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Many students with learning disabilities have difficulty establishing and maintaining high quality friendships (Bauminger, Edelsztein & Morash, 2005; Bryan, Wong & Donahue, 2002; Kavale & Forness, 1996). Many factors influence quality of friendship, including language and cognitive abilities, social skills, personality, and temperament. The present study examined the influence of social skills, temperament, and language skills on the quality of friendships in adolescents with and without learning disabilities.

Participants were 30 sixth, seventh and eighth grade middle school students; 16 were typically developing, and 14 had a diagnosis of a specific learning disability. Students completed self-report questionnaires for friendship, social skills, and temperament. Students also responded to questions for six social skill scenarios that involved helping, access, and forgiveness behaviors. No strong relationships were found between friendship quality and measures of social skills, temperament and language skills. The best predictors of friendship quality were attention and empathy, but these accounted for less than 30% of the variance. As expected, the TD group had significantly higher mean scores for friendship quality, language skills, inhibitory control, and affiliation. There were no significant group differences for social skills.

The findings confirm the significant challenges with friendship quality experienced by adolescents with learning disabilities. Future studies should continue to investigate the influence of temperament, language, and social skills on friendship quality.

THE INFLUENCE OF TEMPERAMENT AND SOCIAL SKILLS ON
QUALITY OF FRIENDSHIP IN STUDENTS WITH AND
WITHOUT LEARNING DISABILITIES

by

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CHAPTER I

STATEMENT OF THE PROBLEM

Students with learning disabilities not only have academic deficits but also have difficulty establishing and maintaining high quality friendships (Bauminger, Edelsztejn & Morash, 2005; Bryan, Wong & Donahue, 2002; Kavale & Forness, 1996). Numerous studies have found that students with LD are often rejected by their peers, display more negative social behaviors, engage in off-task activities and have relationships which are unstable with limited companionship and sharing (Milsom & Glanville, 2010; Wiener & Schneider, 2002; Wiener & Sunohara, 1998). While the number or quantity of friends for students with LD are similar to their regular education classmates, research has demonstrated that students with LD often have more casual relationships with limited interaction or appear to engage in friendships with younger children or with children who do not attend their school (Wiener & Sunohara, 1998).

Friendships require competence in areas related to language, cognition, social abilities, and temperament. Proficiency with language skills is important as friends need to be able to adapt their communicative style to their communication partner, understand the perspective of a listener, maintain control of a conversation with questions and responses, and understand ambiguous language (Feigen & Meisgeier, 1987). Similarly, possessing the necessary cognitive skills for friendship is essential as delays in this area could impact opportunities for social learning and limit the ability to practice positive

social behaviors (Bellanti & Bierman, 2000). The social abilities most important for the development and maintenance of friendships involve (a) prosocial behaviors such as cooperation, helping and sharing; (b) assertiveness, including initiating and joining others; and (c) self-control or being able to forgive and resolve conflicts successfully (Milsom & Glanville, 2010; Feigen & Meisgeier, 1987; Wiener & Schneider, 2002; Nelson & Crick, 1999). The relationship between temperament and friendship quality may be another vital area of research as studies have shown that an individual's temperament can have a profound effect on peer relationships and life satisfaction (Sanson, Hemphill & Smart, 2004; Fogle, Huebner, and Laughlin, 2002). Research to date has primarily focused on the interactions between temperament and academic achievement, behavioral issues, and social problem solving skills in children without disabilities (Bramlett, Scott & Rowell, 2000; Rudasil & Knold, 2008; Stanhope, Bell & Parker-Cohen, 1987; Walker & Henderson, 2011; Wilson, 2006). Research findings have suggested that traits such as extraversion, approach/withdrawal, persistence, adaptability, inhibitory control and attention are positively related to better social and academic skills as well as overall life satisfaction (Bramlett et al, 2000; Fogle, Huebner & Laughlin, 2002; Walker & Henderson, 2011). There is limited research, however, on the relationship between temperament and quality of friendships in students with disabilities.

The present study was designed to investigate the influence of temperament, social and language skills on the quality of friendship of adolescents with learning disabilities.

CHAPTER II

LITERATURE REVIEW

This section will first provide an overview describing the quantity and quality of friendships in students with learning disabilities. Then there will be an examination of the literature with regards to social skills and temperament in typical students, in students with learning disabilities (LD) and the relationship of these two factors with quality of friendship in students with LD.

Friendship and Learning Disabilities

The quantity and quality of friendships for the majority of students with learning disabilities have been found to be atypical when compared to non-disabled peers. Several studies have explored these differences with various results. One area of conflicting research pertains to the quantity of friends for students with LD in comparison to their non-disabled peers. Some studies have found that the number of friends is similar and some report significant differences when larger sample sizes are used (Vaughn et al, 1998; Wiener & Sunohara, 1998; Wiener & Schneider, 2001). The majority of studies on friendship quantity, however, have reported that students with LD often have friends who are much younger and also have a greater number of friends with learning problems when compared to students without LD (Matheson, Olsen & Weisner, 2007; Overton & Rausch, 2002; Wiener & Schneider, 2001; Wiener & Sunohara, 1998).

Studies investigating friendship quality have found that students with LD have considerable difficulty maintaining stable friendships. They have higher levels of conflict, take a less active role in developing friendships, and have more problems with relationship repair than their non-disabled peers (Murray & Greenberg, 2007; Overton & Rausch, 2002; Wiener & Sunohara, 1998; Wiener & Schneider, 2001).

Many researchers have also examined parent perceptions of friendship quantity and quality for their children with LD (Mason, Timms, Hayburn & Watters, 2012; Matheson, Olsen & Weisner, 2007; Murray & Greenberg, 2007; Overton & Rausch, 2002; Shany, Wiener & Assido, 2012; Wiener & Sunohara, 1998;). Parents often attribute their children's problems with friendship to social immaturity or social skill deficits (Wiener & Sunohara, 1998). When participating in focus groups and asked about goals that they have for their children's friendships, parents expressed a strong desire for their children to be accepted and included by peers, to have one or more "best" friends, to have friends who are not always in trouble, and to be able to distinguish when someone is a "true" friend (Overton & Rausch, 2002).

When students with LD have been asked about characteristics of successful friendships, important factors were companionship, doing activities across contexts, similarity in interests and personality, sheer proximity, and stability (Matheson et al., 2007). In the same study, students with LD noted that their friendships with other students with disabilities were more stable than the friendships they had with non-disabled peers. Murray and Greenberg (2007) not only examined perceptions of relationships with peers but also explored relationships and bonds held with parents,

teachers, schools and neighborhoods. Findings from their interviews with students with high-incidence disabilities suggest that students with disabilities who experience peer rejection and alienation are more likely to exhibit emotional and behavioral problems. Murray and Greenberg (2007) stress the importance of finding ways to enhance the quality of relationships for students with high-incidence disabilities. The following sections will explore social skills and temperament and the influence these factors may have on quality of friendships for students with learning disabilities.

