

ACADEMIC ACHIEVEMENT AND SOCIAL COMPETENCE IN
GRADE SEVEN

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ABSTRACT


The purpose of the study was to determine whether, for students in grade seven, a significant correlational relationship existed between academic achievement and social competence. Ninety grade seven students (53 males and 37 females) from four classes in a city in southern Vancouver Island were the sample used in the study.


The instruments used to assess social competence were a peer rating scale (Cartledge and Milburn, 1986), the Matson Evaluation of Social Skills for Youngsters, teacher reports, and youth self-reports; all were standardized tests. Academic achievement was measured using the reading vocabulary and reading comprehension scores from the Canadian Test of Basic Skills (grade seven level). The data were collected in February, 1989.

A canonical correlation procedure was performed on the data. A modest correlation ($R = .38$) was found between the two sets of variables; significance was obtained between the reading comprehension and teacher report scores only in male subjects. A subsequent MANOVA calculation showed that no significant differences existed between the means of the variables tested. The distribution of scores for the teacher report, however, was significantly broader for males than for females, while the distribution of scores was significantly broader for females than for males for both the self-report and reading vocabulary measures.

The modest correlation found between these two sets of variables only for male subjects indicated that the previously found strong correlation for these two

constructs may decrease in strength as students approach adolescence. Other related variables may become more important with students in this age group. Males and females may gradually evolve into distinct groups with separate behavioral norms. It is concluded that future research in the area of social competence and academic achievement should include analysis by gender and age, and that the previously found relationship between social competence and academic achievement is less likely to be significant as students enter adolescence.


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DEDICATION

To Beth and Patricia.

Chapter I

Introduction

In recent years there has been growing interest in the role of schools in the acquisition of social skills by children. Previously it was assumed both that social development was the prerogative of parents and that the role of schools was to pursue academic goals. All children learn social skills at school even though these skills have not been part of the formal curriculum until recently. Teachers are realizing increasingly that there may be a relationship between children's social development at school and their accomplishment of academic goals (Cartledge & Milburn, 1978 & 1986; Schmuck & Schmuck, 1979).

Several studies have examined the possibility of a significant relationship between academic achievement and social competence. Cobb and Hops (1973) designed an experiment which showed support for the thesis that a causal relationship exists between classroom behavior and level of academic achievement in first grade children. Kohn (1977) found that for children from preschool to grade four social competence predicted academic achievement. In a review article Cartledge and Milburn (1978) concluded that the inclusion of social skill instruction in schools would make the teacher's presentation of material more effective, assist student learning, and improve relations between everyone in the environment. Hops and Cobb (1974) found that academic survival skills, such as volunteering to participate and attending to the teacher, correlated strongly with the level of academic achievement at grade one level. A study by Rotheram (1982) indicated

that instruction in social skills improved interpersonal problem-solving ability, assertiveness, teacher perception of the child, academic achievement, and peer popularity in children in grades four, five, and six. A later study by Rotheram (1987) reported a significant correlation between grade point average and social skills. In their review article McConnell and Odom (1986) stated that children's level of academic achievement predicted their social status.

Coie and Krehbiel's 1984 study indicated that tutoring in social skills improved academic achievement but that the reverse was not true. They found that the best results were obtained when both academic and social skills were treated. Green, Forehand, Beck, and Vosk (1980) noted the magnitude of the relationship between achievement scores and social competence in their study of measures of social competence with children at grade three level. They also pointed to the need for more information on this relationship. According to Gresham (1981), developments in the assessment of social skills have not kept pace with advances in social skills training techniques. Feshbach and Feshbach (1987) found a close link between children's affective predispositions and their academic achievement. This finding was particularly true for girls. The main finding of a study done by Yellott, Liem, & Cowen (1969) was that emotionally and socially handicapped children were doing poorly at school. Similarly, Coie and Dodge (1983) found that popular third grade boys had fewer academic problems than average boys and that rejected boys had the most. The finding that unpopular children spend less time on task than popular children (Vosk, Forehand, Parker, & Richard, 1982) may be a contributing factor.

These studies indicated that a relationship exists between social competence and level of academic achievement; however, almost all have used subjects in preschool to early elementary range. There is a need for similar research with subjects who are in the middle and final years of elementary school.

Not all studies support the link between academic achievement and social competence. A comparison of academically gifted and average ten year old children (Ritchie, Bernard, & Shertzer, 1984) suggested that interpersonal sensitivity, a social skill, is developmental in nature. The gifted children sampled did not display superiority in this skill beyond their average classmates.

Other studies have noted the changing nature of social competence as children grow. Gresham (1986) observed the absence of a developmental approach to children's acquisition of social skills and considered it a major gap in the current knowledge of children's social behavior. Bichard, Alden, Walker, and McMahon (1988) looked at the relationship between age and social development in contrasting the growth of understanding about what constitutes friendship for grade two and grade seven age children. His prediction that grade seven children would score at a developmentally higher level of friendship understanding was supported by the results of his study. In research at grades two, four, and six White and Blackham (1985) found that interpersonal problem-solving ability increased significantly between grade two and six independent of the sociometric status of the subject. Cairns (1986) saw the need for developmental research to find out "how the factors are integrated with other ones in determining the quality of the children's social accommodations" (p.6). He observed that it was reasonable to assume that this integration would change over time. Review articles by Foster and Ritchey (1979),

Gresham (1986), and La Greca and Stark (1986) pointed to the need for a developmental perspective. For Hudgins (1979) age was a vital factor in the level of children's social skill. Gottman, Gonzo, and Rasmussen(1975) saw children at grade four/five level as being in the age of transition in social ability development. This observation was supported by Green, Forehand, Beck, and Vosk (1980) who found that grade three children were not able to reflect easily on their behavior. These findings were in contrast with Downing (1977) who found that children in grades six and seven had sufficient understanding of themselves to be aware of their behavior and make desired changes. Thus, children's growing self-awareness during elementary school may mean that the relationship that has been observed previously between academic achievement and social competence may slowly change over time. Social behavior and relationships become more subtle and complex (La Greca & Stark, 1986). The results of studies focused on the early elementary years may not be generalizable to students in grades six and seven. Hartup (1970) observed that the correlation between school marks and social status decreased with age. Whether social competence continues to relate to academic achievement at the end of elementary school needs to be studied.

