Abstract

Adolescence marks a time of increased social freedoms and opportunities to participate in new productive and leisure activities. As compared to typically developing high school students, those with intellectual disabilities (ID) can face more barriers to involvement in these activities. This study examined the involvement of high school students with and without ID in productive and leisure activities. Furthermore, it identified factors related to involvement, and it examined students’ satisfaction with their social interactions. Forty-seven typically developing high school students completed in-person interviews, and 45 of the students’ parents completed telephone interviews. Archival data from 63 parents of high school students with ID and 41 students with ID were also used. Students provided information about their satisfaction with social interactions, and, additionally, typically developing students provided information about the productive and leisure activities in which they participated. Parents in both groups provided information about their adolescents’ adaptive functioning and maladaptive behaviour, and parents of students with ID also provided information about the productive and leisure activities in which their adolescent participated. Results showed that typically developing students were more likely to be involved in employment and unstructured leisure activities than students with ID; however, there was no difference in involvement between the two groups for volunteer and structured leisure activities. Adaptive functioning was related to involvement in structured and unstructured leisure activities. Maladaptive behaviour was related to involvement in productive activities. Typically developing adolescents had a greater number of general daily interactions than adolescents with ID, and they were more satisfied with the quality of these interactions than students with ID. There was no difference in the quantity of close personal interactions between the two groups; however, typically developing students were more satisfied with the quality of their close personal interactions than students with ID. Implications and directions for future research are discussed.
Acknowledgements

First, I would like to thank my supervisor, Dr. Patricia Minnes, for all of her guidance and encouragement, and for introducing me to the field of intellectual disabilities.

I would also like to thank my committee members, Dr. Tom Hollenstein and Dr. Nancy Hutchinson, for their patience and assistance throughout the development and completion of this project.

Thank you to my lab mates and friends, Vicki Lopes and Tess Clifford. Vicki, I am so glad we were in this together. Tess, without your encouragement, I actually would have given up on this project.

Thank you to Helene Ouellette-Kuntz and the other members of the South Eastern Ontario Community-University Research Alliance. The guidance and feedback you provided throughout this process have been invaluable. I would like to say a special thank you to Carole Morrison for the never ending support.

Also, I would like to thank my family and friends for their encouragement.

Matthew, thank you for bearing with me through what seemed like endless evenings of phone interviews, for cooking me dinner when I was too stressed out to think, and for convincing me to just keep writing when I really didn’t want to anymore.
Table of Contents

Abstract............................................................................................................................................ ii
Acknowledgements......................................................................................................................... iii
Table of Contents............................................................................................................................ iv
List of Figures.................................................................................................................................. v
List of Tables .................................................................................................................................. vi
Chapter 1 Introduction ..................................................................................................................... 1
Chapter 2 Method .......................................................................................................................... 13
Chapter 3 Results ........................................................................................................................... 23
Chapter 4 Discussion ..................................................................................................................... 43
References...................................................................................................................................... 64
Appendix A : Information Letter and Consent Form for Students ................................................ 76
Appendix B : Information Letter and Consent Form for Parents.................................................... 79
Appendix C : Student Demographic Questionnaire ....................................................................... 82
Appendix D : Parent Demographic Questionnaire ........................................................................ 83
Appendix E : Activity Survey ........................................................................................................ 85
List of Figures

Figure 1. Percentage of students with and without ID involved in five types of activities. .......... 29

Figure 2. Mean scores in the Interview Schedule for Social Interaction subscales. .................. 41
List of Tables

Table 1. Causes of Intellectual Disability and Other Medical Conditions for Students with ID.................................................................................................................................. 14

Table 2. Measures Completed by Students and Parents in the ID and Typically Developing Groups ............................................................................................................................................................ 15

Table 3. Parent Demographic Information .......................................................................................................................................................... 23

Table 4. Descriptive Statistics for Scales of Independent Behavior Revised Short Form ........................................................................................................................................................................ 25

Table 5. Percentages of Students Involved in Activities that Included Others with ID and Activities that did not Include Others with ID ............................................................................................................................................ 31

Table 6. Logistic Regression Analysis with Involvement in Structured Leisure Activities as the Dependent Variable and ID Status and Adaptive Functioning as Predictor Variables........................................................................................................................................................................ 33

Table 7. Logistic Regression Analysis with Involvement in Unstructured Leisure Activities as the Dependent Variable and ID Status and Adaptive Functioning as Predictor Variables........................................................................................................................................................................ 34

Table 8. Logistic Regression Analysis with Involvement in Productive Activities as the Dependent Variable and ID Status and Adaptive Functioning as Predictor Variables........................................................................................................................................................................ 35

Table 9. Logistic Regression Analysis with Involvement in Structured Leisure Activities as the Dependent Variable and ID Status and Maladaptive Behaviour as Predictor Variables........................................................................................................................................................................ 36

Table 10. Logistic Regression Analysis with Involvement in Unstructured Leisure Activities as the Dependent Variable and ID Status and Maladaptive Behaviour as Predictor Variables........................................................................................................................................................................ 37

Table 11. Logistic Regression Analysis with Involvement in Productive Activities as the Dependent Variable and ID Status and Maladaptive Behaviour as Predictor Variables........................................................................................................................................................................ 39

Table 12. Reasons Students were not Participating in Activities .......................................................................................................................................................... 40
Chapter 1
Introduction

Over the past several decades, there has been a paradigm shift towards greater inclusion of people with intellectual disabilities (ID) in communities (United Nations, 1993). The emphasis on social inclusion has been embraced across North America, including in the province of Ontario. The Ministry of Community and Social Services in Ontario has stated that its mission is to “support the realization of the goal of being fully included in society, and for people who have a developmental disability to have the same opportunities as other Ontarians to participate in the life of the community” (Government of Ontario, Ministry of Community and Social Services, 2006a). In order for this goal to be met, it is necessary to have an understanding of both the current level of inclusion of individuals with ID in society, as well as the opportunities that individuals without ID have to participate in the community. Social inclusion encompasses a variety of aspects, including opportunities to participate in meaningful productive activity, such as employment and volunteer work, as well opportunities to participate in social and leisure activities within the community (Burchardt, Le Grand, & Piachaud, 2002; Butcher & Wilton, 2008; Grant, 2008; United Nations, 1993).

As adolescents approach graduation from high school, they face a variety of new experiences, including increased social freedoms and greater opportunities to participate in work and volunteer activities. With the approaching onset of adulthood, adolescents begin to explore new social, productivity, and leisure roles (Miezio, 1983, as cited in King, Baldwin, Currie, & Evans, 2005). In comparison to typically developing students, students with ID can have greater difficulty forming social relationships (Brantley, Huebner, & Nagle, 2002; Wenz-Gross &
Siperstein, 1998), and they often face restricted opportunities for participation in employment, volunteer, and leisure activities (Beart, Hawkins, Kroese, Smithson, & Tolosa, 2001; Buttimer & Tierney, 2005; Cinamon & Gifsch, 2004; Miller, Schleien, & Bedini, 2003). As long as adolescents with ID are confronted with these barriers, the goal of full social inclusion cannot be adequately met.

The purpose of this study was to examine the leisure and productive activities of high school students with and without ID and to identify factors that may be related to involvement. Additionally, students’ satisfaction with their social interactions was examined. The findings are discussed in the context of recent literature and recommendations are made for further research and community initiatives. To begin, brief definitions of intellectual disability, leisure activity, and productive activity are provided, followed by a discussion of the recent literature on involvement in leisure and productive activity for typically developing high school students and those with ID.

Definitions

Intellectual disability refers to limitations in both general intellectual functioning and adaptive functioning, with an onset prior to age 18 (American Psychiatric Association, 2000). Adaptive functioning, or adaptive behaviour, refers to age-appropriate daily living skills, and typically includes social, communication, self-care, and motor skills. Individuals with ID commonly exhibit greater problem behaviours, or maladaptive behaviours, compared to same-age typically developing peers (Bramlett, Smith, & Edmonds, 1994).

For the purpose of this study, leisure activities refer to any type of activity that is carried out during free time, for pleasure, and that offers opportunities for interaction with peers. Solitary activities done for pleasure during free time (e.g., reading, watching TV, etc.) were not included
in this category. Productive activities refer to activities in which students provided a service or
made a non-monetary contribution to a business, organization, or society in general.

Leisure Activities

Social Relationships in Adolescence

Social support and social interaction have important functions across the lifespan. In
adolescence, peers, friends, and romantic partners become increasingly important to adolescents,
as the influential role of parents begins to decline (Hortaçsu, Gençöz, & Oral, 1995; Markiewicz,
Lawford, Doyle, & Haggart, 2006; Repinski & Zook, 2005). It is estimated that adolescents
spend one-third of their waking hours with friends (Hartup & Stevens, 1997), and at any point
during adolescence, around 90% of youth are able to name at least one person whom they
consider to be a close friend (Brown, 2004). Friendships and identification with a social group
are associated with many benefits for adolescents, including increased self-esteem (Tarrant,
MacKenzie, & Hewitt, 2006) and perceptions of social competence, and decreased internalizing
problems (Rubin et al., 2004).

Individuals of all ages who have ID have been found to have difficulties interacting
socially with others, and many express a desire to have a greater number of friends (Beadle-
Brown et al., 2002; Froese, Richardson, Romer, & Swank, 1999; Guralnick, Neville, Hammond,
& Connor, 2007; Wenz-Gross & Siperstein, 1998). Despite the increasing importance of
friendship in adolescence that is reported in the literature on typically developing individuals,
adolescents with ID are faced with a variety of challenges related to the formation of friendships
that stem from their deficits in social skills and from stigmatization (Bramlett et al., 1994; Mu,
Siegel, & Allinder, 2000; Siperstein, Parker, Bardon, & Widaman, 2007). Adolescents with ID
report being less satisfied with their friendships than their typically developing peers (Brantley et
al., 2002) in addition to reporting feelings of emptiness, lack of social support, and an absence of close peer relationships (Heiman, 2000).

Social interaction between people with and without ID has been examined in a variety of age groups and for individuals with ID in a variety of settings (e.g., group homes, segregated classrooms, etc.). Studies have shown that individuals with ID primarily interact socially with other individuals with ID rather than with typically developing peers (Beart et al., 2001; Emerson & McVilly, 2004). Recently there has been a movement towards integrating students with ID into regular school and classroom settings, as supporters of this idea argue that it will result in both academic benefits and increased social inclusion for individuals with ID (see Freeman, 2000). While students with ID in integrated settings do interact with their typically developing peers, many continue to interact primarily with their peers who have ID (Cutts & Sigafoos, 2001; Freeman, 2000; Hughes et al., 1999). As much of the research relating to this area is observational, it is unclear whether individuals with ID interact primarily with others with ID because they are rejected by typically developing peers or whether they prefer to interact with others with ID over typically developing peers.

Structured and Unstructured Leisure Activities

Opportunities for socializing are essential in the development of peer relationships and friendships. Socializing occurs in a variety of contexts for adolescents, including both structured leisure activities, such as sports, clubs, and youth groups, and unstructured leisure activities, such as hanging out with friends at home or doing casual activities such as going to movies, parties, or restaurants. School is one of the most common settings for social interaction in youth, but extracurricular activities such as work, sports, volunteering, and religious activities may also offer
important opportunities for adolescents to interact and form friendships (Danish, Taylor, & Fazio, 2003; Park, Chadsey-Rusch, & Storey, 1998).

Numerous positive outcomes are related to adolescent involvement in structured leisure activities (e.g., team sports, performing arts, clubs), including better academic performance, increased likelihood of attending college, and decreased antisocial behaviours (Eccles, Barber, Stone, & Hunt, 2003; Gilman, 2001; Mahoney & Stattin, 2000). Involvement in extra-curricular activities also provides adolescents with the opportunity to interact with caring, non-familial adults whom they can talk with about educational and occupational goals (Eccles et al.).

Adolescents also spend a considerable amount of unstructured leisure time with peers. In their study of 1,004 high school students, Bartko and Eccles (2003) found that next to watching television and doing homework, hanging out with friends was the most frequent activity in which students participated.

In contrast to people without ID, participation in community activities such as sports, clubs, and organizations is low for individuals with ID, including adolescents (Buttimer & Tierney, 2005; Ormond, Krauss, & Seltzer, 2004). Individuals with ID report interest in becoming more involved in structured leisure activities (Beart et al., 2001); however, they face numerous challenges to participation in community activities, including lack of transportation and available support, negative attitudes of community members towards individuals with ID, and a limited number of structured activities in which to participate (Abbott & McConkey, 2006; Beart et al.). Spending unstructured leisure time with peers is also important for individuals with ID. Duvdevany and Arar (2004) found that increased involvement in unstructured leisure activities (e.g., shopping, swimming, going to movies, etc.) was related to greater quality of life for individuals with ID; however, outside of school, adolescents with ID spend much of their leisure
time engaged in solitary activities, with television watching being the most frequent activity in which they engaged (Buttimer and Tierney). Of the activities that involve communication with others, adolescents with ID reported talking on the telephone as the most frequent activity. In general, involvement in leisure activities for individuals with ID appears to be lower than involvement of typically developing individuals; however, with few studies including both individuals with and without ID and focusing specifically on adolescents, it is difficult to draw firm conclusions about this age group.

**Productive Activities**

Participation in productive activities such as employment, volunteer work, and education is highly valued in Canadian society. Adolescence is the time when individuals begin to have increased opportunities to participate in productive activities outside of the educational setting, namely paid employment and volunteer or community service work. Participation in productive activities can help adolescents develop both a sense of independence (Mortimer, Harley, & Aronson, 1999) and skills necessary for successful future employment (Krahn, Lowe, & Lehmann, 2002). Opportunities to participate in employment and volunteer activities are an important aspect of social inclusion for people with ID (Burchardt et al., 2002).

**Employment**

Over the past several decades, large numbers of typically developing students have entered the workforce while still attending school (Creed, Muller, & Patton, 2003; Mortimer, Finch, Shanahan, & Ryu, 1992). A Canadian survey of youth in transition found that 61.5% of students in their final year of high school worked for pay (Bowlby & McMullen, 2002), and Krahn and colleagues (2002) found similar results in their study of 2,681 grade 12 students in Alberta. Seventy-two percent of their sample had paid employment at some point during their
previous school term, with 58% of the sample having paid employment at the time of data collection. There are numerous opponents to adolescent employment (e.g., Greenberger & Steinberg, 1986); however, a careful examination of the literature reveals that paid work experience during high school can provide a variety of benefits to students (Mortimer et al., 1999). Through employment, high school students can develop employment-related skills (Krahn et al., 2002), and jobs that are perceived to teach skills such as the ability to follow directions and take responsibility can contribute to an increased sense of internal control and heightened self-esteem (Mortimer et al., 1992). Furthermore, Osgood (1999) found that the more students worked, the less time they spent watching television. Adolescents who are employed have also reported that their work experience resulted in an increased sense of personal responsibility and improved money management and social skills (Mortimer et al. 1999). Given the frequency of employment and its potential benefits, high school work experience is an important aspect of life for many adolescents.