Social Skills

Social Skills in Typical Students

Several researchers have investigated the influence of social skills on the quality of friendship in typical students and have outlined some of the most critical behaviors needed for success (Asher et al., 1996; Milsom & Glanville, 2010; Nelson & Crick, 1999). Possessing the prosocial skills of helping, sharing, and cooperating are repeatedly mentioned in the research as being important (Asher et al., 1996; Nelson & Crick, 1999; Stanhope et al, 1987). For example, Nelson and Crick (1999) noted in their study of 887 fourth through sixth graders that prosocial young adolescents “hold specific social-cognitive patterns that are likely to support their prosocial nature.” For example, these adolescents were found to be more positive and significantly less distressed when presented with aggravating situations. Other important skills as outlined by Asher et al. (1998) include being able to initiate contact with peers, offering forgiveness, sticking up for a friend, entering a group, managing conflict, maintaining interaction, apologizing, and repairing a friendship after a fight.

Forgiveness appears to be a particularly important skill for friendship quality as noted by McCullough and Witvliet (2002). In their discussion on the importance of forgiveness to friendship quality, they note that forgiving people become less negative and more positive over time and they tend to endorse socially desirable attitudes and behaviors. Glick and Rose (2011) found in their study of 912 children in third, fifth, seventh and ninth grades that prosocial skills such as helping a friend through a problem did not influence friendship quality but blaming a friend for a problem did have a significant influence.

Empathy may be another essential skill for friendship quality as it is related to higher levels of intimacy, prosocial skills, and conflict management skills (Chow, Ruhl & Buhrmester, 2013; de Wied, Branje & Meeus, 2007). Chow et al. (2013) investigated the effect of empathy on friendship quality in 146 same-sex friend dyads in 10th grade and found that empathy was positively related to intimacy and conflict management competencies. In a study on empathy and conflict resolution in friendship relations among 307 adolescents, de Wied et al. (2007) discovered that higher levels of dispositional or trait empathy was associated with more successful conflict management.

One of the models being used to evaluate how skillful an individual may be in their social ability is the social information processing (SIP) model (Nelson & Crick, 1999). The SIP model outlines the sequential processing of social information through the five steps of encoding, interpreting, clarification, response access, and response decision. It hypothesizes that the more skillful an individual is at each step the higher their social ability will be. Researchers initially used this model to evaluate negative and

aggressive behaviors in individuals but it is now being used to also gather information about emotional understanding and regulation, attachment security, and for comparison of disability and normative populations (Bauminger & Kind, 2008; Bauminger et al., 2005; Erdley et al, 2010; Nelson & Crick, 1999; Tur-Kaspa & Bryan, 1995).

Social Skills in Students with LD

Kavale and Forness (1996) note that up to 75% of students with learning disabilities manifest social skill deficits. This is a critical finding as poor social skills have been found to be more limiting than academic deficits (Feigin & Meisgeier, 1987). Some of the social skills that have been found to be particularly at risk in the learning disabled population include smiling while talking, asking questions, making requests, dealing with conflicts, giving and accepting criticism, responding less often to peer initiations, demonstrating less initiative in social situations, and exhibiting difficulties with taking the lead in conversations (Feigin & Meisgeier, 1987; Schumaker & Hazel, 1984). Schumaker and Hazel (1984) noted that deficiencies in these areas are often associated with poor long-term adjustment. Bryan (2005) stated that while there are consistent results detailing the types of social skills problems that students with LD are likely to experience, social skills are not currently included in the definition of LD.

As noted previously, several studies have examined responses during social interactions using the Social Information Processing (SIP) model (Bauminger et al, 2005; Bauminger & Kimhi-Kind, 2008; Crick & Dodge, 1994; Dodge et al., 1986; Erdley et al, 2010; Nelson & Crick, 1999). Bauminger and Kimhi-Kind (2008) utilized the SIP model to compare responses to various social vignettes involving attachment security and

emotional regulation in middle childhood boys with and without LD. Results revealed that students with LD demonstrated major difficulties for all five steps of the SIP model indicating lower attachment security and less emotional regulation in children with LD.

Some studies addressing social skills in the learning disabled population have focused on social skill development across settings (Vaughn et al, 1998; Wiener & Tardif, 2004). Vaughn et al. (1998) compared social outcomes of two different educational settings for students with LD. There was an overall educational setting effect with students in a consultation/collaborative teaching setting demonstrating more positive outcomes than students in a co-teaching setting. Wiener and Tardif (2004) found similar results when they compared four types of special education settings in terms of social acceptance, number of friends, and quality of relationship with their best friends. They found that children in more inclusive placements had more positive social and emotional functioning.

There are very few studies focusing on the influence of specific social skills in disability populations (Brinton et al., 1997; Rogé & Mullet, 2011). Brinton et al. (1997) investigated access behavior in 6 children with SLI ages 8:10 to 12:15 and found that two of the children did not access and the four remaining children required varying amounts of time to access. Children with SLI were also noted to talk less, were addressed less, and collaborated less during these interactions. Mok, Pickles, Durkin and Conti-Ramsden (2014) conducted a longitudinal study of peer relations in children and adolescents with SLI. They discovered that prosocial behavior and emotional symptoms were strongly associated with peer relations.

La Greca and Mesibov (1981) ran a social skills program for four boys with learning disabilities ages 12 to 16 with a specific focus on joining behavior (initiating social interactions) and conversation skills. They chose the skills of joining and conversational skills because of their significant contribution to a child's peer acceptance. They found that both joining and conversational skills were significant problems for the boys participating in the program.

Blame and forgiveness judgments were examined by Rogé and Mullet (2011) in children, adolescents, and adults with and without autism spectrum disorder (ASD). They used two sets of six scenarios with a combination of intent and severity information or intent and apology information. For the blame conditions, persons with ASD were found to use intent information consistently but not to the same degree as the control group. For the forgiveness condition, persons with ASD at all age levels did not take intent into account.

Social Skills and Quality of Friendship in Students with LD

There are few studies specifically addressing the relationship between social skills and quality of friendship in students with learning disabilities. Wiener and Sunohara (1998) interviewed parents of 16 children with learning disabilities about their perceptions of friendship quality of their 10 to 14 year old children. Using qualitative analyses, results revealed that several mothers attributed friendship problems to social immaturity or social skill deficits. Many of the children had unstable friendships that were not always mutual or involved limited companionship. Social status and peer acceptance was discussed by Feigin and Meisgeier (1987) in their review of critical social

and behavioral issues in individuals with learning disabilities. They noted that students with learning disabilities are often poorly accepted and often rejected or neglected by classmates due to difficulties with interpreting social cues, engaging in more negative social behaviors, and significant differences in quality of peer interactions.

Temperament

Temperament in Typical Students

Temperament is another important factor which may influence an individual's quality of friendship. Sanson et al. (2004) notes that there are clear links between specific dimensions of temperament and particular aspects of social development. Several researchers have investigated how specific dimensions of temperament may influence an individual's social behavior (Asendorpf & Wilpers, 1998; Rudasil & Konold, 2008; Selfhout et al., 2010; Stanhope et al., 1987; Walker & Henderson, 2011; Wilson, 2006; Yu, Branje, Keijsers & Meeus, 2014; Zion & Jenvey, 2006).

The big five personality traits important for friendship were examined by Selfhout et al. (2010) in a study of 205 psychology freshman. These five traits consisted of openness, conscientiousness, extraversion, agreeableness, and neuroticism. Results indicated that if an individual has high ratings on extraversion they have more friends; if an individual rates high on agreeableness, they are selected more as friends; and individuals tend to select friends with similar levels of agreeableness, extraversion, and openness.

