
S7	16	5
S8	16	11

Note: A total problem-solving skills score was obtained by adding together the student's scores on each of the 6 steps of problem-solving outlined by Spivack et al. (1976).

#### *School Staff's and Parents Perceptions of the Effects of the Changes in Social Competency*

The fourth research question of this study asked: *Do school staff and parents report changes in social competency after the ICPS program completion that is generalized to other settings outside the ICPS classroom? What is the reported effect of changes on the students' ability to relate to others and the amount of support received from others.* One measure, an Open-Ended Questionnaire for Teachers, SEA's and Parents illuminated this research question. The Open-Ended Questionnaire was administered at Pre-ICPS Test time, one week prior to the onset of the program, and at Post-ICPS test time, three weeks following program completion. A comparison of teacher's perceptions of social competency at both test times yielded information about whether or not the perceived social competency changed after the completion of the 5-week program. Parents were also given the Open-Ended Questionnaire at Post-test time with the hopes that their responses would reveal how the student's learning could be generalized to outside the school environment. Unfortunately the parents chose not to respond to this Open-



Ended Questionnaire and therefore the following results will include only the opinions of school staff. The implications of the parents' choices not to respond will be discussed in the *Discussion* section of this paper.

On the Open-ended Questionnaire for School Staff and Parents, the respondents were asked to complete a written questionnaire one week prior to the beginning of the ICPS program and again three weeks after the ICPS Program was completed. This enabled the researcher to compare responses of the respondents to see if any change in social competency had taken place. For the purpose of this research social competency was assessed by five questions that asked respondents to report on an opinion of whether or not the student changed in social competency, on examples of the students appropriate social behaviour, on changes in how the student relates to others in the classroom, on the nature of social support given to the student by others, and anything else they can add about the student's changes in social competency. The exact questions include: (1) Has the student recently changed his/her behaviour?, (2) Tell me about situations where the student displayed appropriate social skills., (3) Has the student experienced changes in relating with others the classroom setting? If so, what is the nature of this change?, (4) Have you noticed changes in the amount of social support this student receives from others? If so, what is the nature of that support?, (5) Do you have anything else to share? What?. See Appendix B for a copy of the Open-Ended Questionnaire.

A number of different school personnel were approached about participating in the ICPS evaluation study because of their unique professional relationship with one or more of the students involved in the ICPS Evaluation study. Once the program and the study was explained and the role of these school staff was outlined in detail, the staff were able to decide on their own level of involvement. The school personnel that agreed to participate in both the Pre-ICPS test and the Post-ICPS test include two regular classroom teachers, the Special Education teacher in whose classroom the ICPS program was implemented, a Special Education Assistant who

worked closely with all of the students in the study, and a Child Care Worker II who had a professional relationship with many of the students involved in the study. One school staff respondent was matched to each of the students participating in the study. Only the school staff member that was involved at both data collection times was included.

The Special Education Teacher reporting on the behaviour of S1 outside the ICPS classroom found that there was a recent change in the student's behaviour since the completion of the ICPS Program. The teacher reported that the student *"is now demonstrating improved self-esteem. She verbalizes her likes about subject matter, voices her opinion, and clearly establishes boundaries on what is acceptable from others."* For the second question, asking the teacher to comment on situations where the student displayed appropriate social skills, the teacher spoke about how the student *"uses of self-talk to stop her from using inappropriate language"*. In response the third question (Has the student experienced changes in relating with others the classroom setting? If so, what is the nature of this change?), the teacher observed more involvement in class by the student volunteering her opinion more often and willfully participating in activities. Particularly the teacher reported that the student has become *"an advocate for more quiet reserved students, and a friend to the more socially distant students of the class."* In the opinion of the Special Education teacher *"This acceptance of both ends of the spectrum is directly attributable to her improved self-esteem which was fostered by the 5-week program."* And the teacher also found that the student also experienced a change in the amount of social support received from others as a direct result of the changes the student has made in her interactions with others. Particularly the student's comments seemed to have been *"... listened to"* and there was *"... acceptance by the two camps in our class"* and surprisingly *"even comments relating to things that have not worked out or been resolved."*

The same Special Education teacher also reported on the social progress of S2 while he was completing other coursework outside the ICPS Program. Before the ICPS Program the

teacher found that this student's *"behaviour fluctuates between subdued and agitated/ fidgety, depending on whether he's taken his medication (Ritalin) or not."* The teacher also found that although the student *"is learning/ developing appropriate social skills"*, he had a tendency to interact in *"a physical play/pushing, shoving and verbal nature"* with his peers. After the completion of the ICPS Program, the teacher reported that S2 has changed his behaviour since he *"... has shown awareness of appropriate behaviour in class."* When asked to describe when the student has displayed appropriate social skills, the teacher wrote about S2's newly *"... demonstrated strong friendship commitment and a propensity for having fun."* A change in how S2 related to others in the classroom environment can be seen through the fact that the student *"has expanded his circle of friends from one to at least three"* and his *"attempts to curb his use of inappropriate language (put downs)"* and his *"engaging of other students [name omitted] in informal conversation and play."* The teacher also observed a change in the amount of social support this student received from others. It is the teachers opinion that S2's *"openness has allowed others to be supportive and playful with him."*

The same Special Education classroom teacher also reported on the progress of the student S3. At the Pre-ICPS test time the student was reported to be *"... a quiet, reserved student"* who *"... will always raise her hand to speak, although this is seldom."* This student's level of shyness is reported to interfere with her ability to relate to other students in the classroom and results in this student not being socially supported by others. After the completion of the ICPS Program the Special Education teacher did report only a very slight change in S3's behaviour. The teacher wrote that S3 *"continues to be a quiet, pleasant soft-spoken student"* who *"demonstrates appropriate social skills if entering class late, in interrupting and in engaging with her peers in class."* But at Post ICPS test time she *"has related more, both in frequency and duration, to her peers."* The teacher even reports that

*"there has been an increase in social support for this person. It has come primarily from one person (another student), but it is an increase."*

The progress of S5 had been tracked by a Special Education Assistant (SEA) who worked with many of the students in other classrooms and who was also involved in the implementation of the whole 5-week ICPS Program. One week before the beginning of the ICPS Program, S5 was reported to be *"very polite and hard working"*, *"very sociable"* and helpful to other students by *"lending them his school supplies, or by looking up words for them in his dictionary."* When relating to others, he was reported to often tell the teacher to *"ask people to stop doing something that he may find irritating."* This behaviour is thought to lead to some difficulty for the student being supported by others. Three weeks following the completion of the program (at Post-ICPS test), the SEA found that S5 *"has changed his behaviour. Whenever he is faced with a conflict, he deals with it appropriately by asking the person to stop."* He is reported to be a little more patient and *"he is more friendly [with other students] and seems to take things with a grain of salt."* Although a change was found in how S5 relates to others, there was no change observed in the amount of social support received from other students in the classroom. According the SEA, S5 *"has benefited quite a bit from the program. He seems to think before he speaks more. This has enabled him to communicate more effectively with other students."*

The same SEA also agreed to report on the progress of S6. Before the ICPS program, the student was reported to be *"easily distracted and thus is unable to complete tasks within the timeframe allotted."* S6 often spent class time *"insulting her fellow students"*, but she was able to be *"polite to the teacher and [the SEA]."* According to the SEA, the student, although *"she is very independent"*, *"seems to be well liked by her peers, despite the fact that she insults these students on a daily basis."* At Post-ICPS test time, when the SEA was asked to comment on any changes in S6's behaviour, she wrote that at the beginning of the ICPS Program change was

noticed. S6 was reported to use *"more effective communicative skills and treated others with more respect."* *"She would apologize when she knew it was needed"* and would *"ignore people instead of confront them in an inappropriate manner."* Unfortunately the SEA found that S6 *"began to lose her interest in the program"* and *"transferred her attention to a specific 'crush' in class."* It was written that the student *"wasn't able to walk away with much improvement"* and that the changed behaviour did not remain changed by the end of the Post-ICPS test time.

A regular staff teacher who teaches Drama agreed to consider the progress of S7 on social competency throughout the duration of the ICPS program and at the Post-test three weeks after program completion. At Pre-ICPS test time, one week before the beginning of the program, the teacher reported S7 had difficulty sitting through instruction and was often sent to visit 'Outreach' (a behaviour management support program) for assistance in having *"more control over his behaviour."* After visits to Outreach following a classroom disruption, *"he was able to follow directions and participate well."* When discussing how S7 relates to others, the teacher reported that when he interacts with girls he is able to be more appropriate and the girls try to help him regulate his behaviour by telling him *"to be quiet and listen [name omitted] to prevent him from getting into trouble."* However, when interacting with boys he is very physical with them, *"is provoked easily and taunts others, laughing at them."* The teacher reported, *"He does not yet recognize for himself that he is hurting anyone."* With regard to receiving social support from others, he was found to *"not accept support from the boys."* After the ICPS program the teacher reported that S7 *"is showing better control of his behaviour and better self-management."* The teacher noticed that simply saying his name prompted him *"to behave appropriately again"* when he was beginning to *"act up or dominate a game or drama scene."* The teacher also noticed a change in relating to others in that *"He was being less physical with other young men in class. He would occasionally walk away from situations that would get him into trouble, such as fighting."* However, the amount of social support received from others has

not changed according to the classroom teacher as *“students always liked him and have always offered him verbal support.”*

The Progress of S8 was followed by a Child Care Worker (II) who working out of the Outreach office. This Child Care Worker found that before the ICPS Program, S8 was often in trouble with school administration and chose to skip class often to be with friends. However, he did often go to Outreach to ask for help in dealing with an altercation with other students. Three weeks after the ICPS Program was completed, the Child Care Worker found a change in the student's behaviour. *“Despite the fact that the student is not on medication [normally Ritalin], [name omitted] has demonstrated much better self-control skills.”* Specifically S8 is reported to *“choose attending class instead of going to the smoke pit.”* With regard to relating to others, the student is reported to have *“not engaged in horse play or behaviour that is significantly off task.”* No change was found in the amount of social support received from others.