An alternative to paid employment during high school is a work experience program or co-op course, which is an optional part of the school curriculum in many Ontario high schools. Work experience programs can provide students with access to a variety of settings that teach employment-related skills. Students indicate that involvement in work experience programs contributes to the development of people skills (e.g., teamwork, conflict resolution, etc.) and a strong work ethic (e.g., discipline, time management, responsibility, etc.), in addition to providing preparation for future paid employment (Krahn et al. 2002).

Both typically developing adolescents and those with ID can enter the workforce in standard paid employment settings or through high school co-op placements. However, individuals with ID who are employed in a standard setting often have supported employment
placements (i.e., a job coach assists them and they are not guaranteed minimum wage) as opposed to competitive employment (i.e., they receive at least minimum wage and no additional assistance is provided in the work setting). Additionally, vocational training programs that teach a variety of job skills are available to individuals with ID through many community agencies (Butcher & Wilton, 2008). Exposure to employment, at least to some degree, is a component of the transition from high school plan for many adolescents with ID (Butcher & Wilton; King, Baldwin, Currie, & Evans, 2005). While there is considerable research available on post-transition employment outcomes, there is relatively little information available on rates of employment and employment training for students with ID who are still in high school.

Research on the general ID population, not specific to adolescents, shows that in contrast to typically developing individuals, those with ID face a multitude of barriers related to employment (Ochocka, Roth, & Lord, 1994). Unfamiliarity with different occupations, lack of transportation, and negative perceptions held by employers can make it difficult for individuals with ID to obtain employment (Cinamon & Gifsch, 2004; Millington, Szymanski, & Hanley-Maxwell, 1994; West, Hock, Wittig, & Dowdy, 1998). Several studies have found that post-high school employment is a goal for many adolescents with ID (Cinamon & Gifsch, 2004; Cooney, Jahoda, & Knott, 2006; Katsiyannis, Zhang, Woodruff & Dixon, 2005), and post-high school employment is associated with increased quality of life (Duvdevany & Arar, 2004; Kraemer, McIntyre, & Blacher, 2003). Furthermore, the employment setting can provide individuals with ID with important opportunities for socialization and can lead to the acquisition of adaptive skills (Butcher & Wilton, 2008; Stephens, Collins, & Dodder, 2005). Unfortunately, numerous studies report that rates of employment following high school tend to be low (Katsiyannis et al., 2005; Kraemer & Blacher, 2001; Reiter & Palnizky, 1996).
Volunteer Work

Community service or volunteer work is an additional form of socially-valued productive activity in which youth can participate. Adolescent involvement in volunteer activities can facilitate the acquisition of important employment skills such as interpersonal and teamwork skills and a strong work ethic (Febbraro, 2001; Krahn et al., 2002). Furthermore, research has shown that there is a positive association between involvement in volunteer work during high school and continuing this involvement during young adulthood (Planty, Bozick, & Regnier, 2006). Canadian rates of adolescent participation in volunteer work have increased over the past several decades (Febbraro) with recent reports showing that 55% of Canadian youth aged 15 to 24 participated in volunteer work in 2004 (Hall, Lasby, Gumulka, & Tryon, 2006). In order to further encourage involvement in volunteer activities, the Government of Ontario instituted a mandatory civics class that requires all high school students in Ontario to complete 40 hours of volunteer work prior to graduation (Henderson, Brown, Pancer, & Ellis-Hale, 2007). This change emphasizes the importance placed on youth volunteer work in Canadian society.

Similar to typically developing students, previous research has highlighted the beneficial effects of participation in volunteer activities for people with ID, including improved self-esteem and self-concept, a sense of accomplishment and belonging, increased social networks and community integration, a heightened sense of purpose, and the development of new skills related to the specific volunteer activity (Choma & Ochocka, 2005; Li, Liu, Lok, & Lee, 2006; Miller et al., 2002). When people with ID participate in integrated volunteer activities, there is the additional benefit of reduced fear of interacting with individuals with ID and improved attitudes towards this group by those without ID who are involved in the activity (Miller et al., 2002). Despite the potential benefits associated with volunteer work, individuals with ID often do not
have access to such activities. Miller and colleagues (2003) found that only about one-third of individuals with ID are involved in volunteer work; however, this estimate includes both adolescents and adults with ID. At the present time, there are no data available on the frequency of involvement in volunteer activities specifically for high school students with ID.

*Predictors of Involvement in Activities*

Given the difficulties that students with ID face in participating in activities, an exploration of factors that contribute to involvement in activities is warranted. Individuals with ID exhibit lower levels of adaptive functioning than individuals without ID, and they often exhibit maladaptive behaviour as well. Low adaptive functioning can affect many aspects of life for individuals of all ages with ID, including placement in educational settings (de Bildt, Sytema, Kraijer, Sparrow, & Minderaa, 2005), participation in employment (McDermott, Martin, & Butkus, 1999; Stephens et al., 2005; Su, Lin, Wu, & Chen, 2008), and involvement in leisure activities in the community (Baker, 2007). The proposed study will examine whether both adaptive functioning and maladaptive behaviour contribute to involvement in leisure and productive activities, with a specific focus on high school students.

*Summary*

Much of the published research relating to the participation of people with ID in activities has demonstrated that frequency of participation is low and numerous barriers to participation exist. To date, much of the research that has examined adolescents’ participation in activities and in social interaction has focused on either students with ID or students without ID. Few studies have included both of these populations, thereby making it difficult to draw conclusions about the differences and similarities between the two groups. Furthermore, many studies that examine involvement of individuals with ID in activities either do not include adolescents in their sample
or they combine the results of adolescents and adults without distinguishing between these two
groups. The specific focus on adolescents in the current study, as well as the inclusion of both
typically developing and intellectually disabled students, will add an important component to the
ID literature.

The Current Study

Archival Data

Currently, a study examining the transition out of high school for students with ID is
being conducted by the South Eastern Ontario Community-University Research Alliance in
Intellectual Disabilities (SEO CURA in ID). It is aimed at investigating factors that contribute to
successful transition out of high school for students with ID. Individual characteristics, access to
resources, and family stress will be used to predict individual’s sense of belonging and social
interaction. Students with ID and their parents were interviewed three times at one year intervals.
The current study used data gathered in the time one interviews of the transition out of high
school project, which only includes students with ID and their parents, and it added a comparison
group of typically students and their parents. Due to the restricted timeframe of the current study,
it did not focus on the overall transition experience. Instead, it focused on the experiences of
students while they were still in high school.

Objectives and Hypotheses

The current study had three main objectives. Given that involvement in leisure and
productive activities is an important aspect of social inclusion, the first objective of this study was
to describe the types of leisure and productive activities in which high school students with and
without ID participated and to make comparisons of the frequency of involvement between the
two groups. Based on previous research identifying the barriers related to participation in
employment, volunteer, and leisure activities that individuals with ID face, it was predicted that fewer students with ID would participate in these types of activities than typically developing students. As mentioned above, individuals with ID often interact primarily with other individuals with ID rather than with typically developing peers, and, thus, it was expected that the majority of activities in which the adolescents with ID participated would include others with ID. In contrast, typically developing students were not expected to be involved in activities that included individuals with ID.

In order to facilitate involvement in activities, it is necessary to obtain an understanding of the factors that are related to involvement. Individuals with ID typically have lower levels of adaptive functioning and more maladaptive behaviour than their typically developing peers. Both of these characteristics have been shown to be related to educational placements and employment, and therefore the second objective was to examine whether adaptive functioning and maladaptive behaviour were related to involvement in productive and leisure activities. It was hypothesized that higher levels of adaptive functioning and lower levels of maladaptive behaviour would be related to increased involvement in activities.

Satisfaction with social interactions was compared between students with and without ID. People with ID report low levels of social interaction, which can be further compounded by their limited access to different types of activities. Therefore, it was hypothesized that typically developing students would have higher satisfaction with their social interactions than students with ID.
Chapter 2

Method

Participants

Ethics approval for this study was obtained from the Health Sciences Research Ethics Board, Queen’s University. Participation was voluntary and prior to participating in the study, students and their parents provided written consent. Students who were under 18 years of age were additionally required to provide permission for their participation from their parent, as per the school board policy. All data used for the ID group were archival data from the SEO CURA in ID transition out of high school project.

Participants in the ID group included 63 parents/guardians of high school students with ID from Kingston, Ontario and surrounding area. Data from six parents were omitted, three due to uncertainty whether their adolescent would meet the criteria for a diagnosis of ID, and three due to their adolescent not being enrolled in high school at the time of the interviews. Therefore, the ID sample used in the analyses included data from 57 parents/guardians (49 females, 8 males). Of the sample of parents/guardians, 43 (75.4%) were mothers, eight (14.0%) were fathers, and the remaining six (10.5%) were other family members or caregivers (e.g., grandparent, support worker). The mean age of parents/guardians was 47.96 years ($SD = 6.33$). The 57 students (19 females, 38 males) with ID whose parents’ data were included in the study ranged in age from 14 to 21 years ($M = 17.56, SD = 1.60$). Table 1 describes the causes of the students’ intellectual disabilities in addition to other medical problems.

Twenty-nine (50.9%) of the students with ID were also interviewed. The remaining 28 students were unable to complete the interview due to their disability. In addition, data from one student who was interviewed were omitted as the student was unable to complete the
questionnaire used in the interview. Therefore, data from 28 students (8 females, 20 males) were used in the analyses. These students ranged in age from 14 to 20 years ($M = 17.50$ years, $SD = 1.30$ years).

Table 1

*Causes of Intellectual Disability and Other Medical Conditions for Students with ID*

<table>
<thead>
<tr>
<th>Cause of Intellectual Disability ($n = 57$)</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Autism Spectrum Disorder</em></td>
<td>11 (19.3%)</td>
</tr>
<tr>
<td><em>Down Syndrome</em></td>
<td>9 (15.8%)</td>
</tr>
<tr>
<td><em>Other Chromosomal Abnormalities</em></td>
<td>5 (8.8%)</td>
</tr>
<tr>
<td><em>Medical Condition (e.g., Spina bifida)</em></td>
<td>3 (5.3%)</td>
</tr>
<tr>
<td><em>Cause Unknown</em></td>
<td>29 (50.9%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Additional Medical/Mental Health Conditions</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Cerebral Palsy</em></td>
<td>6 (10.5%)</td>
</tr>
<tr>
<td><em>Seizure Disorder</em></td>
<td>13 (22.8%)</td>
</tr>
<tr>
<td><em>Psychiatric Illness</em></td>
<td>6 (10.5%)</td>
</tr>
<tr>
<td><em>Attention-Deficit/Hyperactivity Disorder</em></td>
<td>8 (14.0%)</td>
</tr>
<tr>
<td><em>Behavioural Disorder</em></td>
<td>7 (12.3%)</td>
</tr>
<tr>
<td><em>Mobility Problem</em></td>
<td>7 (12.3%)</td>
</tr>
<tr>
<td><em>Hearing Problems</em></td>
<td>7 (12.3%)</td>
</tr>
</tbody>
</table>

*Note:* Causes of Intellectual Disability categories are mutually exclusive; Additional Medical/Mental Health Conditions categories are not mutually exclusive.

Forty-seven typically developing high school students were interviewed. Data from one student were omitted, as the student fit the profile of having a childhood ID and the student’s scores were more than three standard deviations below the mean on the measure of adaptive functioning (SIB-R), which is an indicator of a cognitive delay. Therefore, the final non-ID sample included 46 students (30 females, 16 males) who ranged in age from 15 to 19 years ($M = 16.63$, $SD = 0.85$). Forty-five of the students’ parents/guardians were also interviewed. One student did not have an available parent/guardian to interview, and the interviewer was unable to contact the parent of a second student. Therefore, data were not available for parents of two of the students. The parent data that corresponded to the omitted student data were also omitted. Thus,
data from 44 parents/guardians (35 females, 9 males) were included in the analyses. Thirty-two (72.7%) were mothers, eight (18.2%) were fathers, and the remaining four (9.1%) were other family members or caregivers (e.g., step-parent, aunt/uncle). The mean age of parents was 45.03 ($SD = 4.67$).

**Measures**

Table 2 shows the questionnaires that were completed by both parents and students in the ID group and the typically developing group.

Table 2  
**Measures Completed by Students and Parents in the ID and Typically Developing Groups**

<table>
<thead>
<tr>
<th>Students with ID</th>
<th>Typically Developing Students</th>
<th>ID Group Parents</th>
<th>Typically Developing Group Parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interview Schedule for Social Interaction (ISSI)</td>
<td>Interview Schedule for Social Interaction (ISSI)</td>
<td>Parent Demographic Questionnaire</td>
<td>Parent Demographic Questionnaire</td>
</tr>
<tr>
<td>Student Demographic Questionnaire</td>
<td>Scales of Independent Behavior-Revised (SIB-R)</td>
<td>Scales of Independent Behavior-Revised (SIB-R)</td>
<td></td>
</tr>
<tr>
<td>Activity Survey</td>
<td>Activity Survey</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Student Demographic Questionnaire.* This measure included information about the student’s age, place of birth, gender, and their future plans upon completion of high school. Additionally, students were asked about the relationship, gender, and age of all people currently living in their home. Finally, students were asked whether anyone currently living in their home
had an intellectual disability. The Student Demographic Questionnaire took approximately 2 minutes to complete.

*Parent Demographic Questionnaire.* This measure asked parents about their age, place of birth, gender, marital status, and relationship with the student. Additionally, parents were asked about the highest level of education they had attained, their occupation, and their annual household income. Parents of the students with ID were also asked to provide information about their child with ID, including the child’s age, place of birth, gender and type of disabilities the child had, and information about family demographics, including the gender and age of each person living in the home and whether or not other family members had an intellectual disability. This latter demographic information about the student with ID and the family was provided by parents, rather than students themselves, because not all of the students with ID were interviewed. The Parent Demographic Questionnaire was completed in an interview format and took approximately 2 minutes to complete.