There are some interesting research findings regarding shy children and quality of friendship (Zion & Jenvey, 2006; Rudasil & Konold, 2008; Walker & Henderson, 2011).

Zion and Jenvey (2006) discovered in their study of 100 primary school children that shyness was found to be a positive predictor of sociability. Rudasil and Konold (2008) noted similar results with regards to the relationship between shyness and social competence in their study of primary school aged children (kindergarten through second grade). While bolder children had higher assertion ratings, shy children with greater attentional focusing also were likely to have higher assertion ratings.

Walker & Henderson (2011) in their investigation of temperament and social problem solving competence in young children found that socially withdrawn children were less likely to initiate interactions with unfamiliar peers, had more indirect requests, and produced fewer commands. Shy children did make attempts but used fewer competent strategies. They were, however, more likely to use subtle means to attain their goals. Inhibitory control was also found to be strongly associated with social interaction.

A few researchers have explored how specific social skills, such as helping behavior, forgiveness, and joining skills, are influenced by temperament (McCullough & Witvliet, 2002; Stanhope et al., 1987; Wilson, 2006). The relationship between helping behavior and children's sociability was explored by Stanhope et al. (1987). Results indicated that sociable children were more helpful in the laboratory but not at home. Wilson (2006) investigated entry behavior in aggressive/rejected children and found that temperamental characteristics accounted for significant variance in entry behavior. With regards to the relationship between forgiveness and temperament, McCullough and Witvliet (2002) noted that forgiving people report less negative affect such as anxiety, depression, and hostility, and are more empathic than their counterparts.

Temperament in Students with LD

Several studies have addressed how certain temperamental characteristics may increase risk or give resilience in the face of adversity (Meltzer, 2004; Teglasi et al., 2004; Werner, 1993; Wong, 2003). Werner (1982) was one of the first researchers to examine resilience by studying a group of children from Kauai, Hawaii. The majority of these children grew up in extremely adverse conditions with unemployed parents, alcoholic or mentally ill parents, and poor conditions. She followed this group of children from infancy through adulthood and found that two-thirds of the children exhibited destructive behaviors, often with substance abuse and unemployment. What was interesting was that one-third of the children did not exhibit these destructive behaviors and were able to be successful adults. She found that these “resilient” children had temperamental characteristics that distinguished them from their counterparts. Some of the “protective” factors observed in these resilient individuals occurred at very young ages and included being agreeable, cheerful, friendly, responsive, and sociable.

There are very few studies which have specifically examined the influence of temperament on students with learning disabilities (Meltzer, 2004; Teglasi et al., 2004). Meltzer (2004) stresses the importance of examining this relationship as it may be important to the ultimate success of students with LD. Teglasi et al. (2004) reviewed the impact of temperament on academic learning and social development and noted the importance of determining which attributes of temperament increase risk or give protection (e.g. activity, attention, emotionality, approach-avoidance, adaptability-flexibility, and self-regulation).

Temperament and Quality of Friendship in Students with LD

Wong (2003) discussed the application of the Risk and Resilience Framework to the social domain of learning disabilities by outlining some general and specific issues. A few of the issues discussed included integrating current research findings with those from previous studies using the risk and resilience framework and the need to continue searching for potential risk and protective factors and their mediating processes. Wong (2003) stresses that being able to deal with conflicts with friends and being able to repair friendships after a fight are particularly important for friendship quality.

Students with learning disabilities struggle with developing and maintaining friendships with peers (Wiener & Sunohara, 1998; Wiener & Schneider, 2001). Existing studies outline the some of the most critical social skill behaviors (e.g. prosocial skills, conflict management, initiation), and temperamental characteristics (e.g. agreeableness, inhibitory control) needed for success (Asher et al., 1996; Nelson & Crick, 1999; Sanson et al., 2004; Selfhout et al., 1987). While there have been studies examining the relationships between social skills, temperament, and friendship quality in typical students, there is limited research on how specific social skills and dimensions of temperament may influence quality of friendships in children with LD.

Purpose of the Current Research

The majority of students with learning disabilities exhibit significant challenges in maintaining stable friendships (Murray & Greenberg, 2007; Wiener & Schneider, 2001). Temperament and social skills are two factors which may significantly influence successful relationships with peers. The purpose of the present study was to compare the

influence of temperament and social skills on the quality of friendships in adolescents with and without learning disabilities. The specific research questions and hypotheses addressed in this study were:

1) Which dimensions of temperament and social skills influence quality of friendship in adolescents with and without LD?

Hypothesis: There will be aspects of both temperament and social skills that influence quality of friendship.

2) Will temperament have a greater influence on friendship quality than social skills?

Hypothesis: Temperament will have a greater influence on friendship quality than social skills.

3) Are there differences in friendship quality, temperament, social and language skills between TD and LD groups?

Hypothesis: There will be differences in all four areas between groups.

CHAPTER III

METHOD

Participants

Participants were 30 sixth, seventh and eighth grade middle school students, 16 were typically developing (mean age=12.28), and 14 had a diagnosis of a specific learning disability (mean age=13.31). The sample was drawn from a public middle school in the triad area of North Carolina. Signed consent forms were obtained for project participation. Participants were identified with a learning disability (one or more standard scores less than 85, corresponding to the 14th percentile rank or lower on one or more achievement tests: reading, spelling, writing, math) and an IQ score (full-scale and/or nonverbal) of at least average (85 or greater). Participants without learning disabilities had both achievement and IQ scores (full-scale and/or nonverbal) greater than 85. If measures of cognitive, reading, or language abilities were not current (older than one year), students were administered standardized tests to assess these abilities. Cognitive functioning was assessed with The Test of Nonverbal Intelligence-Fourth Edition (Brown & Sherbenou, 2010), reading with the Woodcock Reading Mastery Tests, Third Edition (Woodcock, 2011), and language with two subtests from the Clinical Evaluation of Language Fundamentals, Fifth Edition (Wiig, Semel, & Secord, 2013), Recalling Sentences and Word Classes, were administered. Students with other primary

disabilities such as autism spectrum disorder, hearing impairment, ID, and visual impairment were excluded from this study. All participants were native speakers of English.

Procedures

Testing was performed in individual settings over two sessions. During session 1, participants completed two self-report questionnaires: the Social Skills Scale from the Social Skills Rating System (SSRS) and the Early Adolescent Temperament Questionnaire-Revised (EATQ-R). Presentation of these measures was counter-balanced. It took approximately 30-45 minutes to complete both of the questionnaires.

During session 2, participants completed the Friendship and Social Activities Measure (adapted from Botting & Conti-Ramsden, 2008). Participants were also presented with 6 different social vignettes during the session (2 for helping behavior, 2 for forgiveness, and 2 for access behavior) and answered the corresponding questions for each vignette. These measures were counter-balanced. If cognitive, reading or language measures were needed; these were administered during this session.

A follow-up phone call or in-person visit was made to participant's parents to confirm friendship information provided.

