UNIVERSITY OF CALIFORNIA
RIVERSIDE

A Study of the Friendship Quality in Adolescents With and Without an Intellectual Disability

A Thesis submitted in partial satisfaction
of the requirements for the degree of

Master of Arts

in

Education

by

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June 2011

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ABSTRACT OF THE THESIS

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High friendship quality is comprised of both positive and negative features in which a friendship should have high levels of intimacy, companionship and closeness and low levels of conflict. Quality of friendship research was examined in adolescents with or without intellectual disabilities (ID) to understand not only the differences but also the predictors of successful peer relationships. The differences between parent and adolescent views of friendship were also considered. Participants were 106, 13-year old adolescents with (N=78) or without intellectual disabilities (N=28). Results demonstrated significant differences between both adolescent and parent reports of adolescents' friendship. Social skills and behavior problems were found to be significant predictors of friendship quality.

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Friendship Quality in Adolescents with and without an Intellectual Disability

Friendship development begins in childhood and changes as children transition to adolescence. Indeed, having friends represents an important aspect of social development that may be indicative of social competence. Likewise, having friends in childhood and adolescence predicts better outcomes in adulthood by increasing self-worth and interpersonal competence (Buhrmester, 1996). Bukowski and Hoza (1989) distinguished three aspects of friendships: the presence or absence of a friendship, the number of friendships, and the quality of these friendships (Vaughn & Elbaum, 1999). Quality of friendship, rather than number of friends and time spent with them, is one of the most important aspects of friendship development in adolescence (Berndt, 1982; Ciairano, Rabaglietti, Rogerro, Bonino & Beyers, 2007; Hartup & Stevens, 1997). Friendship has been shown to indirectly and positively impact child and adolescent relationships, as well as to cushion the transition into early adolescence. Reports of higher quality friendships indicate higher well-being and self-esteem (Berndt, Hawkins & Jiao, 1999; Cillessen, Jiang, West & Laszkowski, 2005), less loneliness (Gaertner, Fite & Colder, 2010) and better school adjustment (Ciairano et al., 2007; Tomada, Schneider, de Domini, Greenman & Fonzi, 2005). Higher quality friendships and social support provided by friends have been linked to more positive adolescent adjustment and development (Hartup & Stevens, 1997; Simpkins, Parke, Flyr, & Wild, 2006).

Friends are defined as people who spend time together, participate in more intense social activities together, and show higher rates of cooperation (Bowker, 2004).

Friendship quality consists of positive and negative dimensions. Positive dimensions of friendship are characterized by the relationship features of intimacy, companionship, and equality whereas negative dimensions are characterized by conflict, competition, and aggression (Berndt, 1996; Bowker, 2004; Buhrmester, 1996; Hawley, Little & Card, 2007). Friendships reflect both dimensions of positive and negative relationship features because even good friends can admit that they sometimes have conflict with each other. Research in the development of friendship is also divided into both quantitative and qualitative dimensions (Demir & Urberg, 2004). The quantitative dimensions include popularity, peer acceptance, and number of mutual friends. The qualitative dimensions include perceived friendship quality and perceived friendship conflict. Friendship conflict is inevitable but has both positive and negative effects, in that those relationships that continue after conflict are likely to improve (Demir & Urberg, 2004). The more qualitative aspects of friendship have been shown to have the highest positive effects on children, *e.g.* to foster their self-esteem, improve their social adjustment and provide support for school involvement and peer acceptance (Berndt, 2002; Berndt & Keefe, 1995; Hartup & Stevens, 1999). This study will focus on the qualitative dimension of friendship in adolescents specifically, the dimensions of warmth and closeness, positive reciprocity and conflict.

Friendship in Typical Adolescents

Most friendship research addresses the changes from childhood into adolescence in typically developing students. Those features of friendship that define typical

adolescent relationships as high in quality are different than those that characterize childhood relationships. While younger children emphasize proximity, similarity, transcending contexts (i.e. spending time together in multiple situations/places) and companionship in their friendships (Matheson, Olsen & Weisner, 2007), adolescents emphasize support, conflict management, stability, trust, loyalty and intimacy (Berndt, 1989; Berndt, 1996; Bukowski, Hoza & Boivin, 1994; Parker & Asher, 1993). Furthermore, adolescent relationships are often characterized by interdependence and reciprocity among friends (Simpkins et al., 2006). These successful peer relationships have related to positive peer sociability, higher self-worth, and perceptions of class support (Berndt, Hawkins, & Jaio, 1999; Rubin, Dwyer, Booth-LaForce, Kim, Burgess, & Rose- Krasnor, 2004).

Bowker (2004) examined friendship characteristics that might encourage or impede relationship stability. Seventh grade students (N=174) were asked to rate the quality of the relationship with their best friend, including level of conflict, and to share the amount of personal information that they knew about their best friend. Results indicated that children with reciprocal best friends knew more about their friends, suggesting a more intimate and self-disclosing friendship; however, this did not result in a higher rating of friendship quality (Bowker, 2004). It was suggested that more traditional indices of friendship (such as perceived closeness, intimacy, and frequency of conflicts) provided a better definition of friendship quality and predictions of friendship. Using intimacy as one of the traditional indices of friendship, adolescents' (ages 12 to 15 years) completed self-report questionnaires about their closest friendships (Bauminger,

Finzi-Dottan, Chason & Har- Even (2008). The findings supported the hypothesis that young adolescents' intimacy could be predicted by their attachment, coherence and disclosure of private thoughts. Specifically, these findings showed a link between an adolescent's sense of security and the ability to form an intimate friendship with a peer, characterizing friendships with higher relationship quality and perceived closeness.

Predictors of successful peer relationships. As children transition from middle school to high school, the importance of strong social skills becomes important for the development of appropriate social relationships. Typically, social skills have been found to be stronger for typically developing students compared with those who have intellectual disabilities (Frostad & Pijl, 2007). Children with ID have been found to engage in more solitary play, have fewer reciprocal friendships and poorer social skills, and these difficult peer interactions appear to be highly stable in childhood (Baker, Fenning, Crnic, Baker & Blacher, 2007; Guralnick, Hammond, Connor & Neville, 2006; Neece & Baker, 2008). Students with ID in adolescence may demonstrate global delays in the areas of social competence such as social, emotional, cognitive and behavioral skills (Hardiman, Guerin, & Fitzsimmons, 2009).

