An investigation of preschool-aged children's perceptions of their peers with a disability

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An investigation of preschool-aged children’s perceptions of their peers with a disability

by

Krista Noelle Van Hooser

A dissertation submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of

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Major: Human Development and Family Studies

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ABSTRACT

This study combines various aspects of previous research on attitudes and behavioral intentions toward children with a disability. It extends previous research in the attempts to evaluate attitudes and behavioral intentions toward intellectual and physical disability separately in addition to examining “general” disability. Study design also allowed for comparisons of children in both inclusive and non-inclusive settings, which many previous research studies did not provide.

Study findings suggest that preschool children are more positive toward and more willing to interact with typically developing peers than with peers with a disability. Moreover, most preschool children do not have an understanding or awareness of the term disability. Children from inclusive child care settings do have more positive attitudes toward peers with a disability than do children from non-inclusive child care settings, but, overall, even children from inclusive child care settings were more positive toward and more willing to interact with typically developing peers.

From these findings, important research, practice and policy implications can be drawn. Future research should focus on refining methods of data collection and evaluating the effectiveness of interventions designed to increase understanding about disability and positive attitudes and intentions toward peers with a disability. Policy makers and early childhood practitioners should be aware that inclusion alone is not sufficient to develop understanding and create positive attitudes – additional measures must be undertaken to enhance the understanding of young children about the nature of disability and to increase positive attitudes and willingness to interact with peers with a disability.
CHAPTER 1. OVERVIEW

An Investigation of Preschool-Aged Children’s Perceptions of their Peers with Disabilities

Despite research findings that negative attitudes can be formed in early childhood, the topic of attitudes toward disability among young children has not been fully explored. Researchers have investigated attitudes in school-age children and adults. Only a handful of studies have focused on preschool-aged children and their attitudes toward peers with disabilities.

Previous studies of attitudes toward individuals with a disability are contradictory in general, with some suggesting positive attitudes and others negative attitudes. Many of these studies combine physical and intellectual disability into a single category or focus solely on physical disability, which may have lead to the lack of consensus on attitudes. Furthermore, the focal point of previous studies is almost exclusively on attitudes toward individuals with a disability; few examine understanding of disability.

The purpose of this study was to narrow the focus to preschool-aged children (4-5 years old), using a quantitative approach to investigate attitudes toward children with a physical disability, an intellectual disability, and no disability. It begins with a review of disability and inclusion policy. Next, a review of available studies investigating the attitudes of preschool and school-aged children toward their peers with a disability is presented.
CHAPTER 2. REVIEW OF LITERATURE

Introduction

Review of Disability and Inclusion Policy

Approximately 48.9 million individuals with a disability live in the United States. Of these, approximately 2.9 million are children. This figure translates into nearly one in five Americans having a disability or 19.4% of the total population of the United States (United States Census Bureau, 2005). It cannot be disputed that individuals with a disability make up a significant portion of the United States population. Given that, it is important to understand attitudes of non-disabled individuals toward their peers with a disability. This understanding becomes increasingly more important for researchers and practitioners in early childhood, given the current model of inclusive public education and the integration of children with a disability into classrooms with typically developing children.

Prior to the mid-1970s, only one in five individuals with a disability was educated, excluding more than one million students from public schools and leaving 3.5 million individuals with a disability without appropriate social services. The Rehabilitation Act of 1973, which prohibits discrimination on the basis of disability by any program receiving federal funding (e.g. public schools, social assistance programs), was the first legal step toward the inclusive educational model (Stiker, 1999).

In 1975, the movement toward inclusive education was furthered with the passage of the Education for All Handicapped Children Act (EAHCA), renamed the Individuals with Disabilities Education Act (IDEA) in 1990. This federal law promised free and appropriate public education to all children, effectively guaranteeing that children with a disability should receive individualized education, specialized to meet their unique needs. Furthermore,
IDEA introduced the concept of a least restrictive environment (LRE), or that the education of children with a disability should occur with their typically developing peers to the greatest extent possible. That is, children with a disability should have access to general education classrooms, extracurricular activities, et cetera. Children with a disability may require supplementary aids or services to reach educational goals in general education classrooms, or the nature of a child’s disability may require more intensive interventions than can be provided in general education classrooms, resulting in placement in a special education classroom. The goal of LRE is to provide as much opportunity to interact and learn with typically developing peers as possible (Albrecht, Seelman & Bury, 2001; Jacobson, Mulick & Rojahn, 2007).

The IDEA has undergone several revisions throughout the past three decades, which has made it a stronger federal law. In 1986, the IDEA was revised to include all children with a disability from birth to age three. Later revisions made to the IDEA expanded the definition of children with a disability to include children with developmental delays between the ages of three and nine years (Albrecht et al., 2001). The most recent revision (2004) aligned the IDEA with the No Child Left Behind Act and clarified that the intended outcome for the education of individuals with a disability is preparation for further education, employment, and independent living (Individuals with Disabilities Education Improvement Act of 2004; Jacobson et al., 2007; No Child Left Behind Act of 2002).

Due in part to these three IDEA revisions, during the 2006-2007 school year, 6.5 million children in the United States received some form of special education. This number is more than a 65% increase from the number of children receiving services during the 1976-1977 school year (Horn & Tynan, 2001; United States Department of Education, 2009). The
majority of these students are taught in a general education classroom, at least on a part-time basis. In the 1999-2000 school year, 96% of students with a disability were served in regular school buildings and of these, nearly half spent 80% of their school day in a general education classroom (Jacobson et al., 2007).

The inclusive education model involves educating children with and without disability in the same classrooms in community schools. While this model is designed to support children with a disability, proponents of the inclusive model suggest that the benefits from such a system of education impact not only the children with a disability, but also their typically developing peers. Table 1 illustrates the possible benefits for children with and without a disability (Turnbull, Turnbull III, Shank & Smith, 2004).

**Table 1. Benefits of the inclusive educational model**

<table>
<thead>
<tr>
<th>Benefits to Children with a Disability</th>
<th>Benefits to Children without a Disability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved self-concept</td>
<td>Greater sensitivity to the needs of others</td>
</tr>
<tr>
<td>Developing appropriate role models</td>
<td>Becoming helpful in meeting the needs of classmates with a disability</td>
</tr>
<tr>
<td>Opportunities to develop natural friendships</td>
<td>Greater acceptance of diversity through exposure to people with a disability</td>
</tr>
<tr>
<td>Improved confidence and happiness</td>
<td>Evidencing fewer behavior problems</td>
</tr>
<tr>
<td>Improved academic performance</td>
<td>Opportunities to develop friendships with children with a disability</td>
</tr>
<tr>
<td>Preparation to live in the “real world”</td>
<td>Improved self-concept</td>
</tr>
<tr>
<td>A sense of belonging</td>
<td>Increased sense of community</td>
</tr>
</tbody>
</table>

In addition to these positive benefits to all children, with and without disability, inclusion may have a fiscal benefit to the state and local governments. On average, the cost of special education per student is more than twice the cost of general education (Lewit & Baker, 1996). This expense, coupled with the increasing number of students qualifying for special education services (Horn & Tynan, 2001), places a financial strain on state and local
governments. At present, the federal government funds only approximately 8% of the total cost for special education, leaving state and local governments to cover the remaining 92% of the cost (Minow, 2001; Murphy, 1996). The use of an inclusive model of education may decrease the overall cost for state special education services, as students are educated more often in general education classrooms and less in segregated special education classrooms (Horn & Tynan, 2001; Lewit & Baker, 1996). However, this finding is frequently disputed, as students with a disability receive additional services within the general education classroom (Murphy, 1996).

These probable social and fiscal benefits combine to make the inclusive educational model more attractive to politicians and consumers alike. The likelihood that this model will be discontinued in favor of a more segregated educational model is highly unlikely. Therefore, it becomes essential that researchers investigate the impact of inclusive settings on the attitudes and actions of typically developing children toward their peers with a disability (Murphy, 1996).

To date, relatively few researchers have examined the area of attitudes and actions of typically developing children toward their peers with a disability, and even fewer have examined these topics among young children. More researchers have examined the attitudes of adults toward their peers with a disability (Albrecht et al., 2001). When disability types are investigated, the number of available research studies decreases even further. The majority of studies involving children are focused exclusively on physical disability, either ignoring intellectual disability or positing that attitudes toward individuals with a physical disability are the same as those toward individuals with an intellectual disability. Adding a final filter of studies that include both investigating the child’s understanding of disability (an important
factor to offering possible explanations of children’s attitudes and actions) and identifying the child’s attitudes and actions results in only a handful of available studies.

This research was undertaken to add to the field of disability research by focusing on the area of early childhood – specifically, the understanding of, attitudes about, and actions toward peers with physical and intellectual disability. Furthermore, attempts were made to determine relations among inclusive environments and these factors. Such information will provide future researchers with valuable information on what young children know about the nature of disability, their beliefs regarding activities children with a disability are able to accomplish, and their willingness to interact with their peers with a disability. These data may provide information with which to develop intervention programs to improve these attitudes and actions, thus enhancing the inclusive educational process for children with and without disability. Additionally, the investigation of the impact of an inclusive environment may provide insights into the level of intervention needed to improve children’s perceptions, determining if contact alone is enough to alter beliefs and actions.

**Review of Current Literature**

*Understanding disability.* Diamond and Hestenes (1994) investigated the impact of integration on non-disabled students’ understanding of disability. Twenty-four preschool children were interviewed to determine their understanding of hearing and hearing loss. Thirteen of the participants (mean age 48 months) were enrolled in a preschool classroom which included two children with a disability, one of whom had severe hearing loss. The remaining eleven children (mean age 44 months) were enrolled in a preschool program that included children with a disability, but not with hearing disability. An eight question semi-
structured interview was administered at the beginning of the school year and again three months after the initial interview.

The researchers found that all children understand that they hear with their ears and 75% of children recognized there are times when people have difficulty hearing. Reasons for difficulty hearing fell into two categories: environmental factors (e.g. loud noise) and trauma or illness (e.g. having no ears or ear infection). Three children indicated that having hearing aids could interfere with one’s hearing. Children’s understanding of reasons for not being able to hear did not change over assessment times.

In the beginning-of-the-year assessment, no difference existed between groups on understanding of ways individuals with hearing loss can communicate. At the three month assessment, 50% of participants with a classmate with hearing loss understood the concept of sign language as a means of communication for the deaf or hard of hearing. In the classroom without a peer with hearing loss, only one of the participants recognized sign language as a means of communication.

Furthermore, at the initial assessment, most children did not link speech as dependent upon hearing, but at the three month assessment the majority of participants with exposure to the student with hearing loss recognized that speech and hearing are related. Only one student in the comparison classroom was able to recognize this dependency. Overall, these findings led the researchers to suggest that exposure to children with specific disability can influence preschool children’s understanding of the nature of disability. Specifically, children with exposure to a specific disability can increase their understanding of that disability.

Diamond (2001) further investigated preschool children’s understanding and acceptance of disability and its relationship to contact with children with a disability. Forty-
five participants were recruited from four inclusive preschool classes (mean age 52.2 months). Disabilities represented in the classes were pervasive developmental disorder/autism (four students), multiple cognitive and physical disorders (two students), developmental delay (two students), communication disorder (two students) and spina bifida (one student). Data were collected in the spring semester and all participants had been enrolled in the program for at least three months prior to assessment.

To measure social acceptance of a child with a disability, participants were shown a doll in a wheelchair, then were presented with two pictures: one with a child surrounded by a group and engaged in an activity, the other with a child separated from the group and not engaged in an activity. The pictures were described as a child having friends and a child not having friends, respectively. Researchers asked the children to decide which picture would represent the doll in a wheelchair, if the doll was a real child. After a picture was selected, the child was asked to decide if the doll was “a lot alike” or a little bit alike” the child in the picture. Participants were asked two follow-up questions, using the same pictures as reference (e.g. lots of kids/not many kids talk to this child and even though she can’t walk, this child has lots of friends to play with/this child doesn’t have many friends to play with). Acceptance of physical disability was used as a measure for children’s attitudes toward all disability types.

To measure willingness to help a child with a disability, participants were read three vignettes about a child in a wheelchair who needs assistance to complete an activity and three vignettes about a typically developing child who needs assistance to complete an activity. Order of presentation was randomized. Following each story, participants were asked, “What
will happen next?” Responses were coded as “don’t know” (1 point), not appropriate or unrelated (2 points) and helping response (3 points).

Social contacts with classmates with a disability were assessed throughout the spring semester by use of videotaped observations. Each child was observed at ten minute intervals for three hours each week for six weeks. Observations took place during free play, when children could choose activities and playmates and teachers supported, but did not direct children’s play. Contact was defined as either verbal, physical, or sustained visual exchanges. All of these exchanges indicated that participants were aware of and responsive to each other (e.g., six children drawing with markers, two are talking and one is watching the two talking; these three children are engaging in social contact).