Measures

Quality of Friendship

Participants completed the Friendship and Social Activities Measure to gather information about quantity and quality of friendship (see Appendix A). Participants responded by indicating how true each statement was for them (0 – not true, 1 –

sometimes true, 2 – always true). They also listed their friends (first name and last initial) and circled their best friend(s) name. There was a total possible score of 34 with lower scores indicating greater difficulty with quality of friendship. Intra- and inter-rater reliability was calculated for 25% of the transcriptions and scoring of the Friendship and Social Activities Measure and was found to be 99%.

To confirm information provided by participants regarding their friendships at school, a follow-up phone call was made to the student's parent or caregiver to confirm the friends listed by the student. Parents were also asked where and when peer interactions typically occurred.

Social Skills

The Social Skills Scale on the SSRS - student form (Gresham & Elliott, 1990) was administered and contained 34 items covering the following four subscales: cooperation, assertion, empathy, and self-control. Students indicated how true a statement was about each social skill and problem behavior for them using a 3-point frequency scale of 0=never, 1=sometimes, or 2=very often. Standard scores were obtained based on total raw scores. In addition, subscale scores were calculated by adding the ratings for each item and the sum was then divided by the total number of items in that subscale. Internal consistency estimates for the SSRS across all forms and levels yielded a median coefficient alpha for the Social Skills Scale of .90.

Three specific social skill behaviors were assessed using two short vignettes for each area of helping, access behavior, and forgiveness (See Appendix B). Participants were presented with six vignettes, one at a time, typed in large font on laminated card

stock. Each vignette was read aloud two times. Participants were asked to verbally respond to the question “What would you do?” for each. Responses were scored using a scale of 1 to 3 (1=no response or inappropriate response, 2= some response but not complete, and 3=complete response). Examples of responses are in Appendix B. Intra- and inter-rater reliability was calculated for 25% of the transcriptions and scoring of the social skills vignettes and was 98%. Disagreements were resolved through discussion.

Temperament

Participants’ temperament was evaluated by administration of the Early Adolescent Temperament Questionnaire-Revised (Ellis & Rothbart, 2001) The EATQ-R is comprised of 12 subscales which are then separated into 4 factor scores. Some examples of items are: I get frightened riding with a person who likes to speed (Fear subscale); It bothers me when I try to make a phone call and the line is busy (Frustration subscale); My friends seem to enjoy themselves more than I do (Depressive Mood subscale); I feel shy about meeting new people (Shyness subscale). The EATQ-R student report short form was completed by participants and contained 65 items. Responses were scored using a scale from 1 to 5 (1=almost always untrue of you; 2=usually untrue of you; 3=sometimes true, sometimes untrue of you; 4=usually true of you; 5=almost always true of you).

Data Analyses

This study investigated the influence of temperament, social and language skills on the quality of friendships of adolescents with and without learning disabilities. Data were analyzed in terms of the total score obtained from the FSAMTS, the total score and

subscale scores from the SSRS student forms, scores obtained from the six social skill vignettes, the four factor scores and twelve subscale scores from the EATQ-R and the two CELF-5 language subtest scores. All descriptive data and statistical analyses were performed using IBM SPSS.

A series of independent t-tests to analyze group differences on measures of social skills, temperament, and friendship quality were performed. Assumptions of normality, equality of variances (Levene's Test) and outliers were examined per group per measure. Cohen's d was used to calculate effect size for t- tests. If data assumption issues occurred, non-parametric tests (Mann Whitney U tests) were conducted to analyze group differences. Pearson correlations were conducted to examine total sample relationships between measures of social skills, temperament, and friendship quality. Bivariate scatter plots were examined for outliers. Outliers and normality assumptions were examined for all correlations; if data issues occurred, Spearman Rho correlations were conducted. Follow up multiple regression analyses were carried out to determine the best predictors of friendship quality for the total sample. Outliers, normality, and linearity assumptions were examined for each variable entered into the regression analysis. Alpha level was determined using experiment-wise alpha level set at 0.10.

CHAPTER IV

RESULTS

The first research question addressed which dimensions of temperament, social and language skills influenced quality of friendship in adolescents with and without LD. This question was addressed by using Pearson correlations to determine the strength of the relationships among the total score of the FSAMTS, the 12 subscale scores from the EATQ-R (Table 1), the total and subscale scores from the SSRS (Table 2), and the language scores (Table 3). Spearman's Rho was used to determine the strength of the relationships between the FSAMTS total score and the six social skill scenario scores because normality assumptions were not met (Shapiro-Wilk tests, $p < .05$) (Table 4).

Table 1. Pearson (r) Correlations for FSAMTS with Factor and Subscale Scores from the EATQ-R

Variable	Total Sample (n=30)
<i>Effortful Control Factor</i>	0.38
<i>Attention</i>	0.45*
<i>Inhibitory Control</i>	0.36
<i>Activation Control</i>	0.23
<i>Surgency Factor</i>	0.42*
<i>High Intensity Pleasure</i>	0.39
<i>Fear</i>	0.28
<i>Shyness</i>	-0.24
<i>Negative Affect Factor</i>	-0.11
<i>Depression</i>	-0.10
<i>Aggression</i>	-0.18
<i>Affiliativeness Factor</i>	0.34
<i>Affiliation</i>	0.33
<i>Pleasure Sensitivity</i>	0.14
<i>Perceptual Sensitivity</i>	0.14

Note: FSAMTS = Friendship and Social Activities Measure, EATQ-R = Early Adolescent Temperament Questionnaire-Revised; *adjusted $p < .006$

Table 2. Pearson (*r*) Correlations for FSAMTS with Total and Subscale Scores from the SSRS

Variable	Total Sample (n-30)
<i>SSRS total score</i>	0.46*
<i>SSRS subscales</i>	
<i>Cooperation</i>	0.22
<i>Assertion</i>	0.36
<i>Empathy</i>	0.47*
<i>Self-Control</i>	0.17

Note: SSRS = Social Skills Rating Scale; *adjusted $p < .02$

Table 3. Pearson (*r*) Correlations for FSAMTS with Language Scores

Variable	Total Sample (n-30)
<i>Word Classes</i>	0.27
<i>Recalling Sentences</i>	0.24

Note: FSAMTS = Friendship and Social Activities Measure; *adjusted $p < .05$

Table 4. Spearman Rho Correlations for Friendship and Social Activities Measure (FSAMTS) with Social Skills Scenario Scores

Variable	Total Sample (n-30)
<i>Helping Class</i>	0.07
<i>Helping Snack</i>	-0.18
<i>Access Decorate</i>	0.03
<i>Access Outside</i>	-0.11
<i>Forgiveness Game</i>	0.32
<i>Forgiveness Ball</i>	0.19

Note: TD = typically developing, LD = learning disabled; *adjusted $p < .016$

As can be seen in Table 1, the FSAMTS was significantly correlated with only two temperament measures on the EATQ-R, surgency ($r = 0.42, p < .006$), and attention ($r = 0.45, p < .006$). FSAMTS was also significantly correlated with the SSRS total score

($r = .46, p < .01$) and the SSRS empathy subscale ($r = .47, p < .01$) (Table 2). There were no significant correlations for language scores or social skill scenario scores (Tables 3 and 4).

The second research question considered whether temperament had a greater influence on friendship quality than social and language skills. To identify the best predictors of friendship quality, the temperament, social and language variables most highly correlated with FSMATS were entered into a stepwise regression analysis (Table 5).