*Interview Schedule for Social Interaction (ISSI) short form* (Undén & Orth-Gomér, 1989). The ISSI assesses the quality and quantity of a person’s social interactions. This measure contains 30 questions about social interaction (e.g., “These days, how many people with similar interests to you do you have contact with?” and “Would you like more or less of this or is it about right?”). Participants select their response from a list of options, which each correspond to a number (e.g., *less* = 1, *about right* = 2, *depends on situation* = 3, *more* = 4). Response options vary depending on the questions. The numbers selected for each response are then converted to a dichotomous score (i.e., 0 or 1) and summed to form four subscale totals: (1) availability of social integration (AVSI), (2) adequacy of social integration (ADSI), (3) availability of attachment (AVAT), and (4) adequacy of attachment (ADAT). Scores on the AVSI and ADSI represent an
individual’s satisfaction with the quantity and quality, respectively, of interactions that they have in the broader societal context (i.e., general daily interactions with others), whereas scores on the AVAT and ADAT refer to quantity and quality, respectively, of closer personal interactions (Eklund, Bengtsson-Tops, & Lindstedt, 2007). The total possible scores on each subscale are as follows: 6 points for AVSI; 8 points for ADSI; 6 points for AVAT; 10 points for ADAT. Research on the psychometric properties of the ISSI short form has shown that it has good split-half reliability (.59 to .84) and face validity (Undén & Orth-Gomér). Internal consistency was acceptable for the current dataset (Cronbach’s alpha = .73 for students with ID and .82 for typically developing students). The ISSI was administered in an interview format, and it took approximately 15 minutes for students with ID to complete and 5 minutes for students without ID to complete.

Activity Survey. The Activity Survey is composed of selected questions from the AIMS Interview (Assimilation, Integration, Marginalization, Segregation Scale; Minnes, Buell, Feldman, McColl, & McCreary, 2002) and it was designed for the purpose of collecting information about involvement in activities for this study. The archival data from parents of students with ID included the AIMS Interview, and for the purpose of this study, the relevant data were extracted from the AIMS Interview to form the Activity Survey. Typically developing students were interviewed using the Activity Survey. The Activity Survey included five domains: (1) education, (2) employment, (3) volunteer, (4) social, and (5) religious. For each domain, participants provided the following information: (a) lists of the types of activities in which students participate, (b) if not participating in a certain activity, the reason why not, (c) the number of hours per week they participated in each activity, (d) the number of people with and without a disability involved in each activity, (e) how well their needs were being met (rated on a
5-point Likert scale ranging from 1 [not at all] to 5 [completely]), and (f) whether or not they needed additional supports that they were not currently receiving (yes/no). The Activity Survey was administered in an interview format, and it took approximately 10 minutes to complete.

*Scales of Independent Behavior-Revised Short Form (SIB-R; Bruininks, Woodcock, Weatherman, & Hill, 1996).* The SIB-R assesses an individual’s everyday living skills. This scale assesses adaptive behaviour including motor, social interaction, communication, and personal living skills; as well as maladaptive behaviour under three main categories: internalized behaviours, asocial behaviours, and externalized behaviours. The adaptive behaviour scale includes 40 tasks that are progressively more difficult (e.g., “Washes and dries dishes and puts them away” and “Makes purchases with a check”). Parents rate their adolescent’s ability to do each of the tasks using a 4-point Likert scale ranging from 0 (never or rarely) to 3 (does very well). Total raw scores on the adaptive behaviour scale range from 0 to 120, and higher scores indicate higher adaptive functioning. The maladaptive behaviour scale includes eight categories, and for each category, the parent indicates whether or not their adolescent engages in any of the behaviours specific to that category (e.g., Hurtful to Others includes hitting, kicking, biting, etc.). If the adolescent does engage in such behaviours, the parent rates the frequency of the behaviours on a 6-point Likert scale ranging from 0 (never) to 5 (one or more times an hour) and the severity of the behaviours on a 5-point Likert scale ranging from 0 (not serious) to 4 (extremely serious). Raw scores are converted into Internalized (IMI), Asocial (AMI), Externalized (EMI), and General Maladaptive Index (GMI) scores, each of which ranges from -70 to +10, with higher scores corresponding to less maladaptive behaviour. The GMI score is then combined with the adaptive behaviour score to produce a score relating to the level of support an individual requires, which ranges from 1 to 100. The SIB-R Short Form has good split-half reliability of .80 for
individuals 13-19 years of age; test-retest reliability is .86; construct validity ranges from .67 to .96 being .95 overall (Bruininks et al., 1996). Measures of reliability were not available for the current data set, because the archival data for the ID group only included total scores, not individual items. The SIB-R Short Form took about 15 minutes to complete.

*Procedure*

**ID group.** Archival data were used for the students and parents in the ID group. In the original data collection, which occurred two to three years prior to the current study, investigators recruited participants from the five school boards and the partner agencies included in the SEO CURA in ID. Researchers asked secondary schools and agencies to hand out invitation packages to students with ID who met the age criteria. The students were then asked to take the packages home to their parents. Interested parents and students provided written consent prior to participation. Parents were then contacted by the researchers to arrange for a telephone interview. At the time of the telephone interview, parents were asked whether they thought their adolescent with ID would be able to complete an in-person interview. If parents agreed, the interviewer obtained the name and contact information of the adolescent’s teacher. Teachers were then contacted to arrange an in-person interview at the student’s school. Parent interviews took approximately 1.5 – 2 hours to complete. Student interviews were conducted by different interviewers than those who did the parent interviews and they took approximately 45 minutes to complete. The original study for which the data were collected was a longitudinal study that involved the parents and students completing the same interview once a year for three years. The present study only used data from the first interview time point.

**Non-ID group.** Students were recruited through three high schools in the area surrounding Kingston, Ontario. In this region, there are two school boards with a total of 16
secondary schools. The three schools that participated were all from the same school board. After receiving written approval from a local school board, the principals of nine high schools in Kingston, Ontario and surrounding area were contacted. Three principals from the surrounding area agreed to participate in the project. The primary researcher met with each of the principals to discuss the purpose and requirements of the project and to decide on the most efficient recruitment strategy to meet the needs of the schools.

Students were recruited in one of two ways based on the agreement made between the primary researcher and the principals. At two of the schools, the primary researcher attended the regular grade 11 and grade 12 assemblies that the schools conducted at the beginning of the winter semester. The primary researcher was allotted about five minutes to speak to the students, explain the purpose and requirements of the project, and ask the students to sign up for the project at the end of the assembly if they were interested in participating. Following the assembly, interested students were given an information letter to read and a consent form to sign, that requested their address and telephone number. Students were also given an information letter and consent form to take home to their parents to read and sign. In total, approximately 300 students were invited to participate in the study through this method of recruitment. Forty-six students expressed interest and signed the consent forms; however, seven of these students did not complete the interviews. The parent of one student did not provide the parental permission for the student to participate that was required by the school board, and the primary investigator was unable to contact the other six students at the telephone numbers the students had provided. Thus, approximately 15% of the students who were invited to participate in the study via the assembly presentations were interviewed.
At the third school, based on the principal’s request, students were randomly selected to be invited to participate in the research project. The primary researcher was provided with a list of student ID numbers without further identifying information. A random number generator was used to select 28 students who were then called down to a classroom as a group during class time. Of the 28 students selected, only 12 students were at school at the time. Nine of those students expressed interest in the study and signed the consent form; however, only eight of the students were interviewed as the primary investigator was unable to contact one student at the telephone number the student provided. The students were told that they had been selected to be invited to participate in a research project. The primary researcher explained the purpose and requirements of the project and then asked students to read the letter of information. Students were told that if they were not interested in participating in the project they could leave at any time. Those who were interested in participating were asked to complete the written consent form, which included providing their address and telephone number, and they were provided with an information letter and consent form to take home to their parents to sign.

After consent had been obtained from the students, the primary researcher contacted the students via telephone and arranged a time to meet with the students at school. The principals at two of the schools allowed the primary researcher to conduct interviews during class time. The principal of the third school required that students complete the interviews outside of class time (i.e., at lunch, during a spare period, or after school). All students under age 18 were required to bring written permission from their parents to the interview, as per the school board requirements. If students forgot the parent consent form, the student interview was cancelled and rescheduled for another date so the student could bring the parent consent form.
Students were interviewed individually at school in a private room. The interviews took approximately 15 – 25 minutes. Prior to commencing the interviews, students were reminded that the interview was voluntary, they did not have to answer any questions they were not comfortable answering, and that they could terminate the interview at any point. Students were also asked to provide the name of their parent who they thought would be interested in completing the telephone interview and the best time of day to reach that parent. Upon completion of the interview, students were asked if they had any questions, they were thanked for their participation, and they were provided with a $10.00 gift card to a movie theatre.

Following the completion of student interviews, a package was mailed to each parent, including a brief letter reminding them of the parent telephone interview, a rating scale for them to use during the interview, and a $2.00 gift card to Tim Horton’s as a thank you for their involvement in the project. Parents were then contacted via telephone and asked if they were available to complete the telephone interview. If parents were available at the time of the initial call, the interview was completed at that time. If they were unavailable, the researcher asked for a more suitable time to call back. Prior to commencing the interviews, parents were reminded that the interview was voluntary, they did not have to answer any questions they were not comfortable answering, and that they could terminate the interview at any point if they desired. For parents of students who were 18 or older, and had not provided the parent consent form, the interviewer read the information letter to the parent and obtained verbal consent prior to beginning the interview. Parent telephone interviews took approximately 10 – 20 minutes to complete.
Chapter 3

Results

Parent Characteristics

Table 3 includes descriptive information about parents' marital status, education level, and household income. An independent samples t-test was conducted to compare parents in the ID and typically developing groups on annual household income. There was a significant difference between the groups, \( t(79) = 3.39, p = .001 \), with parents in the typically developing group having a higher mean annual household income (\( M = 6.39, SD = 2.36 \); corresponds to a mean income range of $65,001 to $75,000) than parents in the ID group (\( M = 4.38, SD = 2.81 \); corresponds to a mean income range of $45,001 to $55,000).

Table 3

Parent Demographic Information

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>ID Group (n = 57)</th>
<th>Typically Developing Group (n = 44)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married/Common-law</td>
<td>41 (71.9%)</td>
<td>37 (84.1%)</td>
</tr>
<tr>
<td>Single</td>
<td>6 (10.5%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Separated/Divorced</td>
<td>8 (14.0%)</td>
<td>5 (11.4%)</td>
</tr>
<tr>
<td>Widowed</td>
<td>2 (3.5%)</td>
<td>2 (4.5%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education Level</th>
<th>ID Group (n = 57)</th>
<th>Typically Developing Group (n = 44)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than Grade 12</td>
<td>9 (15.8%)</td>
<td>3 (6.8%)</td>
</tr>
<tr>
<td>High School Diploma</td>
<td>15 (26.3%)</td>
<td>14 (31.8%)</td>
</tr>
<tr>
<td>Community College</td>
<td>21 (36.8%)</td>
<td>21 (47.8%)</td>
</tr>
<tr>
<td>University Degree</td>
<td>10 (17.5%)</td>
<td>5 (11.4%)</td>
</tr>
<tr>
<td>Graduate/Professional Degree</td>
<td>2 (3.5%)</td>
<td>1 (2.3%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Annual Household Income</th>
<th>ID Group (n = 57)</th>
<th>Typically Developing Group (n = 44)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$25,000 or less</td>
<td>9 (18.8%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>$25,001-$35,000</td>
<td>9 (18.8%)</td>
<td>1 (3.0%)</td>
</tr>
<tr>
<td>$35,001-$45,000</td>
<td>5 (10.4%)</td>
<td>5 (15.2%)</td>
</tr>
<tr>
<td>$45,001-$55,000</td>
<td>2 (4.2%)</td>
<td>3 (9.1%)</td>
</tr>
<tr>
<td>$55,001-$65,000</td>
<td>5 (10.4%)</td>
<td>3 (9.1%)</td>
</tr>
</tbody>
</table>
Differences in parent marital status were examined using a chi-square test of independence between marital status and ID group status. To avoid expected cell frequencies smaller than five, data from parents who were married or in a common-law relationship were combined and compared to the combined data from the remaining four categories (i.e., parents who were single, separated, divorced, or widowed). The chi-square test was not significant, $\chi^2(1, N = 101) = 2.09, p = .15$, which indicates that parent marital status was not dependent on having a child with ID.

Parent level of education was examined using a chi-square test of independence between level of education and ID group status. To avoid expected cell frequencies smaller than five, the university degree and graduate/professional degree groups were combined. The chi-square test was not significant, $\chi^2(3, N = 101) = 3.42, p = .33$, which indicates that parent education level was not dependent on having a child with ID.

**Student Characteristics**

An independent samples t-test was conducted to compare the mean age of students with and without ID. Levene’s test for equality of variance was significant and therefore the corrected degrees of freedom and t-value were used. There was a significant age difference between the two groups, $t(88.11) = 3.84, p < .001$, with typically developing students having a younger mean age ($M = 16.62, SD = 0.85$) than students with ID ($M = 17.56, SD = 1.60$). A chi-square test of independence between ID status and students’ gender was significant, $\chi^2(1, N = 103) = 10.38, p =$
Sixty-five percent of typically developing students were female, whereas only 33% of students with ID were female.

Table 4 provides descriptive information about the students’ adaptive functioning and maladaptive behaviour scores.

Table 4

Descriptive Statistics for Scales of Independent Behavior-Revised Short Form

<table>
<thead>
<tr>
<th></th>
<th>Minimum</th>
<th>Maximum</th>
<th>M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ID</td>
<td>Typical</td>
<td>ID</td>
</tr>
<tr>
<td>Adaptive</td>
<td>33</td>
<td>90</td>
<td>104</td>
</tr>
<tr>
<td>IMI</td>
<td>-40</td>
<td>-21</td>
<td>3</td>
</tr>
<tr>
<td>AMI</td>
<td>-40</td>
<td>-35</td>
<td>5</td>
</tr>
<tr>
<td>EMI</td>
<td>-40</td>
<td>-22</td>
<td>5</td>
</tr>
<tr>
<td>GMI</td>
<td>-44</td>
<td>-31</td>
<td>0</td>
</tr>
<tr>
<td>Support</td>
<td>9</td>
<td>63</td>
<td>91</td>
</tr>
</tbody>
</table>

Note: Adaptive scale ranges from 0 to 120 with higher scores representing higher levels of adaptive functioning. IMI, AMI, EMI and GMI scales range from -70 to +10 with lower scores representing higher maladaptive behaviour. Support scale ranges from 1 to 100 with lower scores representing higher levels of support needs.

aScore corresponds to limited support requirements. bScore corresponds to infrequent or no support requirements.

