A COMPARISON STUDY OF DEPRESSION, DAILY HASSLES, AND SOCIAL SUPPORT IN ADOLESCENTS WITH AND WITHOUT INTELLECTUAL DISABILITIES

by

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Abstract

This study examined depression, social support, and daily hassles in a school-based sample of 50 adolescents with mild to moderate intellectual disabilities (27 males, 23 females) and an age- and gender-matched group of 50 adolescents without intellectual disabilities. They included students in grades 8 to 12, ages 13 to 19 years. Data were collected at 14 secondary schools in 3 school districts in the Greater Vancouver Regional District of British Columbia, Canada.

Depressed mood, daily hassles, and perceived social support were assessed using 3 self-report measures: the Reynolds Adolescent Depression Scale (RADS; Reynolds, 1986a), Adolescent Hassles Inventory (AHI; Reynolds & Waltz, 1984a, 1988), and Adolescent Support Inventory (ASI; Reynolds & Waltz, 1984b, 1988), respectively. Adolescents with intellectual disabilities were compared to their peers without intellectual disabilities on total mean scores for the 3 measures. Males and females were also examined separately for each question.

Results of t-tests and 2 x 2 ANOVAs indicated that adolescents with intellectual disabilities endorsed a significantly higher level of depressive symptomatology than their peers without intellectual disabilities (p < .05). Gender differences were also found, with females evidencing greater depression scores in both groups (p < .05). Also, males with intellectual disabilities reported a significantly lower level of perceived social support than their same-gender peers without intellectual disabilities (p < .05). No group or gender differences were found in amount of reported daily hassles.

Results of bivariate correlations suggested a positive relationship between depressed mood and daily hassles, as well as a negative relationship between depressed mood and perceived social support for both adolescents with and without intellectual disabilities. No significant differences in these relationships were noted for either group or gender.
The evidence presented in this study highlights the need for socio-environmental variables such as perceived social support to be considered key factors associated with depressed mood in adolescents with intellectual disabilities. Future investigations should employ prospective or longitudinal study designs to allow for an examination of directionality and/or buffering effects in the relationships among life stress, social support, and depressed mood. Previous research that have employed these methods with adolescents without intellectual disabilities have contributed greatly to our understanding of depression in adolescence. Corresponding research for adolescents with intellectual disabilities is warranted to identify some of the underlying factors causing or exacerbating depression, and to develop improved methods of supporting these individuals through prevention and intervention programs.
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A Comparison Study of Depression, Daily Hassles, and Social Support in Adolescents with and without Intellectual Disabilities

INTRODUCTION

CHAPTER 1

Introduction

The period of adolescence represents a time of heightened stress related to changes, both expected and unexpected, associated with physical, cognitive, and socio-emotional development (Morrison, Laughlin, Smith, Ollansky, & Moore, 1992; Riesch, Jacobsen, & Tosi, 1994). Perhaps because of all these changes, adolescents seem to be particularly vulnerable to the adverse effects of stressful events (Compas, Wagner, Slavin, & Vannatta, 1986b). While depression should not be perceived to be a normal part of adolescence (Reynolds, 1987), research has shown that the prevalence of depression increases significantly during this time, with females showing a disproportionate increase over males (Kazdin, 1988, as cited in Manikam, Matson, Coe, & Hillman, 1995). Epidemiological studies have indicated that 12% - 18% of adolescents endorse a clinical level of depressive symptomatology (Reynolds, 1983, as cited in Reynolds, 1987). These figures suggest that depression is a major mental health concern among adolescents. Researchers, however, did not always believe this to be the case. It was not until the late '70s that depression was widely recognised in children and adolescents, and expressed in a manner similar to that of adults (Reynolds, 1987). General recognition of depression in individuals with intellectual disabilities has been even more gradual.

Background of the Study

Although the first reports describing depressive symptomatology in persons with intellectual disabilities appeared prior to the twentieth century (Clouston, 1883, as cited in Matson & Barrett, 1982; Hurd, 1888; Reynolds & Baker, 1988), it was not until the 1960s that a systematic investigation of psychopathology (including depression) in persons with intellectual
disabilities was undertaken by researchers such as Berman (1967) and Gardner (1967) (Reynolds & Baker, 1988). Despite this long history of research, Sovner & Hurley's (1983) review of published cases investigating "affective psychoses" in persons with intellectual disabilities illustrated that, as recently as 20 years ago, many professionals continued to deny the coexistence of affective illness and intellectual disability. This finding is ironic given the fact that empirical evidence has indicated that persons with intellectual disabilities manifest the full range of psychiatric disorders, including depression (Kazdin, Matson, & Senatore, 1983; Matson & Barrett, 1982).

The majority of psychiatric diagnostic categories cited in the Diagnostic and Statistical Manual of Mental Disorders -- third and fourth editions (American Psychiatric Association, 1980; 1987; 1994) -- have been recognised as being present among children and adolescents with mild to severe levels of intellectual disability, with these individuals exhibiting more difficulties with anxiety, depression, withdrawal, aggression, and self-injury (including suicidal behaviour), than their peers without intellectual disabilities (Dosen & Gielen, 1993; Guetzloe, 1991; Hodapp & Dykens, 1996; Jacobsen, 1982). Depressed mood is among the most common of psychiatric symptoms experienced by persons with intellectual disabilities (Kazdin et al., 1983; Laman & Reiss, 1987; Sovner & Hurley, 1983).

