

ABSTRACT

GETTY, KIMBERLY CHAPMAN. Social Support, Social Skills, and Educational Setting and their Relation to the Perceived Self-Concept of Children with Learning Disabilities. (Under the direction of William P. Erchul, Ph.D.)

This study examined student-perceived teacher and classmate support, teacher- and peer-preferred social skills, and educational setting and their relation to student-perceived scholastic competence and social acceptance. Sixty children in fourth and fifth grades who were diagnosed with a learning disability (LD) in reading or written language participated in the study, as well as students' language arts teachers. Four research questions were posed. The first two questions asked whether educational setting was related to students' perceptions of teacher support and classmate support. The third question asked if student-perceived teacher support, teacher-preferred social skills, and educational setting were related to student-perceived scholastic competence. The last question asked whether student-perceived classmate support, peer-preferred social skills, and educational setting were related to student-perceived social acceptance. Two one-way ANOVAs indicated that student perceptions of teacher and classmate support were not related to educational setting. The third and fourth questions were answered using a parallel statistical procedure involving standard multiple regression analyses. Results indicated that social support and social skills were related to aspects of self-concept, and educational setting was related to self-concept. Implications of these findings regarding the role of school psychologists and the development of children with LD were discussed, emphasizing the importance of social processes within the classroom as well as how children with LD formulate their self-perceptions.

SOCIAL SUPPORT, SOCIAL SKILLS, AND EDUCATIONAL SETTING AND
THEIR RELATION TO THE PERCEIVED SELF-CONCEPT OF CHILDREN WITH
LEARNING DISABILITIES

by
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BIOGRAPHY

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CHAPTER ONE

Introduction

Children spend a considerable amount of time in the classroom during their formative years. Although the primary purpose of schooling is to develop academic skills, the opportunities for social interaction afforded children within the school setting are also important. As such, positive educational experiences are likely to be dependent not only on children's abilities to perform academically, but also on their capacities to develop and maintain good social interactions. Indeed, it has been well-documented that positive social relationships with peers and teachers are related to positive feelings about one's self (i.e., self-concept) (Forman, 1988) and are important for academic development (Birch & Ladd, 1997; Parker & Asher, 1987).

Experiencing academic and social success in school is more difficult for some children than for others, however. Students with learning disabilities (LD) are one group of individuals who are particularly prone to such difficulties. Because these children have trouble in at least one academic area (e.g., math, reading), they are more likely than children without such difficulties to face academic failure. Moreover, previous research has indicated that many children with LD have problems interacting socially with others (Kavale & Forness, 1996), thus further decreasing their chances for positive school experiences.

Social factors, such as social skills and social support, have been investigated in relation to children with LD and the academic and social difficulties they experience in the classroom. Results of such investigations have been largely pessimistic. In general, when compared to children without disabilities, children with LD are frequently perceived by teachers and peers to have poorer social skills (Coleman & Minnett, 1992; Kavale & Forness, 1996) and often feel less

support from their teachers and peers (Montague & Rinaldi, 2001; Wenz-Gross & Siperstein, 1998). Relatedly, because poor social interactions and academic difficulties are likely to influence how one feels about one's self, research also has been conducted regarding the self-concept of children with LD. Conclusions from such investigations also have been discouraging, suggesting that when compared to children without disabilities, children with LD tend to have lower self-concepts, particularly in the area of academic or scholastic competence (Bear, Minke, & Manning, 2002).

The types of special education services available for children with LD vary according to the extent of their academic difficulties. For example, some children with LD spend the majority of their school day in regular education classrooms where they interact primarily with regular education teachers and children without disabilities; other students, however, are placed in resource, or pull-out programs, where they interact primarily with special education teachers and students with similar disabilities. Because children with LD interact with different individuals according to their educational placement, it is possible that their social interactions also vary as a result. Consequently, educational setting is an additional variable that must be considered when examining social factors and self-concept in relation to children with LD.

Despite what is known regarding the social skills, social support, and self-concept of children with LD as isolated constructs, less is understood regarding how these specific variables interrelate. For instance, how are the perceived social skills and perceived social support of children with LD related to their self-concept? Furthermore, it is unclear whether differences in educational setting further affect the influence of such social variables. Are the social processes (i.e., the interrelationship of social skills and social support) that occur within regular education classrooms different than those in resource programs? Are such processes related to the self-

concept of children with LD? With these and other questions in mind, this study will examine teacher and peer social support (as perceived by students with LD), social skills of children with LD (as preferred by teachers and peers and rated by teachers), and educational setting and their relationship to specific aspects of self-concept (i.e., perceived scholastic competence and social acceptance) in children with LD. By investigating this combination of variables and determining how they influence the self-concept of children with LD, results of this study will assist school psychologists and other educational professionals in providing the most appropriate classroom environment for such children.

The following literature review begins with a brief introduction to LD, including its definition and the educational settings in which students with LD are served. The review will then discuss in detail the three major variables to be examined in the investigation (i.e., social skills, social support, and self-concept) as they relate to children with LD.

CHAPTER TWO

Review of the Literature

The following literature review will provide essential background information regarding learning disabilities, including its history, definition, and prevalence; relevant governmental policies; and the primary types of special educational placement. Additionally, this review will discuss several aspects of social and psychological functioning important to the development of children with LD, including social skills, social support (as provided by teachers and peers), and children's self-concept. Publications that provide a good representation of current literature in a specific area (e.g., reviews, meta-analyses, significant empirical investigations) have been selected for inclusion in this literature review. Additionally, some studies included here used instruments that will also be used in the present investigation, which further warrant their inclusion in this review of the literature.

In some instances, the research in a particular area has yielded mixed results. In these situations, both sides of the findings will be reported to provide the reader with an adequate understanding of the relevant issues. Finally, it should be noted that for ease of discussion, the literature review will discuss social skills, social support, and self-concept as isolated constructs, despite the fact that many of the studies cited in the review have investigated such constructs in combination.

History and Definition of Learning Disabilities

The term "learning disability" can be traced to 1963, when Samuel Kirk used it to describe children who experienced learning difficulties at school despite having normal intelligence. That same year, a group of parents used the term in the title of a new organization, the Association for Children with Learning Disabilities. Since then, learning disabilities has

been recognized as a disabling condition needing remediation, and the federal government has passed several laws regulating the delivery of appropriate education for children with learning disabilities as well as those with other developmental and emotional difficulties (Hallahan & Kauffman, 2000). Currently, the federal definition of a “specific learning disability” is:

a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage [*Federal Register*, December 29, 1977, p. 65083, 121a.5; cited in Sattler, 1988].

Prevalence of Learning Disabilities

The number of individuals diagnosed with specific learning disabilities has steadily increased over the past decade. In 2000, over 2.8 million children and youth in the United States were identified as having a specific learning disability, up from just over 2.1 million in 1991 (Bureau of Census, 2002). Considering the significant number of students receiving special educational services for learning disabilities, it is crucial that school psychologists and other professionals better understand the educational and psychological needs of such individuals.

Governmental Legislation

The first federal legislation to recognize learning disabilities was the Education for All Handicapped Children Act (EHA, or P.L. 94-142), passed in November of 1975 (Telzrow & Tankersley, 2000). The EHA required participating states to provide a free appropriate public education to all students with and without disabilities, as well as accommodate students' needs to the best extent possible. The legislation recognized several disability categories for which specialized services were to be provided, including LD. In 1990, the EHA was replaced with the Individuals with Disabilities Education Act (IDEA). The law was amended in 1997 (IDEA '97) (Telzrow & Tankersley, 2000).

As a result of such federal legislation, schools must abide by several rules and regulations when providing education for students with learning disabilities. Of particular importance is the notion of the least restrictive environment, or LRE. This provision under IDEA states that children must be separated from nondisabled classmates to the least extent possible, such that special schooling or separate classes should only be used when satisfactory educational gains cannot be met in the regular education classroom (Sawyer, McLaughlin, & Winglee, 1994). Another provision under IDEA is the Individualized Education Program (IEP), which is a plan that outlines the special educational needs of every child with a learning disability. A team of individuals who are knowledgeable about the child and his/her learning difficulties (including the child's teacher and parents, the school psychologist, and other educational professionals) must develop the IEP, which is reviewed annually (ERIC EC, 2000).

Educational Settings

Once children are identified as having a learning disability, there are several types of settings to which they can be assigned, dependent on the type and severity of the disability.

There are three main types of educational placements within the public school setting as defined by the Office of Special Education Programs (Sawyer et al., 1994). *Regular class* (also called general education classroom) settings are the least restrictive of all educational placements. Children with learning disabilities receive the majority of their instruction in a general education classroom with nondisabled children, and receive special educational services outside the general classroom for less than 21 percent of the school day. *Resource room* settings, or pull-out programs, include students who receive special educational services outside the general education classroom for 21 to 60 percent of the school day (e.g., children who are placed in resource rooms with part-time instruction in a general education classroom). Finally, in the *separate class*, or self-contained classroom, children with learning disabilities receive more than 60 percent of their special educational services outside of the general education classroom. Children in these settings may receive part-time instruction in general education classrooms or may be placed full-time in a self-contained class, where they are with other students with similar disabilities. This form of educational setting is the most restrictive option within the public school setting.

Variations of these three major types of educational settings also exist, one of which is the *consulting teacher program*. In this service delivery option, a special education teacher is available for part of the day within the regular education classroom. The role of the special education teacher is to provide consultative services to the regular education teacher and individual and/or small group instruction to students with LD in the regular education classroom (Idol, 1989).

Although educational professionals must be familiar with the basic definitions and legislation regarding learning disabilities, there are many other variables to consider when

examining the functioning of children with LD. It is important to recognize that the school is not only an academic setting but a social setting as well. As children with LD struggle with academic difficulties in the classroom, those difficulties can impact how they perceive themselves (Kloomok & Cosden, 1994) and may also impact how they are perceived by others. Furthermore, it is likely that a child's academic functioning, social functioning, and self-concept influence one another (Wenz-Gross & Siperstein, 1998). Because of these interconnections, it is important to understand not only how children with LD function academically, but also how they function socially and psychologically. By examining the social skills, social support, and self-concept perceived by children with learning disabilities, a more comprehensive understanding of such children will be attainable. A discussion of the social skills of children with LD follows.

Social Skills of Children with Learning Disabilities

The utilization of appropriate social skills is an important factor in determining the success of one's interpersonal relationships. Gresham and MacMillan (1997) have characterized two sets of social skills that are important for children's successful adjustment within the school environment. The first set of social skills comprises those behaviors involved in students' interactions with teachers, including complying promptly, following rules and directions, working independently, listening to teachers, and finishing classwork. The second set of social skills relates to children's interactions with their peers and includes cooperating and affiliating with peers, supporting and complimenting peers, defending one's self in arguments, remaining calm, and leading peers.

It has been demonstrated that possessing good social skills is requisite not only for adequate peer relationships, but also for academic success during childhood (Asher & Taylor, 1981; Walker & Hops, cited in Merrell et al., 1992). Furthermore, previous research has

consistently demonstrated that social skills are related to overall adjustment and later functioning in society (Gresham, Elliott, & Black, 1987). It thus follows that individuals who do not exhibit appropriate social skills often experience short- as well as long-term negative consequences with regard to their academic and social functioning (Gresham et al., 1987). Unfortunately, children with LD may lack good social skills, which is often due to language and communication limitations, including difficulty perceiving and understanding nonverbal cues used in regular social interactions (Graziano, 2002).

As the following discussion will demonstrate, the social skills of children with LD are frequently weaker than those of children without LD. Although the focus of the present study is on social skills as preferred by teachers and peers, only one study was located that specifically examined social skills in this way. Consequently, the review will first summarize studies that have compared the social skills of children with LD to those of children without LD using a variety of methods, including social skill rating scales, sociometrics, observations, and measures of students' social competence, as well as a variety of informants, including teachers and peers. The review will then discuss separately the results of a study examining the social skills of children with LD as preferred by their teachers and peers.