Independent samples t-tests were conducted to compare students in the ID and typically developing groups on adaptive functioning scores and on each of the four maladaptive behaviour
index scores. Levene’s test for equality of variance was significant, \( p < .05 \), for each of the five t-tests, so the corrected t-value and degrees of freedom were used. As expected, there was a significant difference between the groups on adaptive functioning scores, \( t(75.74) = 11.90, p < .001 \), with students in the typically developing group having higher levels of adaptive functioning than students in the ID group. Likewise, there was a significant difference in general maladaptive index scores between the groups, \( t(94.75) = 4.51, p < .001 \), with students in the ID group having lower general maladaptive index scores, which corresponds to higher levels of maladaptive behaviour, than students in the typically developing group. The difference between the ID students and the typically developing students was significant for internalized maladaptive index scores, \( t(89.42) = 6.31, p < .001 \), externalized maladaptive index scores, \( t(88.99) = 3.94, p < .001 \), and asocial maladaptive index scores, \( t(97.99) = 2.49, p = .01 \), with students in the ID group having both lower scores on all three indices than students in the typically developing group. Thus students with ID exhibited higher levels of internalized, externalized, and asocial maladaptive behaviour than typically developing students. These findings are consistent with what is expected when comparing students with and without ID on measures of adaptive functioning and maladaptive behaviour.

Independent samples t-tests were conducted to determine whether the students with ID who were interviewed differed in adaptive functioning and maladaptive behaviour from those students with ID who were not interviewed. There was a significant difference in adaptive functioning between the two groups, \( t(55) = 2.45, p = .02 \), with students who were interviewed having higher adaptive functioning scores \((M = 83.21, \ SD = 13.54)\) than students who were not interviewed \((M = 73.69, \ SD = 16.07)\). Likewise, there was a significant difference in maladaptive behaviour scores between the two groups, \( t(42.44) = 2.97, p = .005 \) using Levene’s corrected
degrees of freedom and t-value due to inequality of variance. Students who were interviewed had higher maladaptive behaviour scores \( (M = -9.32, SD = 6.59) \), which corresponds to lower levels of maladaptive behaviour, than students who were not interviewed \( (M = -17.24, SD = 12.67) \). This finding is not surprising given that individuals with higher levels of adaptive functioning likely have better social and communication skills, thus increasing the likelihood that they are able to complete an interview. However, it should be noted that this limits the generalizability of the findings related to the student interviews.

**Student Activities**

Five types of activities were examined: (1) structured leisure, (2) unstructured leisure, (3) school co-op/employment training, (4) paid employment, and (5) volunteer. Only activities that students were participating in at the time of the interview were included in the analyses. Activities that students engaged in less frequently than once a month (e.g., one week of summer camp or attending a concert three times per year) were not included. Structured leisure activities included all activities that occurred outside of the individual’s home, were regularly scheduled, facilitated social interaction, and typically had an adult leader (e.g., sports teams, clubs, youth groups, musical groups, etc.) (Van Naarden Braun, Yeargin-Allsopp, & Lollar, 2006; Persson, Kerr, & Stattin, 2007). The most common structured leisure activity for both adolescents with and without ID was playing sports. Twenty-two of the 33 students with ID (66.7%) and 22 of the 33 students without ID (66.7%) who were involved in structured leisure activities participated in sports. Differences arose in the setting of the sporting events, with 50% of students with ID being involved in sports through Special Olympics and the other 50% being involved in sports through other community organizations. In contrast, 72.7% of students without ID who played sports did so through their high school. None of the parents in the ID group indicated that their child was
involved in a sporting activity through school. The second most common structured leisure activities were involvement in youth groups \((n = 13, 39.4\%)\) for students with ID and involvement in music (e.g., choir, band, etc.) for students without ID \((n = 11, 33.3\%)\). Unstructured leisure activities included unstructured, relaxed activities with peers (e.g., “hanging out,” going to movies, having sleepovers, etc.). The most commonly reported activity for both groups was visiting/hanging out with friends, with people in both groups also mentioning activities such as going to movies and doing physical activity (e.g., bowling, going for walks) with friends.

School co-op/employment training activities, henceforth referred to as co-op, included any type of co-op placement or employment training that was part of regular school hours or was organized through a community agency and that did not provide fiscal compensation. Typically developing students who were involved in a co-op placement were primarily involved in education settings (e.g., co-op at a primary public school). Common co-op placements for students with ID involved working in food services (e.g., bakery/catering), sewing, and doing clerical tasks (e.g., photocopying). Paid employment was defined as employment in which the student received at least the provincial minimum hourly wage. The three students with ID who worked in paid jobs were employed at a golf course, a hair salon, and cutting wood. Typically developing students were most commonly employed in the food service industry, at grocery stores, or in retail stores. Volunteer activities included any type of community service work that students did voluntarily without receiving pay. The most common volunteer activities for students with ID included helping at religious functions and helping prepare or deliver food to people in need. The most common activity for typically developing students was coaching/refereeing sports teams.
Differences in Involvement between the ID and Typically Developing Group

Unless otherwise noted, all variables were normally distributed and there were no outliers. The alpha value for all statistical analyses was set at .05. Figure 1 shows the percentage of students with and without ID who were involved in each of the five types of activities.

![Figure 1. Percentage of students with and without ID involved in five types of activities.](image)

To determine whether the number of students involved in structured leisure, unstructured leisure, co-op, employment, and volunteer activities differed between the ID and typically developing groups, chi-square tests of independence between ID status and involvement were conducted for each of the five types of activities. All chi-square values reported are Pearson chi-square values. The chi-square test for involvement in unstructured leisure activities was significant, \( \chi^2(1, N = 103) = 56.16, p < .001 \). This was associated with a large effect size, \( \phi = .74 \), and an odds ratio of 59.94, indicating that the odds of a typically developing student being involved in unstructured
leisure activities were nearly 60 times higher than the odds of a student with ID being involved in unstructured leisure activities. In contrast, the chi-square test for involvement in structured leisure activities was not significant, $\chi^2(1, N = 103) = 2.12, p = .15$, which indicates that students’ involvement in structured leisure activities was independent of whether or not they had ID.

The chi-square test for involvement in a co-op was significant, $\chi^2(1, N = 103) = 7.86, p = .005$. This result was associated with a medium effect size, $\phi = .28$, and an odds ratio of 5.59, which indicates that the odds of a student with ID having a co-op placement were about 5.5 times higher than the odds of a typically developing student having a co-op placement. For employment, a chi-square test produced $\chi^2(1, N = 103) = 42.02$, which was statistically significant, $p < .001$. This was associated with a large effect size, $\phi = .64$, and an odds ratio of 33.75, indicating that the odds of a typically developing student being employed were over 30 times higher than the odds of a student with ID being employed. The chi-square test for involvement in volunteer activities was not significant, $\chi^2(1, N = 103) = 0.07, p = .79$, indicating that students’ involvement in volunteer activities was independent of whether or not they had ID.

**Others Involved in Student Activities**

Frequencies were used to examine whether students participated in activities with other individuals with ID. Table 5 displays the percentage of students who were involved in an activity where the majority of participants had ID, the percentage of students who were involved in an activity that included at least one other individual with ID, and the percentage of students who participated in activities that did not include any individuals with ID (other than the student in the case of the ID group). Few typically developing students participated in any productive or leisure activities that included individuals with ID. In contrast, at least half of the students with ID who participated in co-op, volunteer, and structured leisure activities did so with other individuals with
The employment and unstructured leisure activities that students with ID participated in typically did not include other individuals with ID.

Table 5

Percentages of Students Involved in Activities that Included Others with ID and Activities that did not Include Others with ID

<table>
<thead>
<tr>
<th></th>
<th>Structured Leisure</th>
<th>Unstructured Leisure</th>
<th>Co-op</th>
<th>Employment</th>
<th>Volunteer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ID Typical</td>
<td>ID Typical</td>
<td>ID Typical</td>
<td>ID Typical</td>
<td>ID Typical</td>
</tr>
<tr>
<td>Majority with Disability</td>
<td>45.5</td>
<td>0.0</td>
<td>18.2</td>
<td>0.0</td>
<td>37.5</td>
</tr>
<tr>
<td></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>37.5</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>37.5</td>
</tr>
<tr>
<td></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>7.1</td>
</tr>
<tr>
<td>≥ 1 Peer with Disability</td>
<td>75.8</td>
<td>3.0</td>
<td>27.3</td>
<td>4.7</td>
<td>50.0</td>
</tr>
<tr>
<td></td>
<td>0.0</td>
<td>0.0</td>
<td>33.3</td>
<td>0.0</td>
<td>30.0</td>
</tr>
<tr>
<td></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>30.0</td>
<td>56.3</td>
</tr>
<tr>
<td></td>
<td>30.0</td>
<td>56.3</td>
<td>28.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>None with ID</td>
<td>48.5</td>
<td>100</td>
<td>72.7</td>
<td>95.3</td>
<td>50.0</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>70.0</td>
<td>50.0</td>
<td>78.6</td>
<td></td>
</tr>
</tbody>
</table>

Note: Percentages relate to the total number of students involved in the activity as opposed to the total sample. These categories are not mutually exclusive.

Predictors of Involvement in Activities

Prior to identifying factors that predict involvement in activities, a composite “productive activities” category was formed to simplify the analyses. This composite category combined students who were involved in co-op, volunteer, and employment activities into one group, which was then compared to students who were not involved in any of these three activities.

Three hierarchical logistic regression analyses were conducted to determine whether adaptive functioning scores predicted involvement in each of the three dependent variables: (1) involvement in structured leisure activities, (2) involvement in unstructured leisure activities, and
involvement in productive activities. The same procedure was used for each dependent variable. In order to determine whether ID status (having or not having ID) moderated the relationship between adaptive functioning and activity involvement, ID status was entered in the first step of the model, adaptive functioning scores were entered in the second step of the model, and the ID status by adaptive functioning score interaction was entered in the third step of the model. An additional three hierarchical logistic regression analyses were conducted to determine whether maladaptive behaviour scores predicted involvement in each of the same three dependent variables. To determine whether ID status moderated the relationship between maladaptive behaviour and activity involvement, ID status was entered in the first step of the model, maladaptive behaviour scores were entered in the second step of the model, and the ID status by maladaptive behaviour score interaction was entered in the third step of the model.

Both adaptive functioning scores and general maladaptive index scores were negatively skewed; however, because normality is not an assumption of logistic regression, no transformations were made to these variables.

Adaptive functioning as a predictor. ID status was not a significant predictor of involvement in structured leisure activities; however, the chi-square value for block 2, with adaptive functioning scores also entered as a predictor, was significant (see Table 6). The Wald criterion showed that only adaptive functioning scores reliably predicted involvement in structured leisure activities. Correct classification of involvement in structured leisure activities improved by 3% from the null model, to a value of 69.3%. Block 3 of the model was not significant, indicating that ID status did not moderate the relationship between adaptive functioning scores and involvement in structured leisure activities.
Table 6

**Logistic Regression Analysis with Involvement in Structured Leisure Activities as the Dependent Variable and ID Status and Adaptive Functioning as Predictor Variables**

<table>
<thead>
<tr>
<th>Step 1 – Test</th>
<th>B</th>
<th>SE B</th>
<th>Wald's $\chi^2$</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall model evaluation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wald test</td>
<td>2.67</td>
<td>1</td>
<td></td>
<td></td>
<td>.10</td>
<td></td>
</tr>
<tr>
<td>Goodness-of-fit test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hosmer &amp; Lemeshow</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Step 1 – Predictor**

| ID Status | Constant | 0.39 | 0.27 | 2.10 | 1 | .15 | 1.48 |
| ID Status | 0.71 | 0.44 | 2.58 | 1 | .11 | 2.03 |

**Step 2 – Test**

| Overall model evaluation |     |       |                 |    |    |            |
| Wald test     | 9.67| 1     |                 |    | .002|            |
| Goodness-of-fit test |   |       |                 |    |    |            |
| Hosmer & Lemeshow | 6.61| 8     |                 |    | .60|            |

**Step 2 – Predictor**

| ID Status | Constant | -4.15 | 1.68 | 6.12 | 1 | .01 | 0.02 |
| ID Status | -0.84 | 0.71 | 1.39 | 1 | .24 | 0.43 |
| ID Status | 0.06 | 0.02 | 7.59 | 1 | .006| 1.06 |

**Step 3 – Test**

| Overall model evaluation |     |       |                 |    |    |            |
| Wald test     | 0.41| 1     |                 |    | .52|            |
| Goodness-of-fit test |   |       |                 |    |    |            |
| Hosmer & Lemeshow | 11.69| 8     |                 |    | .17|            |

**Step 3 – Predictor**

| ID Status | Constant | -0.89 | 5.33 | 0.03 | 1 | .87 | 0.41 |
| ID Status | -0.39 | 1.02 | 0.15 | 1 | .70 | 0.67 |
| ID Status | 0.02 | 0.06 | 0.15 | 1 | .70 | 1.02 |
| ID Status x Adaptive Functioning | 0.04 | 0.06 | 0.41 | 1 | .52 | 1.04 |

After step 2 with unstructured leisure activities as the dependent variable and both ID status and adaptive functioning scores entered as predictor variables, the chi-square test was significant (see Table 7). The Wald criterion showed that ID status and adaptive functioning
scores were significant predictors of involvement in unstructured leisure activities. The correct classification of involvement in unstructured leisure activities was increased from 51.5% for the null model to 86.1%. Block 3 of the model was not significant, indicating that ID status did not moderate the relationship between adaptive functioning scores and involvement in unstructured leisure activities.