One student participant's progress in social competency could not be tracked with this measure. The regular classroom Science teacher that agreed to assist in the study did not complete an Open-Ended Questionnaire for S4 at Post ICPS test time. Because only the teacher's responses at Pre-ICPS test time, before the ICPS program even began, were recorded, only the other seven students are included in this measure.

Reviewing the School Staff opinion of the changes in social competency thus found that seven of seven students were reported to show a change in social behaviour from Pre-test to Post-test. However, two of seven students, S3 and S6, did not experience the same changes as the other five students in the study. S3 was reported to have only slight changes in behaviour because she was already quite appropriate socially before the onset of the study. The changes that she did experience were an increase in the amount of time that she spent relating to other classmates, and an increase in the number of students that socially supported her. She went from having no social support to having one student act as an advocate for her. Another student, S6

did experience changes initially in her interest in participating with other classmates, however, the changes were not sustained at the Post-ICPS Test time, three weeks following the programs completion. It was noticed that S6 began using skills of apologizing and skills of learning to ignore small irritating behaviours of others rather than cause conflict. Unfortunately a lack of interest in learning ICPS skill, a lack of interest in school in general, and a new focus on a 'crush' began to interfere with her learning. She began to choose to ignore the other students in the group unless their behaviour really disturbed her.

#### *Students Self-Perceptions of Changes in Social Competency*

The fifth research question asked: *Do the students' perceive behavioral changes in social competency after the ICPS program completion? If yes, what is the effect of this behavioural change on the student's ability to relate to others and the amount of support received from others?* One measure, the Open –Ended Questionnaire for Students, illuminated this question.

The same Open-Ended Questionnaire that had been given to school staff (described above) was also given to students at Post-test time, three weeks after the completion of the ICPS Program only. Upon reviewing the open-ended questionnaire written out by students with the help of the researcher, the Special Education classroom teacher, and a Special Education Assistant, it was very clear that the students had difficulty answering open-ended questions that required self-knowledge and clear thinking. As mentioned in the methodology section of this paper, the very nature of their difficulties concentrating may have certainly added to their lack of interest in responding. By the time this questionnaire was administered it was clear that the students either were not interested or maybe even not capable of completing this task. The answers that the students gave were somewhat vague and they did not know how to answer some of the questions at all. The questionnaire was administered at the end of the school year when students were no longer doing new work but were simply working on assignments that had not yet been completed and submitted and they were more interested in saying goodbyes to friends

than completing another assignment. But the desire to give the students an opportunity to comment on their opinion of any changes they may have experienced with the ICPS Program won out for this researcher. The following paragraph outlines general trends in responding on the part of the student.

To review, the Open-Ended Questionnaire asked students to give their own opinion of whether or not there had been changes in social behaviour, to share examples of the appropriate social behaviour, to explain any changes that were noticed in how these students related to others in the classroom, and to share changes in the nature of social support received from others. The students were also given space for addition comment they would like to share. In response to the question: Has the student changed his/her behaviour, six of eight students reported a change. But one of these six students (S4) reported that his change was in a negative direction. He wrote that his *"behaviour has gotten a bit worse by everybody telling me how to act and what to do. It irritates me."* The remaining two students (S2 and S6) reported that there had been no change in social behaviour and did not offer further explanation.

In response to the question asking the students to speak about examples where the students displayed appropriate social skills, all of the eight students had a general understanding of the importance of listening to another person. It was found that five of eight students mentioned the social skill of listening to others and actually used some form of the word *'listen'* in their responses. Three of eight students explained their use of very specific skills. S1 spoke about giving feedback to peers, and S4 and S8 commented on giving *"eye contact"* and looking at a person while listening to them.

When asked whether the students experienced changes in relating to others in the classroom setting, only two of eight students actually reported noticing change in relating to others. One student (S5) reported a positive change of *"the feeling of being more comfortable"*



around peers, and another (S8) reported a negative change saying, "I have been a bit more of an ass" with other students in the ICPS classroom.

When the students considered any changes in the amount of social support received from others, four of eight students reported noticing such changes. S1 reported increased support from school staff, S3 reported receiving help from others in the classroom, S4 reported getting more help from friends, and S8 reported getting more support from teachers who were respectful enough to allow the students to decide amongst themselves what level of involvement they wanted teachers to have in their group. Perhaps for many of the participants this task was a little more advanced as it asked the students to consider the behaviour of others.

These results were surprising in that three of the four that reported increases in the amount of social support received from others (S1, S4, S8) appear to be more advanced in their understanding of the six steps of problem-solving. However, S3 is one student who did not seem to have a thorough understanding of the problem-solving steps, as outlined in her poor scores on the ICPS task of finding solutions for unseen social problems. This awareness may lead to a new interpretation of her poor performance in problem solving, as a result of something else other than her actual understanding of problem-solving skills.

#### *Student Evaluations of the Usefulness of the ICPS Program*

The last research question asked: *What is the experience of participating in the ICPS program / group? Was it useful?* One measure, a Program Evaluation Questionnaire for Students, illuminated this research question. The Program Evaluation questionnaire was completed only at Post-ICPS test time, three weeks following program completion.

In order to again hear the personal experience of the students who participated in the ICPS group, the researcher administered an open-ended program evaluation questionnaire that was audiotaped and transcribed at the end of the Post-ICPS test time. The Program Evaluation Questionnaire addressed three main areas or questions: (1) What did you like about the ICPS

Program?, (2) What would you change about the ICPS Program, and (3) What did you learn from the ICPS program?. It also gave students an opportunity to add any comments. Note that the students did not respond to every question, some students simply said “nothing” or “I don’t know” in response to some questions. Also, some students gave more than one response to a question. The students responded in two ways when completing the Program Evaluation question asking ‘What do you like about the ICPS Program?’. It was found that five of eight students (S1, S3, S6, S7, S8) spoke specifically about what they *learned* from the program including “*how to deal with everyday situations*”, how to “*get help to look at different ways to get answers*” to problems, how to use self-control to curb the desire to ask too many questions or talk out of turn, and how to think more “*so I didn’t get into as much trouble*”, and how to study more effectively. Also, four of eight students (S2, S4, S5, S7) spoke about things they *liked* from the experience of participating in the ICPS program. Two of the students said they enjoyed activities of role-play, one liked the Feeling Word Games, and one (S2) reported liking the experience of feeling “*we barely had to do any work.*” One student, S5, seemed to really have a positive experience of being in the ICPS Program. S5 reported that he liked interacting with people in a different way than he would normally interact with classmates. Particularly, he liked the experience of seeing “*other people get interactive*” with each other, the experience of seeing peers really “*listening to each other*”, and the experience of really hearing other people’s attitudes.

In response to the second part of the Program Evaluation Questionnaire, asking students to comment on what they would like to change about the ICPS program, four of eight students reported wanting to omit the Meditation exercises that were used at the beginning of each session to hopefully help focus and calm the student participants so they could be ready to learn. A close look at the questionnaires revealed that two of eight students, S5 and S8, spoke about wanting change in the amount of “*negativity*” in the group. Specifically S5 spoke about a desire

to see change in *"people being judgmental,"* and S8 suggested the concept of curbing negativity by allowing students having a bad day to have the opportunity to leave the ICPS group.

For the last part of the Program Evaluation Questionnaire asking: "What did you learn from the ICPS Program?", students were allowed to self-evaluate the use of the ICPS program. In agreement with the expectation of the researcher, five of eight students (S1, S5, S6, S7, S8) reported that they did learn something from the program including the value of groups in teaching *"how to cooperate with your classmates"* and how to *"learn more about your classmates and what kind of people they are"*, *"how to study things and to work with other people"*, *"how to problem solve"*, how to respect others by *"saying like 'excuse me' and like 'pardon me'"*, and *"how to ah ... treat people better."* One student (S2) reported that he did not learn anything, *"I just forgot it all."* It is noteworthy that two of eight students, S3 and S4, did not comment that they learned anything for this question. However, when S3 was asked what she liked about the ICPS program in the first part of the Program Evaluation, she reported that she did learn *"how to figure out like [... silence ...] different answers"* and how *"look at different ways to get the answers"* when problem solving. So in the opinions of the student participant themselves, only S2 and S4 really did not seem to learn anything from the ICPS Program.

## Chapter Five: Discussion

### *Review of the Literature*

The previous review of the literature suggests that diminished functioning in peer relationships (Dumas, 1999), poor self-regulation of rule-governed behaviour (Barkley, 1998), delayed internalization of private speech and presumed delays in executive functioning (Barkley, 1998), poor problem-solving ability (Spivack et al., 1976), and trouble in decision-making (Hall, Halperin, Schwartz, and Newcorn, 1997) are the main problems experienced by ADHD children. All of these cognitive difficulties can have a detrimental effect on social competencies of ADHD children. Therefore, additional strategies were required to assist individuals with ADHD to improve their social skills and intellectual abilities (Schwiebert et al., 1995). Initially psychostimulant medications were employed and produced short-term enhancement of impulse control, attention span, social interactions, academic productivity, and compliance in approximately 70% to 80% of the students, as long as the medications are taken regularly. Behavioural interventions focusing on the improvement of self-regulation and problem solving skills were also used alone or in combination with psychostimulant medication. However, the greater amount of improvement in the behaviour of individuals with ADHD was shown when both behavioural approaches and medication were used concurrently (Gomez & Cole, 1991; Gower, 1999). Traditionally, schools have emphasized academic remediation and behaviour or cognitive behavioural modification for the ADHD population. However, these interventions do not address the gap between social expectations and the actual social skills of ADHD students within the school environment.