As a result, poor social skills can cause difficulty in establishing social relationships, and poor social relationships can cause underdeveloped social skills (Frostad & Pijl, 2007). These underdeveloped social skills lead children to also have lower quality friendships than those without a disability (Vaughn & Elbaum, 1999; Wiener & Tardif, 2004). In a sample of students with a learning disability (LD), self-

report measures indicated that participants had fewer reciprocated friends, lower quality of friendship, lower social acceptance, poorer social skills and higher levels of problem behavior and loneliness than children without LD (Wiener & Tardif, 2004). Predictors of positive outcomes with peers have found that social skill deficits are associated with poor academic performance, peer victimization and social adjustment problems (Coie & Dodge, 1983; Neece & Baker, 2008; Parker & Asher, 1993). Thus, underdeveloped social skills within school settings place higher demands on student's social abilities because of the increased need for both peer to peer interactions as well as student teacher interactions (Neece & Baker, 2008). Findings from Eisenhower, Baker, and Blacher (2007) suggested that children's social skills may mediate the relationships between disability status and the quality of the student-teacher relationship and thus may also be found to mediate the relationship between students with disabilities and their classroom peers. However, few studies have examined the relationship between child social skills and the quality of their friendships in adolescents with and without an intellectual disability.

The influence of adolescent behavior problems can also prove to be a factor in forming and maintaining close friendships. In studies of young children, three times as many children with ID were rated as having behavior problems as reported by parents and teachers than their typically developing peers (Baker, McIntyre, Blacher, Crnic, Edelbrock, & Low, 2003; McIntyre, Blacher & Baker; 2006). Often this problem behavior can persist over time and generalize across informants. In school settings, children with both cognitive deficits and behavioral problems will more likely have

difficulties adjusting to academic and social-behavioral demands required in school (McIntyre, Blacher & Baker; 2006). Often children who display aggressive behavior are excluded by peers and this can increase their risk for developing later psychological difficulties (Deater-Deckard, 2003). When a child, due to a cognitive delay, fails to understand and identify behaviors that are causing him to be excluded, further peer rejection and a lack of close friendship can emerge. Additional concerns in childhood relationships develop with children who are aggressive and hyperactive, in that they are often avoided and thus tend to experience social isolation; this can perpetuate both internalizing and externalizing problems as further socialization becomes limited (Deater-Deckard, 2003). Identifying the problem behaviors of young adolescents with and without disabilities is important, and may be the first step in specifying the possible predictors of a high quality friendship.

Parent perceptions of friendships. During adolescence, interactions among friends and peer groups typically increase, while those with parents and siblings decrease. The parent-adolescent relationship provides the basis for forming new relationships with peers as closer relationships are formed (Rubin et al., 2004). Those adolescents who interact more frequently and more intimately with friends might be expected to have higher social adjustment and self-esteem (Keefe & Berndt, 1996; Way & Greene, 2006). As children transition to adolescence and require increased support from friends, high quality friendships are of the greatest importance. During preadolescence, ages 9-12 years, peers develop more intimate friendships and social competence in collaboration, perspective-taking, and empathy with their friends (LaFontana & Cillessen, 2010).

As this increase in emotional support, social support and intimacy grows, adolescents rely on their friends for warmth and validation, which in turn may increase school adjustment and involvement (Rubin et al., 2004). Having friends can also moderate shyness and negative outcomes such poor self-esteem and poor sociability (Berndt & Keefe, 1995; Berndt, Hawkins & Jiao, 1999; Booth, Rubin, & Rose- Krasnor, 1998; Rubin et al., 2004). The biggest concerns during this transition into early adolescence are social isolation, acceptance and loneliness (LaFontana & Cillessen, 2010). In a longitudinal study of adolescent friendships, Way and Greene (2006) found that adolescents who reported higher levels of quality family relationships, self-esteem, and student-peer relationships, on average, reported more positive friendships compared to their peers. These adolescents demonstrated a shift from a high-quality and supportive family context to more positive friendships, and they continued to depend on those close to them for social and emotional support. For adolescents with a disability, parents are often still heavily involved in arranging activities, facilitating friendships and relying on family activities for their children (Matheson, Olsen & Weisner, 2007; Turnbull, Pereira, & Blue-Banning, 1999).

While most literature explores the adolescent and peers view of a friendship, considerably less examines how the parent views their own child's friendship. It is important to consider multiple perspectives in measuring adolescent's friendship because children and parents often view the same relationships differently (Wiener & Sunohara, 1998; Wiener & Schenider, 2002). Often so much of a child's interactions with friends are determined by the structure that the parent provides based on the values of friendship

and socialization. The current research on parental perception of their child's relationships is limited and primarily discusses childhood aggression with others. When there were discrepancies between the child and parent perceptions about the child's relationships, the parents often minimized the child's experience, in cases of bullying or conflict with peers (Mishna, Pepler & Wiener, 2006). Waasdorp and Bradshaw (2009) found that parents and their children were mostly in agreement that aggressive behaviors did occur between friends, but were less likely to be in agreement on how often that occurred. While only a few studies have examined the parent perceptions of their children's relationships, those that do focused primarily on the conflict between friends (Mishna, Peper & Wiener, 2006; Waasdorp & Bradshaw, 2009). Additional research that considered the parent perception, found that parents learned to adjust their expectations that having just one good friend or just being included may be enough for their child with a learning disability (Wiener & Sunohara, 1998). This study aims at extending the friendship literature to include parents' reports of their child's friendships in terms of their interactions and quality.

Research in adolescent friendships. Friendship quality, for those with or without and intellectual disability are similar in that a high quality friendship consists of a warm and close relationship in which there is companionship and intimate disclosure and positive reciprocity (Bauminger et al., 2008; Bowker, 2004; Gaertner, Fite & Colder, 2010; Matheson, Olson & Weisner, 2007; Parker & Asher, 1993). Quality friendships can be broken apart more specifically into validation and caring for one another, companionship and recreation in spending time together outside of school, help and

guidance, intimate exchange of personal information and feelings, conflict and conflict resolution (Parker & Asher, 1993). These additional features help identify and define the quality of a friendship in all relationships from childhood to adulthood. Research in the field of friendship for years has focused on defining, classifying, and differentiating the characteristics of a quality friend in typically developing children or adolescents (i.e. Berndt & Keef, 1995; Bukowski, Newcomb & Hartup, 1996; Ciairano et al., 2007; Rubin et al., 2004). Additional research has also identified how friendships are classified, differentiated and characterized as high in quality in students with physical or cognitive disabilities (i.e. Guralnick et al., 2006; Solish, Perry, & Minnes, 2010; Wiener & Tardif, 2004; Turnbull, Pereira & Blue-Banning, 1999). Research is limited in studying a combined sample of adolescents, rather than children, with and without an intellectual disability, and this study seeks to extend the literature (Heiman, 2000; Siperstein, Leffer & Wenz-Gross, 1997; Wiener & Schneider, 2002).