Although the prevalence of depression in persons with intellectual disabilities has generally been considered higher than that found in the general population, until recently few empirical studies existed to validate these beliefs (Meins, 1993). This especially holds true for depression studies that include special education students as participants. Typically, students attending special education classes have been excluded from prevalence studies; when they have been included, demographic characteristics, such as their class placement, have been omitted (Guetzloe, 1991). Results from existing prevalence studies reveal that the presence of psychiatric disorders in persons with intellectual disabilities has been estimated to range between 7% - 60%
(Hodapp & Dykens, 1996; Matson, Barrett, & Helsel, 1988), which roughly translates to a rate of up to three to four times higher than that found in persons with an IQ of 70 or above (APA, 1994; Gillberg, Persson, Grufman, & Themner, 1986; Helsel & Matson, 1988; Matson et al., 1988; Menolascino & Fleisher, 1993; Reynolds & Miller, 1985; Senatore, Matson, & Kazdin, 1985).

This prevalence rate, however, is seen to vary according to residential setting. While the rate for institutionalised populations is reported to be 40% or greater, the rate found in community populations ranges from 10% - 35% (Campbell & Malone, 1991; Matson & Frame, 1986; Ruedrich & Menolascino, 1984). The frequency with which depression occurs in persons with intellectual disabilities is difficult to ascertain, however, due to the differences regarding definition, diagnostic criteria, assessment methods (most diagnostic instruments were developed for individuals without intellectual disabilities), and sampling in each study conducted. Some researchers, for example, suspect that the incidence of certain types of psychopathology (i.e., depression) may be largely underestimated in community samples due to the reluctance, ignorance, and/or lack of experience of many mental-health professionals (Reynolds & Baker, 1988; Tanguay & Szymanski, 1984), and/or the limited psychiatric services available to persons with intellectual disabilities (Kazdin et al., 1983).

The high prevalence rate of depression in persons with intellectual disabilities points to the need for investigating causal and/or associated variables of depression, potential factors that may differentially affect or exacerbate depression in this population. Examining the relationships among these factors in adolescents with intellectual disabilities may enhance our understanding of the nature of depression in this population and provide mental health professionals, school personnel, and parents with valuable information as to how to better support these individuals in their everyday lives.
As previously mentioned, the time of adolescence represents a time of major change. Two areas of change are perceptions of social support and experiences of stressful life events. Social support undergoes dramatic changes during adolescence (Pikó, 1998). While parents remain an important source of support, peer relationships become increasingly important (Morrison et al., 1992). Adolescents spend more time with their peers, and look to them "as normative reference points, and as sources of approval and support" (Feldman, Rubenstein, & Rubin, 1988, pp. 281 - 282). As such, "peers make an increasingly important contribution to adolescents' social adaptation" (Feldman et al., p. 281).

Adolescents with intellectual disabilities, however, may have fewer peers from whom they can receive support, and as such, may have a more limited source of support available to them (Harry, 1998). Often, because of their limitations in social skills (as well as limited opportunities to socialise with peers), persons with intellectual disabilities have difficulties establishing and maintaining relationships that will not only provide them with much needed support (Morrison et al., 1992), but also provide them with opportunities to develop social skills (Grenot-Scheyer, Staub, Peck, & Schwartz, 1998; Zetlin & Murtaugh, 1988) and social behaviour (Grenot-Scheyer et al., 1998). A closer look reveals that the social support networks of persons with intellectual disabilities consist primarily of family members and family friends (Harry, 1998; Lunsky & Benson, 1999; Rosen & Burchard, 1990; Wenz-Gross & Siperstein, 1996), as well as other students in self-contained classrooms (Harry, 1998).

Until a decade ago, little empirical knowledge was available concerning the everyday stresses of adolescence (Kanner, Feldman, Weinberger, & Ford, 1987; Rowlison & Felner, 1988). Now, it is widely acknowledged that typical adolescents face a broad variety of issues such as peer pressure, alcohol, drugs, and dating that are not major areas of concern until adolescence approaches (Kanner et al., 1987). With regard to adolescents with intellectual disabilities, however, corresponding research remains lacking. To date, no studies have
investigated daily hassles in persons with intellectual disabilities. It might be expected that adolescents with intellectual disabilities would report experiencing more daily hassles than their peers without intellectual disabilities because of their often limited capacity to cope with the pressures and demands of daily life (e.g., sometimes decreased mobility; increased dependence on others; and rejection/non-acceptance by peers) (Dosen, 1993). However, there are no empirical data to support this notion.

Purpose of the Study

A review of the existing literature (see Chapter 2) provides evidence that a number of socio-environmental factors, including the experience of daily hassles (Kanner et al., 1987; Rowlison & Felner, 1988; Ystgaard, 1997) and the perception of social support (Compas, Slavin, Wagner, & Vannatta, 1986a; Feldman et al., 1988; Slavin & Rainer, 1990), are related to adolescent depression in the general population. Additionally, results of exploratory small sample studies also suggest that social support is concurrently related to depressed mood in adults with intellectual disabilities (Laman & Reiss, 1987; Reiss & Benson, 1985).