Coleman and Minnett (1992)

This study examined the relationship between learning disabilities and social competence by comparing children with and without disabilities on a number of variables, including teachers' ratings of students' social skills. Participants were 146 children (112 males and 34 females). Seventy-three participants had been identified by the school district as learning disabled (LD) and were being educated in a regular classroom, and the other 73 participants were not identified as learning disabled (ND). ND students were matched with LD participants on social status (as

determined via peer nominations), sex, race, grade, and ethnicity. Participants were evenly distributed across grades three through six.

Information from two measures was used to compare the social skills of students with and without learning disabilities. First, teachers rated their students' social skills (as well as their current academic performance, classroom motivation, and general intelligence) on a 4-item instrument using a 6-point Likert scale, ranging from significantly below average to significantly above average. Additionally, teachers completed a shortened version of the *Teacher Temperament Questionnaire* (Coleman & Minnett, 1992), which contains 23 items addressing three areas of students' behavior: (a) task orientation, (b) adaptability, and (c) reactivity. Teachers were to indicate how often their students exhibited certain behaviors in the classroom using a 6-point scale, ranging from "hardly ever" to "almost always."

Results from univariate ANOVAs indicated that children with LD were rated by their teachers as having significantly weaker social skills than children without LD. In addition, teachers rated the task orientation and academic motivation of students with LD as significantly lower than nondisabled students.

Gresham, Elliott, and Black (1987)

In a more comprehensive examination of the social skills of children with disabilities, Gresham, Elliott, and Black compared teacher ratings of the social skills of three groups of children with disabilities (learning disabled, mild mentally retarded, and behaviorally disabled) to nondisabled children. Participants included 250 children in first through eighth grades, with a mean grade level of 5.6 and a mean age of 11.72. One hundred twenty five regular classroom teachers rated the social skills of the four groups of participants.

To measure students' social skills, teachers completed the *Teacher Rating of Social Skills* (TROSS; Gresham & Elliott, 1985), a 50-item instrument that requires respondents to rate the social behavior of students on a three-point frequency (often true, sometimes true, or never true). Internal consistency for the total score on the TROSS is .97, with internal consistency for each of four factors (Academic Performance, Social Initiation, Cooperation, and Peer Reinforcement) ranging from .75 to .93 (Gresham et al., 1987).

No significant differences were found between teacher ratings of the social skills of students in the three subgroups of disabilities. However, after the students with learning disabilities, mild mental retardation, and behavioral disabilities were collapsed into one category (termed mildly handicapped) and compared to students without disabilities, it was found that participants in the mildly handicapped group scored 1.15 standard deviations below the nondisabled group on the total score of the TROSS. This finding indicates that the average social skill level of children with mild disabilities was exceeded by approximately 88% of the nondisabled group. Interestingly, the largest differences between students classified as mildly handicapped and nondisabled occurred on the Academic Performance factor of the TROSS, which measures social behaviors considered to be "survival skills" necessary for successful functioning in the classroom (Gresham et al., 1987). Caution should be used when generalizing the results from this study specifically to children with LD, however, as children with a variety of disabilities, not just LD, were compared to nondisabled students.

Kavale and Forness (1996)

Kavale and Forness explored the social skill deficits of children with LD in this meta-analytic examination of 152 studies. Of the total 6,353 participants in the studies, 72% were male and the average age was 10.75 years. The studies included in the meta-analysis used a

variety of methods for measuring social skills, including teacher assessments (e.g., rating scales, behavioral checklists, observations); peer assessments (e.g., rating scales, nominations); and self-assessments made by children with LD (e.g., ratings, reports, standardized tests). Furthermore, the authors included a very broad range of social skills, as the definition of social skills within each study used in the meta-analysis was quite variable.

A mean effect size of .65 indicated that 74% of students (nearly 3 out of 4 students) with LD scored below the mean level of social skills of their nondisabled peers. Students with LD evidenced social skill deficits regardless of whether the social skills were rated by teachers, peers, or the students themselves.

When examining specific teacher assessments of the social skills of children with LD, teachers reported two major areas of social skill deficits. First was academic incompetence (the authors indicated that teachers viewed the social functioning of students with LD within the context of their academic difficulties, although a specific definition of academic incompetence was not provided) and second was less social interaction. Specifically, teachers reported that between 84% and 88% of students with LD manifested such difficulties.

Specific examination of peer assessments indicated that children reported 73% of their peers with LD as having lower social status than nondisabled students. Additionally, when compared to students without disabilities, students with LD were rated by their peers as playing less (72%), interacting less frequently (73%), and empathizing at lower levels (68%). Furthermore, it was found that 79% of children with LD were rejected by their nondisabled peers. These findings suggest that children without disabilities may socialize less with students with LD, and also suggest that nondisabled students perceive children with LD as being less

popular, less socially competent (verbally and nonverbally), and less cooperative than nondisabled students.

Swanson and Malone (1992)

This study examined the social skills of children with learning disabilities via a measure of social competence. A meta-analysis of 39 studies examining the social competence of children with LD indicated that such students had poorer social problem-solving skills than 79% of nondisabled students, and had more interfering problem behaviors than 78% of nondisabled students. Additionally, children with LD fell at the 18th percentile of the nondisabled distribution in peer acceptance as measured via peer report, and at the 30th percentile of the nondisabled distribution using peer nominations, on average. Children with LD also scored at the 78th percentile of the nondisabled distribution in peer rejection.

As was mentioned earlier, only one study was located that specifically examined the social skills of children with LD as preferred by their teachers and peers. A discussion of this study follows.

Social Skills of Children with Learning Disabilities as Preferred by Teachers and Peers

Merrell, Johnson, Merz, and Ring (1992). This study compared the teacher-preferred and peer-preferred social skills of four groups of students with mild disabilities (i.e., learning disabled, mild mentally retarded, behaviorally disabled, and low achieving) to children without disabilities. Participants included 566 students (362 males and 204 females) from 12 different schools in grades kindergarten through sixth grade, with an age range of 5 to 13. The children were divided into five groups: regular education, or RE (108 nondisabled students); low achieving, or LA (100 students not identified as learning disabled but who were receiving remedial educational services); learning disabled, or LD (135 students); mentally retarded, or

MR (109 students); and behavior disordered, or BD (114 children identified as seriously emotionally disturbed or severely behaviorally disturbed).

Teachers used the Walker-McConnell *Scale of Social Competence and School Adjustment* (SSCSA; Walker & McConnell, 1988) to assess the social skills of the students. Regular education teachers rated students in the RE group, while a combination of regular and special education teachers completed assessments for the LA and LD group; ratings for the MR and BD group were completed by special education teachers. The SSCSA consists of 43 items that reflect social-behavioral competencies within the school environment, which were completed by teachers using a 5-point Likert scale ranging from “never occurs” to “frequently occurs.” The measure is divided into three subscales: (a) Teacher Preferred Social Behavior, which measures peer-related social behaviors highly valued by teachers (e.g., empathy and cooperation); (b) Peer Preferred Social Behavior, which measures peer-related social behaviors highly valued by other children (e.g., skills used while playing); and (c) School Adjustment Behavior, which measures social-behavior competencies important in academic instructional settings (e.g., good work habits). Test-retest reliability ranges from .88 to .92, and internal consistency estimates range from .95 to .97.

A series of one-way ANOVAs revealed that the mean score on each subscale for children in the RE group was significantly higher than the mean scores for the four other groups. With regard to teacher-preferred social skills, results indicated that 46% of children in the LD group had scores on the Teacher Preferred Social Behavior subscale that were one standard deviation below the norm, compared to only 15% of children in the RE group. Such findings indicate that teachers rated children without disabilities as having better social skills (as preferred by teachers) than children with LD.

Examination of peer-preferred social skills indicated similar results. Forty seven percent of children in the LD group had scores on the Peer Preferred Social Behavior subscale of the SSCSA that were one standard deviation below the norm, as opposed to only 15% of children in the RE group. It can be concluded from these results that teachers rated children without disabilities as having better social skills (as preferred by peers) than children with LD.

Regarding children's social skills, it can be concluded from the research that children with LD are at a distinct disadvantage when compared to their nondisabled peers. Results of several investigations have consistently demonstrated that the social skills of children with LD are weaker when compared to the social skills of children without such disabilities. Unfortunately, the poor social skills of children with LD are likely to increase their difficulty in establishing and maintaining positive interpersonal relationships with students and teachers.

Social support is a related construct that is also critical to the healthy development of children. Not only does it provide them with a source of emotional support, but it also fosters positive interpersonal interactions and enhances academic performance (Pavri & Monda-Amaya, 2001). Because children with LD tend to experience greater difficulties with their academic functioning as well as their social skills, social support is a particularly important concept to consider for such individuals. A discussion regarding the social support perceived by children with LD follows.

Social Support as Perceived by Children with Learning Disabilities

Broadly defined, social support is the process by which individuals feel valued, cared for, and connected to a group of people (Pavri & Monda-Amaya, 2001). There are, however, a variety of ways to conceive of social support. Because the present investigation will examine social support in light of its effects on children with LD, with a focus on support from teachers

and peers in the school setting, the following definition of social support will be used: “to provide physical assistance or material aid, to provide cognitive guidance, or to help a person with emotional issues” (Caplan, 1976). It is important to note, however, that not all research studies adhere to the same definition of social support.

Perceiving support from individuals in their environment is important for children to function in a positive manner. In general, perceiving support from one’s social network appears to enhance one’s social and emotional well-being (Pavri & Monda-Amaya, 2001), and students who perceive that their relationships with adults and peers are supportive report having a more positive self-concept (Forman, 1988). Conversely, the absence of a positive, supportive classroom environment negatively affects students’ behavior and mood (Wenz-Gross & Siperstein, 1997). With regard to students with LD, feeling a sense of belonging at school and receiving instrumental and emotional support from primary individuals in their environment (e.g., teachers, peers) positively affects the social well-being of such students (Pavri & Monda-Amaya, 2001).

Because children with LD spend a substantial portion of their day in the classroom, the social support they perceive from their teachers and peers is likely to play an important role in their academic and social functioning. In fact, social support from family, friends, and adults outside the home has been found to be a critical aspect of how children adjust to their environment (Compas, Slavin, Wagner, & Vannatta, cited in Wenz-Gross & Siperstein, 1998). As such, the ensuing discussion will elaborate on the social support perceived by children with LD by both their teachers and peers (*Note: one study to be reviewed used direct observation to measure social support; however, all other studies relied on some form of self-report to measure student-perceived social support.*)

Social Support from Teachers as Perceived by Children with Learning Disabilities

Several investigators have examined the influence of social support provided by teachers on the academic and social functioning of children with LD. In general, children who have positive perceptions of their teachers' expectations tend to have greater engagement in academics, better grades in school, and better behavior (Montague & Rinaldi, 2001). Although some studies have demonstrated that children with LD perceive lower levels of social support from their teachers when compared to their nondisabled peers, other studies have found the opposite to be true. An elaboration of relevant research follows.

Coleman and Minnett (1992). This study (reviewed earlier) examined the relationship between learning disabilities and social competence by comparing children with and without disabilities on a number of variables. To examine teacher support, direct observation was used to assess positive and negative social behaviors given and received by each student in interaction with teachers. Positive social behavior included verbal praise, affiliative touch, laughing, smiling at another, and helping. Negative social behavior included verbal and physical abuse, screaming, taunting, teasing, gestures, rejecting another, and disrupting others' activities. Frequency counts of each type of behavior were divided into one-minute intervals during 10-minute observations in each of two settings (regular classroom and physical education class). Inter-observer agreement varied by behavioral category as follows: positive behavior to teacher, 80%; positive behavior from teacher, 100%; negative behavior to teacher, 100%; and negative behavior from teacher, 88%.

Univariate ANOVA results indicated that teachers displayed significantly more negative behavior toward students with LD than toward students without disabilities. In other words, teachers were significantly more likely to act negatively (e.g., use harsh language) toward their

students with LD than toward their students without LD. Thus, students with LD received less social support from their teachers than did students without disabilities.