Correlational studies, outlined in D'Zurilla (1986), suggested a positive relationship between social problem solving and maladaptive behaviour, meaning that deficits in problem solving may contribute to social maladjustment, or factors associated with maladjustment could produce problem-solving deficits. Therefore it was suggested that addressing the problem-

solving difficulties of adolescents with ADHD-like symptoms, through an ICPS program, could also impact their social skills. According to Burton and Kagan (1995), this competent social behaviour or adaptive social functioning included awareness of self, others the external world, and internal events. Competent social behaviour also involved awareness of the rules of social behaviour, use of observation and interpretation of social situations, use of plans or strategies for implementing more effective ways of relating, and a consideration of the context to decide the sequences of interactions required (Burton and Kagan, 1995).

Generally, the aim of this study was to enhance interpersonal cognitive problem-solving skills by introducing an ICPS program and then to evaluate the effectiveness of this program for students with ADHD-like symptoms. Effectiveness was determined by the opinions of school staff and parents about any changes they observed in social competency (Appendix B: Open-Ended Questionnaire for School Staff and Parents), actual changes in students performance on unseen problem situations (ICPS Task), self-reported change in frequency of the students appropriate social behaviour (Appendix C: Semi-Structured Interview for Student Participants) and students' perceptions of social support and thoughts regarding competency (Appendix D: Open-Ended Questionnaire for Students). If the program were effective, there would be an increase in the ICPS Task scores from Pre-test to Post-test. If the students had successfully learned more interpersonal cognitive problem-solving skills, then the Semi-Structured Interviews would reveal self-reported increases in frequency of socially appropriate interactions with others and self-reported changes in how they related to others and the amount of support received from others during the Open-Ended Questionnaire. As well, data about observable behaviours of students, received from school staff responses to the Open-Ended Questionnaire, would show improvement in how the students related to others and in the amount of support received from others.

Barkley (1998) reported difficulties in adaptive social functioning of children with ADHD as compared to the functioning of normal children (Barkley, 1998). This social functioning includes development of age-appropriate motor skills, self care abilities, personal responsibility to complete chores or tasks, and peer relationships (Barkley, 1998).

### *Summary of Research Findings*

#### *Measures of the Social Problems Experienced by Students*

The first and second research questions for this study gave the reader information on the self-perceived social competency of the students participating in this research study. This information outlines the social difficulties and successes experienced by the students of this study.

Considering how often (the frequency of these differences) significantly high or low T scores appear in the general population should also illuminate the student's problems (Reynolds and Kamphaus, 1997, p. 30) so that we can be assured that these students with ADHD-like symptoms experience the same difficulties of an ADHD population. It is expected that more females will score high T scores on Anxiety and Interpersonal Relations, Somatization, Social Stress scales of the SRP and the overall ESI. It is also expected that more males will score higher on Self-Esteem, and School Maladjustment (BASC, Reynolds and Kamphaus, 1997, p.96). It will be useful to compare how the student participants score on the Social Stress scale, the School Maladjustment composite, and the Personal Adjustment composite.

#### *BASC-SRP*

The first research question considered whether or not students participating in the study experience the same kinds of deficits and problems as ADHD students' experience and if the reported problems change as a result of the ICPS program. This researcher's belief that the BASC-SRP could be repeated to monitor a child's response to treatment, or progress in specific areas is supported by Reynolds and Kamphaus (1997) statements that children would show little

change over a one-month period in self-reports of emotions and attitudes measured by the BASC-SRP, unless it was a result of a treatment effect. A close look at these BASC-SRP scores at Pre-ICPS test time and Post-ICPS test time helped answer the first research question of this study: *Do the students report problems in social competency and or problems in general / overall functioning? And is there any change after the completion of the ICPS Program.*

Special indexes (F, L, and V Indexes) assessed the validity of the students' responses and detected potentially invalid responding on the part of the student. Only **S4**, **S5**, and **S8**, (three males with ADHD labels and medications for hyperactivity) had acceptable Validity T scores at both Pre-ICPS and Post-ICPS test times and did not call the validity of responses into question. The profiles of **S1**, **S2**, and **S7** were somewhat questionable and were only be minimally considered. And the profiles of both **S3** and **S6** were not considered at all as accurate descriptions of their emotions and self-perceptions about their overall functioning and their profiles were omitted from the results. **S3** had high scores on the L-Index reaching the "Extreme Caution" T score range suggesting overly positive responding on the part of the student over both the Pre-test and Post-test periods. Such high L-Index scores suggested psychological naïveté and low insight or severe reading problems that invalidate the profile. A closer look at her School Records showed that **S3** has some FAE-like symptoms and some reading comprehension difficulties that may have made it difficult for her to properly comprehend and complete the BASC-SRP test items. A discussion with her Special Education Classroom teacher revealed that the overly positive responding might have been a result of wanting to impress the SEA who helped her complete the questions for the BASC-SRP. **S6's** BASC-SRP profile was considered invalid and omitted as well. **S6's** profile was highly questionable because of high scores obtained on both the F-Index and V-Index at Post-ICPS test time.

The BASC-SRP profile will yield T scores on an Emotional Symptoms Index (ESI), a School Maladjustment Composite, a Clinical Maladjustment Composite and a Personal Adjustment Composite (Reynolds and Kamphaus, 1997). Consideration of responses on the BASC-SRP profiles allowed the researcher to make broad conclusions regarding tendencies towards both adaptive and maladaptive behaviours, overall extent of psychopathy / adaptation and its impact on the individual student (Reynolds and Kamphaus, 1997). Considering how often (the frequency of these differences) such significantly High or Low T scores appear in the general population also helped illuminate the degree to which the students functioning was impaired by problems with social competency (Reynolds and Kamphaus, 1997, p. 30).

A close look at the ESI T scores at Pre-ICPS test time and Post-ICPS test time helped answer the first research question of this study: *Do the students report problems in social competency and or problems in genera / overall functioning? And is there any change after the completion of the ICPS Program.* (See Table 4.4.) The ESI is highly correlated with the scales for Anxiety, Social Stress, Depression, Sense of Inadequacy, Interpersonal Relations, and Self-Esteem, with the average correlation of .78 (Reynolds and Kamphaus, 1997, p.159-162). The ESI T scores helped broadly define the overall level of functioning of the students in the study.

It was clear from considering the BASC-SRP profiles that two students of eight, **S1** and **S8**, reported experiencing problems in overall functioning. **S4**, **S5**, and **S8**, whose BASC-SRP profiles were not called into question by high validity scores at either Pre-test or Post-test times, showed no clear pervasive distress when looking at their ESI Composite T scores at both test times. **S1**'s ESI T score of 59 on the Pre-test was within normal range reported by students her age. However, at Post-test the ESI T score reached a Clinically Significant level of 72, suggesting that the student was experiencing severe psychological distress. A discussion with **S1** near the end of the ICPS program revealed that she was unhappy and stressed because of major conflicts she was having with her mother that forced her to relocate to her grandmothers house.



This situation may have led a BASC-SRP profile marked by problems in Social Stress (T score = 60), Anxiety (T score = 61) and Depression (T score = 74). It seems that these life circumstances led her to decrease her Interpersonal Relations, Self-Esteem and Relationships with Parents giving her lower score on Personal Adjustment at Post-test. S8's measure of overall emotional or psychological functioning also surprisingly increased from 47 at Pre-test to 59 at Post-test time. This dramatic increase in emotional distress was not anticipated by the researcher. It was expected that if the ICPS program was effective, there would be a decrease in emotional distress as shown by lowered ESI T scores at Post-test. A personal conversation with S8 revealed that he was very stressed that his recent involvement in two fights on school property may lead to a permanent suspension from attending school. Other possible explanations of these results will be outlined later in the section.

A look at the School Maladjustment Composite helped determine if student participants experienced problems in the school environment and if there was an improvement in functioning at school after the implementation of the ICPS program. T scores of 60 or higher on this composite suggested that the student was experiencing academic deficiencies and T scores of 70 or above suggested severe problems with schooling and in the school atmosphere and increased risk of dropping out (Reynolds and Kamphaus, 1997, Ch 8, p.63). S4 and S8 seemed to have substantial problems in functioning at school that increased at Post-test. Another student, S2 also had a fairly high School Maladjustment T score at Pre-test that increased at Post-test. These findings suggested that three of eight students (S2, S4, and S8) did experience a general dissatisfaction with school and probably academic deficiencies that are not experienced by the average student.

As an indicator of the success of the ICPS Program, three of eight students (S1, S2, and S7) did report a decrease in school distress at Post-test. This suggested that the ICPS Program

did give a new social competency skill set to the participants after the ICPS program was implemented.

An interesting finding when considering the School Maladjustment Composite was that **S4**, **S5**, and **S8** actually increased in their dissatisfaction with school at Post-test time. It was expected that if the ICPS Program were useful in teaching social competency, then there would be a decrease in dissatisfaction with school as a result of the participants new skills in relationships with others in the school environment at Post-test. None of these three showed the expected decrease in dissatisfaction with schooling, school staff, or the structure of education after the implementation of the ICPS program. Possible explanations for these unexpected results will follow.

The Clinical Maladjustment Composite is a broad index of distress that discloses clinical internalizing problems experienced by participants, such as high anxiety, severe social stress, externalized locus of control, and lack of personal coping strategies. Only one student, **S8**, actually reported having internalizing problems like anxiety, social stress, and a sense that his life was out of his control. He did experience problems in social competency and general functioning. In fact his Clinical Maladjustment Composite T scores increased from 58 at Pre-test to 64 at Post-test.

It was expected that students who reported having internalizing problems before the ICPS program was implemented would show a reduction in their Clinical Maladjustment Composite T scores at Post-test. Only one of the students (**S2**), whose BASC-SRP profile can be considered, actually showed the expected decrease in internalizing problems at Post-test.

In opposition to the results that were expected if the ICPS program was effective in helping build social competencies and reduce social stress, **S8** and **S1** actually showed a marked increase in internalizing problems after the implementation of the program. Consideration of possible explanation of these results will help explain why these results took place.

The Personal Adjustment Composite, unlike the other Composites indicates positive functioning. So lower scores on the Personal Adjustment Composite “suggest problems with interpersonal relationships, self-acceptance, identity development, and ego strength” (Reynolds and Kamphaus, 1997, p.63). T scores of 30 or below (at the ‘Clinically Significant’ T score range) depicted withdrawn students with very poor coping skills, disturbed peer relationships and a tendency to repress uncomfortable feeling or thoughts (Reynolds and Kamphaus, 1997, Ch 8).