The present study intends to replicate and extend the findings of several small sample studies investigating (1) depressive symptomatology in groups of adolescents with and without intellectual disabilities (Benavidez & Matson, 1993; Reynolds & Miller, 1985), and (2) correlates of depressed mood in adults with intellectual disabilities (Laman & Reiss, 1987; Reiss & Benson, 1985). Reynolds and Miller (1985), as well as Benavidez and Matson, assessed depressive symptomatology in adolescents with intellectual disabilities and compared them to age- and gender-matched adolescents with average intellectual functioning. The findings of these studies indicated that adolescents with intellectual disabilities reported significantly greater depressive symptomatology than their peers without intellectual disabilities. Reiss and Benson conducted a correlational study with a sample of adults with mild intellectual disabilities. Results
of their research clearly indicated that low levels of self-reported social support were significantly associated with depressed mood.

The purpose of this study is sixfold: first, to replicate the findings of Benavidez and Matson (1993) and Reynolds and Miller (1985) with a larger sample of adolescents \((N = 100)\). The second focus of this study is to determine whether Rosen and Burchard’s findings (1990) (that adults with mild intellectual disabilities reported a similar level of well-being and satisfaction with their social supports as their peers without intellectual disabilities) would generalize to a sample of adolescents with intellectual disabilities, and compare the results to those evidenced by adolescents without intellectual disabilities. A third purpose is to compare adolescents with and without intellectual disabilities on the number of daily hassles they experience. The fourth focus of this study is to examine the concurrent relationship between daily hassles and depressed mood as evidenced by adolescents with intellectual disabilities. The fifth purpose is to determine whether the relationship Reiss and Benson (1985) established between social support and depressed mood would generalize to a sample of adolescents with intellectual disabilities, and the sixth purpose is to compare these relationships to those manifested by adolescents without intellectual disabilities. In summary, the present study is designed to examine the mean differences between adolescents with and without intellectual disabilities in depressive symptomatology, amount of daily hassles, and perceived social support, as well as to explore the relationships among depressed mood, daily hassles, and perceived social support in these two groups of adolescents.

The present study offers the first assessment of daily hassles using a sample of adolescents with intellectual disabilities, and thus contributes something new and unique to the mental health literature of an underserved population. Given that gender differences are widely recognised in the experience of adolescent depression (Cheng, 1997; Schloss, Epstein, & Cullinan, 1988; Ystgaard, 1997) and social support (Cheng), this study will analyse the
relationships among depressed mood, daily hassles, and social support separately for males and females.

Justification of the Study

The high prevalence rate of depression in persons with intellectual disabilities points to the need for investigating causal and/or associated variables of depression, potential factors that may differentially affect or exacerbate depression in this population. Examining this issue in adolescence is particularly important as research has indicated that depression is a major mental health concern during this period of physical, cognitive, and socio-emotional development (Reynolds, 1987).

A review of the literature in the following chapter examines a number of variables considered important in investigating depressed mood in adolescents, among them perceived social support and daily hassles. However, this review demonstrates a lack of empirical research investigating socio-environmental variables and their association with depressed mood in adolescents with intellectual disabilities. Although several small sample studies explore depressed mood in adolescents, as well as the relationship between social support and depressed mood in adults with intellectual disabilities, there is no published research which examines daily hassles (minor life events) and/or their relationship to depressed mood in this population. Therefore, examining the relationships among depression, perceived social support, and daily hassles in adolescents with intellectual disabilities may enhance our understanding of the nature of depression in this population (cf. the insufficient corresponding research noted above) and provide mental health professionals, school personnel, and parents with valuable information as to how to better support these individuals in their everyday lives.
LITERATURE REVIEW

CHAPTER 2

Introduction

This chapter consists of two components: a review of the existing literature pertaining to depression, perceived social support, and daily hassles in adolescents with and without intellectual disabilities; and definition of terms related to the present study. Although a vast body of literature investigating depression, perceived social support, and daily hassles exists for adolescents without intellectual disabilities, the same cannot be said for adolescents with intellectual disabilities. In some instances, a general paucity of research exists for the population as a whole. In other cases, a lack of research exists because studies have concentrated on adult populations. In either of these instances, the literature review focuses on the studies that have been conducted, regardless of age or population.

Depression

Introduction

In 1983, Sovner and Hurley reviewed 25 published case histories, spanning a 62-year period, describing the existence of various affective illnesses in persons with intellectual disabilities. Their findings were revealing, and in direct contrast to the widespread belief that persons with intellectual disabilities could not and did not suffer from affective disorders. Sovner and Hurley discovered that these individuals manifested the full range of affective disorders and reported, "impaired intelligence and social functioning of the mentally retarded do not preclude the development of affective disorders" (Sovner & Hurley, p. 66). The authors concluded that persons with mild and moderate levels of intellectual disabilities (whose symptoms may manifest themselves in various ways), could be diagnosed with standard DSM-III criteria. As such, Sovner and Hurley strongly recommended that mental health professionals always evaluate for
affective symptomatology when dealing with "psychiatrically symptomatic" persons with intellectual disabilities.

Sovner and Hurley's review shed light on a population that had until that time received little attention in the psychiatric community. This was especially important as the process of deinstitutionalisation had begun. Since the early 1980s, there has been a resurgence of empirical studies investigating psychopathology, namely depression, and its associated variables in a wide variety of populations.