Montague and Rinaldi (2001). Unfortunately, Coleman and Minnett (1992) have not been the only investigators who have obtained results suggesting that teachers provide less social support to children with LD than to those without disabilities. In a set of follow-up studies from an initial investigation examining the classroom dynamics of kindergarteners and first graders at risk for learning/behavioral disorders, Montague and Rinaldi compared students who were at risk (AR) for developing learning, emotional and behavioral disorders to students who were not at risk (NAR) for such disorders on a number of variables, including interactions with teachers and students' perceptions of teachers' expectations.

Students identified as AR met moderate or high-risk criteria for developing learning, emotional, and/or behavioral disorders on the *Systematic Screening for Behavior Disorders* (Montague & Rinaldi, 2001). Students identified as NAR were operationally defined as average achievers who did not display disruptive behavior in class and were not considered by their teachers to be discipline problems. The first study included 16 second and third grade teachers from two elementary schools who had one student at risk for learning disabilities and/or emotional/behavioral disorders. Child participants included 16 AR children in second and third grade, as well as 16 NAR children who were matched on variables of gender, ethnicity, and primary language. The second study included 14 third and fourth grade teachers who had one student at risk for learning disabilities and/or emotional/behavioral disorders. Child participants in the second study included 10 children identified as AR in third and fourth grade, as well as 10 NAR children in third and fourth grade matched for gender, ethnicity, and primary language.

Two instruments were used in both studies to assess teacher interactions and students' perceptions of teachers' expectations. The first instrument was the *Brophy-Good Dyadic Interactions System* (Montague & Rinaldi, 2001), which is an observational system used to gather quantitative data about classroom interactions including student-initiating behaviors, teachers' verbal responses to students, and student response opportunities. Inter-observer agreement ranged from .90 to .97. The second instrument was the "My teacher thinks I think" activity, which measures students' perceptions of teacher expectations as well as students' self-perceptions. Modifications of the measure included happy, sad, and neutral faces for response options, as well as the use of crayons to color in responses.

Results of the first follow-up study indicated that AR students received significantly more negative and nonacademic feedback from teachers than NAR students (NAR students, incidentally, received significantly more academic feedback than AR students). Results of the second follow-up study indicated that AR students had significantly fewer positive perceptions of their teacher's expectations than NAR students. Such findings indicate that children who are at risk for developing learning, emotional, or behavioral disorders tend to experience more negative interactions with their teachers (and thus perceive less social support from their teachers) than children who are not at risk for such disorders.

Wenz-Gross and Siperstein (1998). Not all studies have found students with LD to experience less social support from teachers than their nondisabled classmates. This study compared the stress, social support, and adjustment of middle school students with and without disabilities. Participants included 437 children in sixth, seventh, and eighth grades from three different middle schools. Forty students (19 boys and 21 girls) had school-identified learning disabilities or mild mental retardation (MMR). These students received most of their education

in the general education classroom, but also received some form of special education services. The remaining 397 students did not have school-identified LD or MMR and were educated in regular classrooms. (*Note:* the authors grouped together students with LD and MMR and referred to them as students with “learning difficulties;” as such, “learning difficulties” will be used to refer to the participants with LD or MMR during the discussion of this study.)

Social support was measured using a version of the “My Family and Friends Interview” (Wenz-Gross & Siperstein, 1998) suitable for group administration. This interview obtains students’ perceptions of social support from people in the home, adults outside the home, and peers. Alpha coefficients for students with learning difficulties and students without learning difficulties ranged from .81 to .85 (Wenz-Gross & Siperstein, 1998). To assess school stress, the *School Stress Survey* (Wenz-Gross & Siperstein, 1998) was administered to all students. The inventory consists of 47 items that assess the number of stressful events an individual experiences as well as the level of stress experienced. A factor analysis revealed three factors (Academic Stress, Peer Stress, and Teacher/Rules Stress). Cronbach alpha reliability coefficients for the three factors ranged from .75 to .86 for the students with learning difficulties and .73 to .81 for those without learning difficulties (Wenz-Gross & Siperstein, 1998).

Results indicated that children with learning difficulties perceived greater social support from adults outside the home (e.g., teachers) when compared to their nondisabled peers. Interestingly, however, the same children who reported greater support from adults outside the home also reported having significantly *more negative* interactions with their teachers than did children without learning difficulties. Specifically, children with learning difficulties experienced significantly more stressors related to teachers/rules than their nondisabled classmates. Not only did such children have more “difficulty controlling their behavior,” but

they also had more “trouble getting along with their teachers” when compared to their nondisabled peers. Thus, the students with learning difficulties did not report a deficit in perceived teacher support, despite reporting more difficulties interacting with teachers and abiding by school rules when compared to their nondisabled peers.

Ousdigian (2000). Results from Ousdigian’s dissertation further contribute to the mixed findings regarding the level of teacher support perceived by students with LD. This dissertation examined the relationship between social support, school adjustment, and educational placement among children with and without LD. Participants in the study included 119 children, with 61 in third grade and 58 in sixth grade. Forty-four students were in regular education, 36 were receiving special education for a specific learning disability, and 39 were in gifted and talented programs. The special education program consisted of daily 30-minute pull-out instruction, with the rest of the day spent in the regular education classroom. The gifted and talented students received enrichment services outside the regular classroom for 60 to 150 minutes per week. In addition to the child participants, seven teachers provided information about the students.

Social support was assessed using the *Student Social Support Scale* (SSSS) (Ousdigian, 2000), which is a 60-item self-report instrument divided into four subscales measuring the content, source, availability, and importance of social support. The overall coefficient alpha for the SSSS is .97, and the coefficient alpha for the four subscales ranges from .92 to .95 (Ousdigian, 2000). Furthermore, the SSSS has been demonstrated to have adequate content, criterion-related, and construct validity.

MANOVA results indicated that students in regular education classes did not perceive significantly more social support from teachers when compared to those in special education and

gifted/talented programs. Thus, the level of perceived teacher support was not dependent on special educational placement.

Findings from Ousdigian (2000) and Wenz-Gross and Siperstein (1998) both indicate that children with LD do not perceive less social support from their teachers when compared to their nondisabled peers. Such findings conflict with both Coleman and Minnett (1992) and Montague and Rinaldi (2001), who found that children with learning disabilities (or those at risk for learning disabilities) perceived more negative expectations from, and more negative interactions with, their teachers when compared to nondisabled classmates. Thus, the literature is inconclusive regarding the extent to which children with LD perceive social support from their teachers. As such, further research in this area is warranted.

As was discussed earlier, it is important for children with LD to perceive social support not only from their teachers, but also from their peers in order to improve their sense of well-being in the school environment. The ensuing discussion will now elaborate on research examining the social support from peers as perceived by children with LD.

Social Support From Peers as Perceived by Children with Learning Disabilities

There has not been extensive research examining the social support from peers as perceived by students with learning disabilities. What has been reported, however, suggests that children with LD are likely to experience less positive interactions with, and thus less support from, their peers when compared to their nondisabled classmates.

Wenz-Gross and Siperstein (1998). As discussed earlier, this study, which compared the stress, social support, and adjustment of middle school students with and without learning difficulties (i.e., LD or MMR), found that children with learning difficulties perceived more social support from adults outside the home (e.g., teachers) when compared to children without

learning difficulties. Interestingly, however, results also indicated that children with learning difficulties perceived *less* social support from their peers when compared to their nondisabled classmates. Furthermore, children with LD reported significantly more peer stressors, such as having trouble making new friends and being bothered by older students, than children without learning difficulties. Results thus indicate that children with learning difficulties are at a disadvantage when compared to their nondisabled classmates regarding their reported level of peer support and peer stressors.

Ousdigian (2000). As discussed earlier, this dissertation also examined the perceived peer support by children with and without LD. Although children with LD did not perceive significantly less peer support than students in regular education classes, the mean perceived peer support was lower for children with LD when compared to children without LD. Similar to the findings of Wenz-Gross and Siperstein (1998), these results suggest that children with LD are likely to experience less peer support than their nondisabled classmates.

Overall, results are somewhat mixed concerning the perceptions of teacher and peer support by children with LD. Although much research indicates that children with LD, when compared to their nondisabled peers, are less likely to experience positive interactions with and less social support from their teachers and peers, some studies have indicated otherwise. Furthermore, research has failed to investigate whether students with LD perceive differing levels of social support from their teachers and peers as a function of their educational placement and social skills. Thus, the present study will examine such variables in combination.

Self-Concept of Children with Learning Disabilities

Developing a positive self-concept is crucial for the healthy development of children. As defined by Byrne (in Chapman, 1988, p. 348), self-concept is “the perception of ourselves

involving our attitudes, feelings, and knowledge about our skills, abilities, appearance, and social acceptability.” In general, children’s self-concept influences their behavior and the way in which they perceive their social competence (Comer, Haynes, Hamilton-Lee, Boger & Rollock, 1987). Furthermore, in academic and task-oriented settings, it has been documented that individuals who have a positive self-concept tend to persevere on difficult tasks, whereas individuals who do not have a positive self-concept tend to reduce their effort or even give up when faced with challenging tasks (Bandura, 1982). Considering that the academic abilities and social skills of children with LD are frequently weaker than those of children without such difficulties, the development of a positive self-concept may be particularly challenging for children with LD (Cosden, Brown, & Elliott, 2002).

Following is a brief review of the self-concept of children with learning disabilities. Before proceeding, however, it is important to point out two considerations regarding the self-concept. First, “self-concept” is a term often used interchangeably in the literature with such terms as “self-esteem” and “self-worth.” Although the specific definition of such terms may be slightly different depending on who authored the definition, the basic meaning of each is essentially equivalent. As such, studies examining self-concept, self-worth, self-esteem, or other related constructs will be considered together here. Second, it should be noted that self-concept was once considered a unidimensional construct and was measured using instruments that assessed one’s general self-concept in a broad sense. However, researchers soon began to recognize the multifaceted nature of self-concept, and consequently more current measures of self-concept tend to be broken down into components that measure specific aspects of self-concept (e.g., scholastic competence, athletic ability, social acceptability, etc.) (Chapman, 1988),

with global self-concept representing a separate domain that measures general happiness, satisfaction, and overall affect about oneself (Bear, Minke, & Manning, 2002).

In general, current research indicates that children with LD do not differ from their nondisabled peers in terms of their overall, or global, self-concept, but *do* tend to experience lowered self-concept in the area of academics/intelligence. The following meta-analysis provides a solid basis for this conclusion.

Bear, Minke, and Manning (2002)

Sixty-one studies were included in this meta-analysis of research examining the self-concept of children with learning disabilities. Studies were selected based on how self-concept was measured (i.e., measured global self-worth/self-worth or measured self-perceptions of overall intellectual/academic competence, social acceptance, behavioral competence, or competence in various academic domains) as well as the criteria used to identify children as learning disabled (i.e., state or federal criteria). Also, to be included in the meta-analysis, each study was required to include a comparison group of children without learning disabilities (or use an instrument that included normative data) to allow the computation of effect sizes.

When normative contrasts were used, significant differences were found between children with and without LD in all areas except global self-worth. However, a closer examination of effect sizes indicates that, once outliers had been removed, the effect sizes for social competence (-.12) and behavioral competence (-.07) were of little practical importance, suggesting very little difference in the social and behavioral competence of children with and without LD. In contrast, the effect sizes for academic areas of self-concept were substantial (i.e., the effect size for overall intellectual/academic competence was -.46, and effect sizes ranged from -.94 to -.41 for specific academic areas). Such findings indicate that when comparing

children with and without learning disabilities, meaningful significant differences exist only in the area of academic/intellectual competence, with children with LD having significantly lower self-concept in this area.

It bears mentioning that such findings are consistent with the results of an earlier review by Chapman (1988). After examining 20 studies investigating the academic self-concepts of children with LD, Chapman found that all but one study reported that children with LD had significantly lower academic self-concept scores than nondisabled students.