Based on the results of this study, researchers stated that preschool children were accepting of and willing to help individuals with a disability. Participants’ level of helping strategies (e.g., how they would help an individual with a disability) was significantly related to their level of understanding, such that higher order helping strategies were related to more well-defined understandings of the disability. Furthermore, participants with greater numbers of social contact with classmates with a disability had higher levels of understanding and social acceptance of disability. As this study does not include a control group (e.g., participants without exposure to individuals with a disability), conclusions cannot be drawn about the degree to which contact improves understanding and acceptance. However, these researchers still present a significant finding – that within an inclusive setting, children with greater levels of contact with peers with a disability have better understanding and more acceptance of individuals with a disability.
Using vignettes from *Sesame Street*, Diamond and Kensinger (2002) investigated children’s understanding of intellectual disability (e.g., Down Syndrome) as compared to physical disability (e.g., use of a wheelchair). Forty-four children (mean age 57 months) enrolled in an inclusive preschool program participated in this study.

Two *Sesame Street* vignettes featuring children with a disability were used. Clip A involved a young girl who used a wheelchair due to a physical disability. She talked with “Big Bird” about her disability. Big Bird is surprised that she can dance in her wheelchair, and she explains that there are many things she can do in her wheelchair and demonstrates her dancing. Clip B involved a young boy with Down Syndrome. He interacts with “Ernie,” who asks the boy if he would like to make faces. The boy points to and names the features of his own face and Ernie’s face. Ernie makes comments about the happy and sad faces, but states that the angry face is not angry and to try again. The fact that the boy has a disability is not discussed.

Each participant watched a video clip and completed a brief interview. Two weeks later, the remaining clip was watched and the interview re-administered. Interview questions focused on understanding of the causes and consequences of each disability. Additionally, each participant was asked to rate the motor and language abilities of the children using the Pictorial Scale of Perceived Competence and Social Acceptance for Young Children. Participants were presented with pictures of children who would find basic motor and language tasks easy and of children who would find basic motor and language tasks difficult. The researcher then asked which picture is most like the child in the video clip. Answer were scored on a continuum (e.g., not capable, a little bit capable, mostly capable, capable).
The majority of participants were able to correctly identify the nature of each child’s disability (e.g., motor tasks are hard for the girl in clip A; language tasks are hard for the boy in clip B). Furthermore, participants rated the children as very competent in non-disability related tasks (e.g., girl with a motor disability competent in language tasks; boy with Down Syndrome competent in motor tasks).

There was a significant difference in participants’ beliefs about the children’s ability to participate in age-appropriate tasks. Sixty-one percent of participants thought the boy with Down Syndrome could participate in typical four-year-old tasks; however, only 41% of participants thought that the girl with a motor disability could participate in these activities. A significant difference was also noted in participants’ beliefs about whether or not the children would require assistance to participate in age-appropriate activities. Thirty-two percent of participants felt that the boy with Down Syndrome could participate independently, while only 10% felt that the girl with a motor disability could participate independently.

When asked to explain why the children had disability-related difficulties (e.g., walking or making faces), the majority of children responded that the child with a motor disability had a broken leg, while responses for the child with Down Syndrome were more varied (e.g., he doesn’t know much, the activity is too hard; he needs practice).

Finally, when asked to consider the consequences of disability, a significantly greater portion of participants felt that if the boy with Down Syndrome “tried harder” he could do more, but that more effort would not improve the performance of the girl with a motor disability (89% and 61%, respectively). Additionally, most participants believed that both
children would grow up to be adults without disability (girl with motor disability, 80%; boy with Down Syndrome, 97%).

Overall, the central finding of this study is that young children have a better understanding of physical disability than of intellectual disability. However, they are not totally unaware of the differences between themselves and children with an intellectual disability. Young children recognize that certain tasks are difficult for those with a disability, but are less able to explain why that disability exists or to understand the permanent nature of disability.

Diamond and colleagues (1997) examined the relationships among participation in an inclusive preschool program, children's understanding of disability, and their acceptance of children with a disability. Sixty children enrolled in both inclusive and non-inclusive preschool programs were selected for participation in this study. Twenty-nine children (mean age 57.9 months) were from a non-inclusive program (Program A) and 31 children (mean age 57.3 months) were from an inclusive program (Program B). In Program B, 15-20% of the children enrolled had been identified as having a disability. The types of disability included cerebral palsy, communication disorder, hearing impairment, multiple disabilities, Down Syndrome, mild motor disability, and severe motor disability. In this program, teachers included all children in small and large group activities, but no specific instruction targeted at developing disability awareness or increasing social interactions between children with and without disability existed.

Each participant completed two interview sessions designed to examine ideas about physical and sensory disability. Dolls, created to suggest disability (motor disability, hearing disability, visual disability) and no disability were used to visually represent disability to the
participants. Researchers presented two competing pictures (e.g., this girl is good at running/this girl is not good at running or this girl has lots of friends/this girl does not have a lot of friends). The participant was then shown one of the dolls and asked which picture best fit with the target doll. A follow-up question asking whether the doll was “a lot like” or “a little bit like” the picture was used to further delineate the child’s response.

The second interview session examined the participant’s understanding of physical and sensory disability, using the same dolls as the first interview session. The interview included eight questions focused on immediate and long-term consequences of disability (e.g., will this child be able to walk when he gets older).

Based on the results of data analysis procedures, researchers indicated that basic knowledge about disability did not differ significantly according to preschool experience (e.g., inclusive vs. non-inclusive). However, children in inclusive classrooms were significantly more likely than children in non-inclusive classrooms to state that disability would persist into adulthood. Furthermore, children in inclusive classrooms had higher social acceptance ratings for all of the disability types than did children in non-inclusive classrooms. However, as in previous studies, researchers found that children (regardless of classroom experience) are still more accepting of children without disability than they are of children with a disability.

The most significant finding of this study is that preschool experience (without specific focus on disability education or forced interactions with children with a disability) may influence the understanding of and attitudes toward individuals with a disability. Researchers imply that such inclusive settings are preferable over non-inclusive settings in this regard.
Impact of understanding on attitudes. Hodkinson (2007) investigated how non-disabled children view disability in general and what attitudes they hold toward peers with a disability. He collected data from two primary schools in the United Kingdom. School A had some inclusion practices in place for students with a disability. School B was not an inclusive school. A total of 53 students from year 5 classrooms participated in the study (year 5 classrooms contain students aged 9-10 years).

Participants were asked to draw a picture of a child with a disability and to write a description of that child. They were then shown a prepared picture of a child in a wheelchair and a child without a wheelchair. Participants were asked to select five words from a list of adjectives to describe each child. Finally, participants were shown pictures of a child with a visual impairment, a child with a walker, a child with a wheelchair, and a typically developing child. For each picture, participants were asked questions designed to elicit their feelings about inclusion of these children in their classrooms. They were also asked to define terms, such as “inclusion” and “disabled.” Finally, participants were asked to discuss their level of interaction with students who are disabled.

In the drawing task, the majority of participants (from both School A and School B) drew children in wheelchairs, suggesting that children view disability as a physical state. Analysis of the descriptions created for these pictures indicated that children believe disability is associated with having something wrong with them or not being able to do something “as good as” people without disabilities.

In the adjective task, a picture of a child without disability was 7% more likely to be called intelligent, 6% more likely to be called happy, 6% more likely to be called beautiful, and 3% more likely to be called good than a picture of a child with a disability. However, a
picture of a child with a disability was 3% more likely to be called brave, 7% more likely to be called poor, and 7% more likely to be called sad than a picture of a child without disability. Overall, Hodkinson interprets these findings to suggest that a child’s understanding of disability has the potential to act as an obstacle to successful inclusion of children with a disability in school settings.

When comparing beliefs about inclusion between participants from School A (inclusive) and School B (non-inclusive), the majority of students supported the idea of inclusion in their schools (87% supportive in School A; 86% supportive in School B). Based on a comparison of the results from the drawing task by school, Hodkinson indicated no significant difference existed between conceptualization about disability in students from inclusive and non-inclusive settings. However, students from School A (inclusive) were more likely than students in School B to use negative adjectives to describe a child with a disability. Specifically, students in School A were less likely to use the adjectives intelligent, happy, and beautiful and more likely to use the adjectives poor and sad when describing the child with a disability than students in School B.

The most significant finding of this study is that a child’s level of understanding or conceptualization about the nature of disability can interfere with the creation of positive attitudes about disability. Furthermore, Hodkinson suggested that inclusion alone may not reduce negative attitudes, but may, in fact, increase negative attitudes.

Weiserbs and Gottlieb (2000) examined possible causes of negative attitudes toward children with a disability, specifically if the permanent nature of disability influenced the perceptions of children. A total of 492 students enrolled in New York City public school grades 3-12 participated in this study. Participants were told that two new students were
going to be enrolled in their classes. Both hypothetical students had been in car accidents, one resulting in a permanent injury, the other in a temporary injury. Both students had difficulty maneuvering their wheelchairs. One-half of the participants received additional information about the hypothetical students. They were told that students who responded positively might be asked to help the new students (e.g., be a lunch buddy or to help the child get into the building/classroom).

Participants were asked questions from two categories: willingness to befriend a person with a disability and willingness to help a person with a disability. Researchers’ results indicated that the duration of disability (e.g., permanent or temporary) did affect children’s willingness to befriend peers with a disability. The child with temporary disability obtained more favorable responses than the child with permanent disability. However, attitudes of helping did not differ according to duration of disability – that is, when asked, all participants were willing to help the children with a disability, regardless of whether the disability was temporary or permanent. The most significant finding from this study is that understanding of disability may influence attitudes about and actions toward children with a disability.

Impact of setting (inclusive/non-inclusive) on attitudes. Tamm and Prellwitz (2001) examined the beliefs of Swedish preschool and school-aged children about children with a physical disability (e.g., mobility impaired/use wheelchairs). Three groups of typically developing children participated in the study: 16 children aged 4 to 5 years old, 16 children aged 8 to 9 years old, and 16 children aged 10 to 11 years old, for a total of 48 participants. Both the preschool and school-aged children were residents of a small community in
northern Sweden (approximately 18,000 residents), and only five of the participants had prior exposure to a person who used a wheelchair or had a motor disability.

Researchers asked the participants to draw a picture of a child sitting in a wheelchair or to select a pre-drawn picture of a child in a wheelchair. Researchers then asked a variety of questions about the child in the wheelchair to elicit each participant’s understanding of disability. Questions covered areas such as understanding of the nature of disability, of limitations in the physical environment, of the social environment, of self-esteem, and of the future.

Based on the study results, researchers suggested that children, regardless of age, had positive attitudes toward a child in a wheelchair and were willing to include the child in their games. Participants were also aware of difficulties the child might face (e.g., physical environment, such as narrow hallways or inaccessible playground equipment). Researchers cautioned that these findings may not be representative of children’s attitudes or actions concerning an actual person in a wheelchair, as their assessments relied on an entirely hypothetical situation (due to lack of personal experience with a disability for most of the participants).

Tamm and Prellwitz (2001) did suggest that understanding of the causes of disability varies with age. Younger participants were more likely to view the disability as a temporary state and to expect the child to recover from the disability. As the age of the participants increased, so did their understanding of disability as either a genetic or acquired state from which a person may or may not recover.

Researchers investigated how the typically developing participants viewed the self-esteem of their peers with a disability. Reflecting on the picture of the child in a wheelchair,
participants were asked to estimate the number of friends the child has, the disposition of the child, and the self-esteem of the child. Researchers suggested that typically developing participants viewed their peers with a disability as having many friends, a calm or happy disposition, and generally high self-esteem. This finding is in direct contrast to studies investigating the self-esteem of children with a disability – where participants were children with a disability, rather than their peers (Appelton et al., 1994; Wray & Sensky, 1998). Such studies have demonstrated that the self-esteem of children with chronic illness or disability is considerably lower than the self-esteem of healthy or typically developing children.

Researchers have suggested a possible reason for this contradiction is the use of a hypothetical child with a disability and participants with little or no exposure to a child with a disability. Furthermore, researchers have highlighted the possible impact of the order in which their questions were asked. In this study, questions about how children would interact with the child in a wheelchair and what games they would play together preceded questions about self-esteem. This question order may have primed the participants to thinking about ways in which play or interaction with the child in a wheelchair was possible, thus leading them to believe that a child with a disability would have lots of friends.

Tamm and Prellwitz’s (2001) most significant finding is the generally positive view of children with a physical disability by their typically developing peers. Although this finding must be tempered with the study limitations (e.g., non-random sample, lack of experience with a disability, and the rural and secluded nature of the study’s location), the researchers do suggest that children without experience with a disability are likely to be open and accepting of a child with a physical disability.
Nikolarazi and colleagues (2005) examined the attitudes of kindergarten children toward individuals with special needs in Greece and the United States. The participants from Greece included 104 typically developing children from five kindergarten classrooms. Of these classrooms, two were inclusive (43 participants) and three were not inclusive (61 participants). The mean age of the Greek students was 68 months. The participants from the United States included 92 typically developing children from nine kindergarten classrooms. Of these classrooms, five were inclusive (54 participants) and four were not inclusive (38 participants). The mean age of the United States students was 73.2 months.