Table 5. Step-wise Regression Analysis for Best Predictors of Friendship Quality, Total Sample (n = 30)

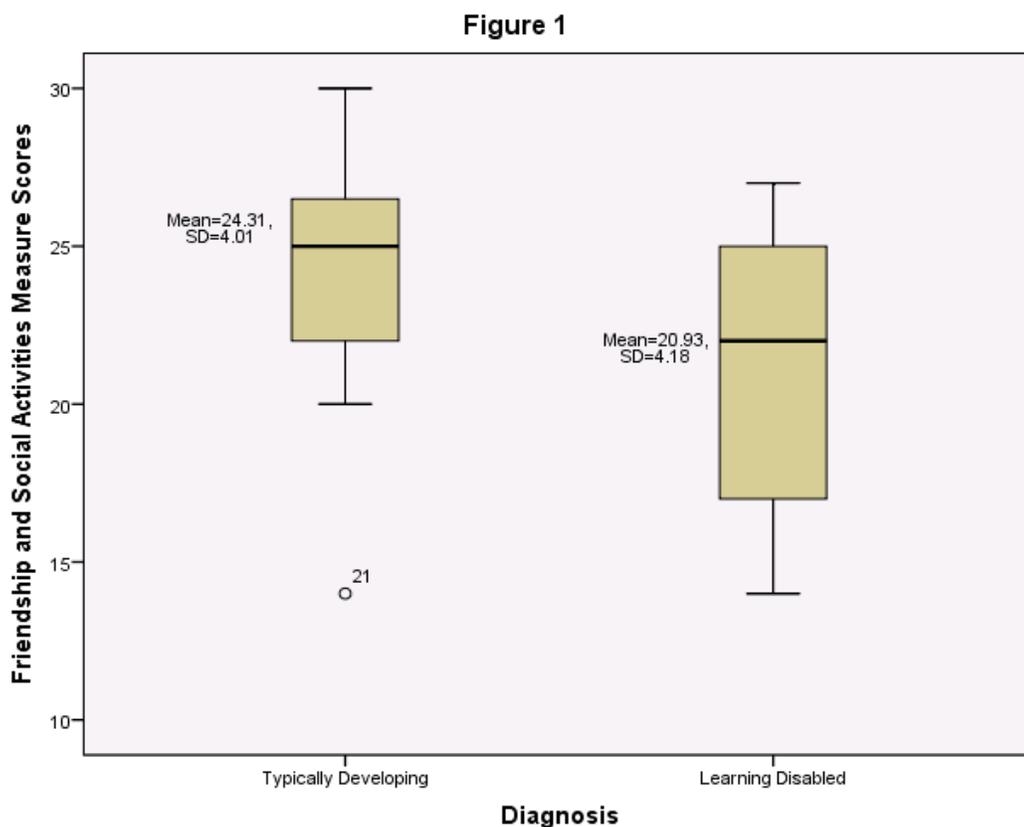
Variable	R	R ²	F	p-value	b	β
<i>Model 1</i>	0.47	0.22	7.80	.009		
<i>SSRS Empathy</i>					6.09	0.47
<i>Model 2</i>	0.59	0.35	7.16	.003		
<i>SSRS Empathy</i>					5.09	0.39
<i>EATQ-R</i>					3.04	0.37
<i>attention</i>						

Note: EATQ-R = Early Adolescent Temperment Questionnaire-Revised; FSAMTS = Friendship and Social Activities Measure; SSRS = Social Skills Rating Scales; TD = typically developing; SD = standard deviation; Model 1 Excluded Variables = SSRS, EATQ-R surgency factor, EATQ-R attention subscale; Model 2 Excluded Variables = SSRS, EATQ-R surgency factor

As can be seen in Table 5, in the first model, empathy explained 19% of the variance in friendship quality (adjusted R Square = .190, $p = .009$). In the second model, empathy and attention accounted for 29.8% of the variance in friendship quality (adjusted R Square .298, $p = .003$).

The third research question addressed whether there were differences in friendship quality, temperament, social and language skills between the TD and LD groups (Figure 1).

Figure 1. Comparison of Group Means for Friendship and Social Activities Measure (FSAMTS) Total Scores



As can be seen in Figure 1, there were significant differences between groups for the FSAMTS total scores ($t = 2.26, p = .02, d = .83$). Tables 6, 7, and 8 present the group comparisons for the EATQ-R, SSRS, and language scores. Mann-Whitney U was used to analyze group differences for social skill scenario scores (Table 9). There were no significant differences between groups for the SSRS total and subscale

scores (Table 7) or for the social skill scenarios (Table 9). Significant group differences in favor of the TD group were found on the EATQ-R subscales of affiliation and inhibitory control (affiliation $t = 2.71, p = .005, d = 1.01$, inhibitory control $t = 2.67, p = .006, d = .98$) and both language subtests (word classes $t = 4.61, p = .00, d = 1.69$, recalling sentences $t = 2.86, p = .01, d = 1.05$). The effect sizes were large for these four comparisons.

Table 6. Group Means, Standard Deviations, and t -Values for Early Adolescent Temperament Questionnaire-Revised (EATQ-R) Factor and Subscale Scores

Variable	TD (n=16)	LD (n=14)	TD x LD		ES
			t -value	p -value	
<i>Effortful Control</i>	3.57 (0.57)	3.17 (0.53)	1.99	.03	[.73]
<i>Attention</i>	3.38 (0.74)	3.26 (0.58)	0.63	.267	[.18]
<i>Inhibitory Control</i>	3.84 (0.77)	3.09 (0.76)	2.67	.006*	[.98]
<i>Activation Control</i>	3.47 (0.90)	3.03 (0.90)	1.35	.095	[.49]
<i>Surgency</i>	3.07 (0.50)	3.24 (0.69)	0.77	.22	[.29]
<i>High Intensity Pleasure</i>	3.15 (0.63)	3.19 (0.94)	0.14	.445	[.05]
<i>Fear</i>	3.12 (0.68)	3.08 (0.93)	0.14	.446	[.05]
<i>Shyness</i>	2.81 (0.94)	2.62 (1.26)	0.47	.323	[.17]
<i>Negative Affect</i>	2.84 (0.66)	2.90 (0.62)	0.26	.39	[.09]
<i>Frustration</i>	3.58 (0.76)	3.45 (0.79)	0.46	.326	[.17]
<i>Depression</i>	2.63 (0.74)	2.29 (0.58)	1.37	.091	[.51]
<i>Aggression</i>	2.31 (0.91)	2.92 (1.04)	1.70	.051	[.63]
<i>Affiliativeness</i>	3.65 (0.61)	3.44 (0.73)	0.86	.19	[.32]
<i>Affiliation</i>	4.09 (0.45)	3.56 (0.61)	2.71	.005*	[1.01]
<i>Pleasure Sensitivity</i>	3.07 (0.67)	3.21 (0.91)	0.35	.366	[.17]
<i>Perceptual Sensitivity</i>	3.78 (0.67)	3.53 (0.91)	0.87	.197	[.32]

Note: TD = typically developing

LD = learning disabled

EATQ-R = Early Adolescent Temperament Questionnaire-Revised

ES = Cohen's d

*adjusted $p < .006$

Table 7. Group Means, Standard Deviations, and *t*-Values for Social Skills Rating Scale Total and Subscale Scores