Investigations into what constitutes social competence are just beginning, and the resulting implications for learning in the classroom are just being realized (Foster & Ritchey, 1979). Assessment of social competence has lagged behind research into the teaching of social skills (Gresham, 1986).

Why is it necessary to study the social development of school students? Students who are placed daily into an environment of social rejection or neglect must find adoption of their school's academic goals tough indeed (Schmuck &

Schmuck, 1979). As many as 14% of students are rejected and 12% neglected by their peers in school settings (Bichard, et al., 1988). Bierman, Miller, & Stabb (1987) suggested that at least two to three students per class are rejected. Rejected children may remain rejected, even when placed in a new social group (Coie & Dodge, 1983), implying that those children have learned to behave in a way that causes them to be rejected. The same study found that while rejected children tend to remain rejected, neglected children may move towards more positive social status later. Cowen, Pederson, Babigian, and Izzo (1973) reported that social factors assessed in childhood were the only measures able to discriminate adults who were referred for mental health problems from those who were not. Other factors such as childhood absenteeism, teacher ratings, grade point average, I.Q., self-concept ratings, and anxiety scores were all unable to make this distinction. Guralnick (1986) noted that sociometric measures appeared to be one of four measures predictive of later adjustment problems.

Much of the research in the area of social competence has been done on preschool to early elementary age children, as stated previously. Frequently boys have been the only subjects (Bierman et al. 1987). There is a need for research into the differences between males and females who are nearing adolescence (La Greca & Stark, 1986). It is likely that socially competent behavior varies with age and sex so that testing different age groups would bring empirical as well as face validity to research (Foster & Ritchey, 1979).

As has been observed by Cartledge and Milburn (1986) social behaviors are being taught informally in any case in elementary classrooms. The development of a strong research base to guide the conceptualization and assessment of social

education is imperative if elementary schooling is to help produce children who are socially adaptive.

The purpose of this study was to determine whether there was a significant relationship between the academic achievement and social competence of grade seven students. Analysis by gender was included as part of the present research. Several studies have demonstrated that there is a variation between the sexes in the relative importance of factors related to social competence, for example, with regard to appearance (Hughes, 1983), the understanding of feelings (Nannis, 1983), manifestation of aggression (Anderegg & Chess, 1983), and interpersonal understanding (Kurdek & Krile, 1982).

Chapter II

Review of related literature

Whether there is a significant relationship between the academic achievement and social competence of elementary age children has been investigated by several researchers, mostly using children in the early years of their schooling.

Cobb and Hops (1973) found that grade one children with low achievement scores who were taught academic survival skills such as attending to the teacher, following teacher instruction, and volunteering to answer questions improved their academic performance. A causal relationship was established, that is the acquisition of survival skills resulted in higher academic achievement. In a subsequent experiment with the same age group Hops and Cobb (1974) found there was a unidirectional relationship between academic achievement and academic survival skills, that is, the acquisition of survival skills resulted in higher academic achievement levels, but improved academic achievement did not assist children's survival skills. Likewise, a study of the effects of academic tutoring on the social status of low-achieving, socially rejected children (Coie & Krehbiel, 1984) demonstrated that, although academic skills training did improve the subjects' social status, it did not improve their level of social competence. In contrast, Walker and Hops' (1976) study of the best ways to improve academic performance found there was no difference between reinforcing academic performance, reinforcing specific non-academic performance (appropriate

classroom behavior), and reinforcing both academic and non-academic performances together.

Cartledge and Milburn (1978) concluded in their review of the literature that obedient, controlled, and conformist behaviors at school correlated strongly with academic achievement. Social skills training has been found to lead to improvement in interpersonal problem-solving ability, assertiveness, teacher perceptions, grades, and peer popularity (Rotheram, 1982). Children initially improved most in areas where they did not have a problem and improvement in children's weakest area of those five occurred up to a year after social skill training. A study by Dubow and Cappas (1988) has added another dimension: they found that controversial children, those who are both strongly liked and disliked by their classmates, tend to exhibit high academic achievement.

Green et al (1980) examined the degree of correlation between four measures of grade three children's social competence and children's level of academic achievement. Significant relationships were found with the sociometric measure and teacher reports, but the researchers reported differentiation problems with their categories in the direct observation measure and recommended against the use of self-report instruments.

Previous research has suggested that a relationship between academic achievement and social competence may exist but that this relationship is not clear; mediating factors such as the age of the subjects, the instruments used, and whether the relationship is uni-directional may be complications.

Age as a factor in social competence

Studies using subjects in early elementary school reported a significant relationship between academic achievement and social competence, but can these findings be generalized to older students? Changes in social awareness during the later part of elementary school have been reported (Bichard, 1988; Cairns, 1986; Foster & Ritchey, 1979; Gottman et al., 1975; Green et al., 1980; Gresham, 1986; La Greca & Stark, 1986; & White & Blackham, 1985). The age of the subjects may influence whether a relationship exists between these two constructs. Older children can prove to be more capable of examining their own behavior (Downing, 1977). Downing found his grade six subjects capable of changing their negative classroom behaviors after an intervention which enabled them to make a plan to deal with their own deviant behaviors. Similarly, children of age nine and ten were found to be able to reflect on and talk about their behavior which helped to increase their level of social skill and peer acceptance (Oden & Asher, 1977). Rothenberg (1970) found that preadolescence was a time when much growth happens in the accurate perception of others feelings, thoughts, and motives. Biermann (1987) saw his use of young subjects as a disadvantage because social relations for children between the ages of five and eight years were less stable and more fluid, and therefore patterns were harder to see. Other studies have used subjects in the preschool to early elementary range because the researchers felt that at that age social patterns are not set and that subsequent treatment would therefore be more effective (Cobb & Hops, 1973; Hops & Cobb, 1974). Drabham, Kelly, and Tarnowski (1987) found that elementary age children who are young relative to their class peers tended to be referred disproportionately for academic and social