Friendship in Adolescents with an Intellectual Disability

Friendships in children with an intellectual disability (ID) have characteristically different relationship patterns than in typically developing children. The most common concerns with lower functioning adolescents are that these students often have few friends and participate in few social activities, resulting in loneliness throughout their development (Solish, Perry & Minnes, 2009). Children with ID often face more difficulties in finding and keeping a friend during their transition to adolescence, and they develop an increased need for improved social skills (Matheson, Olsen, & Weisner, 2007;

Siperstein & Leffert, 1997). Youth with disabilities are often perceived as less socially competent and of lower social status than their typically matched peers and struggle to resolve their conflicts (Solish, Perry, & Minnes, 2009; Wiener & Schneider, 2002).

Many individuals with an intellectual disability are considered to lack high quality friendships similar to their typically developing peers. Some of these concerns in quality friendships may be a result of the setting in which peers tend to interact, often limited to the educational setting in which students with disabilities are taught. Adolescent students in special education tend to meet friends mostly at school whereas students in regular education classrooms, without a disability tend to meet friends in a variety of settings (Heiman, 2000). The setting in which a student interacts is generally where a network of friends is developed. Heiman (2000) found that few students with intellectual disabilities were concerned with the emotional aspects of a close friendship and often turned to their family for their emotional support and intimacy. It appears that adolescents with developmental delays emphasized domains of friendship typically associated with younger children. Such friendships are considered to be less mature than typically developing peers' friendships that are characterized by reciprocity, loyalty, support and disclosure (Matheson, Olsen, & Weisner, 2007; Siperstein, Leffert & Wenz- Gross, 1997). Many children with a developmental disability rarely form consistent reciprocal friendships. Students with disabilities tend to have simpler notions of what constitutes a satisfying friendship and what they consider the most important factors in a friend. These relationships, instead, are often characterized by less complex expectations of friendships such as playing together in a shared context, being entertaining, and being close together

as part of a group (Heiman, 2000). Finally, Matheson, Olsen & Weisner (2007) showed that lower functioning teens were more likely to say they were satisfied with their friends even though they had fewer friends than did higher functioning or typically developing teens.

Matheson, Olsen and Weisner (2007) interviewed twenty- seven adolescents with developmental delays using a semi-structured interview format. The authors coded the interviews for 11 domains of friendship drawn from the literature on typically developing children: similarity, proximity, transcending context, companionship, reciprocity, mutuality, help/support, conflict management, stability, trust/loyalty, intimacy/disclosure (Berndt, 1989; Bukowski, Newcomb & Hartup, 1996). Matheson, Olsen and Weisner (2007) found that companionship was the most frequently discussed theme, although transcending context, similarity, proximity and stability were also popular themes. On the other hand, intimacy/disclosure, support, reciprocity, conflict management and trust/loyalty were less frequently discussed. Additionally, for students with disabilities, research studies report fewer friends, and those reported are characterized as less intimate, less stable and of lower self-reported quality than those of typically developing peers (Matheson, Olsen & Weisner, 2007).

Methodology for studying friendship. Current research that examined the context and characteristics of friendships often used self-report assessment tools of peer nominations and questionnaires. A comprehensive study of the quality of peer friendships in typical adolescents by Rubin and colleagues (2004) combined the use of friendship

nominations (to first identify friendship dyads that were reciprocated best friends), with a friendship questionnaire (to assess the friendship dyads' self-perceived quality of their friendships), and a questionnaire to assess the adolescents' self in relation to their peers. In working with students with disabilities, Matheson, Olsen and Weisner (2007) used a small sample (N=27) and compared ethnographic data and interview data of the adolescents' friendship themes. This allowed for direct observation by researchers for 10 hours in addition to the adolescent interview, to identify if the adolescents' reports were in agreement with the observations of their daily activities. Matheson and colleagues (2007) found that by comparing self-report with observations, most teens with disabilities considered a friendship to be satisfying if they were close in proximity and part of a group, which is not the general notion of friendship. The present study aims to address the quality of friendship and perception of self in relation to peers by using a project-developed interview that directly asks students these questions to allow for more open and detailed responses, rather than through the use of self-report measures. In addition to the adolescent report, this study aims to address commonalities in parent report and parent perception of their youth's friendships.

Hypotheses

The proposed study will address three questions: (1a) What are the differences in the quality of friendship during early adolescence, specifically at age 13, as reported by ID and TD youth? (1b) What are the differences in the quality of friendship during early adolescence, specifically at age 13, as reported by ID and TD parents? (2) What early indicators (Age 9) predict the quality of friendship in early adolescence? (3) Of the

significant relationships identified in question #2, does disability status (ID vs. TD) serve as a moderator?

Method

Participants

The participants were drawn from a larger, multi-site longitudinal study (N=139) with samples drawn from one university in Central Pennsylvania and two universities in Southern California. The purpose of the larger study was to examine family, school and youth contributions to the emergence of behavior problems in children with intellectual disabilities (Eunice Kennedy Shriver National Institute of Child Health and Human Development, Grant # HD34879-1459).

In the larger study, those children included in the sample with an intellectual disability were primarily recruited through community agencies that provide services to families with developmental disabilities. Many of these families were served in the one of the California Regional Centers. Children were classified as having ID according to the Diagnostic and Statistical Manual of Mental Disorders- Fourth Edition Revised (American Psychiatric Association [DSM-IV-TR], 2000). Adolescents categorized as having an intellectually disability (ID) met criteria on both the Wechsler Intelligence Scale-IV (WISC-IV: Wechsler, 2003) and the Vineland Adaptive Behavior Scales (VABS; Sparrow, Balla, & Cicchetti, 2005) for borderline (IQ= 84-71), mild ID (IQ= 70-55) or moderate ID (IQ=54-35). The borderline group of adolescents were included with the ID sample and is consistent with the DSM-IV-TR definition that, "differentiating

between mild mental retardation and borderline intellectual functioning requires careful consideration" (pg. 48, DSM-IV-TR, APA, 2000). There were a few participants that were excluded from the present study due to either missing data or participant data on the WISC-IV and VABS not meeting the requirements of both scores being less than 85.