An 18-item questionnaire designed to measure the affective component of attitudes toward children with special needs was administered to all participants. Scale administration was followed by an individual interview to ascertain more detailed responses regarding the children’s answers. As well, the teachers from participating classrooms completed the Inventory of Disability Representation (IRD), a tool that assesses the level of disability representation in the classroom. This inventory examined whether disability was presented visually (posters, bulletin boards), in play (books or dolls showing children with a disability), through language (sign language, Braille), or curriculum (instruction about disability and acceptance).

Researchers found that children in the United States and Greece were accepting of children with special needs. No significant differences were found between levels of acceptance in the United States and Greece. However, significant differences were noted between inclusive and non-inclusive classrooms, with those participants from inclusive classrooms having higher scores of acceptance than those in non-inclusive classrooms. This
difference was greater among the Greek participants than among the United States participants.

Responses from the individual interviews suggested that positive and negative perceptions of kindergarten children fall into specific categories. Children’s comments reflecting positive perceptions of disability fell into three categories: feelings of compassion or that it is “the right thing to do,” willingness to offer their help, and ideas about using existing games or modifying games to include a child with a disability. Greek participants reported an additional category – willingness to interact with the child to offer medical help.

Comments reflecting negative perceptions fell into a central category – rejection and exclusion based on perceived limitations. Greek participants reported an additional category, which may be related to their additional positive responses category – rejection and exclusion based on medical concerns.

In the United States, the participating classrooms had a broad range of disability representation. Three classrooms (two inclusive, one non-inclusive) had low representation (IRD scores ranging from zero to six) four classrooms (two inclusive, two non-inclusive) had moderate representation (IRD scores ranging from 7 to 13), and two classrooms (one inclusive, one non-inclusive) had high representation (IRD scores ranging from 14 to 20). On average, non-inclusive classrooms had slightly higher representation than inclusive classrooms (scores of 10.2 and 9.6, respectively).

Greek classrooms, both inclusive and non-inclusive, had very low representation, such that these classrooms provided little indirect exposure to disability. The non-inclusive classrooms obtained IRD scores of zero (no representation of disability), whereas one
inclusive classroom had an IRD score of one and the other an IRD score of five (out of a possible 20 points).

The most significant finding from this study is the difference in acceptance scores between inclusive and non-inclusive kindergarten classrooms. Researchers suggested this result may be driven by the Greek classrooms. They suggested that the lower indirect exposure to disability in the non-inclusive Greek classrooms may have driven the lower acceptance scores noted overall in non-inclusive classrooms. However, they were unable to investigate this hypothesis further due to the low number of classrooms involved in the study.

*Relationship between attitudes and behavioral intentions.* Dyson (2005) investigated kindergarten children’s understanding of and attitudes toward disability. The study was comprised of 77 kindergarten children enrolled in inclusive classrooms in a metropolitan area of western Canada. Average age for the sample was 5.2 years.

The researcher utilized an open-ended questionnaire designed to measure the awareness of and sensitivity towards persons with a disability. Participants were interviewed individually at their schools and their responses were recorded verbatim by researchers. Interview data were analyzed through use of the qualitative content analysis method (viewing words, phrases, or sentences as units of analysis, identifying major concepts or events and making comparisons between each concept or event). Data were coded by two researchers and reliability was established by comparing their independent results. Reported interrater reliability of the coding was 91%.

The questionnaire focused on three areas of understanding disability (meaning of disability, disability as contagious/non-contagious, similarities and differences between people with and without disability) and on three areas of attitudes toward people with a
disability (liking people with a disability, friendship with people with a disability, fear of people with a disability). With regard to understanding disability, 45% of participants responded “don’t know” when asked to explain “disability.” Twenty-five percent of participants reported disability as a physical impairment and 16% reported disability as needing assistance and physical equipment. The majority of participants (78%) did not believe disability was contagious; however, 48% of these could not explain why disability was not contagious. Finally, 88% of participants believed a person with a disability was different from themselves and the central reason for this belief (69%) was the existence of a physical difference.

In response to questions on attitudes toward people with a disability, 83% of participants responded that they “liked” people with a disability. Forty-four percent of participants could not explain why they liked people with a disability, 14% indicated it was due to the good character of the person, and 13% indicated altruistic reasons (e.g., “it’s the right thing to do”). When asked if they had a friend with a disability, the majority of participants (53%) responded in the negative. Those participants who did report having a friend with a disability stated their activities with this friend as “playing with” and “helping them” (27% and 13%, respectively). The majority of participants were not afraid of people with a disability (91%).

A finding of central importance from this study is that, while the participants espoused generally positive attitudes toward people with a disability, the majority indicated they did not have a friend with a disability. Dyson (2005) suggested that positive attitudes do not necessarily indicate positive actions in creating friendships with peers with a disability.
Laws and Kelly (2005) investigated school-aged children’s attitudes toward physical, intellectual and behavioral disability. They also examined the ability of these attitudes to predict behavioral intentions (e.g., willingness to interact with) toward children with a disability. Two hundred two participants, ages 9 to 12 years, were selected from four schools in southeast England. No children with a disability were present in any of the classes in which participants were enrolled. All assessment measures were conducted in group settings at the four schools.

Researchers used the Peer Attitudes Toward the Handicapped Scale (PATHS) to compare attitudes toward types of disability. Researchers read 30 descriptions of school-aged children with various physical disability, intellectual disability, and behavioral disability aloud to the participants. Following each description, participants were asked to choose where that child should complete his or her schoolwork (e.g., with me in a group, with someone else in a group, alone, outside of class – in another class or room, at home – not coming to school).

To assess willingness to interact with children with a disability, Laws and Kelly used the Behavioral Intention Scale (BIS), which presents 10 situations describing aspects of child friendship behaviors. These situations range from little intimacy or interaction to high intimacy or interaction (e.g., saying hello to sharing a secret). Participants were shown a picture of a child with a physical disability and a child with an intellectual disability. Descriptions were provided for each child, indicating some general problems that would be typical of each disability. Participants were then asked to rate willingness to engage in each situation (no, probably no, probably yes, yes) with each child.
Based on the PATHS ratings, researchers indicated that attitudes toward behavioral disability were more negative than toward either physical or intellectual disability. However, attitudes toward physical disability were more negative than were attitudes toward intellectual disability. With regard to gender differences, girls expressed more positive attitudes toward children with a disability than did boys.

Based on the BIS ratings, researchers indicated that girls had generally more positive attitudes toward disability than boys, but no significant differences in behavioral intentions existed among types of disability. As to the ability of PATHS scores to predict BIS scores, only attitudes about physical disability were correlated to participants’ behavioral intentions.

As this study does not include children with inclusive school experience, the significance of this study is in the relationship between attitudes and behavioral intentions. Researchers suggested that attitudes toward physical disability (which are more negative than those toward physical disability) can predict a child’s willingness to interact with a child with a disability.

Nowicki (2006) examined the relationships among attitudes toward children with a disability and age, gender, and type of disability. One hundred Canadian public school students from kindergarten through fifth grade were selected for participation in this study. Distribution of students across grades was as follows: 25 kindergarten students (mean age 56 months), 25 first grade students (mean age 78 months), 25 third grade students (mean age 101 months), and 25 fifth grade students (mean age 126 months). Only participants from the third and fifth grades had classmates with an identified disability. Of those students with an identified disability, none were considered moderate or severe disability. A parental survey
indicated that the majority of participants had no contact with persons with intellectual, physical, or both intellectual and physical disability (69%, 67%, and 91%, respectively).

Nowicki used the Multi-Response Attitudes Scale to assess attitudes toward children with a disability. This scale lists 10 positive and 10 negative adjectives, which participants were asked to assign to either a child with an intellectual disability, a physical disability, or a combined intellectual and physical disability. The BIS (also used in the previous study by Laws and Kelly, 2005), which requires participants to indicate willingness to participate in situations of increasing intimacy with a person with a disability, was used to assess behavioral intentions. To assess the affective component, participants were asked how they felt about five situations involving a peer with a disability (e.g., helping, playing, talking, etc.).

With regard to the Multi-Response Attitudes Scale, Nowicki (2006) reported that girls had significantly higher scores (and thus more positive attitudes) toward children with a disability than did boys. However, both boys and girls had significantly higher scores (and thus more positive attitudes) toward children with no disability than toward children with a disability. Further, Nowicki suggested that attitudes toward children with all types of disability become more positive with age, with the exception of intellectual disability. Attitudes toward intellectual disability become more positive from kindergarten through third grade and then become more negative in fifth grade.

Nowicki’s (2006) interpretation of the BIS scores indicated that all participants were also less willing to interact with children with all types of disability (physical, intellectual, and combined) than no disability. Slight, but non-significant gender differences were noted in behavioral intentions, with girls slightly more willing to interact with a person with a
disability than were boys. As with the Multi-Response Attitudes Scale, younger children obtained lower scores, indicating less willingness to interact with children with any type of disability.

This finding and the previous study’s finding are similar: children have poorer perceptions of and are less willing to interact with individuals with a disability than they are with typically developing peers. The most significant finding of this study is that negative attitudes and lack of willingness to interact with individuals with a disability are significantly higher in young children.

*Altering attitudes toward disability.* Favazza and Odom (1997) examined the effects of programs designed to alter attitudes of kindergarten children toward peers with a disability. The program included both direct and indirect experiences with children with a disability. Direct contact included interactions with a person with a disability; indirect experiences included books and discussion about disability.

The study sample included 46 children without disability, mean age of 65 months. The majority of the sample was Caucasian. Participants were split into three groups: no contact, low contact, and high contact. The no contact group had no active role in the study. The low contact group had no direct contact with individuals with a disability. These children saw peers with a disability daily in extracurricular activities (such as recess, lunch, library, and music). The high contact group participated in the intervention program. All groups were assessed pre- and post intervention.

The intervention program consisted of books and discussion curriculum conducted three times each week for nine weeks (for a total of 27 books). Following a reading of the book, guided discussion took place. Questions fell into five topical categories: story content,
disability, highlighting similarities, adaptive equipment related to story content, and playtime experiences. The central focus of the discussion portion was to examine similarities of children with and without disability.

Immediately following book discussion, children engaged in play with children with a disability for 15 minutes. None of the children knew their disabled peers prior to the intervention, but the same children with a disability were involved in the play sessions throughout the nine week intervention program. Children could choose anyone to play with or to play alone, but did have to remain within a limited play space (such that proximity to a child with a disability was always present, even if direct interaction was not).

Once a week, throughout the intervention, one of the three stories was sent home with each child. Parents were expected to read the story and to use the provided guided discussion questions with their child.

The Acceptance Scale for Kindergarteners was developed to determine acceptance or non-acceptance of people with a disability or people who are different. This measure was administered pre-test, post-test, and at a five month follow-up. Researchers found that pre-test scores on acceptance of disability did not vary significantly across the three groups (no contact – 20.31, low contact – 20.07, high contact – 20.66), with all groups demonstrating a low level of acceptance. At post-test, there was no significant change in the no contact and low contact groups (23.05 and 24.00, respectively). However, there was a significant increase in scores for children in the high contact group (31.31). Increases remained relatively stable at the five month follow up (29.70).

The most significant finding of this study is that young children do have negative attitudes about and low acceptance of individuals with a disability. However, those attitudes
can be altered in a fairly short amount of time with relatively stable results. Based on these results, researchers suggested that negative attitudes may be altered through a combination of direct and indirect exposure to disability.

Favazza, Phillipsen, and Kumar (2000) followed-up the Favazza and Odom (1997) study. Their goal was to determine if effective intervention required all parts of the program (e.g., books, discussion, interaction, and family involvement) or if use of individual parts would be as effective as the whole. Furthermore, they sought to determine if gender differences occurred in levels of disability acceptance and if change in acceptance was maintained over time. Finally, they examined if the changes demonstrated in the research environment were evident in other aspects of the school setting.

Sixty-four children (mean age 67 months) were selected to participate in the study. Of these, 2% were Caucasian and 98% were African American. Sixty-three of the participants were considered low socio-economic status. Participants were split into four groups: whole intervention, play, stories, and control. Children in the control group saw peers with a disability at recess, lunch, and school assemblies, but otherwise had no contact with peers with a disability.

The intervention program was the same that was used by Favazza and Odom (1997). The whole intervention group received all parts of the program (story time, discussion, play, story time/discussion with parents). The play and story groups received only the play or story parts of the intervention, respectively.

Participants were assessed using the Acceptability Scale for Kindergarteners which was administered pre-test, post-test and at a five month follow-up. Results indicated that the whole intervention group demonstrated greater acceptance of disability than did the other
groups. However, the play and story groups demonstrated greater acceptance than the control group. Furthermore, the whole intervention group maintained its gains in acceptance at the five month follow-up assessment. Both the play and story groups decreased in their level of acceptance significantly at the follow-up. The control group had no significant change in acceptance across testing times. No gender differences were noted in levels of acceptance in any group.