problems, thus lending support to the notion that age is a factor in the development of social competence. Children of age nine and ten years were found to be able to reflect on and talk about their behavior which helped to increase their level of social skill and peer acceptance. They also tended to propose less aggressive solutions to interpersonal problems than did younger boys (Asarnow & Callan, 1985). White and Blackman (1985) suggested that children's interpersonal problem-solving ability greatly increased between grades two and six. In devising the Perceived Competence Scale for Children, Harter (1982) found that children of eight years of age or more were increasingly able to make realistic judgments about their competence in many areas including that of social competence. Cairns (1986) observed that the factors relevant to social competence may change depending on the age of the child. Research by Gottman, Gonzo, and Rasmussen (1975) determined that children age nine and ten are undergoing a transition in social abilities development. As can be seen from the findings of these studies, an argument exists for using a self-report measure when assessing older children's social competence, based on the developmental changes between five and twelve years.

Two main ideas emerge from the literature related to age and social competence. First, social competence varies in nature with age, and second, one would expect that, as children age, social competence increases.

Assessment of social competence

Researchers in the area strongly support using several agents to assess social competence such as teachers, parents, peers, and the children concerned

(Anderegg & Chess, 1983; Cairns, 1986; Green et al., 1980; Gresham, 1981; Gresham & Reschly, 1987; Hops, 1983; La Greca & Stark, 1986; Matson, Esvelt-Dawson, Kazdin, 1983a; Vaughn & Langlois, 1983). All found that the use of a number of agents from the child's environment who know the child from a different perspective would provide the strongest assessment, that is, each instrument would show a different aspect of the student's social competence. While there may be some overlap between the instruments each would cover an area that another does not. For example, teachers do not usually spend as much time with children in the playground as do their peers and therefore have a narrower picture on which to base judgments. The self-report measure examines children's own understanding of their behavior which is not reflected in assessments by outside agents (Biermann, 1987). Thus, sociometric, teacher, and self-reports combine to form a more complete picture of social competence.

Sociometry. Sociometry was defined by Barclay (1966) as "a method of discovering and analyzing patterns of friendship within a group setting" (p.1070). The inclusion of a sociometric technique when assessing social competence is regarded as vital (Anderegg & Chess, 1983; Cairns, 1986; Coie, Dodge, & Coppotelli, 1982; Green et al., 1980; Gresham, 1986; Guralnick, 1986; Kranz, 1982; Ladd, 1981; McConnell & Odom, 1986). Green found that sociometric measures correlated with a greater number of other instruments and correlated with them more strongly than did self-report measures for example. Peer nomination, where children identify a given number of classmates that they would most and least like to have as friends, allows for the selection of preferred, rejected, and neglected children. The peer rating method has the advantage of giving

information on each child in the class because each student rates every other student, whereas nomination methods ask only for preferred friends. McConnell and Odom (1986), and Hayvren and Hymel (1984) found that sociometric measures were valid and reliable estimators of children's social position among their peers and that the inclusion of negative sociometric items did not lead to increased conflict between the children involved. It should be noted that this study was done with preschoolers so the conclusions may not be applicable to older students. A study of children in grades three, five, and eight (Coie et al., 1982) demonstrated the importance of using both positive and negative sociometric choice categories so that a fuller picture of the child's social status could be obtained. Busk, Ford, & Schulman (1973) found that there was a greater stability of sociometric choices with increasing age and that by grade six children's friendship choices were fairly stable.

The use of a sociometric instrument was considered essential when assessing social competence. Inclusion of both positive and negative ratings increased the usefulness of the data and was not considered harmful to the subjects. Ratings methods were preferred above nomination methods because information on every child was obtained.

Teacher assessments. Teacher assessments of children's social competence have been demonstrated to correlate in the moderate to high range with direct observation of their behavior (Green et al., 1980; Gresham, 1981; Vosk et al., 1982), and with sociometric assessment (McConnell & Odom, 1986). The use of both sociometric and teacher ratings has been shown to be important because the older children become the less likeable they are rated as being by their teachers (La

Greca, 1981). La Greca attributed this difference to either actual behavioral differences or teacher bias. The same researcher found that teacher ratings of peer likeability tend to concur with peer ratings of acceptance for males but not for females, possibly because teacher judgments of likeability could be biased by variables other than the social behaviors the child demonstrated (La Greca, 1981). Anderegg and Chess (1983) found a discrepancy between teacher and peer assessments of social competence in boys and girls. Teachers saw girls as less aggressive than boys whereas peers rated boys and girls equally on levels of aggression. In summary, teacher assessment has been found to be a vital inclusion when assessing social competence.

Self-report measures. As stated earlier, children may be capable of making more realistic judgments about their behavior as they enter the latter part of elementary school (Cairns, 1986; Downing, 1970; Gottman et al. 1975; Harter, 1982; Oden & Asher, 1977). This may not be true in practice, however. Students may tend to respond with a prosocial rating (Green et al., 1980; Pekarik, Prinz, Liebert, & Weintraub, 1976; Rothenberg, 1970). For older students a youth self-report measure was seen to be more valid than when used with students in early elementary school (Matson et al., 1983b). In a study designed to compare teacher, peer and self-reports of social adjustment Dubow and Cappas (1988) found that self-reports of adjustment of children in grades three and five were consistent with teachers' and peers' reports. The inclusion of a self-report measure for grade seven students has been neither clearly supported nor rejected in previous studies.