**Definition of Depression**

The term “depression” in this study does not refer to a diagnosis of major depression, bipolar depression, or dysthymic disorder as defined by the Diagnostic and Statistical Manual of Mental Disorders (4th ed.) (APA, 1994). Instead, “depression” refers to depressed mood, or a level and severity of symptomatology associated with depression, which affects behavioural, emotional, somatic, and cognitive functioning (Reynolds, 1987). These depressive symptoms may include anhedonia (loss of interest or pleasure in activities); lowered self-esteem; social withdrawal; fatigue; changes in appetite, weight, sleep, and psychomotor activity; feelings of worthlessness or guilt; difficulties thinking or concentrating; decreased energy; and/or recurrent thoughts of death or suicidal ideation, plans, or attempts (APA, 1994). Depending on their severity, these symptoms can seriously interfere with daily functioning, significantly affecting personal competence and community adjustment (Reynolds & Miller, 1985).

**Applicability of DSM Criteria to Persons with Intellectual Disabilities**

Can depressive symptomatology, as outlined by the Diagnostic and Statistical Manual of Mental Disorders (DSM), be appropriately applied to individuals with intellectual disabilities? If so, do these persons report as many and/or similar symptoms as individuals without intellectual disabilities? The following section attempts to address these questions.
Researchers have debated whether or not diagnostic criteria and assessment tools developed for the general population can be appropriately used with individuals with intellectual disabilities. The general consensus is that DSM criteria for depression are applicable, particularly to persons with mild to moderate levels of intellectual disability (Masi, Pfanner, & Marcheschi, 1998; Pawlarczyk & Beckwith, 1987).

In 1987, Pawlarczyk and Beckwith reviewed 16 case studies, surveys, and reports of treatment strategies describing severe depressive symptoms in persons with mild to moderate intellectual disabilities, as defined by the American Association on Mental Deficiency (AAMD; Grossman, 1977), to determine the applicability of DSM-III diagnostic criteria for depression to individuals with mild to profound intellectual disabilities. Their results systematically showed that most of the DSM-III criteria appeared to be applicable to persons with mild and moderate levels of intellectual disabilities. For example, dysphoric mood was found to be the most frequently cited diagnostic criteria for depression, a finding similar to persons without intellectual disabilities. Pawlarczyk and Beckwith concluded that "individuals with mild and moderate mental retardation who are depressed display symptomatology that is, in general, similar to that of nonretarded individuals who are depressed. As such, most DSM-III criteria may be useful and appropriate for identifying depression as displayed by these individuals" (p. 328). The authors stated that, although the DSM-III recognises that a person's developmental level may influence symptom presentation, future research needs to more closely examine this relationship.

Pawlarczyk and Beckwith (1987) included case studies spanning a wide range of ages, from age 10 upwards. The following research examines this applicability in greater detail, to adolescents in particular, and from a more recent perspective.

In 1997, Hardan and Sahl conducted a retrospective study to examine the applicability of more recent diagnostic criteria (i.e., DSM-III-R; APA, 1987) to assess psychopathology in
children and adolescents with developmental disabilities. Two hundred and thirty-three participants, ages 3 to 19, were recruited from a psychiatric care program for youths with developmental disorders. Participants' level of intellectual disability was assessed using either the Wechsler Intelligence Scale for Children-Revised (WISC-R; Wechsler, 1974) or the Stanford-Binet: Fourth Edition (SB: FE; Thorndike, Hagen, & Sattler, 1986). The breakdown of different levels of intellectual disabilities was as follows: borderline (n = 26), mild (n = 39), moderate (n = 33), severe/profound (n = 22), and unspecified (n = 40). Participants with severe and profound levels of intellectual disability were combined into one group. All participants' medical records were reviewed to determine if demographic factors, psychiatric diagnoses, "target symptoms," psychiatric diagnoses, gender, and level of cognitive functioning showed any relationship with symptoms of psychopathology. Frequencies and percentages of dependent variables were calculated across gender and level of cognitive functioning.

Hardan and Sahl's review of participants' medical files indicated that all subtypes of depressive disorders were reported: major depression, single episode and recurrent; depressive disorder, not otherwise specified; and dysthymia. Results of a corrected chi-square test showed a significant relationship between level of intellectual disability and diagnoses of depressive disorders, with these diagnoses more frequently given to participants with borderline and mild levels of intellectual disabilities ($\chi^2 = 21.3, df = 5, p < .001$).

The authors pointed out that although certain DSM criteria for depressive symptomatology were found only in higher functioning participants, this did not necessarily indicate that symptoms were not present in lower functioning participants. It might simply suggest that symptoms were either not identified or were overlooked (i.e., diagnostic overshadowing). If the former is true, these results would be consistent with those of studies described above, which indicate that DSM criteria are most applicable to individuals with mild and moderate levels of intellectual disabilities. The authors of this study concluded that almost
all psychiatric disorders could be diagnosed using DSM criteria, and recommended that they be used, wherever possible. That said, it should be noted that in contrast to many of the other studies included in this section, this study looked at diagnoses of depression, not depressive symptomatology, per se.

Masi et al. (1998) recruited 60 adolescents with mild intellectual disabilities from a psychiatric facility in Italy and screened them for psychiatric disorders. Twenty-five percent (n = 15) of these adolescents (10 males, 5 females), ages 14 to 19, met the DSM-IV criteria (APA, 1994) for Major Depressive Disorder. These clinical features of depressive disorder were further assessed by way of the Montgomery-Asberg Depression Rating Scale (MADRS; Montgomery & Asberg, 1979; Masi, Marcheschi, & Pfanner, 1997).