Children who were typically developing were recruited primarily through local schools and community programs. To be included in the TD group at the time of recruitment, the child scored in the range of normal cognitive development (IQ>85) and may not have had any diagnosis of a developmental disability or have had any record of special education.

The current study included families for whom data were available at age 13 (N= 106); the intellectual disability group included 28 adolescents and the typically developing group included 78 adolescents (data collection is ongoing). Table 1 displays the demographics by status group (ID, TD). As expected, the percentage of students in regular education was significantly higher for the TD adolescents. There were no statistically significant differences between adolescent groups on gender and ethnicity. With regard to mothers, there was a statistically significant difference of family income and mother's education as highest grade in school completed. Mother's level of education was not significantly related to any of the three friendship quality variables, and therefore was not covaried in any subsequent analyses.

Procedures

Procedures were approved by the Institutional Review Boards of the participating universities. Informed consent and procedures for both parents and youth were mailed home and brought into the lab upon the day of the interview, and reviewed with the participants. Additional data were collected through youth and parent- completed assessments and questionnaires that were mailed home prior to the lab visit. Measures of social skills and child behavior problems were included in these packets. During the assessment, research assistants met with the youth and parent separately, to complete an extensive interview. The domains addressed in the parent interview used for this study pertained to the child's family relations, the child's interest and involvement with others at school, the child's friendships, and any experiences the child had with bullying. The adolescent interview was similar in format but much briefer, in that the interview covered the same domains as the parent interview, but was slightly more structured.

Measures

Friendship Questions. The collected data from these diagnostic interviews were coded and used for an evaluation of the child's friendship quality. A coding team was trained over multiple sessions on how to code the interviews. All coding team members were required to establish at least 70% reliability with the master coder (graduate student researcher). Reliability checks were conducted on one third of all total coded videos and coding was reviewed and discussed weekly. Friendship quality has been studied by use of open-ended questions during interviews or by having children evaluate certain features of

friendship on rating scales and questionnaires (Vaughn & Elbaum, 1999). This study measured friendship quality through the use of open- ended questions during interviews. The target questions on friendship focused not only on who the youth's friends were but also what they did together, how often they got together, and what they felt their relationship was like. To capture the three main factors of a high quality friendship, the coding teams analyzed youth and parent reports of warmth/closeness, conflict, and positive reciprocity. These are constructs measured by some frequently used questionnaires. Warmth/closeness was defined as,

"A desire to spend time with a friend that includes affection, joint play, and mutual liking. Closeness refers to the children's ability to provide social support to each other (standing up for each other, confiding in secrets and being sensitive during difficult life circumstances)".

This construct was then coded on a scale of 0-4 from '0' being no warmth/closeness to '4' being very warm/close, e.g. youth and friend spend a lot of time communicating. They enjoy each other's company and provide meaningful social support. There needs to be a clear indication from the parent that there is a sensitive response when the other has an emotional experience). In further analyses, this construct was divided into two, as little to no warmth and at least moderate warmth/closeness with a friend. Conflict between friends was defined as, *"Tension, arguments, fights, and overt disagreements between friends. This may be evidenced by friends trying to provoke one another, making each other upset, tense tone of voice, and/or negative comments. It*

may also include gossiping behind each others' back or playing hostile pranks against each other."

This construct was then coded on a scale of 0-4 from '0' being no conflict to '4' being high frequency, high intensity conflicts. In further analyses, this construct was divided into two, as no conflict, and any conflict. Positive reciprocity between friends was defined as,

"The degree to which the peer and target youth are equally invested and mutually benefiting from their relationship. This includes a mutual understanding of the relationship, shared interests, intimacy, familiarity and advice exchange. Positive reciprocity occurs when a relationship has a positive effect upon someone and is reciprocated with the relationship having an equally positive effect upon another. The person benefiting may include a play partner, a confidante, a supporter, a listener, or someone who gives advice".

This construct was then coded on a scale of 0-4 from '0' being no positive reciprocity to '4' being high positive reciprocity (both target and peer are highly invested in each other). In further analyses, this construct was divided into two, as little to no positive reciprocity to at least moderate reciprocity.

Additional friendship questions that related to a high quality friendship were also examined. The first was having an interactive friendship that involved coordinated activities. The second was having a cohesive group of friends rather than separate

individualized friendships. The final variable was spending time with friends outside of school rather than just in class.

All of these questions about friendship were also asked of the parent about the child. The parent was asked about the child's engagements and how much the parent thought the child's closest friendships demonstrated warmth/closeness, conflict, and positive reciprocity.

Wechsler Intelligence Scale-IV (WISC-IV). Adolescents' cognitive ability was measured using the Wechsler Intelligence Scale-IV (Wechsler, 2003), a widely used assessment instrument with sound psychometric properties. The WISC-IV yields an IQ score with a mean = 100 and standard deviation = 15. A calculated Full Scale IQ score was computed from a short form of the WISC-IV, which included three subtests: matrix reasoning, vocabulary, and arithmetic. The arithmetic subscale has a reliability coefficient of .88, vocabulary of .89 and matrix reasoning of .89. All three of these subscales correlate with the manuals FSIQ at .62 -.79. According to Sattler & Dumont (2004), a short-form of the WISC-IV can be used for research purposes; correlations with the full battery IQ were relatively high, at .82-.91 (Campbell, 1998).

Vineland Adaptive Behavior Scales Second Edition **(VABS-2; Sparrow, Balla & Cicchetti, 2005).** The adolescents' adaptive behavior was measured using the Vineland Adaptive Behavior Scales-2. The Vineland has an internal consistency of .75-.80 and Cronbach's alpha of .93. The Vineland is a semi-structured interview that assesses the adaptive (or daily living skills) of individuals with or without a disability.

This Vineland, completed by parent report, assesses behaviors that the youth currently are able to do. The three subscales that were used herein included: communication, daily living skills, and socialization skills. These were combined to form an Adaptive Behavior Composite score with a mean of 100 and standard deviation of 15. In the ID group the mean was 62.3 (SD=12.37) and the TD group the mean was 107.25 (SD=13.55).

***Achenbach Child Behavior Checklist* (*CBCL*; Achenbach & Rescorla, 2001).** The CBCL is a widely used assessment tool with sound psychometric properties commonly used to assess behavior problems in children with or without a developmental delay. Mothers completed the parent form of the CBCL for ages 6-18 with 113 items used to identify patterns of behavior problems. The parent indicates whether each item is not true, somewhat true, or very true. The present study used sum scores for total behavior problems internalizing behavior problems and externalizing behavior problems all of which have a mean= 100 and SD=15. The CBCL parent report form has alpha coefficients from .69 to .97 a reliability from .82-.94.