Observation was not used as a measure of social competence in this study because previous research has indicated that social behavior of children changes in

nature in elementary school, so that at grade seven level it may not be readily observable (La Greca & Stark, 1986). Lengthy periods of observation were considered not to be feasible with ninety subjects. Low frequency, significant events could have been missed. In addition, observable behavior does not always reflect social competence; in some situations performance anxiety may be a problem (Asher & Hymel, 1981). The presence of an adult has been shown to influence how students behave. Anderegg and Chess (1983) found that teachers tended to attribute lower levels of aggression to girls than to boys, yet when ratings were done by peers both were seen as equally aggressive. The researchers accounted for the discrepancy by suggesting that teachers and students were using different information when making their assessment. Girls were found to be less publicly aggressive than boys as they were more likely to be punished for that behavior. As a result, the researchers proposed that girls exhibit aggression in situations where they were less likely to be punished, for example, when there was little or no adult supervision. Thus, behavioral observation was considered an unfeasible measure given the difficulties inherent in this measure of social competence and the constraints of the study.

When considering social competence it should be realized that other, more stable factors are also part of the construct, for example, physical attractiveness (Vaughn & Langlois, 1982), children's names, and athletic ability (Harter, 1982; La Greca & Stark, 1986). Gender is also a variable that needs to be considered in this connection. For example, while an attractive appearance was found to be always an advantage for girls this was only true for boys in elementary school at

the beginning of the year and then it declined in importance (Vaughn & Langlois, 1982).

In summary, a correlational relationship has been established between levels of academic achievement and social competence for preschool and lower elementary age children. This relationship, however, has not been established for children at the upper end of elementary school. There are indications from previous research that what has been shown to be true for children in lower elementary school may not necessarily be true for children at upper levels. Many studies indicate that the nature of social competence changes depending on the subject's age and gender. Finally, it has been established that the use of several measures of social competence such as peer, teacher, and self-reports may increase the validity and reliability of measurement of this construct. The age of the subjects makes the use of an observation measure of doubtful value because social behavior is not easily observed in children at grade seven level.

Chapter III

Description of the study

Statement of the problem

Previous studies that have examined the possibility of a correlation between academic achievement and social competence have used subjects almost entirely from early elementary school. That is, no data was collected using older subjects. The present study examined subjects in upper elementary school, a previously neglected area.

Definitions of terms and variables

Social competence. What is social competence? How can this construct be distinguished from social skills, the most frequently used construct of social competence? In attempting to define social competence Guralnick (1986) stated:

The construct of social competence has become one of the most elusive in the field of child development, yet it remains one of the most appealing in the field of child development perhaps because of its potential for establishing a framework for integrating the many and varied manifestations of social behavior (p. 98).

The term 'social skills' has been seen as existing at the molecular level while 'social competence' has been seen as a molar concept (Hops, 1983). Hops saw social competence as being a summary term that reflected social judgments about the general quality of an individual's performance in a given situation. In contrast,

he considered the concept of social skills was made on the assumption that specific skills form the basis for socially competent behavior. Gresham (1986) defined social skills as "the specific behaviors that an individual exhibits to perform competently on a task" (p.145), whereas he saw social competence as representing "an evaluative term based on judgments (given certain criteria) that a person has performed a task adequately. These judgments may be based on opinions of significant others (e.g., parents, teachers), comparisons to explicit criteria (e.g., number of social tasks correctly performed in relation to some criterion, or comparisons to some normative sample (p.146).

Social competence can thus be seen to be comprised of socially skilled behaviors. Social competence has been judged by other agents in the environment as having been achieved. These agents make their judgments based on the impact of the person's behavior on them. For example, McConnell and Odom (1986) defined social competence as "a summative measure of a child's social performance with peers across situations as evaluated by significant social agents" (p. 219).

The goals and intentions of the subject are also important in defining social skills. Cartledge and Milburn (1986) defined social skills as

"those behaviors that involve interaction between the child and his peers or adults, where the primary intent is the achievement of the child's, or the adult's goals through positive interaction" (p. 8). In a review of literature and practice in social-skill training Ladd and Mize (1983) emphasized the importance of the individual developing the ability to achieve interpersonal as well as culturally acceptable goals. Trower (1984) cautioned that even when we have agreed

definitions of social skills we cannot judge whether an individual is socially skilled until we know his/her intention.

Thus, socially skilled people interact in a way that elicits positive responses from others while also achieving their own goals. Social competence was defined, for the purposes of this study, as the summation of the subject's and significant others' evaluations about an individual's performance in a social situation, in this case, school.

Academic achievement. What is academic achievement and how should it be measured? Previous studies that have looked at a possible relationship between academic achievement and social competence have used a variety of approaches. Some have used standardized testing in reading and mathematics (Coie & Krehbiel, 1984; Feshbach & Feshbach, 1987; Green et al. 1980; Vosk et al, 1982; Walker & Hops, 1976). Others have used a common score from a standardized basic skills test (Ritchie et al., 1982). Another approach has been to use students G.P.A. scores for a particular period of time (Rotheram, 1982 & 1987). Just reading and vocabulary scores were taken in yet other studies (Cobb & Hops, 1973; Hops & Cobb, 1974). Reading scores have been shown to correlate more significantly with children's performance in the affective domain than do mathematics (Feshbach & Feshbach, 1987). In order to gain a clear picture of how indicators of achievement in elementary schools, reading comprehension and vocabulary scores, related to social competence only those scores were used. Reading comprehension and reading vocabulary scores are frequently used measures of academic achievement in elementary schools (Madhere & Walker, 1985). At the same time the considerable limitations of standardized tests as

representations of student achievement at school must be recognized (Farr & Carey, 1986), and are acknowledged in this study.

Hypothesis

The hypothesis addressed by this study was that there would be a statistically significant correlation ($p < .05$) between two measures of grade seven girls' and boys' academic achievement, as measured by the comprehension and vocabulary scores on the Canadian Test of Basic Skills, and three measures of their social competence, as measured by a sociometric scale, and the Matson Evaluation of Social Skills for Youngsters teacher and youth self-report.

Sample

The subjects for this study were ninety grade seven students attending school in a urban area in southern Vancouver Island. Thirty seven girls and fifty three boys participated. The average age of the subjects was twelve years and nine months. These students were taken from four grade seven classes in three schools. Another class of twenty-five students at a nearby school was used for a pilot study. Testing was carried out in the spring to ensure that the teacher and students would be familiar with each other.