Results of this study showed that all participants diagnosed with major depressive episodes according to the DSM-IV criteria also had high scores (a score of 28 or higher) on the MADRS, a cut-off score which strongly indicates the presence of a depressive disorder. A qualitative analysis of the MADRS protocols suggested that some depressive symptoms were more frequently reported than others. For example, all participants presented with depressed mood, psychomotor agitation or retardation, and loss of energy and interest. Cognitive symptoms (e.g., depressive ideation) and functional symptoms (e.g., disturbed sleep and appetite) were less frequently reported than emotional (e.g., sadness, anxiety) and psychomotor symptoms. Eleven participants exhibited anhedonia, 7 had disturbed sleep, 5 had reduced appetite, 5 showed decreased ability to think or concentrate, 5 had feelings of worthlessness or guilt, and 3 had recurrent thoughts of death. Consistent with other studies described in this section, some participants (n = 4) also presented with irritability, a symptom commonly associated with a childhood presentation of depression.

Generalisability of these results may be limited for a number of reasons. First, the sample size of 15 was extremely small. It is difficult to make conclusions and/or comparisons with so
few participants. Secondly, no information was given as to how the researchers defined "mildly
intellectually disabled." Finally, as with the some of the other studies, participants were recruited
from a psychiatric care facility. As such, these participants are not a representative sample of the
general population of people with intellectual disabilities who live in the community. Despite
these limitations, however, Masi et al.'s results are consistent with previous research which
indicates that using DSM-IV criteria is a reliable means of assessing and diagnosing depressive
symptoms in individuals with mild intellectual disabilities.

Summary

Results of the two studies described above are consistent in that they support the use of
DSM criteria as a reliable means of both identifying and assessing depressive symptomatology in
adolescents with at least mild and moderate intellectual disabilities. Even so, it is also clear that
researchers as well as practitioners should keep in mind that adolescents with intellectual
disabilities may exhibit depressive symptomatology not included in DSM criteria (i.e.,
irritability).

As previously mentioned, the prevalence of depression in persons with intellectual
disabilities has generally been cited as higher than that found in the general population. Until
recently, however, few studies existed to validate these claims. The Isle of Wight studies
conducted by Rutter and his colleagues in the 1970s were the exception to the rule. These
researchers found "almost epidemic proportions" of emotional and behavioural disorders
(including depression) in children with intellectual disabilities -- a rate four to five times higher
than that found in children without intellectual disabilities (Rutter, Tizard, Yule, Graham, &
Whitmore, 1976)! More recently, researchers have investigated the prevalence and symptom
presentation of depression, comparing groups of individuals with and without intellectual
disabilities.
Comparing Persons With and Without Intellectual Disabilities

In 1985, Reynolds and Miller set out to examine depression and learned helplessness in a sample of adolescents with mild intellectual disabilities from self-contained special education classes (n = 26), and a matched (on age, gender, and ethnicity) group of adolescents without intellectual disabilities (n = 26). The sample consisted of 31 males and 21 females. Participants' mean age was 17.3 and 16.7 for the first and second groups, respectively. Intellectual disability was determined by IQ scores on the WISC-R (Wechsler, 1974). Depressive symptomatology and learned helplessness were assessed using two verbally administered self-report measures, the Reynolds Adolescent Depression Scale (RADS; Reynolds, 1986a) and the Mastery Orientation Inventory (MOI; Reynolds & Miller, 1983, 1984); both of which previously demonstrated adequate reliability and validity with samples of adolescents without intellectual disabilities.

Internal consistency reliability (Cronbach alpha) of the RADS was found to be .87 and .97 for the first and second group of participants, respectively, while the reliability of the MOI was found to be .84 and .95. These results support the use of self-report measures of depression and learned helplessness with adolescents with mild intellectual disabilities. Differences between groups on the dependent variables were examined by means of two-way analyses of variance. Results of these ANOVAs revealed group differences on both the measure of depression and learned helplessness. Participants with intellectual disabilities manifested significantly greater depressive symptomatology, $F(1,48) = 11.47, p < .001$, and scored lower (demonstrating greater learned helplessness) on the MOI, $F(1,48) = 8.00, p < .01$, than their matched peers. Significant group differences were found in regard to item endorsement as well, with the special education students endorsing more somatic and negative self-evaluation items on the RADS. Reynolds and Miller postulated that the greater endorsement of depressive symptomatology by adolescents with intellectual disabilities may at least be partially explained by their experience of continual failure (in school and elsewhere) which often results in an increased sense of learned
helplessness. This, in turn, may contribute to an increased susceptibility to depression (Reynolds & Miller, 1985).

Matson et al. (1988) reported similar results in their study which compared 31 children, ages 3 to 16 with intellectual disabilities from a psychiatric care facility, with an age- and gender-matched group of children (25 males, 6 females) without intellectual disabilities or known emotional disorders from a regular school setting. Participants with all levels of intellectual disabilities as defined by the AAMD (Grossman, 1977) were included in the sample. The breakdown of different levels of intellectual disabilities were as follows: borderline (n = 3), mild (n = 8), moderate (n = 8), severe (n = 6), and profound (n = 6). Classifications were based on Stanford-Binet Intelligence Scale, Form L-M (Terman & Merrill, 1973) and Adaptive Behavior Scale (ABS; Nihira, Foster, Shellhass, & Leland, 1974) scores. All participants completed the Child Depression Inventory (CDI; Kovacs, 1981). Informants completed an informant-version of the CDI, as well as the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1978, 1979).