In addition, Bear et al. (2002) found that special education setting did not have a significant effect on most areas of self-concept, and no group differences based on educational setting were found when conducting within-group comparisons. Significant differences in mean effect sizes were found when normative contrasts were used, however, with post hoc analyses indicating that students with LD in both inclusive classrooms and resource rooms had significantly lower self-perceptions of intellectual/academic competence than students with LD in self-contained classrooms ($\chi^2 = 15.47$ and 50.79 , respectively, $ps < .001$). However, it should be noted that significant heterogeneity was found in the resource room effect sizes for all domains of self-concept, as well as for all effect sizes within the intellectual/academic domain, making it difficult to correctly interpret the findings. The authors also indicated that the instrument used to measure self-concept was at least partially responsible for the heterogeneity in the self-contained settings (suggesting it was the characteristics of the instrument, not the setting, that led to significant differences). In general, Bear et al. concluded that the effect of setting on the self-concept of students with LD is negligible.

It can thus be concluded that children with learning disabilities experience significant reduced feelings of academic/intellectual self-concept when compared to their nondisabled peers.

Although Bear et al. (2002) determined that educational setting does not affect children's self-concept, it is still unclear how teacher and peer support and teacher/peer perceptions of the social skills of children with LD, in combination with educational placement, influence specific areas of self-concept within children with learning disabilities. As such, the present investigation will examine the influence of such variables.

CHAPTER THREE

Statement of the Problem and Research Questions

The progression through school is often difficult for children with LD. Not only do these children experience academic difficulties, but they are also at risk for poor social functioning and lowered self-concept, particularly their academic or scholastic self-concept.

With respect to their social functioning, the research discussed in this review has indicated that teachers and peers frequently report children with LD as having poorer social skills when compared to their nondisabled classmates. Having good social skills has been linked to social acceptance, positive interpersonal relationships, and academic success (e.g., Asher & Taylor, 1981). As such, children with LD who demonstrate social skill deficits are at an increased risk for poor social interactions, including peer rejection, as well as greater academic difficulty.

Furthermore, having social skill deficits may affect the social support children perceive from others in their environment, a related variable also important for children's emotional well-being and academic success. Generally, children who feel supported by others in their environment have stronger social interactions and are academically motivated (Pavri & Monda-Amaya, 2001). Although the research findings presented in this review are somewhat mixed, several studies have clearly documented that children with LD frequently perceive less support from their teachers (e.g., Montague & Rinaldi, 2001) and peers (e.g., Wenz-Gross & Siperstein, 1998) when compared to their nondisabled classmates, which likely hinders their academic performance as well as their feelings of social acceptance. In conjunction with research indicating that children with LD often have poor social relationships due to their lack of good

social skills, these findings regarding social support place children with LD at an even greater disadvantage in the classroom.

Taking into account the academic and social difficulties documented above, it is not surprising that children with LD often have lower self-concepts when compared to children without disabilities. Research has indicated that the global self-concepts of children with LD do not differ from those of children without disabilities, yet the academic or scholastic self-concepts of children with LD are significantly lower than those of their nondisabled peers (Bear et al., 2002). It is also possible that the lowered perceived social support and weaker social skills of children with LD lead to lower self-perceptions of social acceptance (an aspect of self-concept), although extant research has not documented this.

The potentially lowered levels of the social skills and academic self-concepts of children with LD, coupled with less teacher and peer support, place children with LD at risk for a variety of negative long-term outcomes, such as juvenile delinquency and poor adult social functioning (Roff, Sells, & Golden, 1972; Cowen, Pederson, Babigian, Izzo, & Trost, 1973). It is likely that a combination of environmental, cognitive, and behavioral factors interact to create lowered developmental trajectories for children with LD.

The purpose of the present study is to examine the relationships between and among social skills, social support, perceptions of academic self-concept of children with LD, and educational setting. In addition, perceptions of social acceptance (an aspect of self-concept) of children with LD will be investigated in relation to social support, social skills, and educational setting, because prior research has not documented whether social acceptance varies as a result of a combination of such variables. Although this study is correlational, an analysis of the relationships among these variables is a first step in understanding the factors that contribute to

negative outcomes for children with LD. With a better understanding of such variables, school psychologists and other educational professionals may be better able to assist the development of children with LD.

With these issues in mind, the following four research questions were examined:

1. Do students with LD placed full-time in regular education classrooms perceive different levels of teacher support than students with LD placed in resource programs?
2. Do students with LD placed full-time in regular education classrooms perceive different levels of classmate support than students with LD placed in resource programs?
3. How are student-perceived teacher support, teacher-preferred social skills, and educational setting related to student-perceived scholastic competence?
 - a. Do the following three variables (student-perceived teacher support, teacher-preferred social skills, and educational setting) together account for a significant portion of the variance in the student-perceived scholastic competence of students with LD while controlling for sex and IQ?
 - b. Do each of the following three variables (student-perceived teacher support, teacher-preferred social skills, and educational setting) make unique contributions to the variance of the student-perceived scholastic competence of students with LD while controlling for the other two variables as well as for sex and IQ?

- c. Do each of the following three variables (student-perceived teacher support, teacher-preferred social skills, and educational setting) individually account for a significant portion of the variance of the student-perceived scholastic competence of students with LD while controlling for sex and IQ?
- 4. How are student-perceived classmate support, peer-preferred social skills, and educational setting related to student-perceived social acceptance?
 - a. Do the following three variables (student-perceived classmate support, peer-preferred social skills, and educational setting) together account for a significant portion of the variance in the student-perceived social acceptance of students with LD while controlling for sex and IQ?
 - b. Do each of the following three variables (student-perceived classmate support, peer-preferred social skills, and educational setting) make unique contributions to the variance of the student-perceived social acceptance of students with LD while controlling for the other two variables as well as for sex and IQ?
 - c. Do each of the following three variables (student-perceived classmate support, peer-preferred social skills, and educational setting) individually account for a significant portion of the variance of the student-perceived social acceptance of students with LD while controlling for sex and IQ?

CHAPTER FOUR

Method

Data for the present investigation were obtained from a dissertation completed by Grebenkemper (1993) at the University of North Carolina at Chapel Hill. As such, the following section describes her sample of participants, measures, and procedure.

Participants

Sixty children identified as learning disabled in reading or written language participated in the study. Seven participants were identified as disabled in reading, 23 were identified as disabled in written language, 26 had both a reading and a written language disability, and 4 were identified as disabled in reading, written language, and math. Children were in either fourth or fifth grade and were enrolled in one of nine schools in the Wake County Public Schools in North Carolina. Twenty-nine of the children were receiving special education services in their regular education classrooms via a consulting teacher program and 31 of the children were receiving special education services in a resource program. Sixty-three percent of the participants were Caucasian, 32 percent were African American, and five percent were of a different ethnicity. Twenty-one participants lived with families with an income under \$12,000, and the remaining participants lived with families with an income above \$12,000. The mean age of participants was 10.84 years, with 47 male and 13 female participants.

All participants had met qualifications for receiving special education services according to the North Carolina Department of Public Instruction. As such, all participants had been tested using either the *Wechsler Intelligence Scale for Children – Revised* (WISC-R; Wechsler, 1974) or the *Kaufman Assessment Battery for Children* (K-ABC; Kaufman & Kaufman, 1987) as well as an individual achievement test within the past three years. Additional criteria for receiving

special education services included: (a) learning difficulties that had not improved with interventions in regular education; (b) achievement (as measured in age standard score units) at least 15 points below measured IQ; and (c) determination that the learning difficulties of the student were not the result of sensory deficits, mental handicap, behavioral or emotional handicap, or environmental, cultural, and/or economic influence (NC Department of Public Instruction, cited in Grebenkemper, 1993).

Students were recruited via parental permission forms distributed by their special education teachers. Once parental permission was obtained, verbal assent was obtained from the students themselves.

Measures

Self-Perception Profile for Children (SPP-C; Harter, 1985)

The SPP-C is a 36-item instrument designed to assess self perceptions of competence in various domains as well as feelings of overall self worth (i.e., self-concept) in children ages 8 to 14 years. Each item includes a description about two children, contrasted on a particular dimension. Respondents must first decide which of the two descriptions they are more like, and then determine whether the description is “really true” or “sort of true” for them.

The SPP-C is divided into six subscales, each containing six items: Scholastic Competence, Social Acceptance, Athletic Competence, Behavioral Conduct, Physical Appearance, and Global Self-Worth. Within each subscale, three of the items are worded so that the first part of the statement reflects high competence in a particular area, and three items are worded so that the first part reflects low competence. Items are scored on a 4-point scale, with a 4 representing the most adequate self-judgment and a 1 representing the least adequate self-judgment. As such, scores above 2.5 (the midpoint of the scale) represent more positive self-

judgments, and scores below 2.5 represent lower self-judgments. An average score is computed for each subscale. Mean scores for a sample of students without learning disabilities in third through fifth grades fluctuate around the value of 3, which is above the midpoint of the scale (Harter, 1985). The instrument is not norm-referenced.

The current investigation used only the Scholastic Competence and Social Acceptance subscales of the SPP-C for statistical analyses. The Scholastic Competence subscale examines the children's perceptions of their academic abilities, and the Social Acceptance subscale taps children's perceptions of how they interact with and are accepted by their peers. Coefficient alpha internal consistency estimates are .80 for the Scholastic Competence subscale and .75 for the Social Acceptance subscale (Harter, 1985). These estimates are based on a sample of 178 children in third through fifth grades (based on a sample of 227 children in third through sixth grades, reliability estimates are .82 for the Scholastic Competence subscale and .75 for the Social Acceptance subscale).

Factor analytic studies of the SPP-C are reported in the test manual for the five specific competence areas (the Global Self-Worth subscale was excluded from factor analysis because it was thought to be qualitatively different from the other five subscales) (Harter, 1985). Results indicated that the five competence areas define their own factors and provide meaningful and differential aspects of a child's self-perceptions. In addition, Harter (1982, 1986, cited in Grebenkemper, 1993) has reported studies that demonstrated the SPP-C to have good criterion-related and construct validity.

Walker-McConnell Scale of Social Competence and School Adjustment (SSCSA; Walker & McConnell, 1988)

The SSCSA is a 43-item instrument designed to measure the social competence of elementary school children within the school setting. Each item is a positively worded description of a social skill, which teachers rate along a frequency of occurrence continuum using a 5-point Likert scale. A score of 1 indicates the child never exhibits the behavior, and a score of 5 indicates the child frequently exhibits the behavior. Thus, scores below 3 represent lower frequency of the behavior and scores above 3 represent higher frequency of behavior.

According to the authors of the SSCSA, adaptive behavior and interpersonal social competence combine to create social competence. Adaptive behavior refers to the skills needed to function independently within a classroom setting, while interpersonal social competence refers to the skills needed for social interactions and relationships with others.

The SSCSA is divided into three subscales. Subscale 1 (Teacher-Preferred Social Behavior) contains 16 items measuring social skills that are highly valued by teachers, and Subscale 2 (Peer-Preferred Social Behavior) contains 17 items assessing social behaviors that are highly valued by peers. Both Subscales 1 and 2 assess peer-related interpersonal social skills. Subscale 3 (School Adjustment Behavior) contains 10 items measuring adaptive behavior that is highly valued by teachers and also necessary for success in the classroom. The three subscales were derived using factor analytic studies.

The SSCSA provides three subscale scores as well as a summary score that reflects a child's overall social competence. Raw scores for each subscale are obtained by summing the ratings from each subscale (raw scores for the total instrument are obtained by summing ratings for all items). Based on a sample of 1,812 children in grades K through 6, standard scores for subscales have a mean of 10 and a standard deviation of 3; standard scores for the total instrument have a mean of 100 and a standard deviation of 15. The current investigation used

the Teacher-Preferred Social Behavior and the Peer-Preferred Social Behavior subscales for statistical analyses.

The manual for the SSCSA provides internal consistency and test-retest reliability estimates. Based on the normative sample, coefficient alphas were in the upper .90s. Test-retest coefficients over a two to four week period ranged from .67 (Subscale 3) to .97 (Subscale 2), with the average being in the upper .80s.

