The purpose of this study was to investigate students' attitudes towards the inclusion of peers with disabilities in Barbados. This research is quantitative and utilizes the Chedoke-McMasters Attitude towards Children with Handicap Scale (CATCH) to collect attitudinal data on a cross section of Barbadian students. The findings suggest that many students did not have contact with peers with disabilities and less than half of students sampled reported having a friend with a disability. The main hypothesis of the study, that students and young adults who had either a personal friend or a friend at school with a disability would report higher scores was supported. The hypothesis that females would report higher scores on all CATCH domain was only supported on the cognitive domain. Age was found to have a small effect on CATCH scores, but clear differences in the mean scores of children 7-12 years, teenagers 13-18 years old and young adults ages 18 and over were supported in this study. The implications of this research suggest that teachers must create more opportunities for meaningful direct contact between peers with and without disabilities that will lead to even better attitudes and pro-social behaviors in inclusive settings.
primary school children, including students with a range of impairments, to examine how well disabled children were socially integrated in their schools. Findings suggested that while all students participated in the social life of their school, children with disabilities failed to enjoy the same level of social participation as their peers without disabilities. According to these researchers, disabled students found it harder to make and maintain friendships, had fewer interactions with classmates and were less accepted. These findings therefore support earlier work by Nowicki and Sandieson (2002) and serve as a potent reminder of the influence of children’s attitudes on the social integration of children with disabilities in school settings.

More recently a meta-analysis of twenty studies on the attitudes of children with disabilities from a number of European countries, Korea, the United States of America and Canada by de Boer, Pijl and Minnaert (2012) summarized over ten years of attitudinal research on this area. Of interest in this present study, are the findings on gender and age as cited by de Boer, et al., (2012). They cite Swaim and Morgan’s study (2001) that investigated the attitudes of 233, 8-12 year olds towards their peers with severe intellectual impairment in the United States. Findings showed that younger students had more positive attitudes towards peers with intellectual impairment than older pupils.

On the issue of gender it is common for studies to report that girls have more positive attitudes to the inclusion of peers with disabilities than boys (Bossert, et al., 2011; Siperstein et al., 2007; Vignes, et al., 2009). To illustrate, Bossert and others’ (2011) study of 167 Belgian adolescents ranging in age from 11-20 years old used the Chedoke-McMasters Attitudes Towards Childrens with Handicaps scale CATCH (Rosenbaum, et al., 1986) to investigate adolescents’ attitudes and found that the girls held more favorable attitudes towards peers with disabilities than boys.

Research on Attitudes Towards Inclusion in Barbados and the Caribbean
It is clear that a research base has been established at the international level that investigates the attitudes of children towards their peers with disabilities. However a similar argument cannot be made for the Caribbean setting.

Within the Barbadian context, for example, no research on the attitudes of children, teens and young adults towards their peers with disabilities has not been undertaken. To date, one is more likely to find studies within the Caribbean islands of Barbados, The British Virgin Islands, Trinidad and Tobago, Guyana, that examines the attitudes of teachers (Blackman, Conrad & Brown 2012; Dupoux et al. 2006; Habtes, Hassell-Habtes & Beady, 2012; Hunter-Johnson, Newton & Cambridge-Johnson, 2014; Thomas-Jeremy, 2011) and an even more limited number of studies on school principals’ attitudes towards inclusion (Conrad & Brown 2011).

The most recent study on teacher attitudes was conducted by Hunter-Johnson, et al., (2014) in the Bahamas with a very small group of teachers. These researchers used a phenomenological approach to examine teachers’ perspectives of inclusion and the findings indicated that while most teachers expressed negative attitudes towards inclusion, some remained ambivalent and only one found any benefit to including children with special needs in the regular education setting. These findings echo the ambivalent attitudes found among teachers in Barbados, Trinidad and Tobago by Blackman, Conrad and Brown (2012). In Barbados and Trinidad, Blackman, et al., (2012) utilized a cross- sectional survey designed by Antonak and Larivee (1999) to investigate teacher attitudes among 485 undergraduate teachers who taught in primary schools. They found that primary school teachers did not reject the notion of inclusion outright, but felt that they were not adequately prepared to teach or deal with the behavior problems presented by students with special education needs without the necessary support and resources. In spite of this, teachers in Barbados recorded more positive opinions about their ability to instruct children with special education needs in regular education settings than their Trinidadian counterparts.