***Social Skills Rating Scale* (SSRS; Gresham & Elliott, 1990).** The SSRS is a norm-referenced questionnaire that provides a broad assessment of social skills, behavior problems, and academic competence. The total social skills scale was used for the current study, which included ratings of the youth's responsibilities, cooperation, self-control, empathy and assertiveness. Mother's completed the parent form for grades 7-12 which has 52 items measuring social skills and behavior problems. Scores were then converted to standard scores with a mean of 100 and standard deviation of 15. The SSRS social

skills scale has high test-retest reliability and internal consistency (Gresham & Elliott, 1990). The SSRS social skills scale demonstrates high internal consistency for the parent form at grades 7-12 at .90 and coefficient alpha at .89-.90 (Gresham & Elliott, 1990).

Results

This study addressed three primary research questions about young adolescents' quality of friendship and the differences between ID and TD youth. Analyses included chi-square difference tests, regression analyses and univariate analysis of variance. The chi-square tests were used to compare disability status groups and the friendship quality variables. A kappa coefficient was calculated for a measure of agreement between the adolescents' and the parents' reports on the friendship variables. Regression analyses were used to explore possible predictors of friendship. For the regression analyses, the independent variables were total behavior problems, internalizing behavior problems, externalizing behavior problems and social skills. The dependent variables were friendship variables of warmth/closeness, conflict, and positive reciprocity with friends. An ANOVA was used in subsequent analyses for identifying the possible moderator of disability status. For the univariate analyses of variance, the independent variables were disability status (ID/TD) and friendship variables of warmth/closeness, conflict, and positive reciprocity.

Research Question 1a: What are the differences in quality of friendship during early adolescence (specifically, at age 13) as reported by TD and ID youth?

To measure differences between status groups on the three measures of friendship quality, chi-square analyses were used. Data obtained from adolescent interviews, shown in Table 2a, demonstrated that there were significant differences between groups for warmth and closeness and for positive reciprocity between friends. There were no significant group differences in levels of conflict with friends.

An additional three friendship questions were considered to further reflect adolescent friendship quality, as shown in Table 2a. There were significant ID/TD differences in reported level of interactive activities with friends, having a cohesive friendship group and spending time with friends outside of school.

Research Question 1b: What are the differences in the quality of friendship during early adolescence as reported by TD and ID parents?

As shown in Table 2b, parent and adolescent reports of friendship quality were similar, with a few exceptions. Differences were observed between ID and TD parent reports on warmth/closeness and positive reciprocity. Similar to the adolescent reports, parents reported no group differences for levels of conflict. The additional friendship questions demonstrated parent reported differences in levels of interactive friendships and time spent with friends outside of school, while there were no significant group differences for having a cohesive friendship group. These results differed from the

adolescent reports of friendship quality in that parent reports did not indicate group differences for cohesive friendship groups.

To compare reports between ID/TD adolescent interviews with their parents, Cohen's kappa was used as a measurement of agreement between the two groups of raters. There were non-significant kappas for the three friendship quality variables, *i.e.*, warmth/closeness, conflict and positive reciprocity. However, significant kappa's were found on the remaining variables and the strength of agreement was determined as outlined by Landis and Koch (1977), where a kappa coefficient of <0.00 = poor, 0.00-0.20 = slight, 0.21-0.40 = fair, 0.41-0.60 = moderate, 0.61-0.80 = substantial and 0.81-1.00 = almost perfect. On all three additional questions there was fair agreement: level of interactive activities, k=.244, p<.05; cohesive group of friends, k=.233, p<.01; spending time with friends outside of school, k=.289, p<.01.

Research Question 2: What earlier indicators (Age 9) predict friendship quality in early adolescence?

First, correlations between the friendship quality variables and the predictor variables were examined in order to determine whether further regression analyses should be computed. Variables that correlated at least p<.05 were entered into the following regression analyses. By adolescent report of friendship, social skills at age 9 correlated significantly with conflict (r=.27, p<.05) and positive reciprocity (r=.27, p<.05). By parent report of friendship, social skills at age 9 were significantly correlated with warmth (r=.46, p<.01) and positive reciprocity (r=.50, p<.01). Correlations between

friendship quality variables and the predictors from the CBCL (of internalizing problems, externalizing problems and total problems) were also examined. By adolescent report of friendship, conflict significantly correlated with total problems, ($r=-.23$, $p<.05$). By parent report of friendship, warmth correlated significantly with internalizing ($r=-.25$, $p<.01$), externalizing ($r=-.31$, $p<.01$), and total problems ($r=-.36$, $p<.01$). Positive reciprocity also correlated with total problems ($r=-.31$, $p<.01$). By parent report of friendship, conflict failed to demonstrate a significant correlation with any of the predictor behavior problem variables.

Regression analyses were then used to identify the indicators from age 9 that could be used to predict friendship quality in early adolescence. Variables reflecting significant correlations, noted above, were included as predictors, along with ID/TD status. Table 3 indicates that both ID status and social skills at age 9 were significant predictors of warmth/closeness. Table 4 shows the same relationship among variables, except that ID/TD status only entered the regression at the .10 level. Tables 5 and 6 indicate that both ID status and internalizing behavior problems at age 9 were significant predictors of warmth/closeness by both adolescent and parent report. Tables 7 and 8 indicate that ID status, externalizing behavior and total problem behavior at age 9 were significant predictors of warmth/closeness.

Research Question 3: Of the significant relationships identified in question #2, does disability status (ID vs. TD) serve as a moderator?

To identify if disability status serves as a moderator, the results of the regressions from question two were used to run a univariate analysis of variance (ANOVA). Table 9 indicates the results of the ANOVA, with parent report of warmth/closeness as the dependent variable and disability status, internalizing behavior, and the interaction of disability status-by-internalizing behavior as the independent variables. Disability status did serve as a significant moderator, or buffer term, of the relationship between adolescent internalizing behavior and warmth/closeness (See Figure 1). The main effects of disability status or internalizing behavior problems alone cannot be solely relied upon to describe the adolescent warmth/closeness. In other words, for typically developing adolescents with lower internalizing behavior problems, demonstrated better warmth and closeness with their friends.