Several studies reported in the manual for the SSCSA demonstrate the validity of the total instrument as well as its subscales (Walker & McConnell, 1988). First, factor analytic studies have shown the SSCSA to discriminate between various groups of children, including correct classification percentages ranging from 80 to 97.5 in discriminating antisocial from normal children, and from 35.6 to 46 in discriminating children with different sociometric ratings. In addition, significant mean differences on the three subscales, as well as the total score, have been obtained when comparing children referred for learning problems and normal children. The SSCSA also has good concurrent validity with various criterion measures, including measures of maladaptive behavior ($r = -.76$ to $-.89$), social skills ($r = .75$), achievement ($r = .32$ to $.50$), and sociometric status ($r = .41$). Finally, the construct validity of the SSCSA has been demonstrated.

Social Support Scale for Children (SSS; Harter, 1986)

The SSS is a self-report measure that assesses the perceived social support for children ages 8 to 14. Social support as measured by the SSS refers to “perceived support and regard which significant others manifest toward the self.” The instrument consists of 24 items that are equally divided into four scales representing different sources of support: parents, teachers, classmates, and close friends (each scale contains 6 items). Items are presented just as they are on the SPP-C. Responses are scored such that 1 represents low perceived support and 4

represents high perceived support. As such, scores below 2.5 represent lower perceived support, and scores above 2.5 represent higher perceived support. An average score is obtained for each source of social support. The current investigation used the teachers' scale and the classmates' scale for statistical analyses.

For the four sources of social support, internal consistency reliability estimates range from .72 (Friend) to .88 (Parent) (Harter, 1986, cited in Grebenkemper, 1993). In addition, factor analytic studies of the SSS have found that parent, teacher, and peer support are differentiated by elementary school children, and all four sources of social support (parent, teacher, peer, close friend) are differentiated by middle school children (Harter, 1986, cited in Grebenkemper, 1993).

Several individual subscales on the SSS were correlated with theoretically relevant measures to demonstrate construct validity. Correlations between classmate support and the Social Acceptance/Popularity subscale of the SPP-C ranged from .62 to .69 (Harter, 1986, cited in Grebenkemper, 1993). The correlations between the close friend subscale and a subscale on Harter's *Social Skills Scale for Children*, which assess a child's perceived ability to confide and disclose feelings with peers, was .46 (Harter, 1986, cited in Grebenkemper, 1993). Finally, the correlation between the parent support subscale and a measure of congruence of values among children and parents using the five competency areas on the SPP-C was .48 (Harter, 1986, cited in Grebenkemper, 1993).

Table 1 presents an overview of the three measures.

Procedure

The Wake County (NC) Public School System was selected as the site for Grebenkemper's investigation because of its consulting teacher program, which provides special

Table 1

Overview of the Measures

MEASURE	SUBSCALES	INFORMANT (RATER)	PERSON BEING RATED	DETAILS AND DATA GENERATED
Self-Perception Profile for Children (SPP-C) (Harter, 1985)	Scholastic Competence Social Acceptance Athletic Competence Behavioral Conduct Physical Appearance Global Self-Worth	Student	Student	Self-report for children 8-14; 36 items, each a description of two types of children; children decide which child they are most like, then decide if the statement is “really true” or “sort of true” for them; rated on a 4-point scale; 1 = low perceived comp., 4 = high perceived comp; 6 subscales, 6 items per scale, total score range 36-144; not norm-referenced; avg. scores for children w/o LD in grades 3-5 fluctuate around 3.
Social Support Scale for Children (SSS) (Harter, 1986)	Parents Teachers Classmates Close Friends	Student	Student	Self-report for children 8-14; 24 items equally divided into four scales (6 items on each scale); same item format as SPP-C; scored 1-4 (1 = low perceived support, 4 = high perceived support; total score range 24-96); not norm-referenced.
Walker-McConnell Scale of Social Competence and School Adjustment (SSCSA) (Walker & McConnell, 1988)	Teacher-Preferred Social Behavior Peer-Preferred Social Behavior School Adjustment Behavior	Teacher	Student	43 descriptions of social skills; informant rates frequency of occurrence using a 5-point Likert scale (total raw score range 43-215); higher scores indicate higher occurrence of behavior; raw scores are sums of ratings for items on each subscale; Teacher-Preferred subscale = 16 items; Peer-Preferred subscale = 17 items; School Adj. subscale = 10 items; standard scores for subscales have $M = 10$, $SD = 3$; standard scores for total have $M = 100$, $SD = 15$; Norms based on sample of 1,812 children grades K-6.

education instruction in the regular education classroom. At the time of Grebenkemper's study, there were 48 elementary schools within the Wake County system, serving children from urban, suburban, small town, and rural communities. A school official recommended 10 schools, five of which used the consulting teacher program and five of which used a resource program for special education. After receiving information about the study and an invitation to participate, 8 of the 10 schools agreed to participate. An additional four schools were invited to participate, of which one agreed. Once school approval of the study had been obtained from each of the nine schools, special education teachers sent out information and permission forms to parents of all students with learning disabilities who met the criteria for participation in the study. After signed consent forms had been received from parents, meetings were arranged with each student to obtain informed verbal consent. Confidentiality and its limitations were explained to the participants prior to receiving such consent.

Data were collected in the middle of the school year to assure that teachers would have enough experience with students to rate their social competency, as well as to be certain that the students had adequate experience with the type of special education setting there were in. The *Self-Perception Profile for Children* (SPP-C), the *Social Support Scale for Children* (SSS), the *Rosenberg Self-Esteem Scale* (RSE), and the Reference Group Interview (RGI) were administered to participants individually during school hours by a trained research assistant or by the investigator. (*Note:* the RSE and the RGI were not used in the present investigation, and thus they were not discussed in the *Measures* section). Participants were told that each of the measures were surveys with no right or wrong answers, and items on all measures were read by the examiner as the participant followed along with a written copy of the items to aid in comprehension. The SPP-C, RSE, and RGI were administered on separate days from the SSS

because of the similarity of the scales, thus reducing the possibility of artificially high correlations. The SSCSA was completed by the participant's language arts teacher.

Finally, participants' demographic information, type of special education placement, type of learning disability, history of special education placement, IQ, and achievement data were gathered from their school files. Socioeconomic status was assessed based on qualification for free or reduced school lunch, as provided by the school secretary.

CHAPTER FIVE

Results

The following section presents the data analysis procedures and results for the four research questions presented earlier. All statistical procedures were conducted using the SAS statistical program (version 6.1) published by the SAS Institute. Descriptive statistics for the independent and dependent variables are presented first, followed by the results corresponding to the four research questions. Additional analyses are reported when appropriate.

Descriptive Statistics for Independent and Dependent Variables

Means and standard deviations were computed by educational setting and for the total sample for IQ as well as for specific subscales from the *Self-Perception Profile for Children*, *Walker-McConnell Scale of Social Competence and School Adjustment*, and *Social Support Scale for Children*. Means and standard deviations were computed only for those subscales used in statistical analyses. Table 2 presents these findings.

Analysis of Variance Procedures

A one-way ANOVA was conducted with educational setting as the independent variable and student-perceived *teacher* support as the dependent variable. This ANOVA addressed research question 1, which asked whether students placed full-time in regular education classrooms perceived different levels of teacher support than those placed in resource programs. Results indicated there was not a significant difference between students' perceptions of teacher support in the regular education classroom and resource program, $F(1, 58) = .07, p = .78$.

A second one-way ANOVA was computed with educational setting as the independent variable and student-perceived *classmate* support as the dependent variable to determine whether

Table 2

Descriptive Statistics on Full Scale IQ and Subscales of Primary Measures

Variable	Regular Education Classroom			Resource Program			Total Sample		
	<i>M</i>	<i>SD</i>	Range of Scores	<i>M</i>	<i>SD</i>	Range of Scores	<i>M</i>	<i>SD</i>	Range of Scores
Full Scale IQ	104.07	12.34	88 – 128	104.61	11.68	85 – 129	104.35	11.90	85 - 129
Student-Perceived Teacher Support ^a	3.44	0.73	1.00 – 4.00	3.48	0.53	1.83 – 4.00	3.46	0.63	1.00 – 4.00
Student-Perceived Classmate Support ^a	3.10	0.69	1.67 – 4.00	3.03	0.73	1.50 – 4.00	3.06	0.71	1.50 – 4.00
Teacher-Preferred Social Skills ^b	8.83	3.43	2.00 – 15.00	7.32	2.99	2.00 – 12.00	8.05	3.28	2.00 – 15.00
Peer-Preferred Social Skills ^b	9.07	2.90	1.00 – 14.00	7.16	3.13	1.00 – 13.00	8.08	3.15	1.00 – 14.00
Student-Perceived Scholastic Competence ^c	2.44	0.83	1.17 – 4.00	2.54	0.78	1.00 – 4.00	2.49	0.80	1.00 – 4.00
Student-Perceived Social Acceptance ^c	2.94	0.81	1.17 – 4.00	2.96	0.81	1.00 – 4.00	2.95	0.80	1.00 – 4.00

^a*Social Support Scale for Children*^b*Walker-McConnell Scale of Social Competence and School Adjustment*^c*Self-Perception Profile for Children*

students in regular education classrooms perceived different levels of classmate support than students in resource programs. Results of this ANOVA addressed research question 2 and indicated that there was not a significant difference in perceptions of classmate support between the two settings, $F(1, 58) = .15, p = .70$. Thus, educational setting was not found to directly mediate perceptions of teacher or classmate support among students with LD.

Multiple Regression Analysis Procedures

Research questions 3 and 4 involved the examination of students from regular education classrooms and resource programs together as one group. To ensure that there were no significant differences between the students regarding their academic achievement performance and the length of time diagnosed with LD, eight one-way ANOVAs were computed comparing the length of time students had been diagnosed with LD as well as students' achievement test scores in primary academic areas, with educational setting as the independent variable. No significant differences were found between students regarding their academic achievement or length of time diagnosed with LD, indicating that results of multiple regression analyses should not be influenced by such variables. Table 3 presents these results.

It should be noted that sex and IQ were each included as control variables in the following multiple regression analyses. Because males are diagnosed with LD approximately three times more often than females (U.S. Department of Education, 1992) and thus represent a larger proportion of students with LD, sex was included as a control variable. IQ was also included as a control variable because random assignment was not used in selecting students for the current study (students were placed in either regular education setting or resource program due to their eligibility criteria and individual needs).

Table 3

ANOVAs Comparing Students in Regular Education Classroom with Students in Resource Program

Variable	df	F	p	R ²
Time Diagnosed with LD	1, 58	.58	.4489	.010
<i>California Achievement Test</i>				
Reading	1, 58	.16	.6932	.003
Language	1, 58	.10	.7511	.002
Mathematics	1, 58	.42	.5188	.007
Total	1, 58	.02	.8838	.000
Individual Achievement Test				
Reading	1, 58	.01	.9046	.000
Mathematics	1, 57	.73	.3973	.013
Writing	1, 56	.00	.9876	.000

First, a bivariate correlation matrix was computed including setting, sex, IQ, and specific subscales of the SSS, the SPP-C, and the SSCSA. Of the 45 possible bivariate correlations, 12 correlations were significant. Four of the 12 correlations were significant at $p = .0001$, and eight were significant at $p = .05$. Table 4 presents these results.

Next, multiple regression analyses were conducted to address research question 3a, which asked if the three independent variables (student-perceived teacher support, teacher-preferred social skills, and educational setting) together would contribute significantly to the variance in student-perceived scholastic competence. As mentioned earlier, sex and IQ were included as control variables. To account for the variance contributed by these control variables, an adjusted R^2 multiple regression analysis procedure was conducted.