Similar findings were also recorded by Thomas-Jeremy (2011) among a small group of teachers in Dominica. A survey was designed by the researcher to investigate the perceptions of 24 secondary school teachers in that island to inclusion. The teachers at Thomas-Jermey’s study felt that the inclusion was introduced prematurely, especially in the absence of adequate teacher training, resources to facilitate inclusion and teachers’ lack of knowledge of special education needs.

Another study in the British Virgin Islands by Habtes, Hassell-Habtes and Beady (2012) surveyed 561 participants in principals and teachers about their beliefs about inclusion. Participants’ responses on one item which measured whether teachers felt that students with special needs would be successful in inclusive settings revealed an even split between those teachers and principals who felt that children with special needs can be successful and those who
thought otherwise. According to the researchers, this finding was surprising given that teachers and principals were knowledgeable about the benefits of inclusion and the presence of legislative support for inclusion in the British Virgin Island.

With regard to the attitudes of principals Conrad and Brown (2011) conducted a qualitative study in the twin island republic of Trinidad and Tobago with 18 primary school principals and found that principals only embraced the thought of inclusion at a philosophical level but were not pragmatic about actually implementing inclusion within their respective school settings.

The present study was designed to inquire into the attitudes of a cross-section of children, adolescents and youth in Barbados in order to fill the existing gap in the literature in the international and regional level. It too is descriptive in nature and asks the following questions: 1. What kind of contact do non-disabled students have with disabled peers or an individual with a disability? 2. Do children who have a friend with a disability report higher attitude scores than those without friends with disabilities? 3. Do children who have a friend at school with a disability, report higher attitude scores than those without friends at school with disabilities? 4. Are there any statistically significant differences between the attitude scores of males and females towards the inclusion of peers with disabilities? 5. Are there any statistically significant differences between the attitudes of young children, teens and young adult’s scores towards the inclusion of peers with disabilities?

A number of hypotheses were being tested in this research, including 1. that children who report having a friend with a disability would have higher attitude scores than those without a friend with a disability. 2. that females’ scores would have higher attitude scores than their male counterparts and 3. that young adults’ attitude scores would be higher than those of children and teens.

**Methodology**

**Design**

This is a quantitative study and utilizes a survey strategy to collect data on Barbadian students’ attitudes towards the inclusion of their peers with disabilities in regular education settings. Surveys assist researchers in gathering data about the “thoughts, opinions, attitudes, opinions, values, personality and behavioral intentions of research participants” (Johnson and Christensen, 2012, p. 197).

**Participants**

A convenience sample of 178 students, (103 male and 75 females) were surveyed from three schools in Barbados. Schools were selected based on (i). the presence of children or individuals with disabilities in the setting and (ii). ready accessibility to the teachers who taught at the schools where such students were located. School A is a primary school located in an urban district with a school roll of just under 200 students and average class size of 15 students; A sample of N=60 children with a mean age of 8.72 years old, SD= 1.11 were selected from this school. The Teachers used random sampling to select colleagues’ classrooms and then asked if students can participate in filling out a questionnaire for the study from first to fourth form. A total of 60 questionnaires were distributed and returned for a response rate of 100%.

School B, is a secondary school also located in a densely populated urban community with a large school roll of over 1,000 students and average class size of 20 students. A sample of N= 60 students with a mean age of 13.23 years old, SD= 1.84 participated in this study. A similar approach was employed at the secondary school to select participants. Teachers randomly selected colleagues’ classrooms and asked if questionnaires could be distributed to students from first to fifth year. Teachers distributed 100 questionnaires and 60 were returned, this represented a response rate of 60%.