Discussion

The purpose of the present study was to explore the quality of friendships for adolescents with and without an intellectual disability using constructs from the existing literature that have on friendship. This study examined responses from both adolescents and parents to interview questions about adolescent friendships. Findings indicated that, regardless of respondent, adolescents with an intellectual disability reportedly had a lower quality of friendship. In addition, variables from measures administered when the adolescents were age 9 were used to predict quality of friendship at age 13.

Warmth/closeness and positive reciprocity were significantly predicted by these early measures of social skills and behavior problems. Finally, the role of disability status was found to act as a moderator of the relationship between adolescent internalizing behavior and warmth/closeness.

The first question examined group differences in the three primary friendship variables (warmth/closeness, positive reciprocity and conflict) and in response to questions asking whether the adolescent had a cohesive group of friends, an interactive friendship and time with friends outside of school. Based on adolescent report, more typically developing adolescents reported friendships that were characterized by moderate-to-high relationship warmth and closeness, and that were positively reciprocated. This was not enjoyed by the adolescents with ID, as about half of all ID youth reported *not* having a warm/close friendship or positively reciprocated friendship. Neither group had significant conflict with friends.

The additional friendship questions also provided information that emphasized differences between adolescents with and without an intellectual disability. More TD adolescents reported having interactive friendships, a cohesive group of friends and more time spent with friends outside of school. The ID adolescent's reports indicated friendships to be less interactive, less cohesive; they also appeared to spend less time with other adolescents spent outside of school. Many youth reported their friendships to be one or two individual friends that they primarily spent time with in class. Those interactions with friends were also primarily play based rather than interactive and

cooperative activities which are considered simpler notions of a satisfying friendship. Often the relationships of ID adolescents were characterized by less complex expectations of friendships such as playing together in a shared context and being close together as part of a group (Matheson, Olson & Weisner, 2007).

With regard to parent perceptions, this study also provided the insight into how parents' reporting was similar or different to their adolescent's reporting of friendships. Group differences emerged between ID and TD parent reports, similar to the pattern apparent in the ID/TD reports. Surprisingly, 100% of parents of typically developing youth agreed that their child had a warm/close relationship with their friend as well as having a positively reciprocated friendship. Again, conflict between friends did not differentiate between disability status groups and parents of both groups agreed that about 50% of their youth's friendships were low in conflict. The parent of an adolescent with typical development had more positive perceptions of their child's friendships than did parents of adolescents with ID. In this, more parents of the TD group thought that their children had better quality friendships than many of the parents of the ID youth.

It is worth noting that kappa coefficients suggested only fair agreement between parents and their adolescent children. While significant, as reporters, adolescents and their parents are not in agreement with what is going on in the adolescent's life. There is the question of whether the adolescent with ID really understands what makes a friend, and if the reporting is accurate. One might also question whether parents of both groups are really aware of the everyday aspects of a busy 13 year old.

The second research question examined early indicators of high quality friendships. The early indicators from age nine used were the social skills scale of the SSRS (Gresham & Elliott, 1990) and the behavior problem sub-scales (internalizing, externalizing and total behavior problems) on the CBCL (Achenbach & Rescorla, 2001). Social skills are an important factor of friendships, and delayed or missing, can lead to difficulty in establishing social relationships (Frostad & Pijl, 2007). Children with ID who have underdeveloped social skills can lead children to have lower quality friendships than those children without a disability (Vaughn & Elbaum, 1999; Wiener & Tardif, 2004).

Results showed that both social skills and behavior problems were significant indicators of friendship quality in early adolescence. Conflict failed to demonstrate significance as a predictor of friendship, in part because most participants reported having little to no conflict. Positive reciprocity between friends, as reported by parents, was predicted by social skills at age nine. Having a warm and close friendship, which is of primary importance in defining a quality friendship, was predicted by several early indicators. The more qualitative aspects of friendships had the highest positive effects on children to help improve their social adjustment and foster peer acceptance and companionship, and is often one of the most frequently discussed themes in the literature (Berndt, 2002; Hartup & Stevens, 1999; Matheson, Olsen & Weisner, 2007). In this study, social skills at age nine, and having typical development, were significant predictors of parent reported warmth/closeness of their child's friendships at age 13. In addition, parent reported internalizing behavior, externalizing behavior and total behavior

problems all were significant predictors. The adolescent report of warmth/closeness was also significantly predicted by internalizing behavior problems. Here, it is important to recognize behavior problems as a predictor in friendship development as previous research has shown that prosocial behaviors and social competence are the primary predictors of friendship (Berndt, 2002; Cillessen et al., 2005). As Cillessen and colleagues (2005) found, adolescents who rated themselves as physically or relationally aggressive reported higher conflict in friends and lower friendship quality.

Further research has shown that early adolescence is a time of testing the limits and experimenting with peer norms, seen in behaviors such as adolescent delinquency and rule breaking (LaFontana & Cillessen, 2010). In this study, higher levels of adolescent-reported internalizing behavior appeared to be a predictor of warm and close friendships. While this trend is theoretically opposite, in that one might expect lower levels of internalizing behavior to predict a warmer friendship, adolescents do find a bond with others in experimenting with challenging parental rules and peer norms. Adolescence is also a time of change, and despite some low levels of internalizing behavior problems, students may still find support in a warm/close friendship. Often the adjustment during adolescence to the social network of middle school or high school is difficult, and may be affected by negative interactions with peers and with friends (Berndt & Keefe, 1995) and it is possible that this could lead to some internalizing behaviors, such as anxiety or even depression.

In the last research question, the issue of disability status serving as a moderator was addressed. When the interaction of status group and internalizing behavior was included in the model, it significantly moderated warmth/closeness. Typically developing adolescents with lower internalizing behavior had higher (parent) reported warmth and closeness with their friends. Typically developing adolescents had higher reported levels of warmth and closeness than adolescents with ID at both low and high levels of internalizing behavior. For adolescents with an intellectual disability, the interaction demonstrated that with higher internalizing behaviors they had higher (parent) reported warmth/closeness. The level of high warmth/closeness is still much less than that of the TD adolescent, however.

Parent report demonstrated significant predictive power in most analyses, rather than adolescent report, in part because parents were the raters on the measures of social skills and problem behaviors. The analyses were better predictors when parents were the reporters of both the early indicators as well as the concurrently measured friendship variables at age 13. Adolescent reports of friendship quality were significantly different than parent reports, as discussed, with lower levels of agreement found between reporters.