A series of five, three-way univariate ANOVAs were run on each of the four scale scores of the CDI for each of the two groups of participants, by gender and by age grouping (3 to 5, 6 to 7, 8 to 10, and 11 to 18 years). Results of these analyses revealed significant main effects for group, but not age or gender for total CDI score. Given the wide variability in participants' ages, it is not surprising that no clear gender or age differences were found. Depression and its various subcomponents (as measured by informant and self-report versions of the CDI) were found to be more prevalent for participants with intellectual disabilities: total CDI score, $F(1, 61) = 9.19, p < .004$, Factor I-Affective Behavior, $F(1, 61) = 7.54, p < .009$, and Factor IV-Guilt/Irritability, $F(1, 61) = 22.02, p < .0001$. These results are consistent with Reynolds and Miller's in that they support a higher prevalence of depression in persons with intellectual disabilities than in the population at large.
In 1988, Schloss et al. conducted a study to explore and compare the prevalence of depressive characteristics among students, ages 6 to 18, with learning disabilities (n = 2,078; 1,461 males, 617 females), intellectual disabilities (n = 575; 328 males, 247 females), behaviour disorders (n = 705; 555 males, 150 females), and no known disabilities (n = 1,184; 636 males, 548 females). Students with learning disabilities achieved IQ scores in the average range and showed adequate sensory abilities, but demonstrated severe difficulties in achievement areas. Students with intellectual disabilities obtained IQ scores ranging from 50 to 70 (in the mild to moderate range) and showed deficits in tested adaptive behaviour. Finally, students with behaviour disorders exhibited social-emotional behaviour problems that were deemed significant enough to warrant special education services.

Students' teachers were asked to complete a "depression subscale" of the Behavior Problem Checklist (BPC; Quay & Peterson, 1975) to assess whether a particular behaviour was no problem, a mild problem, or a severe problem for a given student. This depression scale was constructed by five "professionals" familiar with current literature on childhood depression. These individuals were asked to identify BPC items which tapped the construct of depression. To qualify for inclusion, items had to be selected by at least four of the individuals. Twelve items met this criterion. Using data on all the participants, inter-item reliability was calculated at .84.

Participants were further grouped by age to allow for an examination of age effects: ages 6 to 11 years, and ages 12 to 18 years. Six hundred and forty participants (16 groups of 40 age-matched students) were chosen to be included in the final analyses of data. They were selected in a procedure which matched participants across gender, category, and age. Total depression scale scores were examined by way of a 4 (category) x 2 (age) x 2 (gender) factorial analysis of variance. Results indicated, among other things, a significant main effect for category, F (3, 624) = 27.02, p < .001. Follow-up Newman-Keuls tests revealed that students with intellectual disabilities, particularly younger girls (ages 6 - 11), appeared more depressed than students
without disabilities. Again, perhaps due to wide variability of age, no significant main effects were found for age or gender.

Schloss and his colleagues indicated that they were surprised at the high prevalence of depression among students with intellectual disabilities. They pointed to "ample evidence" which suggests that depressive symptoms may be a secondary effect of environmental conditions associated with intellectual disabilities to explain this finding (Schloss et al., 1988). Unfortunately, the authors did not provide details about this evidence. In addition, although the results of this study are consistent with those of other studies described above, they might have been more meaningful if the authors had utilised a standardised method of assessing depressive symptomatology. In this way, the results could more easily be compared to others, and their contribution to the existing literature would be more valuable.

Results of Benavidez and Matson's (1993) comparison of depressive symptomatology in adolescents with and without intellectual disabilities was not so clear-cut. Benavidez and Matson compared the depression scores of 25 adolescent students with moderate to severe intellectual disabilities from self-contained special education classrooms (ages 12 to 17) to 25 age- and gender-matched students without intellectual disabilities. Fifteen males and 10 females were included in each of the two groups of participants. To determine level of intellectual functioning for students in the first group, verbal IQ scores were obtained from school files. If unavailable, students were administered the verbal subtests of the WISC-R (Wechsler, 1974). The range of IQ scores for students with intellectual disabilities ranged from 33 to 69, with a mean of 50.72.

Depressive symptomatology was assessed though self-report and informant versions of the CDI (Kovacs, 1981), the Bellevue Index of Depression (BID; Petti, 1978), and the Reynolds Child Depression Scale (RCDS; Reynolds, 1989). Six analyses of variance were conducted to assess differences between the two groups of students on the depression scales. Results indicated that only the BID significantly discriminated between groups. Students with intellectual
disabilities had significantly lower scores on this measure, $F(1, 48) = 13.21, p < .008$. The authors present several possible explanations for this finding, including that the BID contains more somatic symptoms, has a more complex administration compared to the other measures, and requires the individual to make judgements regarding symptom severity and duration. No significant differences were found between groups when ANOVAs were performed on the informant measures. The authors suggested that their study results may differ from those of other studies described above because they included participants with moderate and severe levels of intellectual disability. In other words, combining levels of intellectual disability may have affected study outcomes. This may be the case; however, Matson et al. (1988) also included participants with all levels of intellectual disability, and they found significant differences between groups of adolescents with and without intellectual disabilities using one of the same measures (i.e., the CDI).