The classes were selected as follows:

1. Twelve public elementary schools within a designated area were contacted. After personal interviews with the school principals and grade seven teachers who showed interest, permission was sought from and granted by the local school board for research to begin at four schools, with one to be used for the

purposes of piloting the study. Parental permission was obtained from all participating students.

2. Once the collection of data had begun it became apparent that another class would be needed to obtain sufficient subjects, thus a second grade seven class at one of the original schools agreed to join the study.

Measurement Instruments

Four instruments were used to test the variables;

1) The Canadian Tests of Basic Skills (1981) in reading and vocabulary for grade seven,

2) & 3) The Matson Evaluation of Social Skills for Youngsters (1983) teacher and youth self-reports, and

4) a sociometric rating scale that assessed peer likeability.

Academic achievement has previously been measured in other studies by a variety of instruments including, a) an all encompassing standardized test basic skills score (Ritchie et al. 1982), b) student G.P.A. s (Rotheram, 1982 & 1987), c) results on standardized reading and mathematics tests (Coie & Krehbiel, 1984; Feshbach & Feshbach, 1987; Green et al., 1980; Vosk et al., 1982; Walker & Hops, 1976), and d) comprehension and vocabulary scores also using standardized tests (Cobb & Hops, 1973; Hops & Cobb, 1974). As reading comprehension and reading vocabulary scores are frequently used as indicators of academic achievement in elementary age students, and because specificity in discussing and reporting results was desirable just reading comprehension and vocabulary scores from the Canadian Test of Basic Skills were used.

Sociometry has been frequently and reliably used as one of several measures in assessing social competence (Gresham, 1986; Ladd, 1981). Sociometrics have been seen as possessing both face and predictive validity (McConnell, 1986). Two frequently used sociometric measurement techniques are peer nominations where each child selects three best friends in the class, and peer ratings where each child rates how likeable they find every other child in the class. The test retest reliability and stability of rating scales has been found to be higher than for nomination scales in studies undertaken by Asher and Hymel (1981), Cartledge and Milburn (1986), and McConnell and Odom (1986). In a review of sociometric procedures Connelly (1983) stated that while nomination scales tended to assess the ability to form friendships rating scales measured an average level of likeability, two somewhat different aspects of social status. A rating scale (Cartledge & Milburn, 1986, p. 53) was the sociometric instrument used in this study (Cartledge & Milburn, 1986; Green et al., 1980; Gresham & Reschly, 1987; Tyne & Flynn, 1979; Vosk et al., 1982) as information was needed for each child in the class and social acceptance rather than the ability to form friendships was being assessed. Each student rated and was rated on a five point likeability scale. There were two accepting ('I like this person a lot' and 'I like this person'), one neutral ('Don't know this person very well'), and two rejecting ('Don't care for this person' and 'Don't like this person at all') rating choices. A mean sociometric score was calculated for each student. Mean ratings of four to five indicated high acceptance by the group whereas ratings of one and two indicated low social status.

The Matson Evaluation of Social Skills for Youngsters (M.E.S.S.Y.)

(Matson, Rotatori, & Helsel, 1983a) teacher and youth self-report measures were used as the other two measures of social competence. The subjects' classroom teachers were asked to complete the teacher report forms. The teacher report forms had teachers rate sixty four items on a five-point scale as to how often the child demonstrated the behavior. The student self-report tests were similiar in form, except that there were only sixty-two items. The focus of these tests was social behavior, and they used largely non-inferential items (Cartledge & Milburn, 1986) as this minimized teacher and student subjectivity in reporting (Michelson, Foster, & Ritchey, 1981). "Makes fun of others" and "helps a friend who is hurt" are examples of these largely observable items. Test retest reliability was established by the test's authors (Matson et al., 1983b) Reliability was assessed using a Pearson product-moment correlation and was found to be moderate to high, $r = .62$, $r = .92$, $r = .90$, $r = .76$ for the four factors of the instrument. The authors reported that correlations aimed at establishing internal consistency were calculated for the whole scale. The Spearman-Brown split half correlation coefficient was $r = .88$ and, the Guttman split half correlation coefficient was $r = .81$ respectively.

Gender was included as a variable in this study. Previous research has shown that differences exist between the sexes in terms of social behavior and patterns of acceptance. La Greca's study (1981) found that aggression in boys but not in girls predicted peer acceptance problems. Teachers' ratings predicted girls' sociometric status but not boys' (Hughes, 1983). Matson et al. (1983b) found that girls were rated as being more popular than boys, and possessed greater social skills than boys. They also found that boys were significantly more aggressive

and displayed significantly more inappropriate behavior than girls. Kurdek and Krile (1982) found girls in grade three had higher levels of interpersonal understanding than boys of the same age. Foster and Ritchey (1979) suggested that socially competent behavior varied with the gender of the subjects.

General methodology

When the class teacher had been made familiar with the study the researcher spent a period of approximately one hour in each classroom collecting data. After a few introductory remarks the students were asked to complete the sociometric scale. When every student had finished that measure they were then presented with the youth self-report measure. All subjects were allowed as long as they required with each form. Then, while the researcher gave the class a special presentation, the class teachers completed the teacher report forms for each student.

Analysis of the data

1. The hypothesis was tested with the level of significance set at $p < .05$.
2. A canonical correlation coefficient was performed between the academic achievement variables (reading comprehension and vocabulary), and the social competence variables (teacher report, student self-report, and the sociogram). Thus, the total correlation could be seen and the contributions made to that correlation by each of the variables determined.
3. Two separate canonical correlations for males and females were performed so that the influence of gender could be observed.

4. Finally a multiple analysis of variance (MANOVA) was performed to see if there were significant differences between the means and standard deviations of each variable for males and females.

Assumptions and Possible Limitations of the Study

In attempting to measure social competence one is measuring a range of acceptable behavior. Such measurement has inherent problems because the assumption has been made that normal or average behavior exists, and that the development of a society where people behave in a normal, standard fashion is desirable. Is this really the case? What is considered to be socially competent behavior varies with age, geographical location, socioeconomic status, racial or ethnic subculture, and gender (Foster & Ritchey, 1979).