Variable	TD (n=16)	LD (n=14)	TD x LD		ES
			<i>t</i> -value	<i>p</i> -value	
<i>SSRS total</i>	106.44 (11.72)	96.21 (16.49)	1.98	.03	[.35]
<i>SSRS subscales</i>					
<i>Cooperation</i>	1.53 (0.35)	1.31 (0.29)	1.80	.04	[.68]
<i>Assertion</i>	1.22 (0.32)	1.13 (0.32)	0.75	.23	[.28]
<i>Empathy</i>	1.57 (0.32)	1.36 (0.32)	1.78	.04	[.66]
<i>Self-Control</i>	1.21 (0.35)	1.07 (0.22)	1.29	.10	[.48]

Note: TD = typically developing; LD = learning disabled; SSRS = Social Skills Rating Scale; ES = Cohen's *d*; *adjusted $p < .02$

Table 8. Group Means, Standard Deviations, and *t*-Values for Language Subtest Scores

Variable	TD (n=16)	LD (n=14)	TD x LD		ES
			<i>t</i> -value	<i>p</i> -value	
<i>Word Classes</i>	10.56 (2.87)	5.93 (2.59)	4.61	.00*	[1.69]
<i>Recalling Sentences</i>	10.44 (3.18)	6.93 (3.54)	2.86	.01*	[1.05]

Note: TD = typically developing; LD = learning disabled; ES = Cohen's *d*; *adjusted $p < .05$

Table 9. Group Means, Standard Deviations, Independent Samples Mann-Whitney U Tests for Social Skills Scenario Scores

Variable	TD (n=16)	LD (n=14)	TD x LD	
			<i>p</i> -value	ES
<i>Helping Class</i>	2.75 (0.45)	2.29 (0.73)	.10	[.79]
<i>Helping Snack</i>	2.69 (0.48)	2.57 (0.65)	.76	[.21]
<i>Access Decorate</i>	2.69 (0.48)	2.79 (0.43)	.67	[.22]
<i>Access Outside</i>	2.69 (0.48)	2.36 (0.43)	.47	[.72]
<i>Forgiveness Game</i>	2.50 (0.73)	2.00 (0.78)	.10	[.66]
<i>Forgiveness Ball</i>	2.94 (0.57)	2.36 (0.53)	.08	[1.05]

Note: TD = typically developing; LD = learning disabled; ES = Cohen's *d*; *adjusted $p < .05$

CHAPTER V

DISCUSSION

This study addressed three research questions. The first question addressed which dimensions of temperament, social and language skills influenced quality of friendship in adolescents with and without LD. The findings indicated that there were no strong relationships between friendship quality and measures of social skills, temperament, and language skills. Only moderate correlations were observed for a few aspects of temperament (surgency and attention) and social skills (SSRS total score and empathy). The absence of strong relationships between temperament, social and language skills could be due to a number of factors, such as the use of self-report measures or other aspects which may influence friendship quality, such as motivation, effort, and practice, which were not investigated in the present study.

The measure used to assess temperament was a self-report questionnaire and was developed for use in the typically developing population with limited use in clinical populations, such as LD. This may be worth considering when interpreting the current results. The moderate finding for surgency or extraversion is generally consistent with previous research as it has consistently been shown to have a significant influence on friendship processes (Rothbart et al., 1994; Selfhout et al., 2010; Zion & Jenvey, 2006). The moderate finding for attention may benefit from further investigation. While there

has been some research on reduced quality of friendship in children with ADHD, there has been little research on the relationship between attention and friendship quality in typical children or children with LD.

The total score from the SSRS showed a significant relationship with friendship quality, albeit not a strong one as expected. The SSRS has been widely used in research in both typical and clinical populations with good reliability. Social skills research has established a general relationship with friendship quality but there is some inconsistency in the degree of significance and which aspects of social skills have the most influence (Swanson & Malone, 1992; Wiener & Schneider, 2001). In the present study, there was a moderate correlation for the SSRS subscale of empathy. The aspect of empathy is usually discussed in research involving individuals with ASD and may be worthy of exploration in other clinical populations such as LD.

Surprisingly, there was not a significant relationship between language skills and friendship quality. This finding was unexpected as language measures have been found to be associated with and predictive of friendship quality (Durkin & Conti-Ramsden, 2007; Feigen & Meisgeier, 1987). The language measures used in the present study may not have been an adequate representation of the language skills needed for friendship quality in adolescence. Measures of language skills, such as maintaining control of a conversation, asking and answering questions, understanding ambiguous language, and understanding perspective of a listener might have been more representative of adolescent conversational and discourse skills.

The second research question considered whether temperament had a greater influence on friendship quality than social skills. As noted above, the few significant correlations used for prediction of friendship quality were moderate and when these factors were combined, they accounted for less than 30% of the variance. The variables that best predicted friendship quality included both temperamental and social skills factors (EATQ-R attention subscale, SSRS empathy subscale).

It was expected that some of the “big five personality traits,” such as extraversion/surgency, agreeableness/affiliation, neuroticism/low negative affectivity, would have been strong predictors of friendship quality (Asendorpf & Wilpers, 1998; Selfhout et al., 2010, Yu et al., 2014). Asendorpf and Wilpers (1998) found that the best predictors of friendship quality were extraversion, agreeableness, and conscientiousness in their longitudinal study of the Big Five factors of personality and its effects on social relationships. Similarly, Yu et al. (2014) found that “resilients” or those that generally had higher scores on all five of the Big Five personality traits had higher mean levels of friendship quality.

In the present study, the EATQ-R attention subscale was found to be one of the best predictors of friendship quality rather than one or several of the Big Five personality traits as expected. The attention subscale on the EATQ-R is defined by Ellis & Rothbart (2001) as “the capacity to focus attention as well as to shift attention when desired.” The significant relationship involving attention and friendship quality may be explained by the idea that it is one of the processes related to self-regulation or effortful control which moderates risky, impulsive, and aggressive behavior (Rothbart et al., 1992). Attention is

also one of several factors which have been found to be positively related to academic and social skills, as well as overall life satisfaction (Sanson et al., 2004). Bellanti and Bierman (2010) noted that effective interaction with peers involves attentional factors, such as attending to other's words, facial cues, body language, and relevant details in a given situation and that inattention may have an adverse effect on relationships.

The social skills that were expected to predict friendship quality included conflict management/forgiveness skills and prosocial skills, such as helping and cooperating (Asher et al., 1998; McCullough & Witvliet, 2002; Nelson & Rick, 1999). Research on the relationship between conflict management skills and friendship quality has consistently shown that possessing strong conflict management skills predicts higher quality of friendship (Glick & Rose, 2011; Richard & Schneider, 2005; Rose & Asher, 1999). In their study of conflict management strategies within friendships, Rose and Asher (1999) found that pursuing the goal of revenge toward a friend, rather than compromising or accommodating, was most strongly associated with lacking friends and having poor-quality friendships. Similarly, Glick and Rose (2011) found that negative behaviors such as blaming a friend for a problem predicted lower friendship quality.