The central finding of this study is that typically developing children have low acceptance of their peers with a disability. Furthermore, while all types of intervention resulted in significant increases in acceptance, the most effective intervention involved all parts of the intervention program. The whole intervention group also demonstrated greater long-term effectiveness.

Of the available research involving young children and disability, the emphasis has been on determining what young children understand about the nature of disability. Overall, based on the results of these studies, researchers have suggested that young children who have been exposed to disability through inclusive early care and education settings have a basic understanding of physical disability, but their understanding of intellectual disability may be less accurate (Diamond, 2001; Diamond & Hestenes, 1994; Diamond & Kensinger, 2002).

Despite the lack of accuracy in understanding intellectual disability, young children do recognize peers with both intellectual and physical disability as being different from themselves in ability level and demonstrate more positive attitudes and actions toward typically developing peers than toward peers with a disability (Diamond et al., 1997). The implication of these findings is that the formation of negative attitudes toward disability can
occur in early childhood and may influence the level of interaction with peers with a disability. Children’s attitudes and behaviors may potentially decrease the quality of the inclusive educational model, such that it may be increasing the likelihood of negative attitudes in typically developing children toward their peers with a disability. This result, in turn, reduces the likelihood that typically developing children will interact with their peers with disability, thereby diminishing the previously discussed positive effects of inclusive education.

Researchers working with school-aged children have focused on examining understanding of and attitudes toward disability. They have suggested that a possible reason for negative attitudes toward peers with a disability may be due to the typically developing child’s understanding of or conceptualization about the nature of disability (Hodkinson, 2007; Weiserbs & Gottlieb, 2000). Therefore, inclusion alone may not help decrease negative attitudes, as exposure to a peer with a disability may not help address inaccurate conceptualizations about disability (Hodkinson, 2007).

Differences in attitudes do exist between students in inclusive and non-inclusive educational settings, with students from inclusive settings demonstrating more positive attitudes toward peers with a disability (Nikolaraizi et al., 2005). However, regardless of settings, children have generally negative attitudes toward their peers with a disability (Dyson, 2005; Favazza & Odom, 1997; Favazza et al., 2000; Hodkinson, 2007), with younger children having more negative attitudes than older children (Nowicki, 2006). These researchers also suggested that positive attitudes do not necessarily correlate with positive behavioral intentions (Dyson, 2005; Laws & Kelly, 2005; Nowicki, 2006).
Other researchers have suggested that negative attitudes in young children can be altered in a relatively short period of time through use of direct and indirect contact with peers with a disability (Favazza & Odom, 1997; Favazza et al., 2000). While these studies demonstrated the ability of general inclusion (e.g., direct contact with a peer with a disability) to improve attitudes, the improvement was not as great or as long-lasting as the improvements made from interventions using both direct and indirect contact with a disability.

**Research Questions and Hypotheses**

The purpose of this study was to examine young children’s understanding of the nature of disability and to examine their attitudes and reported behavioral intentions toward children with physical and intellectual disability separately, to determine what young children believe about types of disability and how they perceive their actions toward peers with different types of disability. Furthermore, the population of focus was early childhood, specifically, preschool-aged children. Also examined were the relationships among: (a) attitudes and behavioral intentions across disability types to determine if behavioral intentions can be predicted on the basis of known attitudes and (b) the early childhood educational environment (e.g., inclusive vs. non-inclusive) and the attitudes and behavioral intentions of young children across disability types.

**Research Question One**

What do preschool children understand about the nature of disability?

**Question one hypothesis.** Preschool children will (a) understand the nature of physical disability better than intellectual disability, (b) view disability as a temporary state,
rather than a permanent one, and (c) recognize that peers with a disability are different from
themselves.

Research Question Two

How do attitudes toward children with a disability differ from attitudes toward
typically developing peers and across disability type?

Subquestion 2a. Do attitudes toward children with general disability differ from
attitudes toward typically developing children?

Subquestion 2a hypothesis. Preschool children will have a more positive attitude
toward children with no disability than toward children with a physical or intellectual
disability.

Subquestion 2b. Do attitudes toward children with a physical disability differ from
attitudes toward children with an intellectual disability?

Subquestion 2b hypothesis. Preschool children will have a more positive attitude
toward children with a physical disability than toward children with an intellectual disability.

Research Question Three

How do behavioral intentions toward children with a disability differ from attitudes
toward typically developing peers and across disability type?

Subquestion 3a. Do reported behavioral intentions toward children with a disability
differ from reported behavioral intentions toward typical children?

Subquestion 3a hypothesis. Preschool children will report more positive behavioral
intentions toward children with no disability than toward children with physical or
intellectual disability.
Subquestion 3b. Do reported behavioral intentions toward children with a physical disability differ from reported behavioral intentions toward children with an intellectual disability?

Subquestion 3b hypothesis. Preschool children will report more positive behavioral intentions toward children with a physical disability than toward children with an intellectual disability.

Research Question Four

Is there a relationship between attitudes toward disability and reported behavioral intentions?

Subquestion 4a. Do attitudes toward general disability correlate with reported behavioral intentions?

Subquestion 4a hypothesis. Attitudes toward general disability will correlate with reported behavioral intentions, such that, as positive attitudes increase, so will degree of reported behavioral intentions.

Subquestion 4b. Do attitudes toward disability type correlate with reported behavioral intentions?

Subquestion 4b hypothesis. Attitudes toward physical disability will not correlate with reported behavioral intentions, but attitudes toward intellectual disability will correlate with reported behavioral intentions.

Research Question Five

Does type of educational setting (e.g., inclusive vs. non-inclusive) influence the attitudes and reported behavioral intentions toward general disability?
**Question five hypothesis.** Preschool children from inclusive child care settings will not differ in attitudes toward disability from preschool children in non-inclusive child care settings. However, preschool children from inclusive child care settings will differ from preschool children in non-inclusive child care settings on measures of behavioral intention.
CHAPTER 3. METHODS AND PROCEDURES

Methods

Data Collection Sites

Two types of preschool and child care programs were involved in the study: inclusive (such that the setting typically includes at least one peer with a disability) and non-inclusive (such that the setting did not typically include at least one peer with a disability). Preschool and childcare programs were eligible for involvement in the study on the basis of their enrollment of children with a disability, overall enrollment and location. Programs enrolling children with a disability were eligible for involvement as an inclusive site; those without children with a disability were eligible for involvement as a non-inclusive site. Priority for involvement was given to programs with greater overall enrollment (e.g., large numbers of children aged four to five years) and to programs located within 30-100 miles of the researcher’s home base (e.g., central Iowa).

Programs were selected for participation as data collection sites by use of non-random selection. Due to the extremely limited number of inclusive early childhood programs in existence, use of random selection was not possible. Both professional and personal contacts were used to gain entry into the programs. Researchers contacted a total of 15 programs, 9 of which consented to participate. Three sites were eliminated due to low overall enrollment numbers and location (e.g., fewer than ten enrolled four to five year olds and distances greater than 100 miles from the researcher’s home base).

Six preschool or child care programs were selected for participation in this study (three inclusive, three non-inclusive). Descriptive information for each site is presented in Table 2. Descriptive information for the lead teachers from participating classrooms at each
site is presented in Table 3. All participating teachers were female and Caucasian. All teachers had prior experience working with children with a disability (even if current employment did not include children with a disability).

### Table 2. Data collection site descriptive information

<table>
<thead>
<tr>
<th>Site</th>
<th>Population</th>
<th>Median Household Income</th>
<th>Poverty Level</th>
<th>Total Site Enrollment</th>
<th>Total Staff</th>
<th>Participating Classrooms</th>
<th>Participating Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-A</td>
<td>8,600</td>
<td>$76,094</td>
<td>4.1%</td>
<td>75</td>
<td>25</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>I-B</td>
<td>51,500</td>
<td>$36,042</td>
<td>20.4%</td>
<td>75</td>
<td>23</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>I-C</td>
<td>15,100</td>
<td>$38,080</td>
<td>10.1%</td>
<td>125</td>
<td>36</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>N-A</td>
<td>194,000</td>
<td>$38,408</td>
<td>11.4%</td>
<td>40</td>
<td>4</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>N-B</td>
<td>54,000</td>
<td>$54,139</td>
<td>4.5%</td>
<td>75</td>
<td>22</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>N-C</td>
<td>8,600</td>
<td>$76,094</td>
<td>4.1%</td>
<td>40</td>
<td>8</td>
<td>1</td>
<td>8</td>
</tr>
</tbody>
</table>

### Table 3. Data collection classrooms lead teacher descriptive information

<table>
<thead>
<tr>
<th>Classroom</th>
<th>Years of Experience</th>
<th>Education</th>
<th>Disability Training</th>
<th>Ways of Addressing Disability in Classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-A</td>
<td>14</td>
<td>CDA</td>
<td>No</td>
<td>Books/Discussion</td>
</tr>
<tr>
<td>I-B</td>
<td>30+</td>
<td>B.A., Education</td>
<td>Yes</td>
<td>Books/Discussion</td>
</tr>
<tr>
<td>I-C1</td>
<td>15</td>
<td>CDA</td>
<td>No</td>
<td>Books/Discussion</td>
</tr>
<tr>
<td>I-C2</td>
<td>5</td>
<td>B.A., Early Childhood</td>
<td>No</td>
<td>Books/Discussion</td>
</tr>
<tr>
<td>I-C3</td>
<td>7</td>
<td>CDA</td>
<td>No</td>
<td>Books/Discussion</td>
</tr>
<tr>
<td>N-A</td>
<td>14</td>
<td>M.A., Early Childhood</td>
<td>Yes</td>
<td>Book/TV/Movies/Discussion</td>
</tr>
<tr>
<td>N-B</td>
<td>10</td>
<td>A.A. Early Childhood</td>
<td>No</td>
<td>Books/Posters</td>
</tr>
<tr>
<td>N-C</td>
<td>3</td>
<td>B.S., Psychology</td>
<td>Yes</td>
<td>Books</td>
</tr>
</tbody>
</table>

Inclusive site A (I-A) was located in a metropolitan suburb of approximately 8,600 residents (United States Census Bureau, 2009). Site I-A did not have National Association for the Education of Young Children (NAEYC) accreditation, but had participated in the Iowa Department of Education’s Quality Preschool Program Standards (QPPS). One
classroom from site I-A participated in this study. The lead teacher of this classroom reported using books about disability and large group discussion to expose children indirectly to disability in the classroom.

Inclusive site B (I-B) was located in a city of approximately 51,500 residents (United States Census Bureau, 2009). Site I-B did not have NAEYC accreditation, but had participated in QPPS. One classroom from site I-B participated in this study. The lead teacher of this classroom reported using books about disability or books about a character with a disability and large group discussion to expose children indirectly to disability in the classroom.

Inclusive site C (I-C) was located in a small city of approximately 15,100 residents (United States Census Bureau, 2009). Site I-C had NAEYC accreditation and had participated in QPPS. Additionally, site I-C had obtained a 4-star rating from the Iowa Department of Human Services Quality Rating System (QRS). Three classrooms from site I-B participated in this study. All three lead teachers reported using books about disability or books about a character with a disability and large group discussion to expose children indirectly to disability in the classroom.

Non-inclusive site A (N-A) was located in a metropolitan area of approximately 194,000 residents (United States Census Bureau, 2009). Site N-A did not have NAEYC accreditation, but had participated in QPPS. One classroom from site N-A participated in this study. The lead teacher of this classroom reported using books about disability or books about a character with a disability and large group discussion to expose children indirectly to disability in the classroom. Additionally, the teacher reported using television shows or movies in which a character has a disability to introduce disability to the classroom.
Non-inclusive site B (N-B) was located in a large city of approximately 54,000 residents (United States Census Bureau, 2009). Site N-B had NAEYC accreditation and had participated in QPPS. Additionally, site N-B had obtained a 4-star rating from QRS. One classroom from site N-B participated in this study. The lead teacher of this classroom reported using books about disability or books about a character with a disability to expose children indirectly to disability in the classroom. The lead teacher also noted that posters of children with a disability are displayed around the classroom.

Non-inclusive site C (N-C) was located in a metropolitan suburb of approximately 8,600 residents (United States Census Bureau, 2009). Site N-C had NAEYC accreditation and had participated in QPPS. Additionally, site N-C had obtained a 3-star rating from QRS. One classroom from site N-C participated in this study. The lead teacher of this classroom reported using books about disability or books about a character with a disability to expose children indirectly to disability in the classroom.