Table 7

*Logistic Regression Analysis with Involvement in Unstructured Leisure Activities as the Dependent Variable and ID Status and Adaptive Functioning as Predictor Variables*

<table>
<thead>
<tr>
<th>Step 1 – Test</th>
<th>B</th>
<th>SE B</th>
<th>Wald's $\chi^2$</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall model evaluation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wald test</td>
<td></td>
<td></td>
<td>62.10</td>
<td>1</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>Goodness-of-fit test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hosmer &amp; Lemeshow</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 1 – Predictor</th>
<th>B</th>
<th>SE B</th>
<th>Wald's $\chi^2$</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-1.43</td>
<td>0.34</td>
<td>18.17</td>
<td>1</td>
<td>&lt;.001</td>
<td>0.24</td>
</tr>
<tr>
<td>ID Status</td>
<td>4.05</td>
<td>0.69</td>
<td>34.80</td>
<td>1</td>
<td>&lt;.001</td>
<td>57.15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2 – Test</th>
<th>B</th>
<th>SE B</th>
<th>Wald's $\chi^2$</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall model evaluation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wald test</td>
<td></td>
<td></td>
<td>4.84</td>
<td>1</td>
<td>.03</td>
<td></td>
</tr>
<tr>
<td>Goodness-of-fit test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hosmer &amp; Lemeshow</td>
<td></td>
<td></td>
<td>3.97</td>
<td>8</td>
<td>.86</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2 – Predictor</th>
<th>B</th>
<th>SE B</th>
<th>Wald's $\chi^2$</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-6.18</td>
<td>2.53</td>
<td>5.95</td>
<td>1</td>
<td>.02</td>
<td>0.002</td>
</tr>
<tr>
<td>ID Status</td>
<td>2.76</td>
<td>0.89</td>
<td>9.74</td>
<td>1</td>
<td>.002</td>
<td>15.80</td>
</tr>
<tr>
<td>Adaptive Functioning</td>
<td>0.06</td>
<td>0.03</td>
<td>3.83</td>
<td>1</td>
<td>.05</td>
<td>1.06</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 3 – Test</th>
<th>B</th>
<th>SE B</th>
<th>Wald's $\chi^2$</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall model evaluation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wald test</td>
<td></td>
<td></td>
<td>0.23</td>
<td>1</td>
<td>.63</td>
<td></td>
</tr>
<tr>
<td>Goodness-of-fit test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hosmer &amp; Lemeshow</td>
<td></td>
<td></td>
<td>3.81</td>
<td>8</td>
<td>.87</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 3 – Predictor</th>
<th>B</th>
<th>SE B</th>
<th>Wald's $\chi^2$</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-2.00</td>
<td>9.11</td>
<td>0.05</td>
<td>1</td>
<td>.83</td>
<td>0.14</td>
</tr>
</tbody>
</table>
After step 1 with involvement in productive activities as the dependent variable and ID status entered as the predictor variable, the chi-square test was significant, suggesting that ID status predicted involvement in productive activities (see Table 8). However, correct classification of involvement in productive activities only increased by 1% from the null model, to 62.4%. The chi-square values for block 2 and block 3 of the model were not significant, which indicates that adaptive functioning scores were not significant predictors of involvement in productive activity, and that ID status did not moderate the relationship between adaptive functioning and involvement in productive activity.

Table 8

*Logistic Regression Analysis with Involvement in Productive Activities as the Dependent Variable and ID Status and Adaptive Functioning as Predictor Variables*

<table>
<thead>
<tr>
<th>B</th>
<th>SE B</th>
<th>Wald's $\chi^2$</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1 – Test</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall model evaluation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wald test</td>
<td>8.57</td>
<td>1</td>
<td>.003</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goodness-of-fit test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hosmer &amp; Lemeshow</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Step 1 – Predictor</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-0.04</td>
<td>0.27</td>
<td>0.02</td>
<td>1</td>
<td>.90</td>
</tr>
<tr>
<td>ID Status</td>
<td>1.26</td>
<td>0.45</td>
<td>7.94</td>
<td>1</td>
<td>.005</td>
</tr>
<tr>
<td><strong>Step 2 – Test</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall model evaluation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wald test</td>
<td>3.08</td>
<td>1</td>
<td>.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goodness-of-fit test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hosmer &amp; Lemeshow</td>
<td>8.82</td>
<td>8</td>
<td>.36</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Step 2 – Predictor**

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE B</th>
<th>Wald's $\chi^2$</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-2.44</td>
<td>1.47</td>
<td>2.76</td>
<td>1</td>
<td>.10</td>
<td>0.09</td>
</tr>
<tr>
<td>ID Status</td>
<td>0.46</td>
<td>0.65</td>
<td>0.51</td>
<td>1</td>
<td>.48</td>
<td>1.59</td>
</tr>
<tr>
<td>Adaptive Functioning</td>
<td>0.03</td>
<td>0.02</td>
<td>2.81</td>
<td>1</td>
<td>.09</td>
<td>1.03</td>
</tr>
</tbody>
</table>

**Step 3 – Test**

| Overall model evaluation | Wald test | 0.43 | 1 | .51 |
| Goodness-of-fit test | Hosmer & Lemeshow | 11.07 | 8 | .20 |

**Step 3 – Predictor**

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE B</th>
<th>Wald's $\chi^2$</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-5.98</td>
<td>5.63</td>
<td>1.13</td>
<td>1</td>
<td>.29</td>
<td>0.003</td>
</tr>
<tr>
<td>ID Status</td>
<td>-0.05</td>
<td>1.00</td>
<td>0.002</td>
<td>1</td>
<td>.96</td>
<td>0.95</td>
</tr>
<tr>
<td>Adaptive Functioning</td>
<td>0.07</td>
<td>0.06</td>
<td>1.24</td>
<td>1</td>
<td>.27</td>
<td>1.07</td>
</tr>
<tr>
<td>ID Status X Adaptive Functioning</td>
<td>-0.04</td>
<td>0.07</td>
<td>0.43</td>
<td>1</td>
<td>.51</td>
<td>0.96</td>
</tr>
</tbody>
</table>

**Maladaptive behaviour as a predictor.** With structured leisure activities as the dependent variable, none of the blocks were significant, thus indicating that neither ID status nor general maladaptive index scores were significant predictors of involvement in structured leisure activities (see Table 9). Furthermore, ID status did not moderate the relationship between general maladaptive index scores and involvement in structured leisure activities.

Table 9

**Logistic Regression Analysis with Involvement in Structured Leisure Activities as the Dependent Variable and ID Status and Maladaptive Behaviour as Predictor Variables**

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE B</th>
<th>Wald's $\chi^2$</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1 – Test</td>
<td>Overall model evaluation</td>
<td>Wald test</td>
<td>2.67</td>
<td>1</td>
<td>.10</td>
<td></td>
</tr>
<tr>
<td>Goodness-of-fit test</td>
<td>Hosmer &amp; Lemeshow</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Step 1 – Predictor**

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE B</th>
<th>Wald's $\chi^2$</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.39</td>
<td>0.27</td>
<td>2.10</td>
<td>1</td>
<td>.15</td>
<td>1.48</td>
</tr>
<tr>
<td>ID Status</td>
<td>0.71</td>
<td>0.44</td>
<td>2.58</td>
<td>1</td>
<td>.11</td>
<td>2.03</td>
</tr>
</tbody>
</table>
After step 2, with involvement in unstructured leisure activities as the dependent variable and ID status and general maladaptive index scores entered as the predictor variables, the chi-square test was significant (see Table 10). However, the Wald criterion showed that only ID status was a significant predictor of involvement, not general maladaptive index scores. The percentage of correct classifications for involvement in unstructured leisure activities increased by 34.6% from the null model to 86.1% correct. The chi-square test for the remaining block was not significant, which indicates that ID status did not moderate the relationship between general maladaptive index scores and involvement in unstructured leisure activity.

Table 10

*Logistic Regression Analysis with Involvement in Unstructured Leisure Activities as the Dependent Variable and ID Status and Maladaptive Behaviour as Predictor Variables*
<table>
<thead>
<tr>
<th>Step</th>
<th>Test</th>
<th>Overall model evaluation</th>
<th>Wald test</th>
<th>Goodness-of-fit test</th>
<th>Hosmer &amp; Lemeshow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1 – Test</td>
<td></td>
<td></td>
<td>62.10</td>
<td>1</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Overall model evaluation</td>
<td>Wald test</td>
<td>62.10</td>
<td>1</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>Goodness-of-fit test</td>
<td>Hosmer &amp; Lemeshow</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 1 – Predictor</td>
<td></td>
<td>Constant</td>
<td>-1.43</td>
<td>0.34</td>
<td>18.17</td>
</tr>
<tr>
<td></td>
<td>ID Status</td>
<td>4.05</td>
<td>0.69</td>
<td>34.80</td>
<td>1</td>
</tr>
<tr>
<td>Step 2 – Test</td>
<td></td>
<td></td>
<td>3.80</td>
<td>1</td>
<td>.05</td>
</tr>
<tr>
<td>Overall model evaluation</td>
<td>Wald test</td>
<td>3.80</td>
<td>1</td>
<td>.05</td>
<td></td>
</tr>
<tr>
<td>Goodness-of-fit test</td>
<td>Hosmer &amp; Lemeshow</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2 – Predictor</td>
<td></td>
<td>Constant</td>
<td>-0.68</td>
<td>0.49</td>
<td>1.88</td>
</tr>
<tr>
<td></td>
<td>ID Status</td>
<td>3.76</td>
<td>0.70</td>
<td>29.03</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Maladaptive Behaviour</td>
<td>0.07</td>
<td>0.04</td>
<td>3.23</td>
<td>1</td>
</tr>
<tr>
<td>Step 3 – Test</td>
<td></td>
<td></td>
<td>3.15</td>
<td>1</td>
<td>.08</td>
</tr>
<tr>
<td>Overall model evaluation</td>
<td>Wald test</td>
<td>3.15</td>
<td>1</td>
<td>.08</td>
<td></td>
</tr>
<tr>
<td>Goodness-of-fit test</td>
<td>Hosmer &amp; Lemeshow</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3 – Predictor</td>
<td></td>
<td>Constant</td>
<td>-2.41</td>
<td>1.57</td>
<td>2.35</td>
</tr>
<tr>
<td></td>
<td>ID Status</td>
<td>4.61</td>
<td>1.27</td>
<td>13.24</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Maladaptive Behaviour</td>
<td>-0.10</td>
<td>0.15</td>
<td>0.43</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>ID Status X Maladaptive Behaviour</td>
<td>0.22</td>
<td>0.17</td>
<td>1.74</td>
<td>1</td>
</tr>
</tbody>
</table>

As described above, ID status was a significant predictor of involvement in productive activities. After step 2, with involvement in productive activities as the dependent variable and both ID status and general maladaptive index scores entered into the model as predictors, the chi-square test was significant (see Table 11). The Wald criterion showed that general maladaptive index scores were a significant predictor of involvement in productive activities; however, with 38
general maladaptive index scores added into the model, ID status was no longer a significant predictor of involvement. The percentage of correct classifications only increased above that of the null model by 4.9% to 66.3%. Block 3 of the model was not significant, indicating that ID status did not moderate the relationship between general maladaptive index scores and involvement in productive activities.

Table 11

*Logistic Regression Analysis with Involvement in Productive Activities as the Dependent Variable and ID Status and Maladaptive Behaviour as Predictor Variables*

<table>
<thead>
<tr>
<th>Step 1 – Test</th>
<th>B</th>
<th>SE B</th>
<th>Wald's χ²</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall model evaluation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wald test</td>
<td></td>
<td></td>
<td>8.57</td>
<td>1</td>
<td>.003</td>
<td></td>
</tr>
<tr>
<td>Goodness-of-fit test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hosmer &amp; Lemeshow</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 1 – Predictor</th>
<th>B</th>
<th>SE B</th>
<th>Wald's χ²</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-0.04</td>
<td>0.27</td>
<td>0.02</td>
<td>1</td>
<td>.90</td>
<td>0.97</td>
</tr>
<tr>
<td>ID Status</td>
<td>1.26</td>
<td>0.45</td>
<td>7.94</td>
<td>1</td>
<td>.005</td>
<td>3.52</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2 – Test</th>
<th>B</th>
<th>SE B</th>
<th>Wald's χ²</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall model evaluation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wald test</td>
<td></td>
<td></td>
<td>5.32</td>
<td>1</td>
<td>.02</td>
<td></td>
</tr>
<tr>
<td>Goodness-of-fit test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hosmer &amp; Lemeshow</td>
<td></td>
<td></td>
<td>3.04</td>
<td>8</td>
<td>.93</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2 – Predictor</th>
<th>B</th>
<th>SE B</th>
<th>Wald's χ²</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.67</td>
<td>0.41</td>
<td>2.64</td>
<td>1</td>
<td>.10</td>
<td>1.96</td>
</tr>
<tr>
<td>ID Status</td>
<td>0.88</td>
<td>0.48</td>
<td>3.37</td>
<td>1</td>
<td>.07</td>
<td>2.41</td>
</tr>
<tr>
<td>Maladaptive Behaviour</td>
<td>0.05</td>
<td>0.03</td>
<td>4.80</td>
<td>1</td>
<td>.03</td>
<td>1.06</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 3 – Test</th>
<th>B</th>
<th>SE B</th>
<th>Wald's χ²</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall model evaluation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wald test</td>
<td></td>
<td></td>
<td>0.04</td>
<td>1</td>
<td>.85</td>
<td></td>
</tr>
<tr>
<td>Goodness-of-fit test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hosmer &amp; Lemeshow</td>
<td></td>
<td></td>
<td>2.94</td>
<td>8</td>
<td>.94</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 3 – Predictor</th>
<th>B</th>
<th>SE B</th>
<th>Wald's χ²</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.60</td>
<td>0.57</td>
<td>1.10</td>
<td>1</td>
<td>.30</td>
<td>1.82</td>
</tr>
</tbody>
</table>
Reasons for Not Participating in Activities

Parents in the ID group and students in the typically developing group were asked the reasons for the student not being involved in activities (see Table 12).

Table 12

<table>
<thead>
<tr>
<th>Reasons Students were not Participating in Activities</th>
<th>Leisure</th>
<th>Employment</th>
<th>Volunteer</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID % (n = 21)</td>
<td>Typical % (n = 0)</td>
<td>ID % (n = 54)</td>
<td>Typical % (n = 16)</td>
</tr>
<tr>
<td>Because of disability</td>
<td>57.1 N/A</td>
<td>46.3 N/A</td>
<td>34.1 N/A</td>
</tr>
<tr>
<td>No interest</td>
<td>19.0 N/A</td>
<td>0.0 18.8</td>
<td>19.5 21.9</td>
</tr>
<tr>
<td>Busy with other activities</td>
<td>0.0 N/A</td>
<td>9.3 50.0</td>
<td>9.8 46.9</td>
</tr>
<tr>
<td>No access</td>
<td>14.3 N/A</td>
<td>7.4 12.5</td>
<td>14.6 28.1</td>
</tr>
<tr>
<td>Other</td>
<td>4.8 N/A</td>
<td>9.3 18.8</td>
<td>9.8 3.1</td>
</tr>
<tr>
<td>Missing Data</td>
<td>4.8 N/A</td>
<td>27.8 0.0</td>
<td>12.2 0.0</td>
</tr>
</tbody>
</table>

*All students in the typical group were involved in social activities and therefore the reasons for not being involved in social activities are not applicable to the typical group.