The influence of prosocial skills on friendship quality has been less clear. Glick and Rose (2011) found that friendship quality in typically developing children and adolescents was not influenced by prosocial skills such as helping a friend through a problem by offering advice and giving reassurance. In contrast, Mok et al. (2014) found that Prosocial behavior and emotional symptoms were strongly associated with peer relations in a study of longitudinal trajectories of peer relations in children and

adolescents with SLI. Perhaps prosocial skills are more important for friendship quality in students with language disorders as possessing these skills may help moderate impediments in other areas. The use of different measures of prosocial skills may have also influenced the findings. Mok et al. (2014) used the Strengths and Difficulties Questionnaire-teacher report version (Goodman, 1997) whereas Glick and Rose (2011) used participant responses to several vignettes.

Not unexpectedly, empathy was found to be one of the best predictors of friendship quality. Previous studies have shown that empathy is strongly related to prosocial and conflict management skills (Chow et al., 2013; de Wied et al., 2007). Chow et al. (2013) found that empathy was positively related to intimacy and conflict management skills and that adolescents who were higher in intimacy and had better conflict management skills had closer friendships with less discord. Similarly, de Weid et al. (2007) found a strong relationship between an individual's dispositional empathy and successful conflict management.

The third research question addressed whether there were differences in friendship quality, social skills, temperament, and language skills between TD and LD groups. The TD group had significantly higher scores than the LD group on measures of friendship quality, language skills, and two dimensions of temperament (inhibitory control and affiliation). No significant group differences were found for social skills. The significant group difference in friendship quality is consistent with previous research showing that TD individuals demonstrate higher quality of friendship than their LD peers (Hoyle & Serafica, 1988; Swanson & Malone, 1992; Wiener & Schneider, 2001). The findings of

the current study add to a growing body of literature (e.g., Vaughn & Elbaum, 1999) that differences in friendship quality between TD students and students with LD persist well into the middle school years and the gap may widen with age.

The two temperament subscales that demonstrated a significant difference between TD and LD groups were inhibitory control and affiliation. Inhibitory control is an aspect of executive functioning that is commonly evaluated in clinical populations. The measures typically used to measure inhibitory control in research include the Dimensional Change Card Sort (DCCS) task, the Stroop test, the Stop Task, or the Flanker Inhibitory Control and Attention test. The inhibitory control subscale on the EATQ-R measures inhibitory control differently by presenting realistic situations and having participants rate their responses (e.g., “When I’m excited, it’s hard for me to wait my turn to talk” and “It’s easy for me to keep a secret”). Given the differences in inhibitory control measures, comparison with other research studies needs to be interpreted with some caution.

The significant difference between TD and LD groups on inhibitory control was not necessarily an expected finding. While there have been significant differences found in inhibitory control for individuals with ADHD, the findings have not been as straightforward for students with LD. Purvis and Tannock (2000), for example, found inhibitory control deficits on the Stop Task in both ADHD and LD groups but there was some speculation regarding the possibility of different underlying mechanisms. Jeffries and Everatt (2004) found mixed results for inhibitory control in their study of working memory and executive functioning in primary and secondary school age children

diagnosed with dyslexia and other specific learning disabilities. Participants completed two different inhibitory control tasks, the Stroop test and the Correct Name Interference task. Results from the Stroop test indicated no significant differences between the control group and individuals with dyslexia or other specific learning difficulties. Significant differences were noted for the second inhibitory control measure between the control group and the dyslexia group but not for the control group and participants with other specific learning disorders.

Few studies have compared the temperament dimension of affiliation in LD and TD groups. Weiner and Schneider (2001) found that individuals with LD often have less intimacy in their relationships. This was consistent with the findings in the present study. Students with LD have more negative experiences establishing and maintaining friendships than their TD counterparts. These negative experiences will reduce subsequent attempts to develop closeness and affiliation with peers.

The finding that there were no social skills differences between the TD and LD groups was unexpected. Several researchers have indicated that the majority of individuals with LD present with significant social skill deficits (Feigin & Meisgeier, 1987; Kavale & Forness, 1996; Schumaker & Hazel, 1984). Individuals with LD have been found to have more difficulty with conflict management, joining or access behavior, and conversational skills. Swanson and Malone's (1992) meta-analysis found that students with LD experience less social acceptance than their peers but it was unclear

whether social skills were a primary or secondary area of deficit. Additionally, they found that social skills in students with LD improved with age but the gap between the children with and without LD persisted.

The social skill measures used in the present study included a widely used self-report questionnaire (SSRS) and six social skill scenarios representing helping, forgiveness and joining/access skills. It was hypothesized that individuals with LD would struggle with both the forgiveness and joining scenarios based on previous research findings. Surprisingly, no significant differences between groups were found for the six social skill scenarios presented. Using scenarios or vignettes in research has been found to be a useful method for exploring an individual's perceptions about particular situations but it did not differentiate students with LD in the present study. It may be that responses would have been different if individuals were observed during "real-life" interactions rather than when presented with scenarios. It may also be that these kind of social skills have been practiced and rehearsed during educational and social skills interventions previously and are now showing as relative strengths in the middle school years.

Educational Implications

The challenges with friendship quality experienced by adolescents with LD not only impact academic skills but also have implications for the development of close relationships throughout life. The role of friendship quality needs to be on the agenda for anyone working with adolescents who have learning disabilities. With this knowledge, parents, teachers, and clinicians should provide increased opportunities for social interactions and greater emotional understanding and support for developing

relationships. It is essential that risk factors are identified and strategies implemented in the preschool and/or elementary years before the gap widens at the middle and high-school levels when relationships with peers become increasingly important.

Social skill interventions are often incorporated into educational programs for students with LD, especially in primary grades. Results from this study did not find significant social skill differences between TD and LD groups. It may be that incorporating social skill interventions during the preschool and elementary school years is having some success. Consideration should be made to not only continue early social skills interventions but to also expand and practice these skills in the context of friendship development.

While the underlying skills necessary for quality of friendship are not yet fully understood, the current findings taken together with other research suggest that there are aspects of both temperament and social skills that are influential. In the present study, the two variables which best predicted friendship quality were attention and empathy. Incorporating strategies for increasing empathy and attention, such as taking another person's perspective, attending to words, facial cues, body language, and details in conversation, may lead to increased success as students' transition from primary to secondary grades.

Limitations and Future Directions

The current study has a number of limitations. First, the measures used to collect the data were primarily self-report questionnaires. While self-report measures have several advantages, there are also inherent limitations. Participants completing self-report

measures may lack the ability to be introspective, may not completely understand the questions being posed, or may be impulsive in their responses. There is also the possibility of response bias which may provide inaccurate data. Future studies should expand on the use of self-report questionnaires by using observational and objective measures.

The language and social skill measures used may not have adequately assessed the difficulties experienced by students in middle school. The two language subtests used were representative of general receptive and expressive language skills but did not address the more complex language interactions that may occur during adolescent peer interactions. Investigating the relationship between narrative and discourse skills with friendship quality may be more illustrative. Similarly, the social skill scenarios used may be more representative of situations observed at the elementary level and not typical of experiences encountered in middle school. It may also be that prior learning has had a positive impact on social skill abilities and these skills are now a relative strength for adolescents with learning disabilities. Future studies should investigate participants' responses to social skill scenarios and determine which strategies for dealing with difficult social skill situations may be the most influential.