Participants

Participants were children ages four to five years old. Thirty participants per type of setting (inclusive/non-inclusive) were selected from the central Iowa area, for a total of 60 participants. Of the 30 inclusive participants, 16 were male and 14 were female. Fourteen four-year-olds and 16 five-year-olds participated in the study. The majority of participants were Caucasian, with three participants reporting Asian ethnicity, one reporting Latino ethnicity, one reporting Asian-Indian ethnicity, and one reporting Middle Eastern ethnicity. By parental report, all of the children had prior direct experience with a disability through their child care settings and 10 children had additional direct experience (either a friend or a family member) with a disability. The majority of children had additional indirect experience
with disability: 23 parents reported discussing disability with their children, 16 reported exposing their child to disability through books, television, or movies. Five parents reported that they had never discussed disability with their child nor had they exposed their child to disability through books, television, or movies.

Of the 30 non-inclusive participants, 16 were male and 14 were female. Seventeen four-year-olds and 13 five-year-olds participated in the study. The majority of participants were Caucasian, with one participant reporting Asian ethnicity, one reporting Latino ethnicity, and one reporting Pacific Islander ethnicity. By parental report, 17 of the child participants had prior direct experience with a disability (either a friend or a family member) and 13 had no direct experience with a disability. The majority of children had indirect experience with a disability: 21 parents reported discussing disability with their children, 17 reported exposing their child to disability through books, television, or movies. Only three parents reported that they had never discussed disability with their child nor had they exposed their child to disability through books, television, or movies.

Data Collection Measures

Understanding Disability Scale (UDS). This scale is a qualitative measure comprised of two parts. Part one involves the child drawing a picture of a person with “disabilities or special needs.” Part two involves a set of open-ended questions designed to elicit what the child understands about the nature of disability. These questions were adapted from the Revised Version of the Primary Student Survey of Handicapped Persons (Esposito & Peach, 1983). Adaptations included eliminating scale items that evaluated aspects other than understanding disability. This scale is scored by categorizing similar themes of child-created pictures and question responses. The UDS is included in Appendix A.
Perceived Attributes Scale (PAS). The PAS is designed to determine beliefs about a child with a disability. This scale is based on the Adjective Checklist (Siperstein, 1980) and the Multi-Response Attitude Scale (Doyle, Beaudet & Aboud, 1988). The Adjective Checklist was shortened from 36 to 10 descriptors, eliminating developmentally inappropriate words. The presentation of items for the original Adjective Checklist required the child to read the descriptors and respond by circling his or her responses. This response style was altered to mirror the Multi-Response Attitude Scale, as described below. The child is presented with three pictures (child with a physical disability, child with an intellectual disability, child with no disability) and read descriptions of each child. The interviewer then asks, “is this child…” followed by an adjective describing an academic behavior, a physical appearance, a social behavior, or an affect. The child responds by saying “yes,” “no,” or “maybe,” or by pointing to a corresponding smiley face (see Appendix B for faces). This scale is scored by assigning point values of 0-2, with negative adjectives utilizing reverse scoring. Higher scores indicate more positive attitudes toward individuals with a disability. The PAS is included in Appendix C.

Perceived Capabilities Scale (PCS). The PCS is designed to determine beliefs about what a child with a disability can do. Items for this scale were selected from the Ages and Stages Questionnaire, Second Edition (Bricker & Squires, 1999) and are tasks typically mastered during early childhood. The child is presented with three pictures (child with a physical disability, child with an intellectual disability, child with no disability) and read descriptions of each child (see Appendix D). The interviewer then asks, “Do you think this child can…” followed by a physical, social, or mental ability, typically accomplished during the preschool years. The child responds by saying “yes,” “no,” or “maybe,” or by pointing to
a corresponding smiley face (see Appendix B for faces). This scale is scored by assigning point values of 0 (no), 1 (maybe), or 2 (yes). Higher scores indicate higher performance expectations of target children. The PCS is included in Appendix E.

**Behavioral Intentions Scale (BIS).** The BIS is designed to determine willingness to interact with a child with a disability. This scale is based on the Behavioral Intentions Scale (Roberts & Lindsell, 1997) and the Friendship Activity Scale (Siperstein, 1980). Developmentally inappropriate items were eliminated to create a list of 15 activities typical for young children. The child is presented with three pictures (child with a physical disability, child with an intellectual disability, child with no disability) and read descriptions of each child. The interviewer then asks, “Would you do _____ with this child?” inserting an activity typical of a preschool-aged child’s day. These activities fall into 5 categories: helping behaviors, sharing behaviors, physical proximity, common activities, and intimacy level. The child responds by saying “yes,” “no,” or “maybe,” or by pointing to a corresponding smiley face (see Appendix B for faces). This scale is scored by assigning point values of 0 (no), 1 (maybe), or 2 (yes). Higher scores indicate more positive behavioral intentions toward the target children. The BIS is included in Appendix F.

**Parental Interview (PI).** The PI is designed to determine the child’s previous direct and indirect experience with a disability. Direct experience with a disability is defined as having interaction with a person with a disability. Indirect experience with a disability is defined as experience through books, television, movies, or discussions with parents. The PI is a paper-and-pencil form completed by the parent. It is included in Appendix G.

**Teacher Interview (TI).** The TI is designed to provide descriptive data about the teacher’s overall teaching experience, as well as experience with children with a disability.
Information about the teacher’s incorporation of direct and indirect exposure to disability in the classroom is also obtained. The TI is a paper-and-pencil form completed by the teacher. It is included in Appendix H.

**Procedures**

To obtain entry into data collection sites, researchers contacted program directors via telephone or e-mail and outlined the purpose of the study, as well as the role of the program in the study (e.g., to send home letters with eligible children, to allow researchers to conduct data collection in the center). If the director consented to participate, a researcher visited the center and delivered informational packets, which were sent home with children eligible for participation (e.g., four to five years of age). Informational packets contained a letter of introduction, informed consent form and parental interview form.

If parents were willing to participate, they returned the enclosed informed consent form and parent interview in a sealed envelope to the center. The parent interview took less than five minutes to complete, and provided information regarding the child’s exposure to individuals with a disability. Researchers contacted participating program directors approximately one week after informational packets were distributed to schedule times for data collection assessments.

Assessments were conducted one-on-one in a quiet area to minimize distraction. The session began with the UDS. To avoid priming effects, pictures and descriptions of target children were presented in varied orders as noted in Table 4. Gender of the target child was matched to the interview child. After picture and description presentation, a check for understanding was completed. If the child did not answer check questions correctly, the interviewer re-read the description and asked the child to point to each target in turn.
Following the completion of the UDS, the PAS, PCS, and BIS were administered. The assessment process was videotaped and took approximately 15 minutes to complete. Videotaping allowed the researcher conducting the interview to focus on the interaction with the child, rather than on note taking. It also allowed for more accurate transcription of responses to the UDS items for later data analysis. Pictures and descriptions of children are included in Appendix D.

**Table 4. Presentation order for target pictures and descriptions**

<table>
<thead>
<tr>
<th>1st Child</th>
<th>2nd Child</th>
<th>3rd Child</th>
<th>4th Child</th>
<th>5th Child</th>
<th>6th Child</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>Intellectual</td>
<td>No Disability</td>
<td>Physical</td>
<td>Intellectual</td>
<td>No Disability</td>
</tr>
<tr>
<td>Intellectual</td>
<td>Physical</td>
<td>Intellectual</td>
<td>No Disability</td>
<td>No Disability</td>
<td>Physical</td>
</tr>
<tr>
<td>No Disability</td>
<td>No Disability</td>
<td>Physical</td>
<td>Intellectual</td>
<td>Physical</td>
<td>Intellectual</td>
</tr>
</tbody>
</table>
CHAPTER 4. RESULTS

Research Question One

The first research question, “What do preschool children understand about the nature of disability?” was explored using the UDS. Initially, analysis of the UDS was planned to be qualitative in nature, in order to provide rich descriptions of preschool children’s understanding of disability as well as offering insights into scores obtained on measures of attitudes and behaviors toward peers with a disability. However, during the data collection process, it was realized that the information gained from the UDS was not of sufficient depth to allow extensive qualitative analysis (the transcriptions of the UDS were approximately ¼ - ½ of a single-spaced page, per child).

Only a total of four children (3 participants from non-inclusive settings; 1 participant from inclusive settings) gave correct answers, although all were descriptions of a specific disability (e.g., vision impaired, spina bifida, mobility impaired). A review of background information provided by parents indicated these four children had either a parent or a sibling with the specific disability the child had described.

The majority of children (21 participants from non-inclusive settings; 29 participants from inclusive settings) gave “don’t know” responses when asked to define disability. The remaining participants (6 participants from non-inclusive settings) gave incorrect answers. These answers included that a person with a disability: has a job, is a dinosaur, fights with other children, builds dog houses, likes pizza, and is an X-Man. Subsequent probes into these answers (e.g., tell me more about that) most often obtained “don’t know” responses, suggesting that the initial responses were guesses rather than their actual beliefs about the nature of disability. Thus, in reality, the total of children with “don’t know” responses may
be 27 participants from non-inclusive settings and 29 participants from inclusive settings. On subsequent questions, these children also gave “don’t know” responses and frequently requested this researcher tell them what disability meant.

It is suggested that the failure of this instrument as a qualitative survey of early childhood understanding of disability may be due to its construction. Future administrations of the UDS may benefit from two alterations. First, if a child responds with a “don’t know” or an incorrect response to the first question, the researcher should then provide an age-appropriate definition of disability for the child before administering subsequent questions about disability. Current administration did not allow for the researcher to define disability for the child, and found that once a “don’t know” response was obtained, the remaining questions were also answered “don’t know.” Making this procedural change may help children who did not know the term disability but who may have understood the concept of disability to answer the remaining questions.

Second, it is suggested that the question “Can you get sick from playing with a person with a disability?” be changed to “How does a person get a disability?” Almost one-half of the non-inclusive participants and one-third of the inclusive participants responded that you could get sick only if that person was sick already. When asked to explain further, all children cited germs or contagious illness in some way. The intent of the question was to determine if children thought disability was contagious. However, the wording of the question led children to think about illness in general, rather than specifically about disability. Rewording the question may obtain answers more in line with the original intent of the question.
Because of the issues with the UDS, the nature of disability understanding in early childhood could not be truly explored. The only conclusive finding is that, regardless of direct classroom exposure to disability (e.g., inclusive or non-inclusive settings), the majority of children do not understand the term disability.

**Research Question Two**

The PAS and PCS were used to address the second research question, “How do attitudes toward children with a disability differ?” Specifically, the way in which attitudes about the characteristics and abilities of children with intellectual and physical disability differed from attitudes toward typically developing children was explored.

A paired-samples $t$-test was conducted to evaluate the differences between children’s PAS and PCS scores on items describing children with an intellectual disability (items PAS-I and PCS-I, respectively) and on items describing typically developing children (PAS-T and PCS-T, respectively). To calculate effect size, the eta squared statistic was used. Eta squared provides a basic idea of the magnitude of the effect size for a particular data set (Howell, 2002). The strength of the eta squared values are typically interpreted according to guidelines reported by Cohen (1988). These guidelines, and their relationships to another popular measure of effect size, Cohen’s $d$, are listed in Table 5.

<table>
<thead>
<tr>
<th>Cohen’s $d$</th>
<th>Eta squared</th>
<th>Size of Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0.2 \leq d &lt; 0.5$</td>
<td>$0.01 \leq \eta^2 &lt; 0.06$</td>
<td>Small Effect</td>
</tr>
<tr>
<td>$0.5 &lt; d &lt; 0.8$</td>
<td>$0.06 \leq \eta^2 &lt; 0.14$</td>
<td>Medium Effect</td>
</tr>
<tr>
<td>$d \geq 0.8$</td>
<td>$\eta^2 &gt; 0.14$</td>
<td>Large Effect</td>
</tr>
</tbody>
</table>

There was a statistically significantly difference in children’s scores on PAS-I ($M=14.45$, $SD=3.69$) and on PAS-T [$M=19.73$, $SD=0.82$, $t(59)=-8.89$, $p<.0005$]. The eta
squared statistic (0.57) indicated a large effect size. There was also a statistically significant
difference in children’s scores on PCS-I (M=11.07, SD=5.58) and on PCS-T [M=19.78, 
SD=1.09, t(59)=-11.66, p<.0005]. The eta squared statistic (0.70) indicated a large effect 
size. This finding supports the hypothesis that children have more positive attitudes about the 
characteristics and abilities of typically developing children than they do about the 
characteristics and abilities of children with intellectual disabilities.

Similar analyses were conducted to investigate beliefs about physical disability. A 
paired-samples t-test was conducted to evaluate the difference between children’s PAS and 
PCS scores on items describing children with a physical disability (PAS-P and PCS-P, 
respectively) and on items describing typically developing children (PAS-T and PCS-T, 
respectively). There was a statistically significantly difference in children’s scores on PAS-P 
(M=18.17, SD=2.29) and on PAS-T [M=19.73, SD=0.82, t(59)=-5.45, p<.0005]. The eta 
squared statistic (0.34) indicated a large effect size. There was also a statistically significant 
difference in children’s scores on PCS-P (M=12.55, SD=4.28) and on PCS-T [M=19.78, 
SD=1.09, t(59)=-12.42, p<.0005]. The eta squared statistic (0.72) indicated a large effect 
size. This finding supports the hypothesis that children have more positive attitudes about the 
characteristics and abilities of typically developing children than they do about the 
characteristics and abilities of children with physical disabilities.