School C, has a large roll of students at just over 3,000 students and average class size of 20 students. It is post-secondary institution located in an urban setting for students who wish to pursue technical vocational education options. Unlike School A and B, School C is organized by disciplines such as Mechanics, Home Economics and Woodwork. Teachers enlisted the assistance of discipline coordinators to distributed 100 questionnaires to students and 60 were returned which represents a response rate of 60%, however, two were discarded due to incompletion. A sample of N= 58 students with a mean age of 18.35 years old, SD= 4.32 participated in the research from this institution.
Procedure

Data were collected by a group of undergraduate university students, three of whom were teachers from a primary, secondary and tertiary institution enrolled in a thirteen week course entitled ‘Working with Exceptional Learners’. Letters were sent to the Ministry of Education and schools asking permission for the study to be undertaken at the three schools in the study. Two copies of *Chedoke-McMasters Attitudes Towards Childrens with Handicaps scale* (CATCH) (Rosenbaum, Armstrong and King, 1986) were made available to groups. One for teachers who taught younger students, and followed the original copy more closely as noted by Rosenbaum, et al., (1986). It was enhanced by the addition of emotion icons to help younger children distinguish between the various levels of agreement and improve the mode of responding to items on the questionnaire. The adapted version of the questionnaire for older students simply used more age appropriate language in the title and items of the questionnaire, for example the words ‘child’ or ‘children’ was replaced by the word ‘peer’ in the title, words like ‘party’ was replaced by ‘social occasion’, the term ‘handicap’ was replaced by ‘child/children/peer with a disability’ in both versions of the questionnaire. Teachers administered the questionnaires at their respective schools, and then the research group collaborated to code the data and enter it into an SPSS database.

The study also followed the ethical procedures outlined by the university’s Institutional Review Board. Children in the study were briefed by researchers using a script that explained the purpose of the research, the risk involved in the process, the response key for the questionnaire, the term disability, and provided examples of the various types of impairments. Children were also told they could exit the study at any time and were under no obligation to fill in the questionnaire. For very young children and those with disabilities, teachers read each of the questionnaire items, explained any ambiguities and assisted with questionnaire completion. Before questionnaires were distributed assent was sought and acquired from children, teens and young adults who agreed to participate in this research.

Instrument

The *Chedoke-McMasters Attitudes Towards Children with Handicaps Scale* (CATCH) (Rosenbaum, Armstrong and King 1986) measures three components of attitudes- namely the affective, behavioral and cognitive- based on Triandis’s (1971) component model of attitudes. Each component has six positively and six negatively worded items and scored on a 5 point Likert scale ranging from 0 Strongly Disagree, 2 Can’t Decide to 4 Strongly Agree. The affective component comprised of items that involved statements of feelings towards children with disabilities, examples include ‘I feel sorry for disabled children. The behavioral component involved statements about what a child would do with a disabled child, examples include ‘I would not introduce a disabled child to my friends’. Finally the cognitive component comprised items that examine beliefs about children with disabilities; items include ‘Disabled children are as happy as I am’. Scores for each component ranged from 0-40 with a maximum score of 120 on the overall scale. Cronbach alpha reliability statistics on a convenience sample of 64 Canadian children indicated that each component is a reliable measure of attitudes: affective component = .91, behavioral component = .74 and cognitive component = .65 (Rosenbaum, Armstrong and King 1986). Cronbach alphas for the Barbadian sample were adequate for a descriptive study .72 affective component, .72 behavioral component and .60 cognitive component.

Data Analysis

The data were analyzed using SPSS version 19 and measures of central tendency and other descriptive statistics are presented. A t-test was used to investigate the difference between males and females as well as levels of contact on CATCH. A one way analysis of variance was used to explore differences between the independent variables of age and the dependent variable i.e. CATCH.

Results

Findings for research question 1. What kind of contact do non-disabled peers have with disabled peers or a person with a disability? revealed that many students did not have contact with a peer with a disability. Findings for ‘friend with a disability’ revealed only 43.3% of all students (N=178) sampled said ‘Yes’ to knowing a ‘friend with a disability’. A similar picture existed for ‘friend at school with a disability’ only (34.8%) of students sampled said ‘Yes’ to having a friend with a disability at school, the majority of students (65.2%). The results for the variable ‘family member with a disability’ also showed a similar trend with (71.3%) of students sampled saying ‘No’ to having a family member with a disability.
Research question 2 asked: Do children who have a friend with a disability report higher scores than those without friends with disabilities? Table 1 presents the findings for this research question.