A multiple regression analysis was first computed with only sex and IQ as independent variables and student-perceived scholastic competence as the dependent variable. This model was significant, $F(2, 57) = 6.16, p = .0038, R^2 = .18$. Next, an additional multiple regression was conducted with student-perceived teacher support, teacher-preferred social skills, and educational setting as independent variables, sex and IQ as control variables, and student-perceived scholastic competence as the dependent variable. This model was also significant, $F(5, 54) = 6.39, p = .0001, R^2 = .37, Adj. R^2 = .32$. The adjusted R^2 reflects the proportion of the variance contributed by the three independent variables after accounting for the variance already contributed by sex and IQ as a group. As such, student-perceived teacher support, teacher-preferred social skills, and educational setting together accounted for 32% of the variance in student-perceived scholastic competence. The difference between the R^2 values from the first and second regression analyses was .19, which was significant ($F(3, 54) = 5.56, p = .0021$). This indicates that the addition of the three independent variables to sex and IQ in the second

Table 4

Intercorrelations among specific subscales of the SSS, SPP-C, SSCSA, and setting, sex, and IQ

	Teacher Support ^a	Classmate Support ^a	Teacher Skills ^b	Peer Skills ^b	Scholastic Competence ^c	Social Acceptance ^c	Setting	Sex	IQ
Teacher Support	1.000	.473**	.247	.123	.419**	.132	.036	.191	.007
Classmate Support		1.000	.129	.151	.506**	.694**	-.051	.382*	-.167
Teacher Skills			1.000	.726	.320	-.011	-.232	-.241	.361*
Peer Skills				1.000	.179	.171	-.305*	-.142	.219
Scholastic Competence					1.000	.356*	.060	.335*	.288*
Social Acceptance						1.000	.011	.266*	-.340*
Setting							1.000	.058	.023
Sex								1.000	.098
IQ									1.000

^aSocial Support Scale for Children (SSS)

^bWalker-McConnell Scale of Social Competence and School Adjustment (SSCSA)

(Table 4 continues)

Table 4 (continued)

^cSelf-Perception Profile for Children (SPP-C)

* $p = .001$

** $p = .05$

regression analysis led to a significant increase in the amount of variance contributed to student-perceived scholastic competence. Table A in Appendix A presents these results in detail.

The regression coefficients of each independent variable in the aforementioned full regression model (i.e., all three independent variables combined with sex and IQ) were then examined to determine their unique contributions to student-perceived scholastic competence, which addressed research question 3b. Student-perceived teacher support ($t = 2.34, p = .023$), teacher-preferred social skills ($t = 2.27, p = .027$) and sex ($t = 2.83, p = .006$) were significant, indicating each made unique contributions to perceived scholastic competence. Educational setting and IQ were not significant. Thus, student-perceived teacher support and teacher-preferred social skills not only contributed to the total variance in scholastic competence, but also each made unique contributions to the variance in scholastic competence. Although included only as a control variable, sex made the greatest unique contribution to scholastic competence. Table A in Appendix A presents these results.

Additional multiple regression analyses were then conducted to examine the individual contributions of the three independent variables to student-perceived scholastic competence, which addressed research question 3c. Just as with research question 3a, an adjusted R^2 procedure was used to account for the variance contributed by sex and IQ as a group. Thus, before conducting a separate multiple regression analysis with each independent variable (including sex and IQ as control variables and with student-perceived scholastic competence as the dependent variable), a multiple regression analysis with just sex and IQ as independent variables and student-perceived scholastic competence as the dependent variable was computed. Results below are organized by independent variable, and Table B in Appendix B presents these results.

Student-Perceived Teacher Support

A multiple regression analysis with sex and IQ as independent variables and student-perceived scholastic competence as the dependent variable was conducted. This model was significant, $F(2, 57) = 6.16, p = .0038, R^2 = .18$. Next, student-perceived teacher support was added in as the independent variable, keeping sex and IQ as control variables. Again, student-perceived scholastic competence was the dependent variable. This model was also significant, $F(3, 56) = 8.43, p = .0001, R^2 = .31, Adj. R^2 = .27$, indicating that student-perceived teacher support alone accounted for 27% of the variance in student-perceived scholastic competence. The change in R^2 between the two regression analyses was .13, which was significant, $F(1, 56) = 10.83, p = .0017$. This difference indicates that the addition of student-perceived teacher support to sex and IQ in the second multiple regression analysis led to a significant increase in the variance contributed to student-perceived scholastic competence.

Teacher-Preferred Social Skills

As indicated earlier, the multiple regression analysis with only sex and IQ as independent variables and student-perceived scholastic competence as the dependent variable was significant, $F(2, 57) = 6.16, p = .0038, R^2 = .18$. Teacher-preferred social skills was then added in as the independent variable, keeping sex and IQ as control variables and student-perceived scholastic competence as the dependent variable. This model was also significant, $F(3, 56) = 7.71, p = .0002, R^2 = .29, Adj. R^2 = .25$, indicating that teacher-preferred social skills alone accounted for 25% of the variance in student-perceived scholastic competence. The change in R^2 between the two regression analyses was .11, which was significant, $F(1, 56) = 9.07, p = .0039$.

Educational Setting

After conducting the regression analysis with only sex and IQ as independent variables and student-perceived scholastic competence as the dependent variable (which was significant, $F(2, 57) = 6.16, p = .0038, R^2 = .18$), educational setting was added in. This second model was also significant, $F(3, 56) = 4.07, p = .0110, R^2 = .18, Adj. R^2 = .14$. The change in R^2 between the two regression analyses was .0014, which was not significant, $F(1, 56) = .091, p = .7645$. This suggests that although setting made an independent significant contribution to student-perceived scholastic competence, the increment in the proportion of the variance contributed by setting after accounting for the variance contributed by sex and IQ was not significant.

Overall, results corresponding to research question 3c indicated that student-perceived teacher support, teacher-preferred social skills, and educational setting, when isolated from the other independent variables, made significant individual contributions to the variance in student-perceived scholastic competence. Only student-perceived teacher support and teacher-preferred social skills, however, contributed a significantly greater proportion of the variance to student-perceived scholastic competence after accounting for the variance already contributed by sex and IQ.

In summary, research question 3 was answered by conducting multiple regression analyses using student-perceived teacher support, teacher-preferred social skills, and educational setting to determine their various contributions to the variance in student-perceived scholastic competence. After completing those analyses, a parallel set of multiple regression analyses was conducted using student-perceived *classmate* support, *peer*-preferred social skills, and educational setting to determine their influence on student-perceived *social acceptance*. This second set of analyses corresponded to research question 4.

Recall that an adjusted R^2 multiple regression analysis procedure was conducted to account for the variance contributed by the control variables, sex and IQ. As such, a multiple regression analysis was computed with only sex and IQ as independent variables and student-perceived social acceptance as the dependent variable. This model was significant, $F(2, 57) = 7.40, p = .0014, R^2 = .21$. Next, an additional multiple regression was conducted with student-perceived classmate support, peer-preferred social skills, and educational setting as independent variables, sex and IQ as control variables, and student-perceived social acceptance as the dependent variable, which addressed research question 4a. This model was also significant, $F(5, 54) = 14.02, p = .0001, R^2 = .56, Adj. R^2 = .53$. The adjusted R^2 reflects the proportion of the variance contributed by the three independent variables after accounting for the variance already contributed by sex and IQ as a group. As such, student-perceived classmate support, peer-preferred social skills, and educational setting together accounted for 53% of the variance in student-perceived social acceptance. The difference between the R^2 values from the first and second regression analyses was .36, which was significant, $F(3, 54) = 14.85, p = .0001$. This indicates that the addition of the three independent variables to sex and IQ in the second regression analysis led to a significant increase in the amount of variance contributed to student-perceived social acceptance. Table C in Appendix C presents these results.

The regression coefficients of each independent variable in the full model were examined to determine their unique contributions to student-perceived social acceptance, which addressed research question 4b. Student-perceived classmate support ($t = 5.62, p = .0001$) and IQ ($t = -3.03, p = .0038$) were significant, indicating they each made unique contributions to social acceptance. Peer-preferred social skills, educational setting, and sex were not significant, although peer-preferred social skills approached significance ($t = 1.86, p = .0681$). Thus,

classmate support and IQ not only contributed significantly to the full model, but also made unique contributions to the variance in social acceptance. Table C in Appendix C presents these results.

Additional multiple regression analyses were conducted to examine the individual contributions of the three independent variables to student-perceived social acceptance, which addressed research question 4c. Just as with research question 4a, an adjusted R^2 procedure was used to account for the variance contributed by sex and IQ as a group. As such, a multiple regression analysis with just sex and IQ as independent variables and student-perceived social acceptance as the dependent variable was computed before conducting separate multiple regression analyses with each independent variable (including sex and IQ as control variables and with student-perceived social acceptance as the dependent variable). Results below are organized by independent variable, and Table D in Appendix D presents these results.

Student-Perceived Classmate Support

A multiple regression analysis with sex and IQ as independent variables and student-perceived social acceptance as the dependent variable was conducted. This model was significant, $F(2, 57) = 7.40, p = .0014, R^2 = .21$. Next, student-perceived classmate support was added in as the independent variable, keeping sex and IQ as control variables. Again, student-perceived social acceptance was the dependent variable. This model was also significant, $F(3, 56) = 21.46, p = .0001, R^2 = .53, Adj. R^2 = .51$, indicating that student-perceived classmate support individually accounted for 51% of the variance in student-perceived social acceptance. The change in R^2 between the two regression analyses was .33, which was significant, $F(1, 56) = 39.58, p = .0001$. This difference indicates that the addition of student-perceived classmate

support to sex and IQ in the second multiple regression analysis led to a significant increase in the variance contributed to student-perceived social acceptance.

Peer-Preferred Social Skills

As indicated previously, the multiple regression analysis with only sex and IQ as independent variables and student-perceived social acceptance as the dependent variable was significant, $F(2, 57) = 7.40, p = .0014, R^2 = .21$. Peer-preferred social skills was then added in as the independent variable, keeping sex and IQ as control variables and student-perceived social acceptance as the dependent variable. This model was also significant, $F(3, 56) = 7.98, p = .0002, R^2 = .30, Adj. R^2 = .26$, indicating that peer-preferred social skills alone accounted for 26% of the variance in student-perceived social acceptance. The change in R^2 between the two regression analyses was .09, which was significant, $F(1, 56) = 7.48, p = .0083$.

Educational Setting

After conducting the regression analysis with only sex and IQ as independent variables and student-perceived social acceptance as the dependent variable (which was significant, $F(2, 57) = 6.16, p = .0038, R^2 = .18$), educational setting was added. This second model was also significant, $F(3, 56) = 4.84, p = .0046, R^2 = .21, Adj. R^2 = .16$. The change in R^2 between the two regression analyses was 0.0, which was not significant, $F(1, 56) = .0003, p = .9858$. This suggests that although setting made an independent significant contribution to student-perceived social acceptance, the increment in the proportion of the variance contributed by setting after accounting for the variance contributed by sex and IQ was not significant.

Results of the three individual regression analyses indicated that student-perceived classmate support, peer-preferred social skills, and educational setting each made significant individual contributions to the variance in social acceptance. In other words, they each

influenced students' perceived social acceptance individually, in isolation from the other independent variables. Of the three independent variables, however, educational setting was the only variable that did not contribute a significantly greater proportion of the variance to student-perceived social acceptance after accounting for the variance already contributed by sex and IQ.

CHAPTER SIX

Discussion

The purpose of this study was to examine whether certain social factors influence the perceived self-concepts of children with learning disabilities. Specifically, the study focused on students' perceptions of social support, teachers' perceptions of students' social skills (as preferred by teachers and peers), and educational setting as potential factors contributing to students' perceptions of self-concept. Four research questions were posed to gain a better understanding of the relationships among these variables. One-way ANOVAs and standard multiple regression analyses were conducted to determine in what ways these social factors were related.

This chapter will discuss the results of the study. First, research questions 1 and 2 will be discussed in combination, after which the variables examined in research questions 3 and 4 will be addressed individually. Implications for school psychologists and children with LD will be discussed next. Finally, limitations of the investigation and directions for future research will be addressed.

Setting and its Relation to Student-Perceived Social Support

When comparing perceptions of social support between students with LD in regular education classrooms and resource programs, no differences were found between settings with regard to both teacher and classmate support. Such findings indicated that students with LD perceived similar levels of teacher and classmate support in both regular education and resource settings.