Finally, future research should consider how motivation, effort, and practice influence friendship quality. Motivation and effort are two factors which may have a

profound influence on friendship quality in adolescence. If a student has experienced sequential failures with friendships, it would make sense that their motivation to try new relationships would be reduced.

Similarly, the amount of effort and time that a student would put into developing new friendships would be diminished if failure is the expected outcome. Investigating the effects of motivation and effort would not only add to the overall presentation of friendship quality of adolescents with learning disabilities but also assist with the development of effective interventions. Investigating the effects of practice on the development and maintenance of friendships would also be beneficial. As with many skills, having the ability to practice and experience success can have profound effects on outcomes.

Summary and Conclusions

The purpose of the current research was to investigate the influence of temperament and social skills on the quality of friendship in adolescents with and without learning disabilities. The findings add to the current body of literature that students with LD experience significant challenges with friendship quality. The TD group had significantly higher scores than the LD group on measures of friendship quality, language skills, and two dimensions of temperament (inhibitory control and affiliation). Students with LD did, however, show comparable social skills as the TD group. Measures of social skills, temperament, and language skills showed only low to moderate relationships with friendship quality. Attention and empathy were the best predictors of friendship quality, but only accounted for less than 30% of the variance. The language and social

skill measures used may not have adequately assessed the difficulties experienced by students in middle school. Future studies should continue to investigate the influence of temperament, language, and social skills on friendship quality.

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APPENDIX A

FRIENDSHIPS AND SOCIAL ACTIVITIES MEASURE

Adapted from Botting & Conti-Ramsden, 2008; Rose, 2002

1. **It is easy for me to get along with students or adults at my school.**
0-Not true
1-Sometimes true
2-Always true
2. **If I was at a party or get-together, I would try to talk to people I had not met before.**
0 – Not true
1 – Sometimes true
2 – Always true
3. **I talk to kids in my neighborhood.**
0 – Not true
1 – Sometimes true
2 – Always true
4. **I talk to kids on the bus.**
0 – Not true
1 – Sometimes true
2 – Always true
5. **I talk to kids at school.**
0 – Not true
1 – Sometimes true
2 – Always true
6. **I text with my friends.**
0 – Not true
1 – Sometimes true
2 – Always true
7. **I have particular friends that I spend time with.**
0 – Not true
1 – Sometimes true
2 – Always true
8. **My friends are the same age as me.**
0 – Not true
1 – Sometimes true
2 – Always true

9. **My friends come over to my house.**
0 – Not true
1 – Sometimes true
2 – Always true
10. **I confide in my friend(s) about how I am feeling or if I'm worried about something.**
0 – Not true
1 – Sometimes true
2 – Always true
11. **My friends do things that make me happy.**
0 – Not true
1 – Sometimes true
2 – Always true
12. **I have a best friend.**
0 – Not true
1 – Sometimes true
2 – Always true

If you have a best friend, please answer the following questions:

13. **I get together with my best friend at least once a week.**
0 – Not true
1 – Sometimes true
2 – Always true
14. **I get together with my best friend on my own (without other friends or family).**
0 – Not true
1 – Sometimes true
2 – Always true
15. **My best friend and I don't get mad at each other a lot.**
0 – Not true
1 – Sometimes true
2 – Always true
16. **If my best friend and I get mad at each other, we always talk about how to get over it.**
0 – Not true
1 – Sometimes true
2 – Always true
17. **When my best friend or I are having trouble figuring out something, we usually ask each other for help and advice.**
0 – Not true
1 – Sometimes true
2 – Always true

Please list your friends here (first name and last initial) and circle your best friend's name (if applicable):

APPENDIX B

SOCIAL SKILL VIGNETTES

Scoring: 1 = no response/inappropriate response, 2 = some response (i.e. third-party intervention or passive solution), 3 = competent solution

Skill	Vignette	Measure/Questions
Helping (adapted from Asher, 2011)	One day your best friend has to make a presentation in front of the class and when he gets up in front of the class he seems to forget what he was going to say. He does very poorly at making the presentation. All during his presentation, you see a couple of kids whispering and laughing at him. When he is going back to his seat after the presentation, they keep laughing and talking and start pointing at him.	<p>What would you do?</p> <p><i>Examples of responses:</i></p> <p><i>Score of 1:</i> “talk back”</p> <p><i>Score of 2:</i> “I would say good job and you can do better next time.”</p> <p>“I’d try to do something.”</p> <p>“tell the teacher”</p> <p><i>Score of 3:</i> “It’s not right to bully other people. Do not laugh at her.”</p> <p>“I would tell her that she did a great job and tell the kids to try and go up and do what she did.”</p>
	Your teacher is passing around a snack to all of the students but accidentally forgets to give some to Joe who is sitting next to you. Joe tries to get the teacher’s attention but she doesn’t see or hear him.	<p>What would you do?</p> <p><i>Examples of responses:</i></p> <p><i>Score of 1:</i> “I would sit there and laugh.”</p> <p>“Ignore her and eat my own stuff.”</p> <p><i>Score of 2:</i> “Give her half of mine.”</p> <p><i>Score of 3:</i> “I would get up and tell the teacher that Joe didn’t get one.”</p>

Access behavior (adapted from Tur- Kaspa & Bryan, 2004)	One free period you have nothing to do. You walk outside and see two of your peers playing a game. You really want to play with them. You walk up to them but they just keep on playing.	What would you do? <i>Examples of responses:</i> <i>Score of 1:</i> “I would steal whatever game they’re playing.” “walk off and try to find something else to do” <i>Score of 2:</i> “sit there and stare at them until they give in” <i>Score of 3:</i> “ask them if I can join”
	Some of your classmates are helping your teacher decorate a bulletin board for next month’s activities. You want to help too.	What would you do? <i>Examples of responses:</i> <i>Score of 1:</i> n/a <i>Score of 2:</i> “I would work on it” “Make another mini-poster and show it to them” <i>Score of 3:</i> “ask her if I can help”
Forgiveness (adapted from Roget & Mullet, 2011)	You and Tom are playing with a ball outside. You run after Tom to get the ball. Tom trips you. You fall down and hurt your knees very badly. Immediately, Tom is sorry for what he has done and apologizes several times to you.	What would you do? <i>Examples of responses:</i> <i>Score of 1:</i> “wouldn’t be her friend no more” “try to stay calm because sometimes I get real angry” <i>Score of 2:</i> “ask parents for a band-aid” “get up and go home and show my parents” “I would cry and go inside” <i>Score of 3:</i> “I would say it okay, my knees will heal” “forgive her” “I would forgive him because he apologized”

<p>Forgiveness - <i>continued</i></p>	<p>You are sitting on the bus next to a friend. You are playing with one of your hand-held video games. Your friend asks if he can play with it and so you give it to him. He plays with it for a few minutes and then he tells you that an important piece of it has broken off and it no longer works.</p>	<p>What would you do?</p> <p><i>Examples of responses:</i></p> <p><i>Score of 1:</i> “we’re going to have to fight: <i>Score of 2:</i> “get mad” “tell him he have to pay for it” <i>Score of 3:</i> “forgive them for breaking it and tell my parents what happened”</p>
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