More recently, Masi and his colleagues (Masi, Mucci, Favilla, & Poli, 1999a) examined the clinical features of dysthymic disorder in a small sample of 12 adolescents with mild intellectual disabilities from Italy (6 males, 6 females), ages 7 to 18, and compared them with those of 48 dysthymic participants without intellectual disabilities (22 males, 26 females). This second group of participants was subdivided into two further categories by age (ages 7 to 11 and 12 to 18). All participants were recruited from a psychiatric care facility, but lived at home with parents. Diagnoses of dysthymic disorder were made (according to DSM-IV criteria) using a structural clinical interview, the Kiddie-Schedule for Affective Disorder and Schizophrenia (K-SADS; Puig-Antich & Chambers, 1983) or the Diagnostic Interview for Children and Adolescents (DICA; Herjanic & Reich, 1982). The Wechsler Adult Intelligence Scale (WAIS; Wechsler, 1955) and WISC-R (Wechsler, 1974) were used to measure participants' intellectual abilities. IQ scores for participants with mild intellectual disabilities ranged from 53 to 67.
The K-SADS and/or the DICA was administered to both participants and their parents on separate occasions by one of three trained child psychiatrists. The K-SADS was used for participants in the first group, while both measures were used for students in the comparison group. The authors claim that, because these two instruments are comparable in their length, item content, grammatical complexity, and question format, the use of only one or both of these diagnostic instruments did not lead to a different identification of symptoms. Fifteen items shared by the depressive and anxiety sections of the K-SADS and DICA were selected for analyses. Depressive symptoms were considered significantly present if the participants earned a cut-off score of three or higher on the K-SADS and results were consistent with those of the DICA. Analysis of variance was computed with depressive symptoms as the within-subject variables, and group and gender as the between-subject variables to identify the differences between participants with and without intellectual disabilities.

Results of this analysis revealed a significant main effect of group, $F(2, 59) = 5.52, p < .005$. Adolescents without intellectual disabilities showed a significantly greater number of depressive symptoms than both participants with mild intellectual disabilities (both children and adolescents) and children without intellectual disabilities. These two latter groups exhibited approximately the same number of depressive symptoms. Frequency scores of individual depressive symptoms revealed that adolescents with intellectual disabilities showed high rates of irritability (100%), depressed mood (92%), fatigue/loss of energy (92%), pathological guilt (75%), difficulties with concentration (75%), and low self-image (67%).

These results are somewhat consistent with those of other studies described above. While adolescents with intellectual disabilities were not noted to exhibit a greater number of depressive symptomatology than their peers without intellectual disabilities, the prevalence of dysthmic disorder was found to be significantly higher in this first group. The authors cite another of their studies which reports a prevalence rate of 0.6 to 1.7% in the general population (Masi, Poli,
In comparison, the prevalence of dysthymic disorder was found to be approximately 20% for participants with intellectual disabilities included in this study. Because these individuals tend to present with irritability (a result consistent with other studies included in this section), instead of a more affective expression of depression, they tend to be under-referred. As such, the authors believe this 20% to represent an under-estimate (Masi et al., 1999a). Results of this study also further demonstrate the applicability of DSM criteria in accurately assessing and diagnosing depression (symptoms or diagnoses) in adolescents with intellectual disabilities. While this study was one of the first to investigate dysthymic disorder in individuals with intellectual disabilities, the small sample size and employment of out-dated editions of the Wechsler scales limit the generalisability of results.

The final study to be discussed in this section is one conducted by Manikam et al. (1995). Their study is unique in that it explored the relationships between depression, intellectual functioning, and adaptive behaviour in participants with a wide range of intellectual ability, including gifted students. One hundred students (55 males, 45 females), ages 13 to 17, were recruited from ethnically diverse middle and high schools in the southern United States. Participants' intelligence quotients ranged from 40 to 139, with 20 participants included in each of five levels: superior (IQ: 120 - 139); average (IQ: 80 - 119); borderline (IQ: 70 - 79); mildly intellectually disabled (IQ: 55 - 69), and moderately intellectually disabled (IQ: 40 - 54). The verbal subtests of the WISC-R (Wechsler, 1974) were used to assess the intellectual functioning of participants unless recent (i.e., within the last 12 months) IQ scores were available in school files. Of the 20 adolescents with mild intellectual disabilities, 17 were mainstreamed in regular classrooms. Eighteen of the 20 adolescents with moderate intellectual disabilities were enrolled in special schools, while the remaining two participants were drawn from self-contained classrooms in regular schools.
Participants were asked to complete a battery of self-report measures, including the CDI (Kovacs, 1981), RADS (Reynolds, 1986a), Bellevue Index of Depression - Revised (BID-R; Petti, 1978), the Psychopathology Instrument for Mentally Retarded Adults (PIMRA; Kazdin et al., 1983), and the Matson Evaluation of Social Skills with Youngsters (MESSY; Matson, Rotatori, & Helsel, 1983). Participants with borderline to moderate intellectual disabilities were individually interviewed to obtain self-report data. High scores on the CDI, BID-R, RADS, and PIMRA indicated depression and overall psychopathology, respectively.

Pearson Product-Moment correlations were calculated between major independent and dependent measures. Results of these analyses revealed that all three measures of depression were significantly and negatively correlated with intellectual functioning, but yielded only weak to moderate Pearson r values ranging from $r = -0.38, p < .01$ to $r = -0.22, p < .05$. Overall psychopathology, as measured by the PIMRA, was not found to significantly correlate with depression measures.