Due to the structure of the questionnaires, data were only available for leisure (structured and unstructured combined), employment, and volunteer activities. There were no data related to co-op activities. The most common reason given for students with ID not being involved in each of the three activities was their disability and lack of supports for their disability-related needs. In
contrast, typically developing students most commonly reported that they were not involved in employment and volunteer activities due to being too busy with other activities (e.g., school, sports, etc.). All typically developing students were involved in leisure activities, and therefore, there were no reasons for lack of involvement in this type of activity.

**Satisfaction with Interactions**

Independent samples t-tests were conducted to compare scores of the ID and typically developing students for each of the four Interview Schedule for Social Interaction subscales (ISSI; see Figure 2). There was a significant difference in mean scores on the availability of social integration subscale, $t(72) = 4.54, p < .001$, with students in the typically developing group having higher scores ($M = 3.59, SD = 1.72$) than students in the ID group ($M = 1.93, SD = 1.44$).

![Figure 2. Mean scores in the Interview Schedule for Social Interaction subscales.](image-url)
There was also a significant difference in mean scores on the adequacy of social integration subscale, $t(72) = 3.73$, $p < .001$, with students in the typically developing group again having higher scores ($M = 4.41$, $SD = 2.07$) than students in the ID group ($M = 2.57$, $SD = 2.04$). These findings suggest that typically developing students have a greater number of general social interactions in their daily lives and that they are more satisfied with the quality of these interactions than students in the ID group.

There was no difference between the two groups in mean scores on the availability of attachment subscale, $t(72) = 1.80$, $p = .08$. The distribution of the availability of attachment subscale had a substantial negative skew, and a similar result was produced when the data were transformed using a log transformation to correct for the skewness. The typically developing students had higher adequacy of attachment scores ($M = 5.30$, $SD = 2.43$) than the students with ID ($M = 3.93$, $SD = 2.58$), $t(72) = 2.31$, $p = .03$. These findings suggest that students with and without ID did not differ on the number of close personal interactions they had; however, typically developing students were more satisfied with the quality of these interactions than students with ID.
This study compared involvement in productive and leisure activities between high school students with and without ID. In order for individuals with ID to achieve full social inclusion within their communities, it is essential for them to have opportunities to participate in employment, volunteer, and leisure activities within their community. People with ID face many barriers related to involvement in a variety of activities, and, thus, frequency of participation in leisure and productive activities is often low for these individuals. However, without comparison data, it is difficult to conclude whether or not these apparently low frequencies are in fact different from those of typically developing individuals.

Leisure Activities

Involvement in Structured Leisure Activities

In the current study, the hypothesis that fewer students with ID would participate in structured leisure activities than students without ID was not supported. Previous research suggests that involvement in structured leisure activities for individuals with ID is often low; however, these studies generally did not include a comparison group of typically developing individuals (e.g., Buttimer & Tierney, 2005; Orsmond et al., 2004). There were a considerable number of students with ID in the current study who were not participating in structured leisure activities (42.1%) but this number was consistent with the number of typically developing students who were not participating.

Data from both groups of students showed that organized sports were the most common activity. Despite the lack of difference in type and frequency of involvement between the two groups, the setting of the structured leisure activities was considerably different. Nearly three-
quarters of typically developing students who participated in organized sports did so through their high school, suggesting that the school setting plays an important role in contributing to participation in structured leisure activities. In contrast, none of the parents of students with ID reported that their adolescent was involved in a sporting activity through the high school. Fifty percent of students with ID who participated in organized sports did so through Special Olympics, which is a segregated activity (i.e., only for persons with disabilities), and the remaining 50% participated in sports through community organizations. The lack of involvement in school activities for students with ID in the current study suggests that although these students attended regular high schools, they did not fully participate in all of the school activities of typically developing peers. Participation in extra-curricular school activities can act as an important mechanism for social inclusion and can increase feelings of belonging in typically developing students (Strine, 2007). Future research should explore whether this finding applies to students with ID as well, and, if so, policies that aim to increase involvement of students with ID in extra-curricular school activities could foster greater social inclusion for these students.

The current emphasis on integration of people with intellectual disabilities has resulted in a belief that integration is inherently superior to segregation (Cummins & Lau, 2003). Previous research has shown that many individuals with ID primarily interact socially with other individuals with ID, and this is often perceived as less than optimal (Beart et al., 2001; Cutts & Sigafuos, 2001; Emerson & McVilly, 2004; Freeman, 2000). Students in the current study were involved in fully integrated structured leisure activities where they were the only individual present with ID, as well as being involved in segregated structured leisure activities where the majority of the people present had ID. Cummins and Lau argue that full integration as the ultimate goal for people with ID is unrealistic and not always beneficial to these individuals.
While it is important that individuals with ID continue to have choice in their level of integration, the value of involvement in segregated activities must also be realized. Involvement in segregated leisure activities such as Special Olympics or youth groups for individuals with ID provide the opportunity to socialize with peers of a similar developmental level in an environment where individuals with ID can achieve successes and not be burdened by stigmatization from typically developing peers.

**Predictors of Involvement in Structured Leisure Activities**

Individuals with ID report a desire to participate in a greater number of leisure activities and to increase their number of friendships (Beart et al., 2001; Froese et al., 1999). Therefore, the identification of factors that contribute to involvement in structured leisure activities is important. In the current study, level of adaptive functioning was found to be related to involvement in structured leisure activities. This finding is consistent with previous research by Baker (2007) who found that level of adaptive functioning was a significant predictor of involvement in community activities for adults with ID who transitioned out of institutions into community care settings. Participation in structured leisure activities typically requires an individual to have some degree of social and communication skills, which are two important components of adaptive functioning. Therefore, it is not surprising that individuals with higher levels of adaptive functioning are more likely to be involved in structured leisure activities.

**Involvement in Unstructured Leisure Activities**

Unstructured leisure activities refer to relaxed social activities typically with friends, rather than with people who are considered to be one’s peers or acquaintances. Developmental research shows that friendships become increasingly important during adolescence (Hortaçsu et al., 1995; Markiewicz et al., 2006; Repinski & Zook, 2005), and over 90% of typically
developing students in the current study reported spending time in unstructured leisure activities with peers. The difficulty that many individuals with ID have in forming friendships may result in them participating in fewer unstructured leisure activities or involving family members in these activities rather than friends. The current study examined involvement in unstructured leisure activities that did not include family members, and the results showed that there were considerably fewer individuals with ID who participated in this type of activity than typically developing students.

Predictors of Involvement in Unstructured Leisure Activities

Given the previous research showing that individuals with ID primarily interact with others with ID (Beart et al., 2001; Cutts & Sigafoos, 2001; Emerson & McVilly, 2004; Freeman, 2000), the finding in the current study that most individuals with ID participated in unstructured leisure activities with typically developing peers was unexpected. However, the additional finding that adaptive functioning predicted involvement in unstructured leisure activities helps to clarify this result. Individuals with ID who have higher levels of adaptive functioning are likely to have better social skills and to be able to complete more age-appropriate tasks (e.g., going to public places with peers without adult accompaniment). Therefore, they are likely to be more similar to their typically developing peers than are lower functioning individuals with ID. Previous research has shown that similarity between individuals is an important starting point for the formation of friendship (Kandel, 1978), and therefore it is more likely that typically developing adolescents will develop friendships with intellectually disabled adolescents who have higher adaptive functioning than those who have a lower level of functioning.

The unstructured leisure activities that adolescents participate in are generally not scheduled activities, and they do not include an adult leader who guides the participants during
the activity. Instead, the adolescents themselves take on this role. Individuals with ID commonly exhibit some deficits in social skills, and they tend to be recipients, not initiators, of social interactions (Hughes et al., 1999; Mu et al., 2000). Such deficits can make it difficult for a group of adolescents with ID to initiate, organize, and participate in an unstructured leisure activity together. In contrast, when an adolescent with ID is with typically developing peers who are able to perform many of these social tasks for the adolescent with ID, the social skills demands placed on the adolescent with ID are reduced, thereby making it easier to participate in the activity. In summary, social skills impairments might limit adolescents with ID from participating in unstructured leisure activities with others who have ID, therefore reducing the number of opportunities for involvement in this type of activity. Further research is needed to determine whether individuals with ID who have higher levels of adaptive functioning might be more likely to develop friendships with typically developing peers, due to greater similarities between these two groups, and therefore have more opportunity to participate in unstructured leisure activities.

**Productive Activities**

Obtaining employment is important to many students with ID (Cinamon & Gifsch, 2004; Cooney et al., 2006; Katsiyannis et al., 2005), and thus, steps should be taken to help these individuals maximize their employment potential. Research has shown that previous work experience, such as school co-op placements or supported employment, is a strong predictor of obtaining post-graduation employment for the ID population (Reiter & Palnizky, 1996). Furthermore, research with typically developing students and those with ID has shown that participation in volunteer activities can lead to the acquisition of new skills as well as important work-related behaviours and attitudes such as a sense of responsibility, time management skills, and hard work (Krahn et al., 2002; Miller et al., 2002). Taken together, these findings suggest that
involvement in productive activity during high school could be beneficial to students with ID, yet half of students with ID in the current study were not involved in paid employment, co-op placements or volunteer activities.

Involvement in Employment

While many studies have found that employment rates are low among young adults with ID after the transition out of high school, there is limited research available on involvement in employment for adolescents with ID while still in high school. Kraemer and Blacher (2001) reported that nearly half of the 52 individuals with ID whose parents they interviewed had some form of paid employment during high school. In contrast, the current study found that only 5% of high school students with ID were involved in paid employment at the time of the interviews. There are several factors that might contribute to this discrepancy between findings. First, Kraemer and Blacher used a retrospective method of data collection and had individuals report on their employment during the entire high school period. The current study gathered data from one time point only and did not include information about previous employment positions that students might have had prior to the interview. This difference in measurement technique across the two studies could result in considerably different findings. Second, in order to be considered involved in employment in the current study, it was required that the student earn at least minimum wage. Therefore, individuals who were paid less than minimum wage (e.g., $1 per hour) were considered to be involved in co-op/employment training, but not involved in employment. Kraemer and Blacher do not specify whether earning minimum wage or greater was a requirement for employment in their study.

In contrast to the students with ID, the majority of typically developing students were involved in employment. This finding is consistent with previous research that has found that
employment is common during high school, particularly in grade 12 (Bowlby & McMullen, 2002; Creed et al., 2003; Krahn et al., 2002). The current study is the first known study to compare employment rates between high school students with and without ID, and results showed that significantly more typically developing students were employed as compared to students with ID. Given the previous findings that employment is common among typically developing high school students and that rates of employment are low among recent graduates with ID (Katsiyannis et al., 2005; Kraemer & Blacher, 2001; Reiter & Palnizky, 1996), this finding was not surprising.

Considering the difficulties that students with ID face in obtaining paid employment, co-op or employment training experiences that are organized through high schools or community agencies offer invaluable opportunities. In Ontario, many students with ID are in school-to-community classrooms that focus on a successful transition out of high school, which is often defined as obtaining post-graduation employment (Butcher & Wilton, 2008). In addition to social skills and employment related classroom instruction, practical experience in an employment setting can be an important component of the transition process for students with ID (King et al., 2005). Co-op experience also has positive outcomes for typically developing adolescents (Krahn et al., 2002). Yet, less than one-third of students with ID and 6.5% of typically developing students in the present study were participating in a co-op or employment training program. When compared, results showed that more students with ID were involved in co-op or employment training than their typically developing peers. The latter finding should be interpreted with caution however, as it may be due in part to a sampling error. To recruit students for the ID group, invitation packages were provided to teachers, who in turn passed them on to students and parents. This method allowed for the information to be distributed to all eligible
students. In contrast, to recruit students for the non-ID group, the primary researcher spoke at a student assembly during regular school hours, and thus, only students who were present at the assembly were invited to participate in the study. Some high school principals informed the primary researcher that the students who had co-op placements the day of the assembly would not be at the assembly. Thus, it is possible that fewer students without ID who were involved in co-op activities were recruited as compared to students with ID.

Participation in volunteer activities provides a multitude of benefits for individuals with ID, including the acquisition of new skills related to the volunteer work and increased community integration (Choma & Ochocka, 2005; Li et al., 2006; Miller et al., 2002). Volunteer work is also highly valued by the larger community, as is evident by the requirement that all high school students in Ontario complete 40 hours of volunteer work prior to receiving a high school diploma. When the necessary supports for employment or co-op placements are not available, involvement in volunteer work may provide high school students with an alternative form of productive activity. In the current study, there was no difference in the number of students volunteering between the ID and typically developing groups, with less than one-third of students in each group participating in regular volunteer activities at the time they were interviewed. This rate of involvement for typically developing students is lower than that reported in the study by Hall and colleagues (2006) who found that 55% of high school students in Canada volunteer. However, this discrepancy may be due to methodological differences between the two studies. In contrast to the current study, which only included regular volunteer activities that students were participating in at the time of the interview, Hall and colleagues asked students to report on all volunteer activities engaged in over a one year period. Additionally, nearly 30% of typically developing students in the current study reported that they were not involved in volunteer activities because
there were no opportunities within close proximity to their home. This is likely related to the large majority of rural students included in the current study.

With volunteer work being a requirement in Ontario for graduation from high school for both typically developing students and those with ID, it was expected that a greater number of students would be involved in volunteering. However, students have a period of 4 years to complete 40 volunteer hours, and thus it is possible that many of the students interviewed, who were in grade 11 or 12, had already completed most of their volunteer hours, and thus were not regularly participating.

**Predictors of Involvement in Productive Activities**

Kraemer and Blacher (2001) found that adaptive behaviour was related to the type of employment that individuals with severe ID obtained, with higher functioning individuals more often working in supported employment and lower functioning individuals working in sheltered workshops or being unemployed. Due to the small number of students with ID in the current sample who were employed \( (n = 3) \), a productive activities composite variable was created that included involvement in employment, employment training or co-op and volunteer activities. In contrast to the findings of Kraemer and Blacher, it was found that involvement in productive activities was negatively related to maladaptive behaviour, but not to adaptive behaviour. This discrepancy might be due to the inclusion of volunteer and co-op activities in the analyses of the current study. Furthermore, Kraemer and Blacher’s sample only included individuals with severe ID, and therefore their level of adaptive functioning was likely considerably lower than that of many of the students in the current study.