Two students, **S1** and **S7**, did report problems with peer relationships and coping skills when considering their Personal Adjustment Composite. They did experience problems in general functioning, as was expected of an ADHD-like population. **S1** experienced disturbed peer relations, deficient coping skills and a lack of social support at Post-test time. As well, it can be said that **S7** experienced problems in interpersonal relations, ego strength, and self-acceptance at Post-test that he did not experience at Pre-test. However, four students (**S2**, **S4**, **S5**, and **S8**) reported having no problems in functioning in the domain of interpersonal relationships either before or after the implementation of the ICPS Program.

It is surprising that five of the six BASC-SRP profiles that were not questionable (**S1**, **S2**, **S4**, **S7**, and **S8**) actually showed a decrease in Personal Adjustment Composite T scores at Post-test. This unexpected result may suggest that the ICPS program actually caused problems for participants in interpersonal relationships, self-acceptance, ego strength, or identity development at Post-test. In particular, **S7**’s Personal Adjustment Composite T score decreased greatly from 60 at the Pre-test to 41 at the Post-test. Close consideration of **S7**’s recent situation did help explain his surprising scores. A conversation with the Special Education teacher revealed that **S7**’s downward shift in interpersonal relationships might have been caused by concerns that his parents may be getting a divorce. The other unexpected results will be considered further in the following paragraphs.

Yes, it is clear that many of the eight students in this study experienced problems in social competencies and problems in general functioning. This is evident from the Composite T-Scores reported in the BASC-SRP profiles. Two of eight students reported high ESI T scores at Post-test. Three of eight students did experience problems in their school environment and three of eight students also decreased in their school distress at Post-test. One of eight students reported problems with high-anxiety, severe social stress, externalized locus of control, and lack of personal coping strategies as evidenced in their Clinical Maladjustment Composite scores. Two of eight students reported having problems in their peer relationships and with coping skills. These findings support the notion that the ADHD-like population studied in this research, experienced social problems that are typical of diagnosed ADHD students.

However, there are certain findings in the BASC-SRP profiles that were unexpected and not easily explained. For example, two students (S2 and S8) actually decreased in their ESI Composite scores at Post-test. Also, three students (S4, S5, and S8) showed a marked increase in dissatisfaction with school at the Post-test. Two students (S1 and S8) surprisingly increased their scores in the Clinical Maladjustment Composite at Post-test suggesting that they experienced increased problems with anxiety and social stress. Finally, five of eight students (S1, S2, S4, S7, and S8) showed a decrease in Personal Adjustment Composite scores at Post-test. All of these findings seem to suggest that the ICPS program was actually detrimental to their social competency and general functioning.

It is the belief of this researcher that this explanation is not viable due to resounding support for the effectiveness of the ICPS program found in the Semi-Structured Questionnaire for Students, the Open-Ended Interview for School Staff and Parents, the Open-Ended Interview for Students, and the Program Evaluation Questionnaire for Students. This researcher believes that there are other explanations for these results.

The time required to complete the BASC-SRP, the nature of the BASC-SRP test items, and the mindset of the participants at Post-test all made it hard for students to stay focused and led to the invalidation of BASC-SRP profiles. This calls into question the ability to use the BASC-SRP to answer the first research question of this study.

The BASC-SRP requires 30 to 45 minutes of intense concentration to complete. With this population, such a task is very challenging. In fact, most students actually took about an hour to complete the test even with the researcher and SEA's assistance in reading the questions aloud. Because the completion time was long the students became resentful (especially at Post-test time) possibly biasing the results.

Furthermore, the nature of the test items on the BASC-SRP may have made completing the test more difficult for this population of students. There is a vast difference between completing standardized test questions, such as impersonal true and false items, and personal, open-ended interviews or semi-structured questionnaires about the student's own behaviour. The nature of the BASC-SRP forced the participants to adhere to a structure unlike a discussion measure, which allows them to be flexible and explore their own responses. This researcher believes that the open-ended, student-led discussions allowed for in the other measures led to a more enjoyable, personal testing experience for the students.

The abundance of biased BASC-SRP profiles can be attested to by the high Validity Index scores that all but three students displayed. In fact, two students' profiles (S3 and S6) had to be omitted from the results because their responses could not be trusted. Also, three more students (S1, S2 and S7) had high validity scores for one of either the L-Index, V-Index, or F-Index that make the validity of their profiles questionable.

The mindset of the participants at the time of Post-test is also believed to bias the BASC-SRP results. Students were focused on end-of-school-year activities and celebrations by the time the last test period took place, three weeks following program completion. The students even

stated a general fatigue with completing final assignments and the testing completed for this study. The Special Education teacher, the SEA, and the researcher agree that for some students, there seemed to be anger at having to complete the evaluations for the study, leading to deliberate attempts to be uncooperative. Still, another two students reported being annoyed and sad about the group ending which may have influenced their responses.

In the future, when working with this population, it would be wise to ensure that testing was completed prior to the end-of-year assignments and festivities. Hopefully, this would lead to greater focus on the part of the participants and more valid BASC-SRP profiles. Because scores on the BASC-SRP, using norms based on the general population of children in the US, tended to show little difference between clinical and non-clinical groups, only the extreme cases get brought to attention. This means that more subtle problems that may be endemic to the ADHD-like group could go unnoticed. It is suggested that the use of a test that considers the special needs classification of ADHD would better represent the group in this study.

#### *Semi-Structured Questionnaire for Student Participants*

The second research question of this outcome evaluation study also helps explain the actual social competencies that the participants experience. Using a Semi-Structured Questionnaire, students were asked to shed light on five specific concerns. The first area explored was a comparison of reported negative social behaviour over the two test times. When students were asked if there was a change in frequencies of negative social behaviours after the ICPS program was completed, three of eight (38%) reported decreases in 'bullying'. This result is quite positive considering the other students who reported no change in bullying behaviour did not have a history of aggressive tendencies anyway. Other results include: five of eight (63%) reported decreases in 'being argumentative', and three of eight (38%) reported a decrease in 'lying'. But three other students also reported an increase in 'lying' at Post-test time. This result could suggest that the mindset of participants at the end of the school year may have led them to

be more uncooperative in general. Six of eight students (75%) reported no change in their 'use of inappropriate language', as cursing is developmentally appropriate at that age.

It was expected that if the ICPS program were effective in teaching social competency, the students would increase positive social behaviours and decrease negative social behaviours. In keeping with expectations of this researcher, very little change was reported in students 'anger management' ability over the two test times. Great change was not anticipated in anger management because of the researcher's belief that teaching social competencies can decrease inappropriate anger behaviours and increase awareness of social injustice, which may bring about more anger. Other reports of positive social behaviours however, did not yield expected results.

Surprisingly, when the students were asked if there was a change in other positive social behaviours at Post-ICPS test time, many students reported a decrease. Only two students, S2 and S8, who were previously known to be hurtful to other members of the group, improved their behaviour of relating to peers. It was found that four of eight (50%) students actually reported a decrease in 'relationships with peers, and that five of eight (63%) students reported a decrease in 'making friends'. This finding suggested that the ICPS program actually led to a decrease in positive social behaviour and contradicted the researcher's observations of the students' social behavioral changes during the course of the program. Although a decrease in 'relationships with peers' and in 'making friends' was reported, the researcher saw an increase for most students in their ability to have positive peer interactions. This was seen through observable behaviours such as increased listening without interrupting, asking for peers opinions before acting, and using humour to diffuse conflicts. It is the belief of this researcher that there are other possible explanations for these unexpected results.

One explanation of the unexpected results is that a newly acquired social skills set (taught in the ICPS program) allowed the students to become more aware of appropriate social

behaviour and better able to evaluate their competencies. In essence they may have been better able to recognize the difficulties they had in relating to peers. The fact that ADHD teens are unable to contemplate the depths of their social deficits is characteristic of ADHD adolescents (Barkley, 1998). Another explanation reiterated the belief that students were less cooperative at Post-test time, due to fatigue with completing assignments and tests, and preoccupation with end of school year festivities. A review of the researcher's study journal revealed that the participants did need constant encouragement to complete the tests and complained about the work involved. A final explanation for these results comes from the nature of group-based interventions. Because the group was only 5-weeks long, perhaps the group did not have time to develop safety to talk openly, trust in the leader, define their role in the group, and develop the common goals needed to become a working group. This researcher therefore believes future implementation of the ICPS program with an ADHD-like population, should involve extending the program length from twice a week for 5 weeks to twice a week for 8 weeks.

During the Semi-Structured Questionnaire, the student participants were also asked how often they used the six steps of problem-solving skills. The results suggest that many of the students did learn new problem-solving skills by the time the ICPS program was completed. It was found that three of eight (38%) students reported having an increased understanding of 'what others say', four of eight (50%) students reported increases in the amount of time they spent 'thinking about options to solve problems', 'recognizing the consequences of what you do', 'choosing between alternatives', and 'looking back at your past choices'. Only 20% of students reported an increase in 'recognizing others point of view', or perspective taking, after the ICPS program was completed. This suggested that most students did not learn the step of perspective taking when problem-solving. This result is not surprising since perspective taking plays a much larger role in interpersonal problem-solving in adolescence and adulthood (Spivack et al., 1976) and is a very difficult task that requires many years to perfect. Perhaps more



training with the use of role-plays in an ICPS program, would give participants better training in perspective taking.