Additionally, the differences between participant’s PAS and PCS scores on items 
describing children with intellectual and physical disability were investigated. Two paired 
samples t-tests were conducted to evaluate this difference. There was a statistically 
significant difference in participant’s scores on PAS-I (M=15.45, SD=3.69) and on PAS-P 
[M=18.17, SD=2.29, t(59)=-5.47, p<.0005]. The eta squared statistic (0.34) indicated a large
effect size. There was no significant difference in participant’s scores on PCS-I (M=11.07, SD=5.58) and on PCS-P [M=12.55, SD=4.28, t(59)=-1.63, p=.11]. The eta squared statistic (0.04) indicated a small effect size. This finding supports the hypothesis that children have more positive attitudes about the characteristics of children with a physical disability than they do about the characteristics of children with an intellectual disability. However, this finding does not support the hypothesis that children have more positive attitudes about the abilities of children with a physical disability than about the abilities of children with an intellectual disability.

**Research Question Three**

The BIS was used to investigate children’s reported interactions with children with a disability. Two paired-samples t-tests were conducted to evaluate the differences in children’s reported interactions with children with intellectual and physical disability and typically developing children (BIS-I, BIS-P and BIS-T, respectively). There was a statistically significant difference between children’s scores on BIS-I (M=23.13, SD=8.08) and on BIS-T [M=29.75, SD=1.04, t(59)=-6.45, p<.0005]. The eta squared statistic (0.41) indicated a large effect size. There was also a statistically significant difference between children’s scores on BIS-P (M=26.33, SD=4.54) and on BIS-T [M=29.75, SD=1.04, t(59)=-6.04, p<.0005]. The eta squared statistic (0.38) indicated a large effect size. This finding supports the hypothesis that children report more positive behavior intentions toward typically developing children than toward children with a disability.

Furthermore, a final paired-samples t-test was conducted to examine the difference in participants’ reported interactions with children with an intellectual disability and with children with a physical disability. There was a statistically significant difference in
children’s scores on BIS-I (M=23.13, SD=8.08) and on BIS-P [M=26.33, SD=4.54, t(59)= -3.27, \( p=.002 \)]. The eta squared statistic (0.15) indicated a large effect size. This finding supports the hypothesis that children report more positive behavior intentions toward children with a physical disability than toward children with an intellectual disability.

**Research Question Four**

To investigate the relationship between attitudes about disability and reported behavioral intentions, Pearson product-moment correlation coefficients were used. To create a single disability attitudes score, the participants’ scores on items describing children with an intellectual and a physical disability on the PAS and PCS were averaged together. These scores were correlated with participants’ BIS general disability scores (the average scores of BIS-I and BIS-P). There was no statistically significant correlation between the two variables (\( r=.25, n=60, p=.06 \)).

Separate correlations for attitudes toward children with an intellectual and a physical disability were also conducted. There was no statistically significant correlation between attitudes about children with intellectual disability and reported behavioral intentions (\( r = .22, n=60, p = .09 \)) or between attitudes about children with physical disability and reported behavioral intentions (\( r=.22, n=60, p=.09 \)). These findings do not support the hypothesis that children’s attitudes about the characteristics and abilities of children with a disability correlate with reported behavior intentions.

**Research Question Five**

The final research question was posed to investigate the impact of educational setting (e.g., inclusive or non-inclusive child care) on attitudes about and reported behavioral intentions toward disability. A one-way between groups analysis of variance (ANOVA) was
conducted to explore the impact of setting on attitudes about the characteristics of children with a disability, as measured by the PAS. Participants were divided into two groups according to their current child care setting (Group 0: non-inclusive child care; Group 1: inclusive child care). There was a statistically significant difference in PAS General Disability scores (average of PAS-I and PAS-P scores) for the two settings \([F(1,58)=4.81, p=.03]\). The effect size, calculated using eta squared, was 0.07, indicating a medium effect size. An examination of the group means revealed that participants from non-inclusive settings (\(M=32.30, SD=4.03\)) had lower mean scores than those from inclusive settings (\(M=34.93, SD=5.20\)), indicating less positive beliefs about the characteristics of children with a disability.

Separate ANOVAs were also conducted for PAS-I and PAS-P scores. There was not a statistically significant difference in PAS-I scores for setting \([F(1,58)=3.30, p=.07]\) or in PAS-P scores for setting \([F(1,58)=2.25, p=.15]\).

The original hypothesis, that children in inclusive child care settings would not differ from children in non-inclusive child care settings in attitudes toward children with a disability, was not supported by these findings. Instead, it may be that children from inclusive child care settings have more positive attitudes toward children with a disability than do children from non-inclusive child care settings. However, closer examination of PAS-I and PAS-P reveals that specific perceptions of intellectual and physical disability do not appear to be influenced by child care setting.

To examine the effect of setting on beliefs about the capabilities of children with a disability, ANOVAs were conducted using the PCS scores. There was a statistically significant difference in PCS General Disability scores (average of PCS-I and PCS-P scores)
for the two settings \[ F(1, 58)=29.26, p<.0005 \]. The effect size, calculated by using eta squared, was 0.33, indicating a large effect size. An examination of group means indicated that participants in inclusive child care settings (M=22.83, SD=7.47) have less positive attitudes about the abilities of children with a disability than do children from non-inclusive settings (M=31.60, SD=4.80).

Separate ANOVAs were also conducted for PCS-I and PCS-P scores. There was not a statistically significant difference in PCS-I scores for setting \[ F(1,58)=2.54, p=.12 \] or in PCS-P scores for setting \[ F(1,58)=0.40, p=.53 \].

The original hypothesis, that children in inclusive child care settings would not differ from children in non-inclusive child care settings in attitudes toward children with a disability, was not supported by these findings. Instead, it may be that children from non-inclusive child care settings have more positive attitudes toward children with a disability than do children from inclusive child care settings. As with the findings from the PAS, it does not appear that setting significantly impacts specific beliefs about intellectual and physical disabilities.

To explore the effect of setting on behavioral intentions, as measured by the BIS, a third set of ANOVAs was conducted. There was a no statistically difference in BIS General Disability scores (average of BIS-I and BIS-P scores) for the two settings \[ F(1,58)=0.02, p=.89 \]. The effect size, calculated using eta squared, was 0.0003, indicating a very small effect size. Separate ANOVAs were also conducted for BIS-I and BIS-P scores. There was no statistically significant difference in BIS-I scores for setting \[ F(1,58)=0.06, p=.80 \] or in BIS-P scores for setting \[ F(1,58)=0.01, p=.91 \].
These findings fail to support the hypothesis that behavioral intentions differ according to child care setting. According to these results, there is no difference in reported behavioral intentions for children in inclusive and non-inclusive child care settings.
CHAPTER 5. SUMMARY AND DISCUSSION

Significance of Findings and Discussion

The purpose of this study was to examine preschool-aged children’s attitudes toward children with a physical disability, an intellectual disability, and no disability using a quantitative approach. Participants were selected from both inclusive and non-inclusive child care settings. Furthermore, using qualitative approaches, information about children’s understandings of disability was gathered, in an effort to further explain their attitudes toward disability.

This study was meaningful as a pilot or introductory study combining various aspects of disability research (Diamond et al., 1997; Dyson, 2005; Favazza et al., 2000; Laws & Kelly, 2005; Nowicki, 2006). This study permitted examination of attitudes toward separate types of disability (intellectual and physical) in addition to examining a combined “general” disability. Additionally, this study facilitated examination of the attitudes and intentions of children, in inclusive and non-inclusive early childhood care and education settings toward their peers with a disability.

Due to the previously discussed difficulties with the UDS, sufficient information to explore the nature of young children’s understanding about disability was not acquired. From the little data gathered, it can be suggested that, in general, children are unaware of what the term “disability” means, regardless of child care setting. Those children who do understand the term had direct, intimate, long-term exposure to an individual with a specific disability (e.g., a parent or sibling with a disability). Their understanding of disability appeared to be limited to that specific instance.
This is a somewhat surprising finding, given that one-half of the participants in this study were enrolled in early childhood settings that included at least one child with a disability. Furthermore, according to teacher reports, all classrooms provided some form of indirect exposure to disability (e.g., pictures, books) as well as teacher instruction about disability (e.g., small and large group discussion about disability). Therefore, it seems more of the participants should have some awareness of the term “disability.”

It was hypothesized that preschool children would have more positive attitudes toward typically developing peers than toward peers with either intellectual or physical disability. It was also hypothesized that children would have more positive attitudes toward peers with a physical disability than toward peers with an intellectual disability. The preschool children involved in this study did have more positive attitudes toward typically developing peers than toward peers with a disability. When questioned about the characteristics or capabilities of children with intellectual or physical disabilities, participants responded less positively than when asked the same questions about typically developing peers. This finding is similar that of Diamond et al. (1997), Hodkinson (2007), and Nowicki (2006).

The hypothesis that preschool children will have more positive attitudes toward peers with a physical disability than toward peers with an intellectual disability was supported only in part. When focusing on the characteristics of a child with a disability, the participants demonstrated more positive attitudes toward children with a physical disability than an intellectual disability. This finding is similar to that of Laws and Kelly (2005) and Nowicki (2006). When focusing on the abilities of a child with a disability, however, the attitudes of participants toward children with a physical disability were not significantly different from
those toward children with an intellectual disability. Previous studies investigating children’s attitudes toward disability did not separate characteristics from abilities, but rather combined them together into one scale. It is possible that the differences in these findings are due to the separation of these factors in this study.

Participating preschool children reported more positive behavioral intentions toward typically developing children than toward children with a disability, as well as more positive behavioral intentions toward children with a physical disability than toward children with an intellectual disability. When participants were asked about ways in which they would interact with peers, they responded more willingly to items related to typically developing peers than to items related to peers with physical or intellectual disability. Furthermore, when scores for physical and intellectual disability were compared, participants were more willing to interact with a child with a physical disability than with a child with an intellectual disability.

This finding differs from the findings of previous researchers who found children willing to interact with peers with a disability (Diamond, 2001; Diamond et al., 1997; Tamm & Prellwitz, 2001). However, these studies did not compare participants’ willingness to interact with peers with a disability to their willingness to interact with typically developing peers. Researchers who have compared these factors report similar findings to this current study (Laws & Kelly, 2005; Nowicki, 2006).

Contrary to hypothesis, children’s attitudes and behavioral intentions toward peers with a disability were not correlated. This finding is supported by previous research (Dyson, 2005; Laws & Kelly, 2005; Nowicki, 2006). It is possible that, with a larger sample size, correlations could reach statistical significance; however, at this stage, it is not possible to
infer a relationship between preschool children’s attitudes toward and their willingness to interact with children with a disability.

The final research question examined the influence of educational setting (e.g., inclusive vs. non-inclusive) on attitudes and behavioral intentions toward children with a disability. Contrary to hypothesis, children from inclusive settings had more positive attitudes about the characteristics of children with a disability than children from non-inclusive settings; however, children from inclusive settings had less positive attitudes about the abilities of children with a disability than did children from non-inclusive settings. These findings were not supported by previous research (Nikolarazi et al., 2005). One possible explanation for the difference in the findings of this study is this separation of factors (characteristics from abilities) – previous studies did not attempt to examine attitudes and behavioral intentions separately.

**Limitations**

Whereas previous studies examined school-age children and adults, this study focused exclusively on young children’s understanding of and attitudes toward disability. Furthermore, it examined the relationship between early childhood educational environment and the attitudes and behavioral intentions of young children across disability types. This focus provided information about the nature and relationship of young children’s attitudes toward peers with intellectual and physical disability; however, caution should be used when interpreting these results.

The sample used in this study was not selected randomly and therefore, may not be representative of the overall population. Due to the type of information sought, it was essential to obtain participants in both inclusive and non-inclusive early childhood settings.
While there are many non-inclusive early childhood settings, inclusive early childhood settings are less common. Professional contacts were used to locate and obtain entry into sites that included children with a disability. Within the desired travel radius, there were only three inclusive early childhood sites (while several other sites occasionally enrolled children with a disability, they did not have any children with a disability currently enrolled and were thus disqualified from participation). All three of the inclusive sites participated in the study.

In order to ensure reasonable sample size for statistical analysis, all of the children whose parents agreed to participation were part of the study. This condition increases the non-random nature of the sample. These two factors decrease the likelihood that findings will be replicated in a truly random population sample.

Another factor influencing interpretation of the findings is sample size – 60 participants from 6 sites create a relatively small sample size. It is possible that the findings reflect factors related to the early childhood centers, such as teacher training, location and teaching curriculum. It is also possible that the small sample size did not reveal the true strength of the relationship between children’s attitudes and behavioral intentions. In this current study, no relationship was noted; however, in a larger sample, the hypothesized relationship may become clear.