Most previous research in this area has compared children with and without LD on indices of social support and related measures (e.g., social integration), and has found no

differences between the two groups of children (e.g., Demaray & Malecki, 2002; Juvonen & Bear, 1992; Vaughn, Elbaum, & Schumm, 1996). In these studies, social support was assessed in only one setting (generally an inclusive classroom) and compared children with learning disabilities to those without disabilities.

In a related investigation conducted by Vaughn, Elbaum, Schumm, and Hughes (1998), several social outcomes (e.g., peer acceptance, friendship quality) of children with LD were compared across two types of inclusive settings: co-teaching (a full-time general education teacher and a full-time special education teacher) and consultation/collaboration (a full-time general education teacher and a part-time special education teacher). It was found that children with LD had some reciprocal friendships with average to high-achieving students, as well as with other students with LD, in both settings. Based on such findings, it may be concluded that children with LD had adequate social supports in place regardless of educational setting.

Results from Vaughn et al. (1998) are consistent with the present findings, in that in their study children with LD experienced similar levels of social support/acceptance in two different (albeit both inclusive) settings. The current investigation, however, contributes to the literature on social support among children with LD in that it focused solely on children with LD, and compared their perceptions of social support across two different types of settings (regular education classroom and resource program).

Social Variables and their Relation to Perceived Self-Concept

Social support, social skills, and educational setting were examined in regard to their relation to the perceived self-concepts of children with learning disabilities. Two aspects of self-concept were examined: perceived scholastic competence and perceived social acceptance. Student-perceived teacher support, teacher-preferred social skills, and educational setting were

examined with regard to their relation to student-perceived scholastic competence, and student-perceived classmate support, peer-preferred social skills and educational setting were examined with regard to their association with student-perceived social acceptance. Due to the similarity of the social variables examined, results will be discussed according to each social variable and their relation to perceived self-concept.

Social Support

The current study demonstrated that perceptions of social support were related to the self-concept of children with learning disabilities. Specifically, student-perceived teacher support contributed to the total variance in perceived scholastic competence, and also made unique and individual contributions to scholastic competence. Similarly, students' perceived classmate support contributed to the total, unique, and individual variance in student-perceived social acceptance. In other words, the presence of both teacher and peer support was positively correlated with students' perceptions of their self-concept.

It is important to note that both student-perceived teacher and classmate support demonstrated significance regardless of the way in which the relationship was examined. For example, student-perceived teacher support was first placed in a full regression model with other social variables, and results indicated that teacher support (along with the other variables) contributed significantly to the total variance of student-perceived scholastic competence. Next, after partialling out the variance associated with the other variables in the full model, it was demonstrated that perceived teacher support accounted for a significantly unique proportion of the variance of scholastic competence. Finally, it was demonstrated via an individual regression analysis (i.e., no other independent variables were considered) that teacher support made an individual significant contribution to perceived scholastic competence. This same pattern of

significance occurred for student-perceived classmate support and its relation to student-perceived social acceptance. The fact that both forms of social support contributed significantly to self-concept in three distinct statistical analyses is an indication of the robustness of the relationship between these aspects of social support and self-concept. Furthermore, these results suggest that this relationship between teacher and classmate support and self-concept will likely exist regardless of what other social variables, if any, are present.

These findings are consistent with previous research, which has generally found a positive relationship between levels of social support and students' perceptions of self-concept (e.g., Demaray & Malecki, 2002; Forman, 1988; Kloomok & Cosden, 1994). The findings from the present study are unique, however, because previous investigators have not focused on specific forms of social support (i.e., teacher and peer support) and how they relate to specific aspects of self-concept (i.e., scholastic competence and social acceptance).

Regarding the correlational relationship between student-perceived teacher support and student-perceived scholastic competence, it is logical that the two variables are related. The more an individual feels that significant others (e.g., teachers) have regard for them, the higher their self-worth is likely to be (Harter, 1990). Teachers are in a prime position to assist children with learning disabilities on academic tasks. If teachers provide positive encouragement and support to such children, it would follow that children with LD would be more likely to have a positive self-concept in the area of academics. Indeed, as mentioned earlier, Pavri and Monda-Amaya (2001) indicated that in addition to promoting positive interpersonal interactions, social support enhances the academic performance of children.

The same rationale applies to the relationship between student-perceived classmate support and perceived social acceptance. Children who feel socially supported by their peers are

likely to have a greater sense of social acceptance and feel better about themselves. In fact, Harter (1990) found that classmate (as well as parent) support were the biggest contributors to children's self-worth. Furthermore, Rothman and Cosden (1995) found that children with LD who perceived higher levels of social support from their peers reported less negative perceptions of their learning disability. It can thus be concluded from these findings that student-perceived peer support is indeed critical in contributing to positive self-perceptions among children with learning disabilities.

Social Skills

In general, results of the present study indicated that social skills are positively related to self-concept in children with LD. More specifically, teacher-preferred social skills made total, unique, and individual contributions to student-perceived scholastic competence, and peer-preferred social skills made total and individual contributions to student-perceived social acceptance. Taken together, these findings suggest that the social skills valued by teachers and peers (as reported by teachers) regarding children with learning disabilities have an effect on the self-concept of those children.

Similar to the results regarding student-perceived teacher and classmate support, teacher-preferred social skills demonstrated significant contributions to the variance in scholastic competence in three distinct regression analyses, suggesting that teacher-preferred social skills are strongly related to scholastic competence and will likely demonstrate this relationship regardless of what other factors are present. Peer-preferred social skills, on the other hand, did not demonstrate an ability to account for a significantly unique portion of the variance of student-perceived social acceptance (although approaching significance), despite contributing to the total variance as well as making an individual contribution to the variance in social

acceptance. An explanation for this finding is that the relationship between peer-preferred social skills and student-perceived social acceptance is apparently strong enough to reach significance when examined in isolation (i.e., without considering other variables) or when it is combined with other variables as a group (i.e., in a full regression model), but the relationship is not strong enough to make a unique contribution to the variance in social acceptance when accounting for the variance contributed by other, more strongly related variables. Practically speaking, it is less clear how to interpret these findings. One interpretation is that although peer-preferred social skills are related to student-perceived social acceptance, the relationship is likely to become weaker when other social variables (e.g., student-perceived classmate support) are also being examined. In other words, the presence of other, more strongly related social variables may “overshadow” the effects of peer-preferred social skills.

Research explicitly examining teacher- and peer-preferred social skills and their relation to self-concept is scarce. As was mentioned in the literature review, only one study was located that specifically examined teacher- and peer-preferred skills; other studies have used a variety of methods (e.g., social skills rating scales, sociometrics) to assess the social skills of children with LD. Furthermore, existing research examining social skills among children with LD has compared those students’ skills to the skills of nondisabled children, demonstrating that children with LD tend to score lower on measures of social skills than their nondisabled peers (e.g., Coleman & Minnett, 1992; Gresham et al., 1987; Kavale & Forness, 1996). However, research has not examined the correlational relationship between teacher- and peer-preferred social skills and the self-concept of children with LD. As such, the current investigation has made a distinctive contribution to the literature base in social skills research.

Because research has not previously demonstrated the relationship between preferred social skills and self-concept, findings from the present study address a novel area. Regarding peer-preferred social skills, it may be posited that the correlational relationship between such skills and the social acceptance of children with LD is also linked to social support. Children with LD who have difficulty interacting socially with their peers may have such difficulties because of deficits in social cognition (e.g., misreading social cues, not realizing when their behavior is bothersome to others), and it is likely that such deficits may irritate other children and make interactions between learning disabled and nondisabled children difficult (Hallahan & Kauffman, 2000). In such instances, children's failure to exhibit appropriate social skills likely results in a decrease in social support from their peers, in turn reducing their feelings of social acceptance. Indeed, Kavale and Forness (1996) demonstrated that teachers and peers rated children with LD as having weaker social skills than their nondisabled peers, and it was found that 79% of children with LD were rejected by their nondisabled peers (see literature review for a discussion). However, if children with LD do exhibit appropriate social skills, it is likely they will interact better with their peers, increase social support from their classmates, and thus experience a greater sense of social acceptance.

It is more difficult to interpret the finding that teacher-preferred social skills were related to student-perceived scholastic competence among children with LD, as others' research has not previously demonstrated this particular relationship. Recall that teacher-preferred social skills, as assessed by the SSCSA in this study, pertain to peer-related interpersonal skills highly valued by teachers. It may be that if teachers accurately perceive students with LD as displaying appropriate social skills with their peers, such skills could lead to greater social support from their peers, which in turn would likely increase their sense of scholastic competence. Future

research in this area would be helpful to better understand the relationship between teacher-preferred social skills and student-perceived scholastic competence.

Educational Setting

Findings from the present investigation indicated that educational setting contributes to student-perceived scholastic competence and social acceptance when included in a full regression model, as well as when examined independently from other social variables. These results suggest that, when in combination with other social factors (i.e., perceived social support and preferred social skills), as well as in isolation from other variables, educational setting is correlated with aspects of self-concept. Closer examination of these findings, however, suggests that the contributions made by educational setting should be interpreted with reservation.

First, educational setting did not make a unique contribution to either scholastic competence or social acceptance when accounting for the variance contributed by other variables in the full model. This indicates that setting is not able to demonstrate a significant relationship with self-concept when other, more strongly related variables are also being considered. In addition, when examined individually, educational setting did not contribute a significantly greater amount of variance after accounting for the variance already contributed by sex and IQ. (This was not true for social support or social skills.) Considering the weaker relationship of educational setting to self-concept, when compared to social support and social skills, findings are generally consistent with previous research indicating there are no significant differences between the self-concept of students with LD in regular educational settings versus resource settings (e.g., Battista, 2000; Dawson, 2001; Forman, 1988; Giordanella, 1997).

Sex and IQ

Interestingly, sex and IQ (included as control variables) each made significant unique contributions to the variance in children's self-concept, and in some instances made even greater contributions than some social variables that were expected to make significant unique contributions. Specifically, sex made a greater unique contribution to scholastic competence than student-perceived teacher support and teacher-preferred social skills (setting did not make a significant unique contribution). Similarly, IQ made a greater significant unique contribution to social acceptance than student-perceived classmate support (peer-preferred social skills and setting did not make significant unique contributions). These findings are rather unexpected, considering the effort exerted to examine specific aspects of variables of interest while controlling for sex and IQ.

Implications, Limitations, and Future Research Directions

The results of the present investigation indicate that student-perceived teacher and classmate support, as well as teacher-and peer-preferred social skills, demonstrated a compelling correlational relationship with scholastic competence and social acceptance, yet educational setting demonstrated a weaker relationship with those aspects of self-concept. These findings yield several implications for practicing school psychologists and the children they serve. The implications for school psychologists will be presented next, followed by a discussion of implications related to children with learning disabilities.

Implications for School Psychologists

Perhaps the most significant implication of the current study is the importance of considering the social interactions that occur between and among children with LD and their teachers and peers. As evidenced by the current study, social support from teachers and

classmates has a significant impact on the self-concepts of children with LD. To increase awareness, school psychologists should share this information with teachers and other individuals who interact with children with LD on a regular basis. Whether through formal workshops, consultative settings, or casual encounters in school hallways, school psychologists should emphasize how critical social support from teachers is to the self-perceptions of students with LD. Because students with learning disabilities are more and more often placed in inclusive academic settings, general education teachers are responsible for teaching an increasingly diverse group of students (Stanovich, Jordan & Perot, 1998). Consequently, it is important to ensure that teachers are well prepared to both instruct as well as support children with learning disabilities, as it is likely that many teachers do not realize how influential their social support is for students with LD. Furthermore, teachers may not have an appreciation of how social support from students contributes significantly to self-perceptions among children with LD, the influence of which was also demonstrated in the current study. As such, teachers should be encouraged to help their students demonstrate socially supportive behaviors toward other students, such that a strong supportive network is established in the classroom.