Another finding of the Semi-Structures Questionnaire for Students is that there was a reported increase in how often they use self-talk to govern interactions with classmates. This self-talk concerns the use of humour to deal with social situations, the understanding that everyone makes a valuable contribution to a group, that their own opinions are important to share, and the desire to get along with others in group interactions. It is the opinion of this researcher that these changes would certainly assist the social competencies of the students when interact in groups because regulating behaviour with self-talk allows for a better chance to mediate a social situation more positively. Specifically all eight students (100%) reported an increase in the use of the statement "I'd rather use humour when things get uncomfortable" at Post-ICPS test time. As well, five of eight (63%) of students reported that they used the statement "I value you and your contribution" to govern social behaviours more frequently. Also 50% of students reported an increase in the use of the following two statements: "I know some things that are important that I can share," and "I just want to make sure everyone gets along." It is also noteworthy that 50 % of these student participants also reported a decrease in the amount of time they take up in the group and the amount of time they are uncooperative by saying, "I don't know and I don't care."

Changes in how often the students reported using certain positive interactions in the classroom was also tracked by the Semi-Structured Questionnaire for Students. These results too were very positive and suggest that there was a change in social competency after the ICPS program. Specifically five of eight (63%) of students reported an increase in looking into the eyes of the speaker when listening, and being able to speak about their own ability. It can be suggested that both of these results could lead to increased self-confidence and self-esteem.

The final result of the Semi-Structured Questionnaire for Students tracked changes in concerns the student had about the kind and amount of support they were receiving from friends. It was found that three of eight (38%) students reported an increase in the number of friendships they had at Post-ICPS test time. As well, four of eight (50%) students reported an increase in classroom support shown by more agreement for the student's ideas. These findings suggest that many of the participants of the study did have more social support after completing the ICPS program. It is noteworthy that these last two findings also challenge the unexpected result that students decreased in their ability to have peer relationships and to make friends by suggesting that between 38 % and 50% of the students in this study actually enjoyed more social support.

In summary, the Semi-Structured Questionnaire found that students enjoyed substantial decreases negative social behaviours like bullying (38%), being argumentative (63%), dominating time in class (50%), and refusing to participate in class activities (50%). Also the questionnaire revealed that between 50% and 63% of students seemed to increase their use of positive ways to mediate the roles they played in group interactions such as valuing others contributions to a group, participating in class activities, and focusing on getting along with others. The frequency of positive social behaviours such as maintaining eye contact with a speaker, and speaking to others about ones ability also increased for 63% of the students in the study. As well the questionnaire revealed that many students did learn new problem-solving skills by the time the ICPS program was completed. In fact between 38% and 50% of students reported having more skills in 'understanding what others say' (Step 2), generating options to solve problems (Step 3), recognizing consequences of actions (Step 4), choosing between alternatives (Step 5), and evaluating past solutions (Steps 6). The students did not however, improve in perspective taking, which is part of Step 1 of problem-solving. And finally this Semi-Structured Questionnaire revealed that participants of the study did have more social support after completing the ICPS program, shown through increases in the number of

friendships and increases in amount classroom support received from other students.

Unfortunately the ICPS program didn't seem to have the immediate impact of increasing students' ability to relate with peers or in making friends. It is the researcher's opinion that the new skills set learned during the ICPS program would eventually allow for increased social competencies leading to increases in relationships with peers and making friends.

#### *Interpersonal Cognitive Problem Solving Ability of Students*

The third research question of this study addressed changes in problem-solving skill level that may have occurred for students over the course of the 5-week program. Each individual students total score on the ICPS Task at the two test times was found by simply adding together each student's scores on each of the six steps of problem solving and Pre-test time and at Post-test time. It was expected that after a 5-week program teaching problem-solving skills to the students, they would display higher total scores on problem solving after the program was completed. Any reported changes could be seen as an indication of students learning of Interpersonal Cognitive Problem-Solving skills. Unfortunately the results of comparing the performance of students on the ICPS task at Pre-test and Post-test yielded results that suggest little change in problem-solving ability occurred for most students. (See Table 4.12.) One student's scores were unreadable. Only two out of seven students (29%), S1 and S2, improved in their problem-solving skills as seen by an increase in their total score on the ICPS Task at Post-test. S1 had an increase of 11 units (Pre-test = 13, Post-test = 24) and S2 had an increase of 3 units (Pre-test = 9, Post-test = 12). Two more students (29%), S3 and S5, stayed the same on their performance of the problem-solving task. However, three other students (43%), S6, S7, and S8, actually showed a decrease in performance on the ICPS Task at Post-test. S6 decreased in performance from a total score of 12 at Pre-test to a score of 10 at Post-test. S7 and S8 showed extreme drops in performance at Post-test with their total score dropping from 16 to 5 and 16 to 11 respectively. S7 was also very uncooperative at this test time.

In an attempt to explain this unexpected outcome, the researcher closely examined the two unseen problem situations used for the ICPS Task and looked for reasons for the results. Three factors may have impacted the results: differences in level of difficulty between Pre-test and Post-test on the ICPS Task, omission of data from one participant, and the fact they did not learn any of the problem solving skills so they didn't improve. In response to the first possible factor, a comparison of the two unseen problem situations revealed that the unseen problem situation used at Post-test may have been more difficult for the students. The problem situation at Pre-test asked students to consider what they would do about forgetting their gym clothes at home on a day that they had Physical Education class. The second problem situation used for the Post-test asked the students to consider what they would do when their parents wanted them to go one place and they wanted to go to another with their friend at the same time. (See Table 4.10 for exact questions.) In hindsight it seems that the latter question may have been more difficult to conceptualize and solve as it presented competing choices for the students, involved obligations to family where value judgments could be made, and involves careful consideration of the perspectives of others. According to Spivack and Levine (1963) and Platt et al. (1974), (cited in Spivack et al., 1976) teens having social adjustment problems seemed to have deficits in the area of "... the ability to see interpersonal situations from the perspectives of other involved individuals." (Spivack et al. 1976, p. 83).

The second possible factor leading to these poor results is the fact that one student's (S4) data for Post-test was missing. S4 had a total score of 13 on ICPS Task at Pre-test. However, his responses to two questions at Post-test were inaudible and unable to be recorded, giving him an incomplete total score of 11. Perhaps this student would have shown an increased performance had all of his data been included in the final results.

The third possible explanation for the unexpected results could be that the students did not actually learn any problem-solving skills during the 5-week program. This latter possibility

is very unlikely for two reasons: the results of the ICPS Task is not collaborated by the other results on the other five research questions and the results do not make sense given that there is actually a decrease in overall performance on the problem-solving task for 43% of participants. Logically, if the students did not learn any skills, their performance should not have changed over the two test times. If nothing was learned there would not be a decline in performance, there just wouldn't be an increase in performance on the ICPS task at Post-test.

A close look at students' performances on each of the individual steps of problem solving suggests that perhaps not all the steps of problem solving were learned, but some were. It is noteworthy though that the performance on some of the steps of problem solving was better than the overall results. It was found that four of eight (50%) students improved on the step of 'determining the source of the problem'. This step included the prerequisite skills of using of the language of problem solving, orientation towards problem solving, considering others point of view, identifying feelings of self and others, knowing the impact of your behaviour, and identifying social problem situation. The necessity of teaching prerequisite skills before teaching ICPS skills was documented by Spivack et al. (1976) and this result assured that student participants had the foundation they needed to proceed in learning problem solving skills. Another finding was that three of eight (38%) students also increased their performance in Step 3 'determining consequences of alternatives'. This step required students to brainstorm any relevant solutions to the problem situation, while considering the prerequisite skills of problem solving.

Students performed poorest on Step 5 and Step 6 of problem solving of the ICPS Task. Three of seven (43%) students decreased their performance on Step 5 of problem-solving, 'choosing from alternative solutions'. This step involved brainstorming for two possible results of a choice made to solve a problem and considering anything else that would need to be done to act on a solution. This finding certainly validates the findings of Spivack and Levine (1963) and

Platt et al. (1974) (cited in Spivack et al., 1976) who also reported that ADHD children had deficits in the areas of: “the ability to generate solutions to interpersonal problem situations, the ability to conceptualize the step-by-step means of reaching goals in specific problem situations ...” (Spivack et al., 1976, p. 83). Five of eight (63%) students also decreased their performance on Step 6, ‘evaluating the chosen solution.’ This step involved the student’s answering how they could prevent a similar problem from happening and what did solving the problem help them to learn. These surprising results may be due to difficulties reported by Barkley (1998) in ADHD students’ ability to alter subsequent responses based on immediate past mistakes (hindsight), and deficits in forethought and planning the steps that need to be taken (means) in order to accomplish a goal.

Overall it can be said that 50% of participants of this study seemed to learn Step 1 of problem-solving, as outlined by Spivack, Platt and Shure (1976). Also 38% of students seemed to learn Step 3 of problem-solving. The students performed poorly on Steps 5 and 6 with 43% and 63% decreasing in their performance of the problem-solving task. It seems that the abilities of ‘generating alternative solutions’ and ‘evaluating chosen solutions’ were not employed well during the ICPS Task. The researcher believes that the level of task difficulty of the question asked at the second test time (Post-test) probably accounts for the ICPS Task results.

One limitation to interpreting the results of the ICPS Task is that the two test questions outlining a social situation to be solved could not be adequately compared due to different levels of complexity of the questions. This research question also has some other *limitations* that should be discussed here. The scope of this research could not answer whether or not a student was able to use the steps in problem-solving without being prompted by the questions asked during the ICPS task once the actual performance on the test was given. The scoring procedure could lead to higher scores for students with many responses that are not practical or well thought out and lower scores for students that gives only one well thought out line of response.

Further qualitative study could give a better indication about how well students perform the steps without verbal cuing and judgments of how well they performed in the ICPS task.

*Changes in Social Competency Reported by School Staff and Parents*

The Open-Ended Questionnaire for School Staff (See Appendix B to view questionnaire.) given before and after the program completion, addressed whether or not changes in social competency were reported and generalized to other settings outside the ICPS classroom. This Open-Ended Questionnaire for School Staff also gave insight into the effect of changes on the students' ability to relate to others and the amount of support received from others. An overview of the questionnaire revealed that all the seven (100%) students who had data collected for this measure (The teacher reporting for S4 did not complete the questionnaire at Post-test.) were reported to experience overall changes in their social behaviour at Post ICPS test time, three weeks following the program completion. The school staff reported that the seven students had found new skills in the areas of a awareness of socially appropriate behaviour, use of more effective communication, use of self-talk to curb swearing and other inappropriate behaviour, thinking about others feelings before speaking (Perspective Taking), and use of self-control to better manage disruptive behaviour.