In addition to the limitations of sample, there are also limitations resulting from the data collection measures. As previously discussed, issues related to the administration and interpretation of the UDS, lead to little useable information regarding the nature of children’s understanding of disability. The UDS was modified from instruments developed for school-aged children. It is possible that the children participating in this study did have accurate
understandings of disability, and that the UDS was simply ineffective in eliciting that response.

This same caution should be applied to the other measures used in this study. Although they appeared to yield accurate information, it is possible that the children responded out of social consciousness (e.g., everyone is a friend, it is not good to call anyone stupid) and did not report true attitudes or behavioral intentions. The current renditions of the measures did not include any methods by which to control for social consciousness or other impacting factors, such as acquiescence.

Furthermore, it is possible that the language used to describe the target children (see Appendix D) may have influenced participants’ responses. In general, the descriptions of the children with a physical or intellectual disability contain more negative statements (e.g., statements focused on limitations) than do the description of the typically developing children. This may have primed the participants toward more negative responses when answering items related to children with a disability. As a result, the participants’ scores may not be representative of their true attitudes or behavioral intentions.

Finally, the BIS replies solely on child report to determine willingness to interact with peers with a disability. As noted by Dyson (2005) positive attitudes and behavioral intentions do not necessarily translate to real-life actions. It is possible, that while participants reported willingness to engage with peers with a disability, they do not actually interact with those peers. As noted previously, children’s responses on the BIS could be guided by social consciousness – specifically, the common preschool mantra that “we’re all friends.” This limitation requires that the validity of the results of the BIS to be viewed with caution unless
compared with objective observations of children in play situation with peers with a disability.

In addition to the limitations of sample size and measurement, the stability of the findings should be taken into account. In early childhood, development is not complete, but rather the child is in a state of constant growth and change (Berk, 2009; Bowman, Donovan & Burns, 2001). Because of this fluidity, consideration should be given to the stability of these findings – would participants report the same attitudes and behavioral intentions toward peers with a disability in six months … in a year?

Research studies investigating the play preferences of young children (e.g., preferences of play partners and specific play activities) provide support for the hypothesis that attitudes in early childhood are relatively stable. Several researchers have noted that, within child care settings, friendships are maintained for long periods. In a longitudinal study, researchers found that 75-80% of friendships in child care settings were maintained for three years (Howes & Phillipsen, 1992). Other researchers have found similar results, with preschool friendships remaining stable for at least 2 years (Dunn, 1993; Howes, 1996; Martin & Fabes, 2001; Park, Lay & Ramsay, 1990).

From these findings, it can be inferred that the attitudes of young children toward their peers with disability are relatively stable. Therefore, should these participants be re-interviewed at a later time, it could be reasonably assumed that similar answers would be obtained.
Implications

Research Implications

When addressing the issue of how to present the target children to participants, two research implications result from this study. First, the language with which target children are described should be carefully considered. It is possible that the negative nature of the descriptions used in this study, focusing on limitations more than abilities, impacted the participants’ responses. Future studies should attempt to create more balanced descriptive statements, focusing on both limitations and abilities of target children.

Second, future studies should attempt to utilize multi-media methods for presenting the descriptions of target children to the participants (e.g., video clips of children with physical, intellectual, and no disability interacting in classrooms, at recess, etc.). Multi-media presentations may provide a more realistic description of the target child, which may then allow participants to more easily relate to that target child. The current study used only pictures and verbal description of the target children. Participants were able to correctly answer questions designed to check their understanding of the verbal descriptions; however, the depth of their understanding was not explored. It is possible that their understanding of the target children’s abilities and limitations was restricted to the verbal description provided by the researcher. Multi-media presentations may have provided more poignant descriptions, allowing participants to cultivate a more complete understanding of the target child, his abilities and limitations.

Several research implications can be drawn from the UDS. Future use of the UDS with the early childhood population should include administration modifications, including (a) offering a definition of disability after a “don’t know” or incorrect response is given and,
(b) altering the question “can you get sick from playing with a person with a disability” to reflect how a disability is acquired. Furthermore, because most participants lacked understanding of the term disability, future research studies should investigate how teachers of inclusive classrooms address disability, specific to the children with a disability in that classroom – do they inform the other children of the disability or is it ignored? Future researchers could also collect more in depth information from teachers about the frequency and intensity with which they provide indirect and direct exposure to disability in the classrooms, as well as anecdotal descriptions of the methods used for disability instruction (e.g., titles of books about disability used in the classroom). Assessments of children’s attitudes and behavioral intentions pre- and post-exposure may also provide insights into the efficiency of indirect and direct exposure for increasing positive attitudes and intentions toward peers with a disability.

Research implications can also be drawn from the analysis of PAS and PCS scores. Participants were more positive when describing the characteristics and abilities of typically developing peers than when describing peers with a disability. Other researchers have found that negative attitudes toward peers with a disability can be altered through combinations of direct and indirect means (Favazza & Odom, 1997; Favazza et al., 2000). Future research should investigate what specific activities (e.g., direct instruction, such as discussion about disability and interaction with peers with a disability, and indirect instruction, such as reading books or watching television programs in which a character has a disability) impact the perceptions of preschool children and whether or not the change is lasting.

This study found that while participants were more positive when describing typically developing peers than when describing peers with a disability, participants were as positive
when describing children with an intellectual disability as when describing children with a physical disability. This result differs from previous research findings, where participants were less positive when describing children with a physical disability than children with an intellectual disability (Diamond & Kensinger, 2002). The difference in findings may be due to the separation of attitudes about characteristics from attitudes about abilities. Future research should attempt to replicate this finding and investigate why separation of these factors influences the outcome.

When questioned about behavioral intent, participants were more willing to interact with typically developing peers than peers with a disability. Participants were also more willing to interact with peers with a physical disability than with an intellectual disability. Future research studies should investigate why preschool children are less willing to engage with peers with disability as well as what types of intervention may be effective for increasing positive behavior intentions.

Furthermore, this study relied solely on child report to evaluate behavior intentions. Future investigations of behavior intentionality toward peers with a disability should include a behavioral observation component to determine if reported behavior intentions match classroom interactions. Other researchers investigating behavior intentions have found that, while children report a willingness to interact with peers with a disability, few actually do so when presented with an opportunity for interaction (Dyson, 2005).

A final research implication comes from the PCS, which measures children’s attitudes about the abilities of peers with a disability. When compared to typically developing peers, preschool children’s attitudes about the abilities of peers with a disability were less positive. Future research studies should investigate if this finding is a true instance of negative
attitudes or if it is a reflection of an accurate understanding of the limitations posed by a disability. For example, the PCS asks if a child with mobility impairment could get dressed by himself. Nearly all participants responded “no” and those who did not respond in the negative responded with “maybe.” Such responses, while contributing to a less positive overall score, may reflect a more accurate understanding of that child’s disability. Future administrations of the PCS should consider including additional items that probe the reasons for a child’s responses. In the above example, additional probes could include asking why the child with mobility impairment cannot get dressed by himself or if anything could be done to allow the child to get dressed by himself. Such questions may provide more insight into the reasons for the initial negative response, as well as suggest courses of action for improving overall attitudes about peers with a disability.

**Practical and Policy Implications**

The results of the UDS and TI suggest that current indirect methods used by early childhood professionals to teach about disability may not be effective. Despite teacher report that disability is taught through books, movies/television shows, and discussion, the children participating in this study did not have an awareness and understanding of the term “disability.” As hypothesized by previous researchers, this lack of understanding about disability may negatively impact children’s perceptions of peers with a disability (Diamond, 2001; Diamond & Hestenes, 1994; Diamond et al., 1997; Diamond & Kensinger, 2002). Therefore, it is important to implement practical interventions to increase children’s understanding about the nature of disability. Early childhood professionals should evaluate the current methods of disability instruction used in their classrooms to determine if those methods are effectively teaching children about the nature of disability and creating an
environment conducive to positive interactions with peers with a disability. Additionally, at the collegiate level, consideration should be given to how future teachers are trained with respect to instructing about disability in their classrooms. In courses addressing children with a disability (e.g. survey courses on disabilities, disability awareness, etc.) future teachers should be provided with instruction on methods of teaching about the nature of disability as well as on how to encourage positive interactions between students with and without disability in their classrooms. Such preemptive training may assist future teachers in developing classrooms which promote positive interactions between children with and without a disability and in the creation of a curriculum emphasizing disability instruction.

Overall, regardless of enrollment in an inclusive or non-inclusive child care setting, participants in this study were more positive when describing typically developing peers than when describing peers with a disability. Participants were also less willing to interact with peers with a disability than with typically developing peers. An implication of these findings is that inclusion alone is not enough to create positive attitudes toward peers with a disability – more direct intervention may be required. Therefore, in addition to direct instruction about the nature of disability, professionals should create and implement activities designed to increase positive attitudes toward children with a disability. Teachers of early childhood classrooms should plan activities that highlight the abilities of children with a disability – for example, a child with mobility impairment may be an excellent problem solver, making him an asset as a partner in putting together a puzzle. Furthermore, teachers should initiate active discussion with preschool children on what adaptations can be made to allow peers with a disability to participate in classroom activities – a child with a language delay could benefit
from posting pictures explaining how to build a bridge with blocks or how to play a particular game.

Policy makers should also be aware that inclusion alone may not lead to accurate understanding about the nature of disability or to positive attitudes and behavioral intentions toward peers with a disability. Consideration should be given, at the public policy level, to increasing understanding about disability and supporting the creation of positive attitudes toward peers with disability in early childhood care and education settings. Implementing state- or nationwide policies that place a priority on these topics may help increase the amount and quality of research projects conducted about disability perceptions and early childhood. Additionally, policy makers should consider making disability instruction part of the statewide early childhood curriculum regulations.

Conclusion

Overall, this study is a meaningful preliminary study combining various aspects of research on attitudes and behavioral intentions toward children with a disability. This study differs from previous research in the attempts to evaluate attitudes and behavioral intentions toward intellectual and physical disability separately in addition to examining “general” disability. Study design also allowed for comparisons of children in both inclusive and non-inclusive settings, which many previous research studies did not provide.

Despite the limitations of this study, the findings suggest that preschool children are more positive toward and more willing to interact with typically developing peers than with peers with a disability. Moreover, most preschool children do not have an understanding or awareness of the term disability. Children from inclusive child care settings do have more positive attitudes toward peers with a disability than do children from non-inclusive child
care settings, but, overall, even children from inclusive child care settings were more positive toward and more willing to interact with typically developing peers.

From these findings, important research, practice and policy implications can be drawn. Future research should focus on refining methods of data collection and evaluating the effectiveness of interventions designed to increase understanding about disability and positive attitudes and intentions toward peers with a disability. Policy makers and practitioners of early childhood education should be aware that inclusion alone is not sufficient to develop understanding and create positive attitudes – additional measures must be undertaken to enhance the understanding of young children about the nature of disability and to increase positive attitudes and willingness to interact with peers with a disability.
APPENDIX A. UNDERSTANDING DISABILITY SCALE

(Adapted from Esposito & Peach, 1983)

1. Start the video camera.
2. Introduce scale to child: “Draw me a picture of a person with a disability or special needs.”
   a. If the child states he does not know what to draw or appears unsure about what a person with a disability would look like, state: “Draw me your best guess” or “Draw me what you think that person might look like.”
   b. DO NOT DEFINE DISABILITY OR SPECIAL NEEDS.
3. Ask the child the following questions:
   a. “Tell me everything you know about a person with a disability or special needs.”
      i. If the child is hesitant, use the “best guess” or “what do you think” probes.
   b. “Can you get sick from playing with people who have disability or special needs?”
      i. Follow up with: “Why?” or “Why not?”
   c. “Do you think people who have disability or special needs seem a lot like you or do they seem different from you?”
      i. Follow up with: “Why?” or “Why not?”
## APPENDIX B. SMILEY FACE RESPONSE CHOICES

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>MAYBE</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Smiley face thumb up" /></td>
<td><img src="image2.png" alt="Smiley face thumb down" /></td>
<td><img src="image3.png" alt="Smiley face thinking" /></td>
</tr>
</tbody>
</table>
APPENDIX C. PERCEIVED ATTRIBUTES SCALE  
(Adapted from Siperstein, 1980)

1. Show the child pictures of children with physical, mental, and no disability (use prescribed order of presentation) and read associated descriptions. Match gender of the pictures to gender of the child.

2. Check for understanding of descriptions. Ask:
   a. Which child finds learning difficult? What are some of the things that the child cannot do?
   b. Which child finds learning easy? What are some of the things that the child can do?
   c. Which child finds walking easy? What are some of the things that the child can do?
   d. Which child finds walking difficult? What are some of the things that the child cannot do?

3. If the child misses any of these questions, review the descriptions and re-check for understanding. If the child answers all understanding questions correctly, move on.