Table 1. Scores for Friend with and without a disability on CATCH

<table>
<thead>
<tr>
<th></th>
<th>Friend with Disability</th>
<th>Friend without Disability</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Total CATCH</td>
<td>73.10 (12.68)</td>
<td>63.47 (12.97)</td>
<td>4.95*</td>
</tr>
</tbody>
</table>

Note. * = p ≤ .05. Standard deviations appear in parentheses below means.

Findings suggest that children who reported having a friend with a disability recorded higher scores on CATCH than those who reported that they did not have a friend with a disability. An independent samples t-test suggests a significant difference between the scores for a friend with disability t (176) = 4.95, p = < .001 and those who did not have a friend with a disability and the effect size is large (Cohens d = 0.75).

Research Question 3 asked: Do children who have a friend with a disability at school, report higher scores than those without friends with disabilities at school? Table 2 presents the findings for this research question.

Table 2. Scores for Friend at School with and without a disability on CATCH

<table>
<thead>
<tr>
<th></th>
<th>Friend at School with a Disability</th>
<th>Friend at School without a Disability</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Total CATCH</td>
<td>74.03 (11.38)</td>
<td>64.22 (13.62)</td>
<td>4.83*</td>
</tr>
</tbody>
</table>

Note. * = p ≤ .05. Standard deviations appear in parentheses below means.

Findings suggest that children who reported having a friend with a disability at school recorded higher scores on CATCH than those who reported that they did not have a friend with a disability. An independent samples t-test revealed that there was a significant difference between the scores for a friend with disability t (176) = 4.83, p = < .001 and those who did not have a friend with a disability and the effect size is very large (Cohens d = 0.78).

Research Question 4 asked: Are there any statistically significant differences between the attitude scores of males and females towards the inclusion of peers with disabilities?

Table 3. Scores of Males and Females on CATCH domains

<table>
<thead>
<tr>
<th>Gender</th>
<th>Male</th>
<th>Female</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective</td>
<td>22.25</td>
<td>23.75</td>
<td>-1.72</td>
</tr>
<tr>
<td></td>
<td>5.76</td>
<td>5.68</td>
<td></td>
</tr>
<tr>
<td>Cognitive</td>
<td>24.59</td>
<td>26.81</td>
<td>-2.47*</td>
</tr>
<tr>
<td></td>
<td>6.03</td>
<td>5.72</td>
<td></td>
</tr>
<tr>
<td>Behavioural</td>
<td>21.52</td>
<td>22.04</td>
<td>-.691</td>
</tr>
<tr>
<td></td>
<td>4.68</td>
<td>5.38</td>
<td></td>
</tr>
</tbody>
</table>

Note. * = p ≤ .05. Standard deviations appear in parentheses below means. 
Results suggested that on the affective domain there was no statistically significant difference in scores for Males and females $t(176) = -1.72, p=0.087$. On the cognitive domain results suggested that there was a statistically significant difference in scores for males and females $t(176) = -2.47, p=.01$ but the effect size was small (Cohen's $d = 0.26$). For the behavioral domain there were no statistically significant differences between the scores of males and females $t(176) = -0.91, p=.491$. These findings only partially support the hypothesis of this study that females would have better attitude scores than males on all components of CATCH.

Research question 5 asked: Are there any statistically significant differences between the attitudes of young children (ages 7-12), teens (ages 13-18) and young adults over 18 towards the inclusion of peers with disabilities? Table 4 reports the results on this research question.