How proficient are teachers in assessing children's social behavior? Do they tend to approve of students whose social behavior fits into the constraints of present day educational practice? Teachers often do not see problems and possess biases. For example, they tend to ignore the difficulties of withdrawn children because that particular problem places no pressure on classroom management (Cartledge & Milburn, 1986). Teachers also tend to rate children in higher elementary grades as less likeable (La Greca, 1981).

What are some of the limitations of tests of academic achievement? Academic achievement, as measured at school may not be reflective of a student's academic achievements in other contexts. Doubt has been cast on the validity of standardized tests in reading (Farr & Carey, 1986), and many teachers and researchers are investigating alternative methods of reading assessment. The

present study used only reading comprehension and vocabulary scores as measures of academic achievement. Other instruments may have produced different results.

Teacher's and other student's reports of children's social competence tend to measure children's social competence at school although some peer ratings may reflect both home and school environments. Other tests of social competence include parental assessment scales, the Child Behavior Checklist (Mitchell, 1985) for example. That the instruments measuring social competence in this study are primarily assessing social competence at school should be remembered.

While the instruments selected to measure social competence were the most useful available, the construct of social competence does include non-behavioral variables such as physical attractiveness, and the popularity of the name of the student.

When interpreting results non-behavioral influences need to be remembered. The limitations of representing such a complex variable as social competence with a numerical score must also be remembered. When treatment is anticipated an individual profile used in concert with standardized measured is preferable to a standardized test used alone (Dodge, McClaskey, & Feldman, 1985). Schools in close physical proximity with fairly heterogeneous groups of students were chosen so that the interpretation of results would be simplified and the collection of data expedited.

Chapter IV

Results and Discussion

Results

Correlational. The present study attempted to investigate the existence of a relationship between two measures of academic achievement (reading comprehension and vocabulary), and three measures of social competence (a sociogram, a teacher report, and a youth self-report) in grade seven students. A canonical correlation analysis was performed. The total correlation between the two sets of variables was found to be modest; $r = .38$, $p < .0238$. A correlation of $r = .7$ or higher usually indicates that a strong relationship would appear to exist between variables or sets of variables. That is, the common variance between the two is fifty percent or higher. The large number of subjects in this study ($N=90$) also indicated a need for caution when deciding what was and was not significant. A correlation that barely reaches significance at $p < .05$ may be a result of a large sample size rather than a measure of variance in common. The total correlation ($r = .38$) was found to be almost entirely due to the reading comprehension, and teacher report measures ($r = .35$). That is, the vocabulary, sociometric, and youth self-report measures contributed very little to the overall relationship.

Separate canonical analyses were performed for males and females. These analyses demonstrated that the previously reported modest total correlation appeared to be reflective only of the male subjects ($r = .488$, $p < .03$). For the female subjects the relationship was non-significant ($r = .397$, $p < .46$). The

correlation between teacher reports and reading comprehension appeared, therefore, to be related only to the male subjects in this study (see Tables 5 & 6). That is, no significant relationship was found between the teacher report and reading comprehension measures for female subjects. The canonical correlations showed clearly that reading comprehension (see Table 3) and teacher reports (see Table 4) comprised by far the greatest part of the total correlation. This finding was demonstrated only for males. In fact, results for the females showed a completely different pattern that did not contribute to the overall correlation. For example, a modest correlation appeared to exist for girls between the teacher report and sociometric measures ($r = -.4125$, $p < .01$), whereas for males this relationship was non-significant.

The results of this study must thus be considered entirely separately for boys and girls, so they have been reported separately (Tables 1-6).

When all the social competence variables for both sexes were considered together very little variance in common between these variables was found (see Table 2). This finding may indicate that each measure of social competence reflected a different aspect of social competence. The only significant correlation between the social competence measures was that previously mentioned between the teacher report and sociometric measure for female subjects ($r = .4125$).

The difference between the correlations for males and females for the two measures of academic achievement, reading comprehension, and vocabulary also indicated a separation by gender (male - $r = .69$; female - $r = .54$).

Variance of means and standard deviations. A MANOVA was performed to determine if there was any difference between the means for males and females on

the measures. No significant difference was found on the multivariate tests ($p < .888$). Also, no significant differences were found on any of the univariate tests. F- tests on differences between group variances were performed and significant differences were found between males and females on three (vocabulary, $p < .001$; self-report, $p < .016$; & teacher report, $p < .012$) as shown in Table 1, indicating that males were more widely distributed on the teacher report measure and females more widely distributed on the vocabulary and self-report measures.

Table 1

Means and Standard Deviations of Variables

Variable	Mean		Standard deviation	
	Boys	Girls	Boys	Girls
Vocabulary	33.000	30.784	<u>6.725</u>	<u>13.489 *</u>
Comprehension	34.793	32.351	10.717	10.935
Self-report	91.660	88.405	<u>17.469</u>	<u>25.180 *</u>
Teacher Report	132.000	128.595	<u>43.373</u>	<u>28.933 *</u>
Sociogram	3.381	3.249	0.668	0.777

* $p < .05$

Table 2

Correlations Among the Social Competence Measures

	Self-report		Teacher report	
	Males	Females	Males	Females
Self-report	-	-	-	-
Teacher report	0.1914	0.0129	-	-
Sociogram	-0.0380	-0.0336	-0.0908	-0.4125*

* $p < .05$

Table 3

Correlations between the Academic Achievement Measures and their Canonical Variables

	Acad. 1		Acad. 2	
	Males	Females	Males	Females
Vocab.	0.5215	0.9878	-0.8533	-0.1555
Compre.	0.9769 *	0.6664	-0.2138	0.7456

* the reading comprehension correlation comprised almost all the academic achievement variable.