Nearly all of the students with ID in the current study who were involved in productive activities had co-op placements where a teaching assistant or job coach accompanied them, or
they participated in volunteer activities that often included others with ID. Thus, these settings were likely selected to correspond to the abilities of the students with ID. For example, common co-op positions included tasks such as photo-copying or sewing, which do not require high levels of adaptive functioning. The additional presence of a job coach or a volunteer coordinator would help students with skills such as following instructions and staying on task. Furthermore, it is likely that employers at co-op locations and organizers of volunteer activities are more willing to make adjustments to the demands placed on individuals with ID, as these individuals would not be receiving monetary compensation for their work. The extra support provided in co-op and volunteer settings would enable individuals with lower adaptive functioning to participate in these activities.

In contrast to adaptive functioning, maladaptive behaviour was related to involvement in productive activities in the current study. While adjustments can be made in the work setting to accommodate individuals with low adaptive functioning, it is more difficult to accommodate for maladaptive behaviour. Actions such as self-injurious behaviour, property destruction, and stereotypic movements can be disruptive to co-workers, customers, and fellow volunteers, and, even if frequency of maladaptive behaviours is low, co-workers perceive it as being an important issue to address (Ohtake & Chadsey, 2003).

Reasons for Lack of Involvement in Activities

Many barriers that inhibit people with ID from participating in social and productive activities are identified in the ID literature (Abbott & McConkey, 2006; Beart et al., 2001; Cinamon & Gifsch, 2004; Millington et al., 1994; West et al., 1998). In the current study, parents most commonly reported that their adolescent with ID was not involved in activities because of disability-related impairments or lack of support for disability-related needs. Typically
developing students, on the other hand, most commonly mentioned lack of time as the reason for not being involved in specific activities. This difference in reasons between the two groups suggests that despite the community supports that are in place to facilitate the social inclusion of individuals with ID, the needs of these individuals are still not being met fully.

*Effect of Demographic Variables on Activity Involvement*

There were significant differences in student age, student gender, and parent income between the ID and typically developing groups. It is possible that these differences between the groups were responsible for the differences found in involvement in employment and unstructured leisure activities between the two groups; however a review of the literature would suggest otherwise. Previous research regarding time spent in unstructured leisure activities and employment has not found gender differences in the amount of times spent in these activities (Barnes, Hoffman, Welte, Farrell, & Dintcheff, 2007; Hilbrecht, Zuzanek, & Mannell, 2008). Thus, it is unlikely that the gender differences in the current sample were the cause of the differences in involvement in unstructured leisure activities and employment. Furthermore, given that past research (Cook, 1995) has not found differences in family income between adolescents who are employed and those who are unemployed, it is unlikely that differences in parent income in this study were the cause of the differences in involvement in employment by students with and without ID. Finally, although involvement in employment tends to increase with age (Barnes et al., 2007), students with ID in this study, who were older on average than the typically developing students, were less likely to be employed.

*Satisfaction with Social Interactions*

Satisfaction with both close personal interactions and more casual interactions was examined in the current study. When asked about the number of close personal interactions they
had, students with and without ID did not differ; however, students with ID were less satisfied with the quality of their close personal interactions than typically developing students. Further research is needed to determine the cause of this difference in satisfaction between the two groups. Given the importance of friendships during adolescence and the declining influence of parents, (Hortaçsu et al., 1995; Markiewicz et al., 2006; Repinski & Zook, 2005), future research could examine with whom adolescents with and without ID have close interactions (i.e., peers, family members, other adults, etc.) and how this relates to their satisfaction with the quality of these interactions.

Students with ID reported having fewer casual interactions with people in the community (e.g., people whom they know and say hello to) and being less satisfied with the quality of these interactions than typically developing students. Further research is needed to determine whether this difference is related to involvement in activities. Fewer students with ID participated in activities (e.g., employment and unstructured leisure activities) than typically developing students, which could thus limit their opportunities to meet and interact with people on a daily basis. Additionally, despite their involvement in structured leisure and volunteer activities, it is unclear how well the adolescents with ID were socially involved in these activities as opposed to merely physically participating. Deficits in social skills, such as initiating social interactions (Hughes et al., 1999; Mu et al., 2000), as well as negative attitudes towards individuals with ID held by typically developing peers might limit social interactions with others who are involved in activities.

Limitations and Future Directions

Sample
In the present study, the Interview Schedule for Social Interaction (ISSI) was only completed by students with ID if their parents indicated that the student would be able to complete an interview. Thus, the data are not representative of the entire sample. The group of students who were interviewed had higher adaptive functioning scores and fewer maladaptive behaviours than the group of students who were not able to complete the interview. It is not clear whether the findings from the ISSI are applicable to adolescents with ID who have lower adaptive functioning and more maladaptive behaviour.

The entire sample of typically developing students was recruited from schools that primarily include individuals who live in rural or small town settings, and approximately 40% of the students in the ID group lived in rural or small town settings. This limits the generalizability of the results to students who live in large urban centres. Access to certain activities can be restricted for those who live outside of urban centres for a variety of reasons. With fewer businesses within proximity of a student’s home, there may be fewer opportunities to obtain employment. Likewise, there would be limited variety in possible volunteer activities. Given that there is no material reward for participating in volunteer activities, volunteering is highly dependent on personal interest in the activity. With fewer options available to students in rural settings, it is less likely that a volunteer position of interest would be available, thus potentially reducing participation in volunteer activities. This is reflected in the current study in that nearly 30% of typically developing students indicated that they were not involved in volunteer activities because there were no available opportunities, particularly those of interest. Lack of transportation can also inhibit participation in activities for rural students, particularly high school students who may not yet have a driver’s license or a vehicle available to drive. These barriers could result in fewer students in rural or small town settings being involved in activities, as
compared to students who live in larger urban centres. Thus, had the sample been primarily based on students with and without ID in urban settings, it is possible that the overall frequency of student involvement in activities would have been higher for both students with and without ID.

Measures

Since the 1980s, an emphasis has been placed on obtaining the perspective of individuals with ID through self-report measures, as opposed to relying solely on proxy reports, particularly when measuring subjective constructs (e.g., Froese et al., 1999; Gaudet, Pulos, Crethar, & Burger, 2002; Lindsay, Michie, Baty, Smith, & Miller, 1994; McVilly, Burton-Smith, & Davidson, 2000). This poses challenges for the researcher in developing methods of data collection that are accessible for individuals with ID. When using self-report measures, the respondent must be capable of understanding the question being asked and of developing and communicating an appropriate response. This can place considerable demands on the individual’s short- and long-term memory, as well as their ability to attend (Hartley & MacLean Jr., 2006). Previous research has shown that problems with acquiescence, recency response bias, reliability, and validity can occur when using self-report measures with individuals with ID (Gaudet et al., 2002; Heal & Sigelman, 1995; Stancliffe, 2000). Thus, when conducting research with this population, it is essential to give careful consideration to the measures used, and to select measures that have been developed for, and validated on, an ID population. The archival data for students with ID that was available for use in the current study included the Interview Schedule for Social Interaction short form (ISSI). Although the full version of the ISSI has been used in one previous study with individuals with ID (Knapp et al. 1992) it was not properly validated with this population prior to its use. The absence of research on the psychometric properties of the ISSI when used with
individuals with ID suggests that the findings related to the ISSI from the current study should be interpreted with caution.

A further limitation of this study relates to the instruments used to measure involvement in activities. The Activity Survey that was used to gather information about involvement in activities asked parents or students to list the education, employment, volunteer, and leisure activities in which the students were participating. No definitions were provided for the different types of activities and no probing questions were used to identify additional activities in which students might have been involved. This approach may have been problematic because people may have under-reported their activities due to forgetting, or they may have focused on a specific type of activity at the expense of mentioning involvement in other activities. This issue is particularly relevant for the leisure activities category where respondents may have focused on reporting the structured leisure activities in which they were involved and then failed to report the less definitive unstructured leisure activities. While it is useful to use an open-ended method of data collection so as not to restrict the activities included in the measure, it would be useful to additionally have a list of closed-ended questions about common activities to facilitate participants in generating a list.

It was originally intended that the amount of time spent in each type of activity would be examined as this provides richer information than using a dichotomous yes/no variable to indicate involvement in activities. Unfortunately, due to errors in data collection of the archival ID group data, it was not possible to perform such analyses. While it is of interest to know the numbers of students involved in different types of activities, information about time spent in activities would provide a more in-depth understanding of what high school students with and without ID are doing.
Future Directions

Community integration and social inclusion of individuals with ID is the current paradigm in Ontario, and this is evidenced through the emphasis on integrated classroom settings, deinstitutionalization, and the development of community support networks for individuals with ID and their families (Government of Ontario, Ministry of Community and Social Services, 2006d, 2008). It has been argued however, that the mere presence of individuals with ID in the community does not constitute true integration and inclusion (Cummins & Lau, 2003). Rather, in order to achieve this goal, individuals with ID must also have opportunities to participate in socially valued and meaningful activities and to interact in a meaningful way with others in these activities. The current study explored the involvement of high school students in socially valued activities; however, it did not examine whether individuals with ID were interacting socially with others who were involved in the activities, or whether they were just physically present during the activities. It is important to facilitate involvement of individuals with ID in both productive and leisure activities, but mere involvement should not be the ultimate goal. An exploration of the social interaction that occurs between individuals with ID and other individuals who are involved in activities is warranted for both integrated and segregated activities that high school students with ID participate in. Furthermore, future research should explore factors that facilitate social inclusion for individuals with ID in both productive and leisure activities.

The current study found that maladaptive behaviour is negatively related to involvement in productive activities; however, the direction of this relationship cannot be determined based on the data from the current study. Longitudinal research is needed to determine whether maladaptive behaviour prevents involvement in activities, whether involvement in activities leads
to reductions in maladaptive behaviour, or whether there is a reciprocal relationship between these two variables.

Due to the sample size in the current study, only general maladaptive index scores were examined as predictors of involvement in activity. These scores are a composite of internal, external and asocial maladaptive behaviours, and thus people can have similar general maladaptive index scores but can exhibit very different types of maladaptive behaviour. Each of the three types of maladaptive behaviour could have different implications for the work environment, and, therefore, future research is needed to explore the relationship between specific types of maladaptive behaviour and involvement in productive activity. If specific maladaptive behaviours are identified as problematic, then employers, the education system, support workers, and agencies can work towards developing strategies that minimize the negative effects of these behaviours in the work environment.

Considering that research can impact public policy related to intellectual disabilities, it has been suggested that an integral part of ID research should be the inclusion of the opinions of individuals with ID, as these are the people who policy changes will impact the most (Cummins & Lau, 2003). The current study did include student interviews; however, students with ID were not asked about their involvement in activities because the measure used to assess involvement (i.e., Activity Survey) includes some items that require numerical responses that may have been challenging for students with ID (e.g., “how many hours per week are spent in each activity?” and “how many people with and without ID participate in the activity?”). Previous research has shown that individuals with ID are able to identify their preferences for involvement in activities, as well as identifying potential barriers to involvement (Beart et al., 2001). Future research related to involvement in activities should focus on obtaining the perspectives of individuals with
ID on topics such as the type of productive and leisure activities they would like to participate in, who they would like to do these activities with, and what changes can be made to facilitate their involvement.

In the initial proposal of the current study, it was intended that the relationship between involvement in activities and satisfaction with social relationships would be examined. Due to missing information in the archival ID group data, such analyses were not possible. Future research exploring whether participation in specific types of activities (e.g., volunteering) increases social interaction and a sense of belonging for individuals with ID could lead to practices that further promote involvement in such activities.

Theoretical Implications

Roles are important for adolescent development. During adolescence, individuals experience changes and adjustments in three major types of life roles, including social roles (i.e., friendships), productivity or occupational roles (i.e., employment, education, and volunteer activities), and leisure roles (Miezio, 1983 as cited in King et al., 2005). A successful role transition results when adolescents modify their current roles or adopt new roles that match their needs and abilities (King et al., 2005). Adolescents with ID can face challenges in exploring new roles when they have limited access to productive and leisure activities. Without having opportunities to work and participate in unstructured leisure activities, adolescents with ID might be inhibited from exploring occupational, leisure, and social roles. Further research is needed to address the impact of participation in activities on role formation for adolescents with ID.

Applied Implications

Efforts to provide a more inclusive environment in extra-curricular high school activities could provide students with ID with more opportunities to participate in activities, in addition to
the benefit of increased socialization that stems from greater involvement. To facilitate inclusion, changes are necessary at both the student level and the teacher/administration level. Educating typically developing students about individuals with ID can help to promote positive attitudes towards disability (Rillotta & Nettelbeck, 2007). Furthermore, if teachers and school administrators actively promote the inclusion of individuals with ID, it could help typically developing students to recognize ways in which individuals with ID can be included. In Ontario, students with ID typically attend regular high schools and many are integrated into regular classrooms for at least a portion of the school day. Despite this educational inclusion, none of the students with ID in the current study participated in school-based activities such as high school sports, band, or students’ council. In contrast, many of the typically developing students were involved in organized leisure activities through the school. This suggests that changes are necessary to promote full social inclusion of students with ID in the high school setting.

Given the importance that many adolescents with ID place on productive activity and the multitude of benefits they can experience from involvement in such activities (Butcher & Wilton, 2008; Cinamon & Gifsch, 2004; Cooney et al., 2006; Duvdevany & Arar, 2004; Katsiyannis et al., 2005; Kraemer et al., 2003; Li et al., 2006; Stephens et al., 2005), additional community supports are necessary to facilitate students becoming involved in productive activities. Half of the students with ID in the current study were not involved in any form of productive activity (employment, volunteer, or co-op), and the primary reason for lack of involvement reported by parents was students’ disability and lack of support for their disability-related needs. In Ontario, people with ID can obtain financial support through the Ministry of Community and Social Services to help them gain the necessary supports to acquire employment. Two such programs include the Ontario Disability Support Program (ODSP) – Employment Supports, which is
provided with the intent that the recipient is working towards competitive employment (Government of Ontario, Ministry of Community and Social Services, 2006c), and The Passport Initiative, which is intended for individuals with ID who have left school (Government of Ontario, Ministry of Community and Social Services, 2007). Neither of these programs is sufficient to meet the needs of adolescents with ID in high school as these individuals are ineligible for the Passport funding and many individuals with ID may never be able to participate in competitive employment, which can prevent them from obtaining ODSP Employment Supports. Special Services at Home (SSAH) is funding that is provided directly to families of individuals with ID to enable them to pay for a variety of supports (Government of Ontario, Ministry of Community and Social Services, 2006b). Such funding can be used by parents of adolescents with ID to obtain job coaches that would enable their child to participate in supported employment. However, the burden is placed on the parents to find and hire an appropriate job coach, which can be cumbersome for parents who are already busy. The development of community support programs, such as volunteer opportunities tailored to meet the needs of people with ID, would help adolescents with ID become involved in productive activity while minimizing the amount of parental support required.