Most of the research on friendship has focused on such features as the number of friends, gender of friends, and the activities between friends (e.g., Berndt, 1999; Berndt & Keefe, 1995; Bukowski, Hoza & Boivin, 1994). Additionally, for TD children, most research within the field of friendship examined the changes in relationship from early

childhood into adolescence (Berndt, Hawkins & Jiao, 1999). The present study contributes to the literature by exploring the quality of a friendship, as well as the friendships between adolescents with and without an intellectual disability. Additional information was added by including the parent perceptions of their children's relationships to determine whether parents and adolescents agreed or disagreed on the quality of friendship. Wiener and Sunohara (1998) found that parents of children with learning disabilities (LD) attributed the child's conflicts in friendships to poor social perception and self-regulation, whereas the child just reported that there was conflict. By looking at both disability status and friendship quality, this research outlined the important predictors of high quality friendships that are present in early adolescence for all youth. Researchers have come to agree that friendship quality is more important for adolescent adjustment than number of friends or gender of friends, and that friendship quality does focus on the positive and negative features of the relationship (Berndt, 1982; Berndt, 2002; Bukowski, Hoza & Boivin, 1994; Hartup & Stevens, 1997). Interestingly, this study suggests a great amount of variability in adolescents' and parents' reports of the youths' friendship quality and future research will need to identify who is the more accurate reporter.

Adolescents in this study who had an intellectual disability were primarily not in regular education classrooms, and thus their social interactions have been more limited and qualitatively different from those of their typically developing peers. Heiman (2000) found significant differences in the social interactions, number of friends and amount of socialization between students with or without a disability. Hardiman, Guerin and

Fitzsimmons (2008) found that parents rated their children with moderate ID as having more peer relationship problems than did their teachers. They also found that the social competence level of children with ID was equivalent, whether children were in inclusion or segregated programs. In their observations of early adolescent children, Siperstein, Leffert and Wenz-Gross (1997) found that friendships between children with and without learning problems had significantly less mutual engagement, responsiveness and division of roles than typical friendship patterns. Thus, in keeping with previously reported findings, the present study demonstrated that this sample of youth with ID had lower quality and less reciprocated friendships than their TD counterparts.

Limitations and Future Directions

There are several caveats that may serve as limitations to this study. When a child nominates a peer as his closest friend, he does not necessarily know whom his friends have rated as their closest friend. Having a best friend, or thinking that the friendship is a close one, may be a protective factor in itself, even if it technically it is not reciprocated. If a child or adolescent feels the intimacy and closeness of a friend, whether or not it is truly reciprocated, positive effects of a quality friendship, as well as higher social support and self-esteem might still be found (Berndt, 2002; Hartup & Stevens, 1999). A friendship measure or peer nomination tool was not used in this study; but it may well be worthy examining in the future. Finally, the current study had a small sample of adolescents with ID and it was likely that there was not enough power to find significant group differences on all variables. Future analyses will be conducted with a larger ID

sample. While significant results were found using the parent report of friendship quality, more significant results were sought based on actual adolescent report. Despite the sample size, significant group differences pertaining to quality of friendship and predictors of friendship were found between adolescent and parent reports, and for both adolescents with and without an intellectual disability.

Further project directions might include adding a sociometric measure of adolescent friendship in the schools to better validate the adolescent report of their friendships. While knowing the differences between adolescent and parent perceptions of youth with and without an intellectual disability, obtaining data from other friends would be helpful in identifying who is the more accurate reporter. An additional direction will also seek to include the adolescents' self-report on social skills and problem behavior in hopes of finding an agreement in early predictors of adolescent friendships using the adolescent rather than the parents report. By age 15, adolescents should be proficient reporters of how they feel and interact with others, and should be able to identify self-characteristics associated with internalizing and externalizing behavior problems.

Implications

The present study contributes to the literature for school-based practitioners in that friendships are of critical importance to the school climate and the socialization for all children and adolescents. During middle school, peer status becomes of primary importance to students often over academic achievement (LaFontana & Cillessen, 2010). For some children with a disability, or social skills deficits, developing a peer status that

attracts friends can be difficult. The early adolescent period is specifically a time of transition and of making and keeping friends, especially in the movement from middle school into high school. During the period from childhood to adolescence, children's experiences likely shift from having a few friends, to possibly being popular and/or finding a close and intimate relationship (LaFontana & Cillessen, 2010). During adolescence, both time spent with friends, as well as the intimacy of the friendships, increase and adolescents view their friendships as important for meeting their needs for companionship (Berndt, 1999; Buhrmester, 1996).

Creating and maintaining friendships is an on-going need for all adolescents with or without a disability because understanding the social cues and social interactions during adolescence can be challenging. In research conducted by Tomada et al. (2005), investigators examined the quality of friendship dyads in a sample that used reciprocal friendship pairs. Significant academic outcomes were found with reciprocal friendships having better school outcomes in language arts, math, science, school liking and cooperative participation (Tomada et al., 2005). Additional findings demonstrated low scores in the reciprocal friendship dyads for adolescents who demonstrated school avoidance and aggression. The pairs of children with a reciprocal friendship made significant improvements in academic subjects during the transition years. Reciprocated friendships have also been shown to moderate the effect of friendship conflict on antisocial behaviors (Ciairano et al., 2007). Reciprocal friendship served as a protective factor from physical aggression, even if conflict with friends increased.

Overall, adolescents who described their friendships as having more positive features were students who were more involved in school (Berndt & Keefe, 1995). Therefore, for teachers and school support staff, it is important to recognize the student need for adequate friendship skills and to consider working with students on developing and maintaining appropriate friendships. Because of the challenges and changes all students face during adolescence, social skill programming that includes developing and building friendships can be most useful for school development, and possibly for improving social and academic outcomes.

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Table 1.

Demographics by Disability Status

Variable	ID (*n=28*)	TD (*n=78*)	X^2 or t
Adolescents (13 years old)			
WISC-IV IQ (Age 13)	60.64 (13.43)	109.00 (12.75)	t =16.97***
Vineland (Age 13)	70.00 (9.20)	94.70 (10.41)	t=10.92***
Gender (% Male)	57.1	57.7	X^2 = .003
Race (% Caucasian)	57.1	37.2	X^2 = 3.36
Classroom (% Reg. Edu.)	25.0	87.2	X^2 =38.50***
Mothers			
Income (% >$50,000)	57.1	78.2	X^2 =4.60*
Mother's Education (Highest Grade)	14.86 (2.52)	16.11 (2.36)	t=2.35*

Note. ID= Intellectual Disability. TD= Typically Developing.