All of the seven students were reported to enjoy very specific changes in how they related to others in the classroom setting from increasing participation in classroom activities, sharing more opinions with fellow classmates, being more patient and ignoring things that are unimportant when dealing with conflicts with peers, and being less physically invasive when joking around with others. However, only 3/7 (43%) students were reported to enjoy changes in the amount of social support received from others. Those three students (S1, S2, S3) seemed to be listened to and accepted and supported more frequently since the completion of the ICPS program. This researcher has noticed that these three students that did experience more positive support from others are also the students that prior to the program were not receiving much

support from others. It is noteworthy though that these descriptions of effects of the ICPS program for those three students were all reported on by the same person, the Special Education teacher. Perhaps this teacher was overly positive or had a bias. The four students that did not experience changes in amount of social support received may have already been receiving much social support from peers before the onset of the program.

These expected results were very positive and suggested that according to the school staff involved in the study, the ICPS program was very successful at teaching problem-solving skills in a way that translates to social behavioural changes for the students involved. These findings also support the idea that teaching problem-solving skills also has the affect of positively changing how the students socially relate to their fellow classmates. The results however, do not support the notion that teaching such a program will positively influence the amount of social support each student receives from others. This result may suggest that the changes may have been present but went unnoticed due to teacher bias. Because teachers are not generally as concerned with peer relationships as they are with disruptive classroom behaviour, possible changes may have gone unnoticed. Also the participants may have experienced changes in the amount of support received from others outside the classroom, on the street or at home.

The same Open-Ended Questionnaire was also given to parents at the Post-test, three-weeks after the ICPS program was completed. Unfortunately parent data on responses to the Open-Ended Questionnaire was not obtained during this study. Gallen (1998), Green (1989), and Serpas (1997), stressed the importance of a multi-faceted approach, which included school staff and involvement at home with the parent or guardian, in order to produce as much generalization of newly acquired knowledge or skills as possible. For this study parents were given a package but no parents returned their questionnaires, even after a follow-up telephone reminder, an opportunity to complete the questionnaire over the phone, and a second mail out of the questionnaire. Parent data could have shed light on two things: if a change in social



competency was observed at home, and what level of parental involvement there was during the ICPS program to help the students practice problem-solving at home. Spivack et al. (1976) believed that discovering whether or not parents actively enhanced the development of their children's interpersonal cognitive problem-solving (ICPS) skills, (through encouraging the child's thoughts about a problem situation, modeling or guiding problem-solving attempts, and reinforcing decision-making based on the choices generated by the child) could help readers understand the extent of learning and generalization that took place from the ICPS program.

Of particular interest to this researcher are two findings of the Open Ended Questionnaire for school staff. It was reported that students seemed to develop skills in the areas of using self-talk to curb swearing and other inappropriate behaviour, and using of self-control to better manage disruptive behaviour. These findings support a new concept, by Barkley (1998), that ADHD children experienced a developmental delay in inhibition caused by deficits in the executive functions that interfere with self-regulation of behaviour. The above results suggest that the ICPS program addressed this delay in executive functioning when the participants were taught how to use self-talk to delay inappropriate behaviour and to stay on the task of problem solving. Particularly, at Post-test, S3 was reported to improve in *"attempts to curb his use of inappropriate language."* Another teacher also reported that S7 *"is showing better control of his behaviour and better self-management,"* and a Child Care Worker reported that S8 *"has demonstrated much better self-control skills"* and *"has not engaged in horseplay or behaviour that is significantly off task."* This internalization of control is thought to promote generalization to different settings, as the source of motivation is not reliant on external rewards (Gomez & Cole, 1991; Gower, 1999).

The results for this research question are very positive and suggest that the ICPS program had a positive influence on how students socially related to others. However, this study does not show long-term retention of these changes, as it only tracked the changes over three-weeks after

program completion. Because there has been little empirical evidence of long-term retention of behaviour and attitudinal change with this treatment plan (Gomez & Cole, 1991), there is a call in to do more long-term studies.

### *Self-Reported Changes in Social Competency*

It is very important to determine the student's perceptions of the changes in social competency they may have experienced during the ICPS program because it is essential to have the main stakeholders of the program buy into it. The fifth research question addressed this necessity by asking the students to ask themselves if they perceived a change in social competency after the ICPS Program completion, and if this self-reported change in social behaviour impacted their ability to relate to others and the amount of support received from others. These questions were answered in the Open-Ended Questionnaire for Students.

Overall five of eight students (63%) agreed that they experienced positive changes in social behaviour at Post-test, three-weeks following the completion of the ICPS curriculum. Those five students specifically reported changes in listening skills when interacting with others. One other student (S4) also experienced change, but he reported feeling that the social behaviour changes that he experienced went in a negative direction and resulted in the display of more socially inappropriate behaviour. This result is less optimistic than the school staff responses to the same question, which reported that all the students who responded showed a change in social behaviour.

When the student participants were asked to report, in the Open-Ended Questionnaire for Students, if they experienced changes in relating to others in the classroom environment, only two of eight said they did. This result of only 25% of students reporting noticing change in relating to others is very surprising since the school staff members completing the exact same question found that seven of seven students (100%) were reported to enjoy very specific changes in how they related to others. On the Open-Ended Questionnaire for Students, four of eight

(50%) of students reported noticing changes in the amount of social support received from others, while three of seven (43%) of school staff reported positive change in the amount of support received from others. Only one of those students (S1) who self-reported change in social support for herself, also was reported to experience changes in social support when a school staff member addressed this question at Post-test. In the opinion of this researcher, this student was also very mature developmentally and seemed to have a better sense of personal identity than any of the other participants and was probably more aware of herself.

It is interesting that there was a discrepancy between what students report themselves about changes in social behaviour and what school staff members report about changes in social behaviour. This discrepancy may be due to the fact that teaching staff and students place different levels of importance on different things. For example, teenagers are known to value how others treat them and often define themselves in terms of the amount of support they receive from others and how others see them. Teachers, on the other hand, would probably place high importance on how students treat others in the classroom since they are directly affected by it. Therefore they would probably notice how students relate to others in the classroom more often. Another explanation for the discrepancy in reporting changes in the amount of support received from others could also be that there may be different understandings of what constitutes social support for the students and the school staff. Recognizing changes in support from others would require a sense of how others see the world (perspective taking) and an awareness of the impacts of their own behaviour (consequences of alternatives).

#### *Students Evaluations of the ICPS Program*

Students were asked to report on their experience of the ICPS program as part of a Program Evaluation Questionnaire filled out only at Post-ICPS test time, three weeks following program completion. When tracking the responses of each student on the questions asking what student's liked about the ICPS program and what they learned from the ICPS program, it was

clear that overall the students found the ICPS program very useful for learning something about social competency. It was found that six of eight (75%) of the students reported that they did learn something from the program. Only S2 and S4 reported not learning anything from the ICPS Program on this Program Evaluation Questionnaire. However, when comparing the above results to the teacher's responses about S2 during the Open-Ended Questionnaire, it is clear that the school staff believed that S2's social behaviour positively changed after the ICPS program was complete. So it may be possible that actually seven of eight students (88%) did learn something from the ICPS program, either reported by the student participants or the school staff. Only the progress of S4 on learning something from the ICPS program is questionable, as no data was able to be collected on school staff's belief about S4.

One major caution to the above conclusion is that sometimes a comparison of different measures assessing slightly different concepts can be misleading. For example, the Open-Ended Questionnaire for School Staff assesses overall behavioural change from Pre-ICPS test time to Post-ICPS test time. And the Program Evaluation Questionnaire completed by students mainly considers the students personal opinion of what they have learned from the ICPS Program. It is not clear that a change in behaviour translates to an experience of acquiring learning.

When students were asked specifically what they liked about the ICPS program, there answers included the role-plays and the Feeling Word games. Five students gave examples of things they learned from how to problem solve, how to use self-talk to control socially inappropriate behaviours, and how to think more before acting in a way that gets them into trouble. When asked what they would change about the ICPS program, four of eight (50%) students reported wanting to omit the meditation exercise at the beginning of each ICPS session. Perhaps the meditation exercise was really difficult because it required them to stay quiet and relaxed for a few minutes, a task that may have been difficult for most students exhibiting ADHD-like symptoms. When the students were asked what they learned from the ICPS

program, five of eight (63%) reported learning how to cooperate better with classmates, how to learn more about the kinds of people their classmates are, and how to be more respectful of others. All of these things could likely lead to a better grasp at taking the perspective of others.

### *Significance of the Research Findings*

An overview of all of the findings from this outcome evaluation study suggests that the ICPS program was quite effective in improving the social competencies of the students involved. The BASC-SRP-A results helped determine the degree and extent of ADHD-like symptoms that the participants exhibited. It became clear that the students in this study displayed the same deficits in social competency that ADHD student's experience. When students reported on the frequency of their social behaviours overall there was an increase in many positive social behaviours after the ICPS program was completed. Unfortunately, the ICPS Task considering which of the six main problem-solving skills steps the participants used in solving unseen social problems suggested that the six steps in problem solving were not learned. However, overall it was found that student participants and school staff agreed that a change in social behaviour resulted after the ICPS program. They disagreed on whether the change was due to how the students treated others or the amount of social support received from others. The Program Evaluation Questionnaire had very positive results and suggested that almost all of the students learned some new social skills from participating in the program.

The tremendous impact of social impairment on the future performances of ADHD children motivates this study and is supported by the 1997 study by Greene, Biederman, Farone, Sienna, and Garcia-Jetton (cited in Barkley, 1998). The study showed that the greater the degree of social impairment," the greater the risk at a 4-year follow-up that the ADHD children will have comorbid psychiatric disorders and substance abuse" (Barkley, 1998, p. 99). The fact that training programs that enhance the participant's ability to take different social perspectives, according to Chandler (1973), decrease the frequency of subsequent delinquent behaviours, it

can be said that the students in this study may have a better future because of their new found social competencies.