Table 4

Correlations between the Social Competence Measures and their Canonical Variables

	Soc. Comp. 1		Soc. Comp. 2	
	Males	Females	Males	Females
Self-report	-0.1444	-0.6225	0.8079	0.7812
Teach. report	-0.9871*	-0.4738	-0.0477	-0.4087
Sociogram	-0.0643	0.7855	0.5365	0.5679

* the teacher report variable comprised almost all the social competence variable.

Table 5

Correlations between the Academic Achievement Measures and the Canonical Variables of the Social Competence Measures

	Soc. Compet. 1		Soc. Compet. 2	
	Males	Females	Males	Females
Vocab.	0.2545	0.3920	-0.1002	-0.0035
Compre.	0.4768*	0.2644	-0.0251	0.0167

* reading comprehension correlated with the social competence measures much more strongly than reading vocabulary.

Table 6

Correlations between the Social Competence Measures and the Canonical Variables
of the Academic Achievement Measures

	Acad. 1		Acad. 2	
	Males	Females	Males	Females
Self-report	-0.0705	-0.2470	0.0948	0.0175
Teach. report	-0.4817*	-0.1880	-0.0056	-0.0092
Sociogram	-0.0314	0.3117	0.0630	0.0127

* of the three measures the teacher report measure correlated most strongly with the academic achievement variable.

Discussion

Present results indicated the hypothesis, that there would be a correlation between two measures of academic achievement and three measures of social competence, was supported in a modest fashion ($r=.488$, $p<.03$) for male subjects only. Furthermore, two variables, reading comprehension and teacher report, largely accounted for the existing correlation for male subjects (see Tables 3 & 4).

Results of previous studies that have examined the relationship between academic achievement and social competence can be classified into three groups; 1) those which have reported some differences between males and females (Feshbach & Feshbach, 1987; Hops, 1983; Rotheram, 1987), 2) those which found no gender differences (Ritchie et al, 1982; Rothenberg, 1970), and 3) a third much larger group which did not make a gender-based analysis of their results (Cobb & Hops, 1973; Gerler & Anderson, 1986; Green et al., 1980; Hops & Cobb, 1974; Vosk et al., 1982; Walker & Hops, 1976). The results of the present study strongly indicate the need for inclusion of analysis based on gender when looking at social competence and academic achievement. This discussion reported the results for male and female subjects separately, as the pooled results reflected neither group accurately.

Two findings were of particular interest; the existing modest correlation was relevant only to male subjects, and the significant correlation was found only effectively to be between one social competence variable (see Table 4) and one academic achievement variable (see Table 3).

As the present study was correlational the reasons for differences between male and female subjects on these two sets of variables can only be speculated. Given that similar studies which used younger subjects found that either there were no gender differences (Ritchie et al., 1982; Rothenberg, 1970), or thought it unnecessary to employ a gender based analysis (Cobb & Hops, 1973; Gerler & Anderson, 1986, Green et al., 1980; Vosk et al., 1982, Walker & Hops, 1976) it may well be the case that gender-based differences do not emerge until early adolescence, as was the case with this study. Rotheram (1987) suggested that "the skills which contribute to children's status in middle childhood appear to be different from those which correlate with positive teacher evaluations and academic success" (p. 209). Suggested correlates for academic achievement are paying attention in class, or time spent reading voluntarily. For social competence other possible correlates are participation in sports and degree of physical and emotional maturity.

Studies which examined gender differences in the relationship under discussion found that the correlation between social competence and academic achievement variables was higher for girls than for boys (Sells & Roff, 1967). Similarly, Feshbach and Feshbach (1987) concluded that affective dispositional factors are closely linked to academic achievement primarily for girls. Could it be that girls tend to exhibit more prosocial behaviors than boys at all ages (Matson et al., 1983a) irrespective of their academic achievement? The MANOVA analysis of means and standard deviations in this study did not support this conclusion, with the exception that results from teacher's reports tended to be grouped significantly

closer to the mean for girls than for boys (see Table 1). In contrast there was no significant difference between males and females on the peer rating measure.

While the two sets of variables for academic achievement and social competence have been shown to correlate in younger students they may later tend to diverge and begin to correlate more strongly with other variables. Sells and Roff (1967) found that social competence became less related to academic achievement as students reached grade seven. Clearly, this association may also vary in strength depending on the gender of the students.

There may also be only certain aspects of social competence that are related to academic achievement. Cobb and Hops (1973) and Hops and Cobb (1974) confined their studies to social behaviors that they hypothesized were related to academic success at school, such as attending to the speaker, following directions, and volunteering to answer questions. Both studies found that interventions designed to increase the social behaviors hypothesized to relate to academic achievement did improve academic achievement significantly. Madhere and Walker (1985) found that reading comprehension is associated with affiliation. These researchers also reported that the older children became, the more variance in academic achievement was accounted for by social factors, and the more important social factors became. As more variables become correlated with academic achievement the weaker the value of each individual variable may be.

Two measures of academic achievement were used in this study, standardized test results in reading comprehension and reading vocabulary. These two tests are frequently used by teachers as measures of academic achievement (Farr & Carey, 1986; Madhere & Walker, 1985). Madhere and Walker (1985) stated that reading

vocabulary and comprehension tests measure different behaviors. While vocabulary demonstrates the "cognition of semantic units," reading comprehension is "an evaluation of a semantic system" (p. 10). Moderate to strong correlations ($r = .69$ for males, & $r = .54$ for females) were found between the two academic achievement measures in the present study. While there was variance in common, fifty percent or more of the variance was not shared. In contrast, Farr and Carey (1986) saw reading comprehension as being a sufficient measure if testing was for the purpose of providing a general assessment of students' reading abilities. Although the actual correlation was modest, reading comprehension clearly shared more variance with social competence for male subjects than reading vocabulary. The results of the present study indicated that reading comprehension scores are more useful than reading vocabulary scores when the relationship between academic achievement and social competence is being examined (see Table 3).

The results of neither male nor female subjects showed a significant correlation between the three measures of social competence, with one exception. There was a barely significant correlation of $r = .19$ between the sociogram and teacher report for girls. Rather than reflecting on the validity of these measures these results may lend support to the notion that each of these scales measures a different area of social competence (La Greca, 1986), so when this construct is being measured one must be aware that it is comprised of several, quite distinct parts.