4. Present the child pictures of children with physical, mental, and no disability in the prescribed order of presentation).
   a. Say to the child: “I am going to show you some pictures of children. I want to find out what you think about them. When I ask you a question, you can say or point to YES, NO, or MAYBE (point to each smiley face associated with the response). Okay? Let’s get started.”
   b. For each picture, ask: “Is this child…”
      i. Kind?
      ii. Stupid?
      iii. Helpful?
      iv. Sad?
      v. Pretty?
      vi. Mean?
      vii. Happy?
      viii. Ugly?
      ix. Smart?
      x. Selfish?
   c. The prelude phrase, “is this child” may be dropped after the first few questions, if the child appears to understand the question without its use.
APPENDIX D. PICTURES AND DESCRIPTIONS OF CHILDREN
(Adapted from Nowicki, 2006)

*Child with a physical disability*

1. **Male Picture**

![Male Picture]

2. **Female Picture**

![Female Picture]

3. **Descriptions**
   a. **Male**
      
      This boy uses a wheelchair to get around. He learns new things easily. He is learning to count to 10 and knows some of his ABCs. He can also understand a story that was read to him and tell the story to someone else.

   b. **Female**
      
      This girl uses a wheelchair to get around. She learns new things easily. She is learning to count to 10 and knows some of her ABCs. She can also understand a story that was read to her and tell the story to someone else.
Child with Mental Disability

1. Male Picture

2. Female Picture

3. Descriptions
   a. Male
      This boy finds learning new things hard. He cannot do some of the things that preschoolers can do, like counting to 10 and saying his ABCs. He has a hard time understanding stories that are read to him and telling the story to someone else.
   b. Female
      This girl finds learning new things hard. She cannot do some of the things that preschoolers can do, like counting to 10 and saying her ABCs. She has a hard time understanding stories that are read to her and telling the story to someone else.
Child with No Disability

4. Male Picture

5. Female Picture

6. Descriptions
   a. Male
      This boy learns new things easily. He knows how to do the things that preschoolers can do. He is learning to count to 10 and knows some of his ABCs. He can also understand a story that was read to him and tell the story to someone else.
   b. Female
      This girl learns new things easily. She knows how to do the things that preschoolers can do. She is learning to count to 10 and knows some of her ABCs. She can also understand a story that was read to her and tell the story to someone else.
APPENDIX E. PERCEIVED CAPABILITIES SCALE
(Adapted from Bricker and Squires, 1999)

1. Show the child pictures of children with physical, mental, and no disability (use prescribed order of presentation). Match gender of the pictures to gender of the child.

2. Say to the child: “I am going to show you some pictures of children. I want to find out what you think about them. When I ask you a question, you can say or point to YES, NO, or MAYBE (point to each smiley face associated with the response). Okay? Let’s get started.”

3. For each picture, ask the child: “Do you think this child can…”
   a. catch a ball with both hands?
   b. throw a ball to someone standing near him/her?
   c. put together a puzzle?
   d. use scissors to cut paper?
   e. play dress-up?
   f. name five colors?
   g. know his/her name and how hold he/she is?
   h. use a spoon to eat?
   i. dress himself/herself?
   j. brush his/her teeth?

4. The prelude phrase, “do you think this child can” may be dropped after the first few questions, if the child appears to understand the question without its use.
APPENDIX F. BEHAVIORAL INTENTIONS SCALE
(Adapted from Roberts & Lindsell, 1997 and Siperstein, 1980)

1. Show the child pictures of children with physical, mental, and no disability (use prescribed order of presentation). Match gender of the pictures to gender of the child.

2. Say to the child: “I am going to show you some pictures of children. I want to find out what you think about them. When I ask you a question, you can say or point to YES, NO, or MAYBE (point to each smiley face associated with the response). Okay? Let’s get started.”

3. For each picture, ask the child: “Would you…”
   a. Stand next to him/her while waiting in line?
   b. Lend him/her your crayons?
   c. Help him/her put on his/her winter coat for recess?
   d. Talk to him/her during center time?
   e. Sit next to him/her during story time?
   f. Play with him/her during recess?
   g. Go up to him/her and say hello?
   h. Share my toys with him/her?
   i. Tell him/her about my family?
   j. Help him/her clean up toys?
   k. Invite him/her over to my house?
   l. Choose him/her as a partner in a game?
   m. Help him/her finish a puzzle?
   n. Share a snack with him/her?
   o. Sit next to him/her at lunch?

4. The prelude phrase, “is this child” may be dropped after the first few questions, if the child appears to understand the question without its use.
APPENDIX G. PARENTAL INTERVIEW

Thank you for permitting your child to participate in our study. Please take a few moments to complete the following questions and return it to our researchers.

1. Child’s name ______________________________________________________
2. Parent’s name _____________________________________________________
3. Child’s ethnicity ___________________________________________________
4. Child’s age (please circle) 3 years  4 years  5 years  6 years
5. Child’s gender (please circle) MALE   FEMALE

The next few questions are about your child’s exposure to person or persons with a disability. An individual with a disability is one who is delayed or impaired, as compared to peers (e.g. in communication, self-care, social or interpersonal skills, use of community resources, self-direction, functional academic skills, leisure, or health and safety).

6. Which statements best describes your child’s direct experience with a disability (please circle any which apply):
   a. A friend with a disability.
      i. Disability type, if known: ________________________________
   b. A family member with a disability.
      i. Disability type, if known: ________________________________
   c. A current or former classmate with a disability.
      i. Disability type, if known: ________________________________
   d. No experience with an individual with a disability.

7. Which statements best describe your child’s indirect experience with a disability (please circle any which apply):
   a. Read a book to your child in which disability is discussed.
      i. Disability type, if known: ________________________________
   b. Read a book to your child in which a character has a disability.
      i. Disability type, if known: ________________________________
   c. Watched a TV show/movie in which disability is discussed.
      i. Disability type, if known: ________________________________
   d. Watched a TV show/movie in which a character has a disability.
      i. Disability type, if known: ________________________________
   e. After having seen a stranger with a disability, you had a discussion with your child about disability.
   f. After meeting/interacting with a friend/family member with a disability, you had a discussion with your child about disability.
   g. I have never discussed disability or individuals with a disability with my child.
APPENDIX H. TEACHER INTERVIEW

Name ___________________________ Program Name _________________________

1. Gender
   □ Male □ Female

2. Race/Ethnicity _____________________________________________________________

3. What is your current title or position?
   □ Center-based program director/assistant director/supervisor
   □ Lead/Head Teacher
   □ Assistant Teacher/Teacher’s Aide/Floater

4. How many years have you worked as an early childhood professional (in any capacity – lead teacher, aide, etc.)? ______________________________________________________________

5. Have you ever worked with children with a disability in your classroom?
   □ Yes
      • Please list types of disability ________________________________________________
   □ No

6. What is your highest level of education?
   □ Some High School
   □ High School Diploma
   □ General Education Equivalency (GED)
   □ Some College
   □ 1-year Certificate of Proficiency in Early Childhood Education
   □ 2-year Degree (A.A., A.S., A.A.S.)
      • What is your 2-year degree?
   □ 4-year Degree (B.A., B.S.)
          • What is your 4-year degree?
   □ Master’s Degree (M.A., M.S.)
          • What is your Master’s degree?
   □ Ph.D./Ed.D.
          • What is your Doctoral degree?

7. Do you have any specialized training in working with children with a disability?
   □ Yes
      • What is your training? _____________________________________________________
   □ No

8. Do you follow a curriculum as a guide to daily program activities?
   □ Yes
      • Which program do you use?
        □ Creative Curriculum
        □ Project Construct
        □ High Scope
        □ West Ed’s Program for Infants/Toddlers
        □ A curriculum my director or I developed
        □ Other ____________________________
   □ No

9. Do you address disability in your classroom?
   □ Yes
      • What do you do (select all that apply)?
        □ Read books about disability
        □ Read books in which a character has a disability
        □ Show TV programs/movies about disability
        □ Show TV programs/movies in which a character has a disability
        □ Large group discussions about disability
        □ Invite children/adults with a disability to classroom to discuss disability
        □ Other ____________________________
   □ No
APPENDIX I. IRB APPROVAL

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

DATE: 23 April 2009

TO: Krista Van Hooser
605 SE Lowell Drive, Ankeny, IA 50021

CC: Carla Peterson
E262 Lagomarcino

FROM: Jan Canny, IRB Administrator
Office of Research Assurances

TITLE: An Investigation of Preschool-Aged Children’s Perceptions of Their Disabled Peers

IRB ID: 09-145

Approval Date: 23 April 2009
Date for Continuing Review: 20 April 2010

The Institutional Review Board of Iowa State University has reviewed and approved this project. Please refer to the IRB ID number shown above in all correspondence regarding this study.

Your study has been approved according to the dates shown above. To ensure compliance with federal regulations (45 CFR 46 & 21 CFR 56), please be sure to:

- **Use the documents with the IRB approval stamp** in your research
- **Obtain IRB approval prior to implementing any changes** to the study by completing the "Continuing Review and/or Modification" form.
- **Immediately inform the IRB of** (1) all serious and/or unexpected adverse experiences involving risks to subjects or others; and (2) any other unanticipated problems involving risks to subjects or others.
- **Stop all research activity if IRB approval lapses**, unless continuation is necessary to prevent harm to research participants. Research activity can resume once IRB approval is reestablished.
- **Complete a new continuing review form** at least three to four weeks prior to the date for continuing review as noted above to provide sufficient time for the IRB to review and approve continuation of the study. We will send a courtesy reminder as this date approaches.

Research investigators are expected to comply with the principles of the Belmont Report, and state and federal regulations regarding the involvement of humans in research. These documents are located on the Office of Research Assurances website [www.compliance.iastate.edu](http://www.compliance.iastate.edu) or available by calling (515) 294-4566.

Upon completion of the project, please submit a Project Closure Form to the Office of Research Assurances, 1138 Pearson Hall, to officially close the project.
DATE: 1 June 2009

TO: Krista Van Hooser
605 SE Lowell Drive
Ankeny, IA 50021

CC: Carla Peterson
E262 Lagomarcino

FROM: Jan Canny, IRB Administrator
Office of Research Assurances

TITLE: An Investigation of Preschool-Aged Children’s Perceptions of Their Disabled Peers

IRB ID: 09-145

Approval Date: 29 May 2009
Date for Continuing Review: 20 April 2010

The Chair of the Institutional Review Board of Iowa State University has reviewed and approved the modification of this project. Please refer to the IRB ID number shown above in all correspondence regarding this study.

Your study has been approved according to the dates shown above. To ensure compliance with federal regulations (45 CFR 46 & 21 CFR 56), please be sure to:

- Use the documents with the IRB approval stamp in your research.

- Obtain IRB approval prior to implementing any changes to the study by completing the "Continuing Review and/or Modification" form.

- Immediately inform the IRB of (1) all serious and/or unexpected adverse experiences involving risks to subjects or others; and (2) any other unanticipated problems involving risks to subjects or others.

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Upon completion of the project, please submit a Project Closure Form to the Office of Research Assurances, 1138 Pearson Hall, to officially close the project.
REFERENCES


http://quickfacts.census.gov/qfd/states/19000.html

ACKNOWLEDGEMENTS

The graduate school experience is one marked by educational challenges – the capstone of which is the doctoral dissertation. While it is largely an individual effort, there are many people without whom this document (and, by proxy, my graduate degree) would not have been possible.

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I would also like to thank my committee members Dr. Gayle Luze, Dr. Mary Jane Brotherson, Dr. Mack Shelley, and Dr. Nancy Evans for their guidance throughout the dissertation process. Their constructive feedback and constant encouragement enhanced my research and furthered my professional ambitions. Thank you for your friendship and professional support.

Finally, this section would not be complete without mention of my superlative family. To my parents, Irv and Dottie, who instilled in me a quest for excellence and an appreciation for scholarship from my earliest years, I owe unending gratitude. Their faith in me has been unwavering, their love unconditional, and their support steadfast. A special thanks to my mom, who not only listened as I rambled on in acronyms and proof-read my work, but also kept me focused on this project: “No, you don’t need to clean the bathroom. You don’t need
to run to the store. You don’t need to check out any e-bay auctions. You need to sit at the computer, stay off the internet and keep writing! It’s only 10:00, it’s too early to stop for lunch.”

To my sister, Mandi, and her family, husband Adam and baby Ava, thank you for all the encouragement - the late night phone calls to ensure I hadn’t lost my sanity, the beautiful flowers and sweet notes during qualifying exams and my defense – the reminders that although we were far apart, their love and support stayed with me, were priceless.

And then there is Ryan, my brother, who has been calling me “doctor” since the moment I applied to graduate school – for although many times I doubted myself, he has never once doubted that I would succeed. He has been my best friend and #1 fan since the day we met and my life would be so dull without him. He is the reason I chose this profession and strive to improve services for individuals with disability. It is impossible for me to express my appreciation for him, and ultimately, my thanks to God for placing him in my life.

This dissertation is dedicated to all of you who have played such a large part in developing my professional life. THANK YOU!