...The success of this ICPS program will have far reaching implications within the pilot school as well as the provincial school system. This one of a kind program promoting intrinsic rewards rather than medical interventions could potentially change the social situation, if not the lives of ADHD students.

### *Other Limitations*

Some limitations of this study have already been discussed with the description of overall findings of this outcome evaluation. Other limitations will be discussed briefly here. One such limitation is the fact that the researcher who led the ICPS group also evaluated the effectiveness of the program. The researcher conducted the two data collection periods. The use of an external reviewer to interpret and evaluate data from the ICPS Task helped reduce this bias. This decision to use an outside reviewer is supported by the work of Armstrong (1996) who suggested that the objectivity required to assess changes in social functioning might be biased when involving teachers or parents that have emotional investments in the outcome. The Special Education Assistant and the Special Education classroom teacher, who had already been established a rapport and safety between them and the students, were also employed during data collection times. This allowed the students to be more comfortable answering questions.

As previously mentioned in the Introduction Section of the paper, in order to produce as much generalization and consistency as possible across social situations, this social competency intervention tried to involve the school staff, parents, and the student participants themselves. Unfortunately, the tracking of whether or not changes in social competency generalized outside the ICPS classroom, was undermined when the parents of the student participants chose not to complete the Open-Ended Questionnaire for Parents.

Another limitation of this outcome evaluation study is that it is believed that the students

with ADHD-like symptoms participating in the study would have great difficulty assessing their own level of social competency since they also experience deficits in this area. So the self-reported opinions of social competency must be weighed out by the opinions of school staff of parents. For this reason the data collected included observations of social behaviour of the participants by school staff members and parents.

Another difficulty of this study may be that the program has been designed to meet certain expectations of adolescent social skills, which undoubtedly vary between different cultural populations. Future research would be useful with marginal populations.

### *Implications for Practice*

The impact on school scheduling for both staff and the students exhibiting ADHD-like symptoms was minimal, as the program was offered during a time that these students meet with their Special Education teachers anyway. The fact that specialized training is not required to run this program, allows any classroom teacher to implement it. Also because of the positive results, the continuation of the Interpersonal Cognitive Problem Solving Skills program students with ADHD-like symptoms could easily be supported in the school systems. The benefits of such a program far outweigh the costs of running it.

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## Appendix A

### Student and Parent Consent and Information Package

*Version Date: October 10<sup>th</sup> 2000*

**Title:** An Evaluation Study: The Efficacy of an Interpersonal Problem-Solving Skills Program for Teenage Students with ADHD-like Symptoms.

**Investigators:** Dr. Marla Arvay  
 Dr. William Borgen  
 Dr Marvin Westwood  
 Kelly Kavanagh (M. Ed. Educational Psychology,  
 M.A. Candidate)

**Contact Persons:** Dr. Marla Arvay (Faculty Advisor, UBC)  
 822-5259

Cheryl Beaumont (Principal, New Westminster  
 Secondary School)  
 517-6220

Dear Parent(s),

My name is Kelly Kavanagh and I am writing you this letter to let you know about an Interpersonal Cognitive Problem-Solving Skills Program (ICPS) I am providing during your child's daily block of Literacy in the Learning Centre classroom at New Westminster Secondary School (NWSS). As part of my M.A. requirements in Counselling Psychology I wish to implement and evaluate the effectiveness of this program.

**Purpose:** To determine the effects of the ICPS program on the social skills of students identified as having limited school success due to difficulties with academics, attention, and social behaviour. This program has been developed to train students in interpersonal cognitive problem-solving skills by giving students practice in recognizing others' perspective, improving their understanding of messages from others, generating alternative solutions to solving social problems, and recognizing possible consequences of certain actions.

Your child has been asked to participate in this research study. Participation in this study is entirely voluntary. Although the ICPS program will be offered to the entire literacy class, you and/or your child may decide not to participate in the data collection or may withdraw from the study at any time without penalty. It is my belief that this Interpersonal Cognitive Problem-

Solving Skills program will give your child the opportunity to further develop his/her social skills and improve school success.

**Procedures:** To assess the impact of this training program on social skill performance of your child, I wish to evaluate the social skills of the students before the onset of the program, immediately after the program is finished, and one-month following the program completion. With your consent, your child will attend a one hour ICPS class twice a week for five-weeks and will be asked to complete a self-report scale of behavior and give his/her opinion about his/her ability to respond appropriately in social situations. As well, before, during and after the training program your child will be asked to provide solutions to social problems read aloud to him/her in order to determine what ICPS skills are possessed. Each data collection time will take one hour.

One regular classroom teacher and one Special Education Assistants (SEA) will also be asked to report on your child's social skills in an open-ended questionnaire given one week before, directly after program completion, and in a one-month follow up session. Finally, I wish to give you an opportunity to give your input and opinions about your child's social skills by asking you to either complete one of the Teacher/SEA questionnaires or answer these questions in a telephone interview after the project is completed.

**Confidentiality:** All of the information obtained during the evaluation procedure is confidential and will only be used to assess the effectiveness of this ICPS program. Your child's name will not be connected to any further discussion of the project results after completion. All documents will be kept in a locked filing cabinet in the locked office of Kelly Kavanagh at NWSS.

Upon collection of data, each child that consented to participate will be given an anonymous participant code to protect confidentiality. And you will be invited to attend a feedback session with your child, the teacher, the SEA, and myself to discuss the particular results of the program for your child. No other outside agency or person will be given access to your child's individual progress with the ICPS program.

**Contact:** If you have questions or concerns about the rights or treatment of participants at any time during the study, you may contact one of the Investigators listed above, or Dr. Richard Spratley, Director of UBC Office of Research Services at 822-8598. If you require more details

about the five-week ICPS training sessions and/or the evaluation procedure before consenting to participate, you can call me at my office in New Westminster Secondary School at 517-5927 or drop by room 167.

**Consent:**

Signing below signifies parental consent for your child to participate in this data collection.

Signature of Parents: \_\_\_\_\_ Date: \_\_\_\_\_

Signing below signifies the assent of your child to participate in this data collection.

Signature of Student: \_\_\_\_\_ Date: \_\_\_\_\_

## Appendix B

### Open Ended Questionnaire for School Staff and Parents

*Version Date: October 10<sup>th</sup> 2000*

**Title:** An Evaluation Study: The Efficacy of an Interpersonal Problem-Solving Skills Program for Teenage Students with ADHD-like Symptoms.

**Investigators:** Dr. Marla Arvay  
Dr. William Borgen  
Dr Marvin Westwood  
Kelly Kavanagh (M. Ed. Educational Psychology,  
M.A. Candidate)

**Contact Persons:** Dr. Marla Arvay (Faculty Advisor, UBC)  
822-5259

Cheryl Beaumont (Principal, New Westminster  
Secondary School)  
517-6220

Dear Teacher/ Special Education Assistant,

My name is Kelly Kavanagh and I am writing you this letter to inform you know about an Interpersonal Cognitive Problem-Solving Skills Program (ICPS) I am providing during the daily block of Literacy in the Learning Centre classroom at New Westminster Secondary School (NWSS). It is my belief that this Interpersonal Cognitive Problem-Solving Skills program will give students involved the opportunity to further develop social skills and improve school success. As part of my M.A. requirements in Counselling Psychology I wish to implement and evaluate the effectiveness of this program.

The student listed below, and his/her parent(s) have already consented to participation in this project. Your participation in this study is entirely voluntary and you may withdraw from the study at any time without penalty.

**Purpose:** To determine the effects of the ICPS program on the social skills of students identified as having limited school success due to difficulties with academics, attention, and social behaviour. This program involves teaching students six social competency skills through class practice and homework assignments. The six skills to be taught are 1) recognizing others' perspective, 2) improving students' understanding of messages from others, 3) generating



alternative solutions to solving social problems, 5) recognizing possible consequences of certain actions, and 6) evaluating decisions after they have been made.

**Procedures:** To assess the impact of this training program on social skill performance of your student, I wish to evaluate the social skills of the students before the onset of the program, immediately after the program is finished, and one-month following the program completion. The student will attend a one hour ICPS class twice a week for five-weeks and will be asked to complete a self-report scale of behavior and give his/her opinion about his/her ability to respond appropriately in social situations. As well, before, during and after the training program, the student will be asked to provide solutions to social problems read aloud to him/her in order to determine what ICPS skills are possessed.

One regular classroom teacher and one Special Education Assistants (SEA) will also be asked to report on this child's social skills in an open-ended questionnaire given one week before, directly after program completion, and in a one-month follow up session. Each data collection time will take one hour.

**Confidentiality:** All of the information obtained during the evaluation procedure is confidential and will only be used to assess the effectiveness of this ICPS program. The students name will not be connected to any further discussion of the project results after completion. All documents will be kept in a locked filing cabinet in the locked office of Kelly Kavanagh at NWSS.

You will be invited to attend a feedback session with your child, the parent, and myself to discuss the particular effects of the program for your student. No other outside agency or person will be given access to any data describing the students' individual progress with the ICPS program.

**Contact:** If you have questions or concerns about the rights or treatment of participants at any time during the study, you may contact one of the Investigators listed above, or Dr. Richard Spratley, Director of UBC Office of Research Services at 822-8598. If you require more details about the five-week ICPS training sessions and/or the evaluation procedure before consenting to participate, you can call me at my office in New Westminster Secondary School at 517-5927 or drop by room 167.

Completion of the questionnaire provided below will signify your consent to participate in this project. Please return the questionnaires in the envelopes provided to my mailbox at the Pearson Office in NWSS at your earliest convenience. Other questionnaires will be dropped in your mailbox at the second and third test-times.

Your assistance is greatly appreciated.

### **Teacher/ SEA Written Questionnaire**

Please fill out the following information and return this questionnaire to Room 167 or my mailbox in the Pearson Office.