***p<.001, **p<.01, *p<.05

Table 2a.

Quality of Friendship by Status Group: Adolescent Report

Adolescent	**ID**	**TD**	X^2
Warmth/Closeness	65.0%	91.5%	8.98**
Positive Reciprocity	52.6%	94.0%	19.77***
No Conflict	73.7%	55.7%	2.00
Interactive Activities	40.0%	63.8%	3.61*
Cohesive Friendship Group	25.0%	64.1%	12.67***
Time With Friends Outside School	50.0%	88.4%	14.18***

***p<.001, **p<.01, *p<.05

Table 2b.

Quality of Friendship by Status Group: Parent Report

Parent	**ID**	**TD**	X^2
Warmth/Closeness	76.2%	100%	14.98***
Positive Reciprocity	71.4%	100%	18.22***
No Conflict	55.6%	50.0%	.168
Interactive Activities	31.6%	56.7%	3.63*
Cohesive Friendship Group	35.7%	52.6%	2.34
Time With Friends Outside School	75.0%	98.3%	11.77**

***p<.001, **p<.01, *p<.05

Table 3.

Predicting Warmth/Closeness: Status and Social skills (Parent)

Variable B	**Std. Error of B**	*β*	**t**
(Constant)	.68		2.12*
ID/ TD Status	.28	-.63	-2.30*
Social Skills (Age 9)	.01	.02	2.71**

**p<.01, *p<.05

Table 4.

Predicting Positive Reciprocity: Status and Social Skills (Parent)

Variable B	**Std. Error of B**	β	**t**
(Constant)	.68		1.74
ID/ TD Status	.27	-.49	-1.78†
Social Skills (Age 9)	.01	.02	3.14**

**p<.01, *p<.05, †<.10

Table 5.

Predicting Warmth/Closeness: Status and Internalizing Behavior (Adolescent)

Variable B	**Std. Error of B**	β	**t**
(Constant)	.49		3.89**
ID/ TD Status	.26	-1.06	-4.05***
Internalizing (Age 9)	.01	.02	2.12*

***p<.001, **p<.01, *p<.05

Table 6.

Predicting Warmth/Closeness: Status and Internalizing Behavior (Parent)

Variable B	**Std. Error of B**	β	**t**
(Constant)	.46		9.00**
ID/ TD Status	.24	-.94	-4.00***
Internalizing (Age 9)	.01	-.02	-1.99*

***p<.001, **p<.01, *p<.05

Table 7.

Predicting Warmth/Closeness: Status and Externalizing Behavior (Parent)

Variable B	**Std. Error of B**	β	**t**
(Constant)	.51		9.16**
ID/ TD Status	.23	-.88	-3.78***
Externalizing Bx. (Age 9)	.01	-.03	-2.82**

***p<.001, **p<.01

Table 8.

Predicting Warmth/Closeness: Status and Total Problem Behavior (Parent)

Variable B	**Std. Error of B**	β	**t**
(Constant)	.48		9.45**
ID/ TD Status	.24	-.81	-3.36***
Total Problem Bx. (Age 9)	.01	-.03	-2.74**

***p<.001, **p<.01

Table 9.

ANOVA: Parent Warmth/Closeness by Status & Internalizing Behavior (Age 9)

Source	SS	df	MS	F
Intercept	355.84	1	355.84	487.01***
Status	15.76	1	15.76	21.57***
CBCL-In	.059	1	.059	.08
Status*CBCL-In	3.24	1	3.24	4.44*
Error	48.95	67	.73	
Total	700.00	71		

Note: CBCL-In = Internalizing; R^2 =.269, ***p<.001,**p<.01, *p<.05

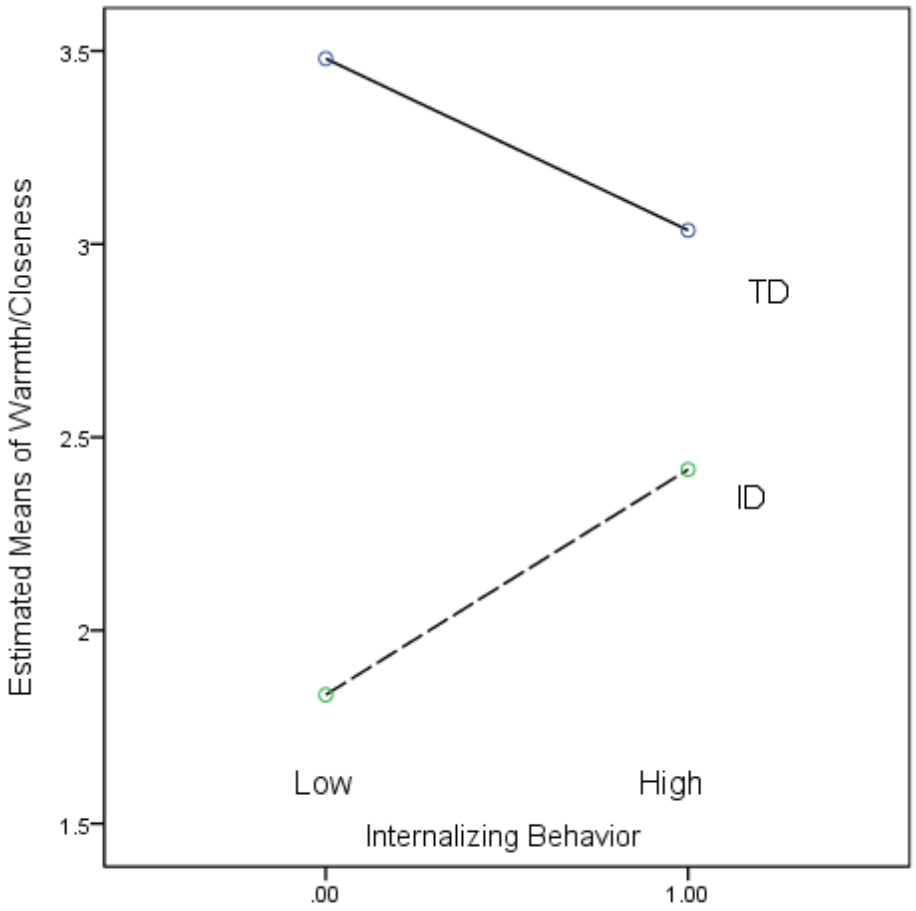

Figure 1. Interaction effect between internalizing behavior and disability status