### Table 4. Analysis of Variance for Age and CATCH domains and total scores

<table>
<thead>
<tr>
<th>Ages</th>
<th>7-12</th>
<th>13-18</th>
<th>&gt;18</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective</td>
<td>24.24</td>
<td>21.21</td>
<td>26.53</td>
<td>9.70***</td>
</tr>
<tr>
<td>(5.89)</td>
<td>(5.20)</td>
<td>(5.23)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive</td>
<td>26.35</td>
<td>24.16</td>
<td>30.51</td>
<td>8.19***</td>
</tr>
<tr>
<td>(5.75)</td>
<td>(5.70)</td>
<td>(6.18)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behavioural</td>
<td>21.76</td>
<td>20.43</td>
<td>25.25</td>
<td>8.60***</td>
</tr>
<tr>
<td>(4.85)</td>
<td>(4.73)</td>
<td>(4.71)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total CATCH</td>
<td>70.84</td>
<td>63.42</td>
<td>79.49</td>
<td>12.73***</td>
</tr>
<tr>
<td>(12.71)</td>
<td>(12.74)</td>
<td>(14.43)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. *** = p ≤ .001. Standard deviations appear in parentheses below means. Means with differing superscripts within row are significantly different at the p≤ .05 based on Tukey’s HSD posthoc test.

A one way between groups analysis of variance was conducted to explore the impact of age on attitudes towards peers with disabilities as measured by CATCH. Participants were divided into three groups (young children: ages 7-12; teens: ages 13-18; and young adults: over 18). There was a statistically significant difference < .001 level on the affective domain of CATCH scores for the three age groups $[F(2, 175)=12.73, p=<0.001]$. The effect size calculated using partial $\eta^2 = .127$ is small and indicates that age does not exert a powerful influence on overall attitudes towards disability. A post-hoc comparison using Tukey HSD indicated that the mean score for children 7-12 years old (M=70.84, SD=12.71) on CATCH was significantly different from the scores of teens (M=63.42, SD=12.74). Tukey HSD also indicated that there was a significant difference between the scores of young adults ages over 18 years old on CATCH (M=79.48; SD=14.43) and the scores of teens. These results support the hypothesis that young adults would exhibit better attitudes towards peers with disabilities than children and teens.

A one way between groups analysis of variance was also conducted to explore the impact of age on attitudes towards peers with disabilities and CATCH sub-scales. Again, participants were divided into three groups (young children: ages 7-12; teens: ages 13-18; and young adults: over 18). There was a statistically significant difference < .001 level on the cognitive domain of CATCH scores for the three age groups $[F(2, 175)=9.70, p=<0.001]$. The effect size calculated using partial $\eta^2 = .100$ and indicates that age did not exert a powerful influence on how students thought about individuals with disabilities. A post-hoc comparison using Tukey HSD indicated that the mean score for children (M=26.53, SD=5.23) on the affective domain was significantly different from the scores of young adults (M=26.53, SD=5.23). Tukey HSD also indicated that there was a significant difference between the scores of children (M=24.24; SD=5.89) and the scores of teens.

There was also a statistically significant difference at the < .001 level on the cognitive domain of CATCH scores for the three age groups $[F(2, 175)=8.19, p=<0.001]$. The effect size calculated using partial $\eta^2 = .086$ is small and indicates that age did not exert a powerful influence on how students thought about individuals with disabilities. A post-hoc comparison using Tukey HSD indicated that the mean score for children (M=26.35; SD=5.75) on the cognitive domain was significantly different from the scores of young adults (M=30.51; SD=6.18) and teens (24.16; SD=5.70).
There was also a statistically significant difference on the behavioral domain of CATCH scores for the three age groups \[ F(2, 175) = 8.60, \ p = <0.001 \]. The effect size calculated using partial \( \eta^2 = 0.09 \) is small and indicates that age did not exert a powerful influence on how students behaved towards individuals with disabilities. A post-hoc comparison using Tukey HSD indicated that the mean score for children (M=21.76, SD=4.85) on the behavioral domain was significantly different from the scores of teens (M=20.43, SD=4.73) but not young adults (M=25.25, SD=4.71). As expected, young adults exhibited more mature attitudes in their behavioral responses to an individual with a disability than their younger peers.