**STUDENT:** \_\_\_\_\_

**Teacher:** \_\_\_\_\_

**Course:** \_\_\_\_\_

**Date of Questionnaire Completion:** \_\_\_\_\_

**Collection Time (1, 2, or 3):** \_\_\_\_\_

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**1) Has the student changed his/her behaviour?**

**2) Tell me about situations where the student displayed appropriate social skills.**

- 3) Has the student experienced changes in relating with others in the classroom setting? If so, what is the nature of that change?
- 4) Have you noticed changes in the amount of social support this student receives from others? If so, what is the nature of that support?
- 5) Do you have any other comments you would like to share? What?

Teacher's Signature: \_\_\_\_\_

Thank you for completing this questionnaire!

## Appendix C

### Semi-Structured Questionnaire for Student Participants

**Title:** An Evaluation Study: The Efficacy of an Interpersonal Problem-Solving Skills Program for Teenage Students with ADHD-like Symptoms.

**Investigators:** Dr. Marla Arvay  
 Dr. William Borgen  
 Dr Marvin Westwood  
 Kelly Kavanagh (M. Ed. Educational Psychology,  
 M.A. Candidate)

**Contact Persons:** Dr. Marla Arvay (Faculty Advisor, UBC)  
 822-5259

Cheryl Beaumont (Principal, New Westminster  
 Secondary School)  
 517-6220

You and your parent(s) have already consented to participation in this project. However, your participation in this study is entirely voluntary and you may withdraw from the study at any time without penalty.

**Purpose:** To determine the effects of the ICPS program on your social skills performance your social skills will be considered before the onset of the program, immediately after the program is finished, and one-month following the program completion. At each test time you will be asked to complete a self-report scale of behaviour and to share how you would respond to a social situation read allowed to you. This questionnaire will also be given to you at each of the three test times. Each data collection time will take one hour.

**Procedure:** Please complete the questionnaire provided below. Each question will read allowed, followed by the choices for each question. You may discuss each question before deciding on your answer. Then the responses will be recorded. If you would prefer, you may record your responses yourself.

**Note:** Please do not place your name anywhere on this questionnaire.

\*\*\*\*\*8

Participant Code:

Collection Date:

Age:

**1) How would you rate your social behaviour at this time.**

Bullying	①①②③④	Making Friends	①①②③④
Anger Management	①①②③④	Language (inappropriate)	①①②③④
Argumentative	①①②③④	Lying	①①②③④
Relationship with Peers	①①②③④	Helping others	

Please list other behavior(s) that you feel good about or are concerned about

\_\_\_\_\_ ①①②③④

\_\_\_\_\_ ①①②③④

**2) How would you rate these skills?**

- recognizing others point of view ①①②③④
- understanding what others say ①①②③④
- thinking about options to solve problems ①①②③④
- recognizing the consequences of what you do ①①②③④
- choosing between alternatives ①①②③④
- looking back at your past choices ①①②③④

**3) Describe how often you get along with your classmates in the following ways.**

①= Hardly ever

①= Occasionally

②= Sometimes

③= Frequently

④= Most of the time

- I like to take up a lot of time in the group or class. ①①②③④
- I don't agree and I don't care. ①①②③④
- I don't feel like participating right now. ①①②③④
- I'd rather use humour when things get uncomfortable ①①②③④
- I 've done some important things I need to share with people. ①①②③④
- I know what we should be doing. ①①②③④
- I value you and your special contribution. ①①②③④
- I know some things that are important that I can share. ①①②③④
- I just want to make sure that everyone gets along ①①②③④
- Sure what you are saying is important, but here is the most important thing we need to discuss. ①①②③④

#### 4) How would you describe the support you are getting?

①= Not an issue of concern

①= Occasionally an issue of concern

②= Moderate problem

③= Frequently a problem

④= Major issue of concern

- number of friendships ①①②③④
- classroom support or agreement for ideas ①①②③④

**5) What do you do to have positive interactions with others in your class? How often?**

①= Hardly ever

②= Occasionally

③= Sometimes

④= Frequently

⑤= Most of the time

- Sit in front of room ①②③④
- Look speaker in the eye ①②③④
- Speak about your ability ①②③④
- Other ①②③④

## Appendix D

## Open Ended Questionnaire for Student Participants

*Version Date: October 10<sup>th</sup> 2000*

**Title:** An Evaluation Study: The Efficacy of an Interpersonal Problem-Solving Skills Program for Teenage Students with ADHD-like Symptoms.

**Investigators:** Dr. Marla Arvay  
 Dr. William Borgen  
 Dr Marvin Westwood  
 Kelly Kavanagh (M. Ed. Educational Psychology,  
 M.A. Candidate)

**Contact Persons:** Dr. Marla Arvay (Faculty Advisor, UBC)  
 822-5259

Cheryl Beaumont (Principal, New Westminster  
 Secondary School)  
 517-6220

Please fill out the following information and return this questionnaire to Room 167 or my mailbox in the Pearson Office.

**STUDENT:** \_\_\_\_\_

**Teacher:** \_\_\_\_\_

**Course:** \_\_\_\_\_

**Date of Questionnaire Completion:** \_\_\_\_\_

**Collection Time (1, 2, or 3):** \_\_\_\_\_

1) Have you changed your behaviour?



**2) Tell me about situations where you displayed appropriate social skills.**

**3) Have you experienced changes in relating with others in the classroom setting? If so, what is the nature of that change?**

**4) Have you noticed changes in the amount of social support you receive from others? If so, what is the nature of that support?**

**5) Do you have any other comments you would like to share? What?**

**Student's Signature:\_\_\_\_\_**

Thank you for completing this questionnaire!

## Appendix E

### Informed Consent from Agency

*Version Date: November 21<sup>st</sup>, 2000*

**Title:** An Evaluation Study: The Efficacy of an Interpersonal Problem-Solving Skills Program for Teenage Students with ADHD-like Symptoms.

**Researchers:** Dr. Marla Arvay  
Kelly Kavanagh (M. Ed. Educational Psychology,  
M.A. Candidate)

**Contact Persons:** Dr. Marla Arvay (Faculty Advisor, UBC)  
822-5259

Cheryl Beaumont (Principal, New Westminster  
Secondary School)  
517-6220

Ms. Cheryl Beaumont,  
Principal of New Westminster Secondary School

My name is Kelly Kavanagh and I am writing you this letter to obtain written consent to run an Interpersonal Cognitive Problem-Solving Skills Program (ICPS) at New Westminster Secondary School (NWSS). I hope to provide this ICPS program during a daily block of Literacy in the Learning Centre classroom at NWSS. As part of my M.A. requirements in Counselling Psychology I wish to implement and evaluate the effectiveness of this program for students experiencing ADHD-like symptoms.

**Purpose:** To determine the effects of the ICPS program on the social skills of students identified as having limited school success due to difficulties with academics, attention, and social behaviour. This program has been developed to train students in interpersonal cognitive problem-solving skills by giving students practice in recognizing others' perspective, improving their understanding of messages from others, generating alternative solutions to solving social problems, and recognizing possible consequences of certain actions.

The students from Ms. \_\_\_\_\_ Block C Literacy class will be asked to participate in this research study. Participation in this study is entirely voluntary. Although the ICPS program will be offered to the entire literacy class, individual children and their parents may decide not to

participate in the data collection or may withdraw from the study at any time without penalty. It is my belief that this Interpersonal Cognitive Problem-Solving Skills program will give these students the opportunity to further develop their social skills and improve school success.

**Procedures:** To assess the impact of this training program on social skill performance of the students, I wish to evaluate the social skills of the students before the onset of the program, immediately after the program is finished, and one-month following the program completion. With the schools consent, and parental permission, the students will attend a fifty-minute ICPS class twice a week for five-weeks and will be asked to complete a **self-report scale of behavior** and give opinions and attitudes in a **semi-structured questionnaire** format about their ability to respond appropriately in social situations. As well, before, during and after the training program the students will be asked to provide solutions to social problems read aloud to them (**ICPS Task**) in order to determine what ICPS skills are possessed. Each data collection time will take one hour. At the follow-up session, one-month following program completion, these students will be asked to respond to an open-ended questionnaire in addition to the three other measures.

One regular classroom teacher and one Special Education Assistants (SEA) will also be asked to report on each student's social skills in an open-ended questionnaire given one week before, directly after program completion, and in a one-month follow up session. Parents will also be given the opportunity to give their input and opinions about their child's social skills by having them to either complete one of the Teacher/SEA questionnaires or answer these questions in a telephone interview at the test period one -month following program completion.

**Confidentiality:** All of the information obtained during the evaluation procedure is confidential and will only be used to assess the effectiveness of this ICPS program. NWSS student's names will not be connected to any further discussion of the project results after completion. All documents will be kept in a locked filing cabinet in the locked office of Kelly Kavanagh at NWSS.

Upon collection of data, each student that consented to participate will be given an anonymous participant code to protect confidentiality. Parents will be invited to attend a feedback session with the student, the teacher, the SEA, and myself to discuss the particular results of the program

for each student. No other outside agency or person will be given access to each student's individual progress with the ICPS program.

**Contact:** If School District No. 40 has questions or concerns about the rights or treatment of participants at any time during the study, the Investigators listed above, or Dr. Richard Spratley, Director of UBC Office of Research Services at 822-8598 can be contacted at any time. If more details about the five-week ICPS training sessions and/or the evaluation procedure are required before consenting to the study, I can be reached at my office in New Westminster Secondary School at 517-5927.

**Consent:**

Signing below signifies agency consent for NWSS students to participate in this data collection.

Signature of Principal: \_\_\_\_\_

Date: \_\_\_\_\_

Appendix F  
Program Evaluation Questionnaire for Students

*Version Date: November 21<sup>st</sup>, 2000*

NAME:

DATE:

1) What did you like about the ICPS Program?

2) What would you change about the ICPS program?

3) What did you learn from the ICPS program?

4) Is there anything else you want to add about your experience?

Thank you!