Additionally, the current investigation has demonstrated that teacher- and peer-preferred social skills of children with LD contribute to children's self-perceptions, and when combined with social support, these social variables have a significant impact on the self-conceptions of children with LD. Again, the implication is for school psychologists to help increase the awareness of teachers and other professionals regarding the impact teacher- and peer-preferred social skills have on the self-perceptions of students with LD. As was mentioned earlier, it is likely that when children with LD exhibit social skills that are highly valued by teachers and peers, they will be more likely to feel socially supported. As such, school psychologists,

teachers, and other professionals should initiate efforts to bolster children's social skills, such that positive social processes result in the classroom.

These implications lend credence to a proposition advanced by researchers LaGreca and Vaughn (1992), who suggested that instead of searching for the one correct explanation for the social problems many children with LD face, it might be more appropriate to search for understanding through the multiple pathways that contribute to social problems and youth with LD. Similarly, Zigler, Hodapp, and Edison (1990) suggested that setting is only a contextual variable, and that it is within this context that interactions of importance occur, including instructional as well as social exchanges. Stated succinctly, setting is a weak variable in explaining variability in educational outcomes (Kauffman & Lloyd, 1995). As such, it is important to examine the social *processes* that exist within classrooms, rather than the classroom settings themselves, when looking at the academic and social functioning of children with learning disabilities.

Expanding on this concept, Vaughn and Schumm (1995) have emphasized that when making educational placement decisions for students with learning disabilities, the primary concern should be the presence of appropriate instructional techniques, as evidenced by effective procedures and outcomes. Furthermore, they posited that placement decisions should emphasize and account for students' academic and social progress. Relating these ideas to the results of the present investigation, it is likely that the social processes and interactions that take place within the classroom, such as the provision of social support and the demonstration of teacher- and peer-preferred social skills, contribute to appropriate instructional practices, in turn enhancing the scholastic and social competence of children with LD. Furthermore, if educators and school psychologists are not mindful of the importance of cultivating this sort of positive environment

for children with LD, efforts to improve the self-conceptions of such children will likely be in vain (Elbaum & Vaughn, 2001).

Implications for Children with Learning Disabilities

The findings from the present study also have implications for children with LD and how they perceive themselves. A prime implication is that when comparing differences in the self-perceptions of children with learning disabilities, one must consider how such children formulate their self-perceptions. According to Harter (1999), the notion of the self is a social construction, and it is important to examine how socialization experiences in children's interactions with caregivers, peers, teachers, and others will influence one's self-representations.

Social comparison approaches maintain that individuals define themselves in terms of their social group membership as well as through available social comparisons (Crabtree & Rutland, 2001). Indeed, previous research has demonstrated that the individuals to whom children compare themselves have an effect on their self-perceptions. During the course of a school year, Renick and Harter (1989) examined the academic self-concepts of children with LD when they compared themselves to two different groups: children with LD and typically achieving children. It was found that when the children compared themselves to other children with LD in their resource program, they maintained high perceptions of their academic self-concept, but when they compared themselves to typically achieving students in their regular classes, they perceived themselves as becoming less academically competent over the course of the school year. Such findings suggest that placing children with LD in settings containing children with similar ability levels may be beneficial for their perceptions of self-competence, particularly in the area of academics.

A related issue is that of the Big-Fish-Little-Pond-Effect (BFLPE), which posits that a student's academic self-concept is due in part to the student's academic achievement level, and in part to the average achievement levels of other students in the same school in which the student attends (Marsh & Hau, 2003). The BFLPE further states that equally able children will have higher academic self-concepts in schools where the average achievement is low, and will have lower academic self-concepts in schools where the average achievement is high. This theory was tested in an extensive study examining the academic self-concepts of children from 26 different countries. Results supported the BFLPE, indicating that children in schools where the average achievement was low had higher academic self-concepts, whereas children in schools where the average achievement was high had lower academic self-concepts (Marsh & Hau, 2003). Applied to a classroom rather than a school-wide setting, the BFLPE would suggest that children with LD may have differing levels of academic self-concept depending on the type of classroom in which they are placed. Specifically, children with LD may be more likely to have better perceptions of their scholastic competence when placed in settings where they are with other children with disabilities (and who have similar achievement levels), rather than in settings where they are primarily with typically achieving children who likely demonstrate higher achievement levels.

Recall that when compared to the strong influence of social support and social skills on children's perceptions of scholastic competence and social acceptance, educational setting demonstrated a relatively weaker relationship with children's self-perceptions. As such, Harter's research on social comparison theory, as well as the BFLPE, support the importance of focusing on the social processes within academic classrooms, not simply the classroom in and of itself.

Limitations and Future Research Directions

The discussion will now focus on the limitations of the current investigation and areas for future research. First, because the design of the study was correlational rather than experimental, it is not possible to claim causal relationships among the variables studied. Although it can be concluded that, for example, student-perceived teacher support is related to student-perceived scholastic competence, it cannot be concluded that student-perceived teacher support *causes* changes in student-perceived scholastic competence. Although this limitation does not discount the current findings, it does limit the conclusions that can be made regarding the variables studied.

In addition, it is difficult to be certain of the accuracy of the data collected in the current investigation. LaGreca and Vaughn (1992) warned that teachers may be negatively biased by the poor academic standing of students with LD when evaluating these students' social functioning. As such, it is possible that the ratings of students' teacher- and peer-preferred social skills may be skewed. Similarly, social support and self-concept data were obtained using self-report measures completed by the children with LD. Although children may be better than adults at reporting their feelings of social and academic competence, it is important to consider that children may not always be accurate in reporting their own thoughts/behavior (Kamphaus & Frick, 1996).

In line with this observation, it should be noted that students' language arts teachers, not their special education teachers, provided information regarding students' teacher- and peer-preferred social skills. As such, it is feasible that the results of the current study may be biased. Future investigations might consider obtaining data regarding students' social skills from both

regular education as well as special education teachers to obtain a more comprehensive depiction of children's social skills.

In the current study, social support was measured by obtaining students' perceptions of teacher and classmate support; however, information was not obtained from the teachers and classmates themselves regarding their own perceptions of their provision of support. This is an important limitation, because it is possible that students' perceptions of the support they received may be inconsistent with classmates' and teachers' perceptions of the support they provided. Future research could address this area by comparing the perceptions of teachers, classmates, and students regarding social support to determine any discrepancies that may exist.

Another limitation involves the concept of restriction of range, which occurs when responses on measures display little variability, thus making it difficult to obtain statistical significance. For instance, the possible range of scores for subscales on the *Social Support Scale for Children* is from 1.00 to 4.00. Although the range of responses provided by participants in regular education classrooms on the Student-Perceived Teacher Support subscale of this instrument was 1.00 – 4.00, the range was 1.83 – 4.00 for children in the resource program. As such, it is important to consider differences among groups with regard to their responses, because different ranges of scores may yield different results. In addition, a small range of scores often causes correlational analyses (e.g., multiple regression analyses) to have a limited chance for reaching significance. Although significance was reached in several areas in the current study, restriction of range may still have influenced the results.

A final limitation of the current investigation is the limited generalizability of the results, as this study focused on only fourth and fifth grade students in one region of North Carolina. Future researchers should attempt to broaden the characteristics of the sample to improve

generalizability. For example, researchers could examine middle and high school students, as well as look at children from rural and urban settings to determine whether participants in these populations produce different perceptions of social support, social skills, and self-concept.

In conclusion, results of the present study have demonstrated the important relationship of perceived social support and preferred social skills to the perceived scholastic and social self-concepts of children with learning disabilities. Implications of the current investigation have pointed to the role of school psychologists in helping teachers to become more aware of the importance of the social processes that occur within academic settings, as well as important considerations for children when as they form their self-conceptualizations. It is hoped that with greater understanding, school psychologists, teachers, and other professionals will be better able to provide educational environments for children with LD that foster both scholastic competence as well as social acceptance.

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Appendix A

Table A

Full Multiple Regression Analysis with Student-Perceived Teacher Support, Teacher-Preferred Social Skills, and Educational Setting and their Relationship to Student-Perceived Scholastic Competence^a

Independent variable	<i>df</i>	<i>F</i>	<i>p</i>	<i>Adj. R²</i>	<i>StdB^l</i>	<i>df</i>	<i>t</i>	<i>p</i>	<i>ssppcc²</i>
Full Model (all variables)	5, 54	6.39	.0001***	.3137					
Individual Variables									
Teacher Support ^b				.1499	1	2.34	.0230*		.0637
Teacher Skills ^c				.0328	1	2.27	.0270*		.0601
Educational Setting				.1786	1	0.87	.3864		.0089
Sex				.2289	1	2.83	.0066**		.0929
IQ				.0081	1	1.17	.2479		.0159

^a*Self-Perception Profile for Children*

^b*Social Support Scale for Children*

(Table A continues)

Table A (continued)

^c*Walker-McConnell Scale of Social Competence and School Adjustment*

*Significant at .05

**Significant at .01

***Significant at .0001

¹Standardized regression coefficient

²Squared semi-partial correlation coefficient

Appendix B

Table B

Three Multiple Regression Analyses Examining Student-Perceived Teacher Support, Teacher-Preferred Social Skills, and Educational Setting and their Individual Relation to Student-Perceived Scholastic Competence^a

Independent Variables	<i>df</i>	<i>F</i>	<i>p</i>	<i>Adj. R²</i>
Model with Student-Perceived Teacher Support ^b (IQ, Gender, Teacher Support)	3, 56	8.43	.0001***	.2741
Model with Teacher-Preferred Social Skills ^c (IQ, Gender, Teacher-Preferred Skills)	3, 56	7.71	.0002**	.2544
Model with Educational Setting (IQ, Gender, Setting)	3, 56	4.07	.0110*	.1351

^a*Self-Perception Profile for Children*

^b*Social Support Scale for Children*

^c*Walker-McConnell Scale of Social Competence and School Adjustment*

*Significant at .05

(Table B continues)

Table B (continued)

**Significant at .0005

***Significant at .0001

Appendix C

Table C

Full Multiple Regression Analysis with Student-Perceived Classmate Support, Peer-Preferred Social Skills, and Educational Setting and their Relationship to Student-Perceived Social Acceptance^a

Independent variable	<i>df</i>	<i>F</i>	<i>p</i>	<i>Adj. R²</i>	<i>StdB¹</i>	<i>df</i>	<i>t</i>	<i>p</i>	<i>sspcc²</i>
Full Model (all variables)	5,54	14.02	.0001**	.5246					
Individual Variables									
Classmate Support ^b					.1178	1	5.62	.0001**	.2546
Peer Skills ^c					.0260	1	1.86	.0681	.0279
Educational Setting					.1502	1	1.06	.2931	.0091
Sex					.1975	1	0.89	.3749	.0065
IQ					.0065	1	-3.03	.0038*	.0740

^a*Self-Perception Profile for Children*

(Table C continues)

Table C (continued)

^b*Social Support Scale for Children*

^c*Walker-McConnell Scale of Social Competence and School Adjustment*

*Significant at .005

**Significant at .0001

¹Standardized regression coefficient

²Squared semi-partial correlation coefficient

Appendix D

Table D

Three Multiple Regression Analyses Examining Student-Perceived Classmate Support, Peer-Preferred Social Skills, and Educational Setting and their Individual Relation to Student-Perceived Social Acceptance^a

Independent Variables	<i>df</i>	<i>F</i>	<i>p</i>	<i>Adj. R²</i>
Model with Student-Perceived Classmate Support ^b (IQ, Gender, Classmate Support)	3, 56	21.46	.0001***	.5099
Model with Peer-Preferred Social Skills ^c (IQ, Gender, Peer-Preferred Skills)	3, 56	7.98	.0002**	.2620
Model with Educational Setting (IQ, Gender, Setting)	3, 56	4.84	.0046*	.1635

^a*Self-Perception Profile for Children*

^b*Social Support Scale for Children*

^c*Walker-McConnell Scale of Social Competence and School Adjustment*

(Table D continues)

Table D (continued)

*Significant at .005

**Significant at .0005

***Significant at .0001