Conclusions

The findings from this study offer valuable information about the participation of high school students in leisure and productive activities in South Eastern Ontario. The discrepancy found in involvement in employment and unstructured leisure activities between students with and without ID highlights the need for further research and community initiatives to promote greater inclusion of individuals with ID. Additionally, the findings related to predictors of involvement in activities provide direction for future research relating to barriers to involvement.
The similar level of involvement in structured leisure and volunteer activities between students with and without ID suggests that movement towards the inclusion of individuals with ID in South Eastern Ontario is headed in the right direction; however, it is clear that further community supports are necessary for high school students with ID to achieve full social inclusion.


Appendix A: Information Letter and Consent Form for Students

Information Sheet for Students:

Social Interaction and Participation in Activities for Students with and without Intellectual Disabilities

You are invited to help us with a Queen’s University project.

What is this project about?
- What do high school students like to do outside of school?
- Do students with disabilities do the same things as other high school students?

Who would we like to talk to?
- Students in grades 10, 11 and 12 and their parents.

How long will it take?
- We will talk to you at school for about 30 minutes.
- When we are done, you will get a $10.00 gift certificate.

What will you be asked to do?
- Answer some questions about what you like to do outside of school (e.g., hang out with friends, work, sports, etc.) and who you do these things with.

What will happen to your information?
- Everything you say will be kept private.
- No one will see your answers except the researcher and her supervisor.
- We will not tell your parents or teachers any of your answers.
- Your name won’t be on anything except this piece of paper.
- The information will be kept in a locked filing cabinet.
- When the information is put in the computer there will be no names and it will have a password.
- We will not tell anyone about you without your permission.
- When we write a report about our findings your name will not be in it. No one will know your answers.
- We will give a copy of the report to students, schools and other people in the project.
- If the researcher thinks that child abuse is happening, she has to report it by law.
How can you do this project?

- It is your choice if you want to do this project.
- You do not have to answer all the questions if you don’t want to.
- You can quit the project at any time without punishment.

- If you want to do this project, you will need to:
  1) fill out the next two pages of this form,
  2) give one copy to the researcher and keep one copy for yourself,
  3) get your parent/guardian to sign the parent information sheet,
  4) return the signed parent information sheet to the researcher.

Please give us your address and phone number so we can set up a time to talk to you and your parent.

Social Interaction and Activities in Adolescence Project: Consent Form

- I have read the information sheet about the Social Interaction and Participation in Activities for Students with and without Intellectual Disabilities project.
- I understand what I read.
- I have had the project explained to me.
- I have had my questions about the project answered.
- I understand that I do not have to do this project if I don’t want to. I can quit the project any time without any penalties.
- I understand that what I say will be kept private. I will get a copy of this consent form to keep.

If at any time I have questions or problems, I can phone:

- Julie Burbidge, Project Leader: (613) 533-3059
- Dr. Patricia Minnes, Project Supervisor: (613) 533-2885
  Department of Psychology
  Humphrey Hall
  62 Arch Street
  Kingston, ON K7L 3N6
- Hélène Ouellette-Kuntz, SEO CURA in ID Director: (613) 548-4417 ext. 1198 or 1-866-656-4417 ext. 1198
- Dr. Vern Quinsey, Department Head of Psychology, Queen’s University: (613) 533-2486
If I have questions about my rights as a research subject I can contact:

Dr. Albert Clark, Chair, Queen’s University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board at (613) 533-6081

Participant Name (Please Print): ___________________________________________________

Address:______________________________________________________________________

_______________________________________________________________________

Phone Number: ________________________________________________________________

By signing this consent form, I am saying that I agree to do this study.

__________________________________________  ______ ___________
Signature of Participant     Date

STATEMENT OF INVESTIGATOR:
I have carefully explained to the participant the nature of the above research study. I certify that, to the best of my knowledge, the participant understands clearly the nature of the study and demands, benefits, and risks involved to participants in this study.

__________________________________________  _________________
Signature of Principal Investigator   Date
Appendix B: Information Letter and Consent Form for Parents

Information Sheet for Parents:

Social Interaction and Participation in Activities for Students
with and without Intellectual Disabilities

You are invited to help us with a project Queen’s University project.

What is this project about?
- What do high school students like to do outside of school?
- Do students with disabilities do the same things as other high school students?

Who would we like to talk to?
- Students in grades 10, 11 and 12 and their parents.

How long will it take?
- We will talk to your child at school for about 30 minutes.
- When we are done, your child will receive a $10.00 gift certificate.
- We will contact you via telephone to complete a 5-10 minute interview.
- When we are done, you will receive a small gift.

What will your child be asked to do?
- Answer some questions about what he/she likes to do outside of school (e.g., hang out with friends, work, sports, etc.) and who he/she does these things with.

What will you, the parent, be asked to do?
- We will ask you some questions about your child’s skills and your experiences as a parent.

What will happen to your child’s information?
- Everything you and your child say will be kept private.
- No one will see your answers except the researcher and her supervisor.
- We will not tell your child any of your answers.
- Your name will not appear on anything except this piece of paper.
- The information will be kept in a locked filing cabinet.
- When the information is put in the computer there will be no names and it will have a password.
- We will not tell anyone about you or your child without your permission.
- When we write a report about our findings your name will not be in it. No one will know your answers.
- We will give a copy of the report to students, schools and other people in the project.
- If the researcher suspects child abuse, she has to report it by law.

How can you and your child become part of this study?
- It is your choice if you want to agree to you and your child participating in this project.
- You do not have to answer all the questions if you don’t want to.
- You and your child can quit the project at any time without punishment.
- If you and your child want to participate in this project, you will need to:
  1) sign and date the next two pages of this form,
  2) keep one page for yourself and give the other copy to your child who will return it to the researcher.
- The researcher will then talk to your child at school and phone you to complete a telephone interview.

Social Interaction and Activities in Adolescence Project: Consent Form

- I have read the information sheet about the Social Interaction and Participation in Activities for Students with and without Intellectual Disabilities project.
- I understand what I read.
- I have had the project explained to me.
- I have had my questions about the project answered.
- I understand that I do not have to do this project if I don’t want to. I can quit the project any time without any penalties.
- I understand that what I say will be kept private. I will get a copy of this consent form to keep.

If at any time I have questions or problems, I can phone:

- Julie Burbidge, Project Leader: (613) 533-3059
- Dr. Patricia Minnes, Project Supervisor: (613) 533-2885
  Department of Psychology
  Humphrey Hall
  62 Arch Street
  Kingston, ON K7L 3N6
If I have questions about my rights as a research subject I can contact:

Dr. Albert Clark, Chair, Queen’s University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board at (613) 533-6081

By signing this consent form I am saying that I agree to participate in this project. I am also saying that I agree to let my child participate in this project.

__________________________________________  _________________
Signature of Parent/Guardian             Date

STATEMENT OF INVESTIGATOR: (Researcher signs this part)
The nature of the above research study has been explained to the participant. I certify that, to the best of my knowledge, the participant understands clearly the nature of the study and demands, benefits, and risks involved to participants in this study.

__________________________________________  _________________
Signature of Principal Investigator      Date
Appendix C: Student Demographic Questionnaire

Student Demographic Questionnaire

1) Gender: _____ Male  _____ Female

2) Birth date: ________ / __________
   month        year

3) Who lives in your home with you?

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Gender</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4a) Do you or anyone in your home have a disability?
   _____ Yes
   _____ No (if no, skip question 5b)

4b) Please enter the information about each person currently living in your home who has a disability.

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Type of Disability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix D: Parent Demographic Questionnaire

Parent Demographic Questionnaire

1) Gender: _____ Male  _____ Female

2) Birth date: __________ / __________
   month       year

3) Marital status:   _____ Single       _____ Remarried
                     _____ Married       _____ Widowed
                     _____ Separated       _____ Divorced
                     _____ Common Law Partner

4) Relationship with student:   _____ Parent
                                _____ Guardian
                                _____ Other (please specify) __________________________

5) Highest level of education completed:
   _____ Less than grade 9          _____ Community college certificate
   _____ Grade 9 (Jr. high school)  _____ University degree
   _____ Grade 10 or 11 (partial high school)  _____ Some post-graduate training
   _____ High school diploma        _____ Graduate or professional degree
   _____ Some college (at least one year)

6) Occupation or job title: ____________________________________________________

7) Job description: ____________________________________________________________

8) Annual household income range:
   _____ $25,000 or less          _____ $65,001 - $75,000
<table>
<thead>
<tr>
<th>Income Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>$25,001 - $35,000</td>
</tr>
<tr>
<td>$35,001 - $45,000</td>
</tr>
<tr>
<td>$45,001 - $55,000</td>
</tr>
<tr>
<td>$55,001 - $65,000</td>
</tr>
<tr>
<td>$75,001 - $85,000</td>
</tr>
<tr>
<td>$85,001 - $95,000</td>
</tr>
<tr>
<td>$95,001 or more</td>
</tr>
</tbody>
</table>
Appendix E: Activity Survey

Activity Survey

Medical Services

1) Do you see a family physician on a regular basis (i.e., at least once a year)?
   _____ Yes   _____ No   If no, why not?
   _____ only go when needed
   _____ no family physician available
   _____ choose not to go
   _____ other (please explain) _____________________

2) How well are your medical needs being met by your family physician?
   
   1  2  3  4  5
   Not at all  A little  Moderately  Mostly  Completely

3) Are there any medical supports you feel that you need but are not currently receiving?
   _____ No
   _____ Yes (please describe)
   __________________________________________________________

4) Do you have any additional medical needs that require a medical specialist?
   _____ No   _____ Yes (please describe) __________________________

5) Do you see a specialist for these needs?
   _____ Yes   _____ No   If no, why not?
   _____ choose not to go
   _____ no need
   _____ monitored by family physician
   _____ other (please explain) _____________________
6) Are there any medical supports you feel that you need but are not currently receiving?
    _____ No
    _____ Yes (please describe)
    __________________________________________________________

Dental Services
1) Do you see a dentist on a regular basis (i.e., at least once a year)?
    _____ Yes     _____ No     If no, why not?
    _____ no dentist is available
    _____ choose not to go
    _____ other (please explain) _______________________

2) How well are your dental needs being met?

    1      2      3      4      5
    Not at all   A little   Moderately   Mostly   Completely

3) Are there any dental supports you feel that you need but are not currently receiving?
    _____ No
    _____ Yes (please describe)  ________________________________

Education
1) What school and educational interest classes you are currently enrolled in? How many hours per week do you spend in each class.

<table>
<thead>
<tr>
<th>Class</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

86
2) Do any of your classes include people with a disability?
   _____ No      _____ Yes      If yes, how many with a disability? _____
   How many without a disability? _____

3) How well are your educational needs being met?

   
   
   
   
   
   
   
   1 2 3 4 5
   Not at all  A little  Moderately  Mostly  Completely

4) Are there any educational supports you feel that you need but are not currently receiving?
   _____ No
   _____ Yes (please describe)  ________________________________

   Employment

1) Are you employed?
   _____ Yes      _____ No      If no, why not? ________________________________

2) Where do you work and how many hours per week do you work?

   
   
   
   

   
   

   

3) Do any of your jobs include people with a disability?
   _____ No      _____ Yes      If yes, how many with a disability? _____
   How many without a disability? _____

4) How well are your employment needs being met?
5) Are there any employment supports you feel that you need but are not currently receiving?
   _____ No
   _____ Yes (please describe)  ____________________________________________

Volunteering
1) Do you participate in volunteer activities?
   _____ Yes   _____ No   If no, why not? _________________________

2) If yes, what do you do and how many hours per week?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3) Do any of your volunteer activities include people with a disability?
   _____ No   _____ Yes   If yes, how many with a disability? _____
   How many without a disability? _____

4) How well are your volunteering needs being met?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>A little</td>
<td>Moderately</td>
<td>Mostly</td>
<td>Completely</td>
<td></td>
</tr>
</tbody>
</table>

5) Are there any volunteering supports you feel that you need but are not currently receiving?
   _____ No
Social Activities with Others

1) Do you participate in social activities?
   _____ Yes  _____ No  If no, why not? ________________________________

2) What types of social activities do you do? How many hours per week?

<table>
<thead>
<tr>
<th>Social Activity</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3) Do any of these social activities include people with a disability?
   _____ No  _____ Yes  If yes, how many with a disability? _____
   How many without a disability? _____

4) How well are your social needs being met?

   1  2  3  4  5
   Not at all  A little  Moderately  Mostly  Completely

5) Are there any social supports you feel that you need but are not currently receiving?
   _____ No
   _____ Yes (please describe) ________________________________

Leisure Activity Alone or with Family
1) What leisure activities do you do alone or with family? How many hours per week?

<table>
<thead>
<tr>
<th>Leisure Activity</th>
<th>Alone</th>
<th>With Family</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2) Do any of these leisure activities include people with a disability?
   ____ No       ____ Yes
   _____ If yes, how many with a disability? _____
   _____ How many without a disability? _____

3) How well are your leisure needs being met?

   1   2   3   4   5
   Not at all   A little   Moderately   Mostly   Completely

4) Are there any leisure supports you feel that you need but are not currently receiving?
   ____ No
   ____ Yes (please describe) ____________________________________________________________________

Religious Activity
1) Do you participate in any religious activities?
   ____ Yes       ____ No
   _____ If no, why not? ________________________________

<table>
<thead>
<tr>
<th>Religious Activity</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

90
2) Do any of these religious activities include people with a disability?
   _____ No  _____ Yes  If yes, how many with a disability? _____
   How many without a disability? _____

3) How well are your religious needs being met?

   1  2  3  4  5
   Not at all  A little  Moderately  Mostly  Completely

4) Are there any religious supports you feel that you need but are not currently receiving?
   _____ No
   _____ Yes (please describe)  ________________________________