**Discussion**

The purpose of this research was to understand how a sample of Barbadian students from primary, secondary and tertiary settings viewed the inclusion of peers with disabilities. The hypotheses of this study were only partially met. As suggested by the results, intimate contact with a peer with a disability, i.e. friendship, does play an important role in mediating attitudes towards the inclusion of peers with disabilities in regular education settings. While large numbers of students in the Barbadian sample did not report knowing or having a peer with a disability as a friend, the findings of this research suggests that inclusion could be the vehicle that fosters stronger social participation and contact between students with disabilities and their non-disabled counterparts.

Historically, the approach to schooling in Barbados has been and continues to be to maintain a separate system of education for children with the most severe disabilities, be it, in special schools or special education units attached to primary school settings. This approach only served to reduce the contact that non-disabled students had with peers with disabilities (Blackman, Richardson and Fong Kong Mungal 2013) and placed students with disabilities at risk for continued social isolation rather than integration in regular education. In the 1990s a more concerted effort was undertaken by the Ministry of Education to include more children with mild to moderate disabilities in primary and secondary education given the international thrust towards more inclusive education, although the success of this education reform still needs to be evaluated, it does provide a platform for increasing the contact between children with and without disabilities and educating Barbadian students about their disabled peers. At the international level, there is some agreement that social contact can positively influence the attitudes of non-disabled students once it is: organized outside the classroom context and collaborative in nature. Another key ingredient identified in this literature, is that teachers need to model appropriate behaviors for non-disabled children to engage with their disabled peers (Wong 2008; Hendrickson, Shokoohi-Yekta, Hamre-Nietupski and Gable 1996).

The results for the Barbadian sample on gender partially mirrors those of other studies that have been conducted at the international level for example by Vignes, et al., (2009) which suggest that females report more positive attitudes than their males to the inclusion of their disabled peers. This finding is even more nuanced in the Barbadian sample. It is quite possible that the scale was not sensitive enough to measure the attitudes on the cognitive scale of CATCH which suggests that females were more apt to adopt a positive disposition to the inclusion of peers with disabilities (Wong 2008; Hendrickson, Shokoohi-Yekta, Hamre-Nietupski and Gable 1996). However, the hypothesis that young adults ages 18 and over would have better attitudes towards the inclusion of peers with disabilities was supported by the findings for the Barbadian sample. On many of the sub-components of CATCH teens were found to have less favorable attitudes than younger children ages 7-12 and young adults. This trend among teenagers is of concern but is not necessarily surprising given that teens select their social groups based on propinquity, social norms and homophily (Berndt, 1989; Matheson, Olsen & Weisner, 2007). Fazio’s (1989) behavior process model is instructive in explaining the attitudes of Barbadian teenagers. His model posits that attitudes that influence are in mediated by a lack of direct contact or experience and knowledge of an object, stimulus or group of people. In this case, given that many students sampled indicated a lack of contact and hence proximity with persons with disabilities, this could explain teens’ lower CATCH scores than their other counterparts. Another plausible explanation might be that teens in this study thought and felt that they would violate certain social norms (Fazio, 1989) that govern the selection and the constitution of their peer groups if they looked favorably at including peers with disabilities.
Implications

The results of this research are interesting but should be cautiously endorsed since they are based on a convenience sample and therefore cannot be viewed as representative of all Barbadian children and youth. It, however, raises some important questions about the social inclusion of children with disabilities in the Barbadian context and how best to build school communities and cultures that embrace such students. There is clearly a need for research that examines the knowledge that Barbadian children have about impairments and disabilities. In particular a more culturally sensitive instrument needs to be designed to capture the reality of persons with disabilities in Barbados and to understand how males view disability. Such an instrument might address the link between disability and poverty, the role of superstition and contextualize the circumstances under which a non-disabled peer might intervene for a peer with a disability. At the very least, schools can add a component on special education and diversity to their curriculum as part of a targeted intervention to address how students think and perceive their peers with disabilities. This can also be combined with extracurricular activities, community and field experiences that exposes children, adolescents and young adults to peers and other individuals in Barbadian society with disabilities in order to build more pro-social empathetic attitudes that facilitate the inclusion of all students.

References

Antonak, R., & Larrivee, B. (1995): Psychometric analysis and revision of the opinions relative to mainstreaming scale. Exceptional Children 62 (2), 139-149