A correlation between the teacher report and reading comprehension ($r = .35$) was expected, but that it only pertained to male subjects was surprising. Other researchers have reported similar significant correlations (Dubow & Cappas,

1988, $r = .49$; Green et al, 1980, $r = .404$; Harter, 1982). In both studies, however, the results from both male and female subjects were pooled and an academic achievement score was derived by calculating a composite reading and mathematics score or using the student's G.P.A. Thus, comparisons with the present study were not easily made. In developing a self-report measure, Harter found correlations of $r = .26$, $r = .45$, $r = .36$, and $r = .36$ for four groups of subjects between cognitive functions and social functioning at school. Thus, similar correlations to those discovered by the present study have been found in previous research on the relationship between these two variables. Teacher reports of students social competence have been shown to be one of the most valid and reliable measures of this construct (Gresham, 1986). Although a necessary measure, teacher reports are not a sufficient measure of social competence (Gresham, 1986; La Greca, 1986). Sociometric scales have also been highly regarded as measures of social competence (McConnell & Odom, 1986). Dubow and Cappas (1988) found that sociometric, teacher, and student self-report measures tended to converge. This result was certainly not the case in the present study. Rotheram (1987), in a study using subjects from grades three, four, five, and six concluded "The skills which contribute to children's peer status in middle childhood appear to differ from those which correlate with positive teacher evaluations and academic success" (p. 209). Peer rating scales measure likeability whereas peer nomination scales assess friendship-forming ability. The latter scale may have shared more variance with other measures of social competence than peer rating scales. There was no apparent reason, however, why teacher reports comprised by far the greatest part of the overall correlation between the two sets of

variables. Maybe male students who are academically strong are also more socially competent than males who are academically weaker. As both the academic achievement and teacher report measures are derived from the teacher's perspective they may carry the same assumptions.

Although there were no significant differences between the means of the measures, there were differences in the distribution of scores between males and females in three instruments, the self-report, teacher, and vocabulary measures (see Table 1). Results indicated that the distribution of males on the teacher report scale was significantly broader than for females, while females were significantly more widely distributed than males on the vocabulary and self-report scales. The closer distribution of female subjects around the mean on the teacher report measure was supported in previous research. Female students have been seen generally by teachers as occupying the middle ground as regards behavior (Anderegg & Chess, 1983; Matson et al., 1983a). Matson's conclusion that females were more popular and possessed greater social skills was not supported by the results of the present study. Neither boys nor girls were found to be more academically or socially competent than the other.

Chapter V

Summary and Conclusions

The hypothesis that there would be a significant correlation between academic achievement and social competence was partially supported for male subjects only. The relationship that was shown was principally between two variables, the reading comprehension and teacher report measures.

Definition of the construct of social competence is elusive, and therefore its measurement remains problematic. The present research must be considered in the light of both the limitations of the instruments used, and the problems inherent in using standardized instruments to represent such complex constructs as academic achievement and social competence. Despite these difficulties, the importance of research in the area of social competence must be recognized. The impact of students' social functioning on their lives is central, and a greater knowledge of the correlates of social competence at all levels in school could further research into causality and so assist in the treatment of student's social problems. Longitudinal studies of students' social competence may show patterns not evident in cross-sectional studies or research performed with one grade level.

The sociometric instrument used measured likeability whereas a peer nomination scale would have assessed popularity and social impact. Possibly the peer nomination scale would have been a better correlate of the other social competence instruments. As regards the peer rating scale, the middle category may have been better expressed as "I don't know how I feel about this person" rather

than "Don't know this person very well" as the suggested response seems to be a more easily understandable part of a likeability continuum. Further research into the relationship of various sociometric instruments with other previously established measures of social competence when used with grade seven subjects may be useful.

The issue of causality with regard to the existing relationship was not addressed in this study. Correlational research is always limited to a survey role, a preparation for other studies that may examine the question of influence and causality.

Why was the existing relationship only relevant to boys? Further research of a similar nature using subjects in different locations may demonstrate the generalizability of this result.

The opportunity to complete questionnaires about their social behaviors and how they saw their classmates was received most positively by the grade seven subjects surveyed. Many requested opportunities to discuss what they had written and how they had felt while completing the task. In general, the students appeared excited and pleased about the test's subject matter and their participation. An investigation into students' social competence using qualitative methodology would be a worthwhile alternative approach. The present study assessed social competence using standardized tests. Qualitative methodology which involves social interaction between the researcher and the subjects may produce a richer, more complex picture of social competence than can be derived from analysis of standardized test scores.

The results of this study showed that reading comprehension was a worthy inclusion as a measure of academic achievement. Future research may find the use of just mathematics scores, or mathematics scores in addition to other measures could provide additional specific information about this relationship.

Given the modest correlations found for males only in this study, it may be appropriate for future research to look at the factors which separate males and females in early adolescence. Furthermore, social competence may need to be assessed by domain rather than as a single construct. In her study of the school and peer competence of black grade seven students Cauce (1988) concluded that competence is more useful when assessed by domain than by global measures." Ramsey (1988) suggested that gender differences may function in a similar manner to socioeconomic status differences in that boys and girls tend to form separate groups that are governed by different behavioral norms. Finally, the present study appeared to support the need for further investigation into the impact of age and gender on social competence (Michelson et al., 1981).

Results of the present study contrasted quite strongly in several ways with similar studies using younger subjects. This contrast suggests the need for further research into social competence and academic achievement with subjects in early adolescence. Certainly analysis by gender is recommended for future studies in this area.

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APPENDIX

Correlations between the Academic Achievement Measures and the SocialCompetence Measures

	Self-report		Teacher Report		Sociogram	
	males	females	males	females	males	females
Vocab.	-0.1177	-0.2467	-0.2464	-0.1843	-0.0701	0.3059
Compre.	-0.0891	0.1516	-0.4694*	-0.1321	-0.0441	0.2172

*p<.05

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