Participants with above normal, average, and borderline levels of intelligence were then combined into one group, and those with mild and moderate levels of intelligence were placed in a second group in an effort to analyse the differences in adolescents with and without intellectual disabilities on depression and general psychopathology scales. This comparison was undertaken using multivariate analysis of variance (MANOVA) across four dependent variables: CDI, RADS, BID-R, and PIMRA. Results of the MANOVA indicated significant differences between the two groups of participants with respect to combined depression scores and general psychopathology, $F (5, 94) = 6.37, p < .01$. A discriminant analysis was then conducted on the CDI, BID-R, RADS, PIMRA, and MESSY to assess which of these variables distinguished participants in the first group from those in the second group. Results showed that all five dependent variables were significant contributors. The first group achieved higher scores on the MESSY, and lower scores on the PIMRA, CDI, BID-R, and RADS.
In summary, self-reports of depression were found to have weak, but statistically significant relations with intellectual functioning. More specifically, results of this study demonstrated a relationship between one of the depression scales, the CDI, and verbal IQ scores moderated by adaptive functioning. The correlation between depression and (verbal) intelligence was stronger for participants with average and below-average levels of adaptive behaviour. In other words, high adaptive behaviour buffered the association between depression and (verbal) intelligence.

**Summary**

The majority of the studies reviewed in this section support the finding that adolescents with intellectual disabilities evidence a greater number and severity of depressive symptomatology than adolescents without intellectual disabilities. The subsequent sections will review empirical research which has attempted to investigate several causal or associated socio-environmental variables of depression, variables which have often been viewed as either precipitating or moderating depression. More specifically, the role which daily hassles (minor life events) and social supports play in the onset, maintenance, and/or prevention of depressive symptomatology will be explored.

**Social Support**

**Introduction**

Social support can be defined as "aid provided by significant others" (Rosenthal, Gesten, & Shiffman, 1986, p. 481). Cobb, a pioneer in social support research, characterised social support as "information leading the subject to believe that he (she) is cared for and loved, esteemed, and a member of a network of mutual obligations" (Cobb, 1976, p. 300). Research in the area of social support has proven problematic because of the varying definitions of the construct and the instruments used to measure it (Kaplan, Robbins, & Martin, 1983; Procidano & Heller, 1983; Tardy, 1985). However, many researchers agree that it is an individual’s perception
of social support or satisfaction with social relationships that is key in this construct (Cheng, 1997; Dohrenwend, Dohrenwend, Dodson, & Shrout, 1984; Rosen & Burchard, 1990). The belief that adequate social support will be provided and/or be available when required has a great impact in terms of the stress experienced by an individual (Barrera & Ainley, 1983; Dohrenwend et al., 1984). Children and adolescents require social support to help them deal with stress and adjust to their environment (Wenz-Gross & Siperstein, 1996). In fact, researchers agree that low satisfaction with and/or low perceptions of social support are correlated with psychological symptoms, including higher levels of depression (Benson & Deeter, 1992; Cheng; 1997; Compas et al., 1986a).

Individuals with Intellectual Disabilities

Until recently, little was known about the social support networks of persons with intellectual disabilities, especially those who lived in community settings. However, research in this area is essential as these individuals may be at particular risk for social isolation. Inadequate social support, especially in combination with negative or stressful life events, seems to have a far worse effect on persons with intellectual disabilities than it does on those without (Meins, 1993). Unfortunately, these individuals not only experience more social and environmental disadvantages than do their peers without intellectual disabilities (Matson, 1982), but in many cases their sources of social support are greatly limited (Helsel & Matson, 1988). Research shows that adolescents with intellectual disabilities are less likely than their peers without disabilities to have close, supportive peers or parents (Harter & Marold, 1994). Ironically, it is these individuals who are particularly dependent on the support of others (Meins, 1993) to maintain physical, social, and psychological well-being (Krauss, Seltzer, & Goodman, 1992).

Comparing Persons With and Without Intellectual Disabilities

The social support patterns among individuals with intellectual disabilities has received little attention (Rosen & Burchard, 1990). As a result, little is known about these social support
networks, especially of those 80% or more individuals who live at home (Krauss et al., 1992). Even less research has been conducted to determine how these support systems differ from those of individuals without intellectual disabilities who live in similar community settings. In an attempt to compare the social support networks and personal well-being of adults with and without intellectual disabilities from the perspective of the individuals themselves, Rosen and Burchard recruited 54 adults to complete self-report measures of social support and well-being. Twenty-seven adults with mild intellectual disabilities (12 males, 15 females) living in semi-independent residences in the north-eastern United States and 27 adults without intellectual disabilities matched on marital status (i.e., unmarried), gender, age, and community size, were recruited as part of a larger, state-wide longitudinal study of community adjustment. Participants ranged in age from 23 to 55. Those with mild intellectual disabilities were classified as such according to AAMD criteria (Grossman, 1983).

Two structured interviews, the Social System Self-Assessment (SSSA; Weinberg, 1984) and the Personal Well-Being (PWB) section of Seltzer's client satisfaction interview (Seltzer, 1980), were individually administered to each participant, either at the individuals' home (participants with intellectual disabilities) or over the phone. The SSSA consists of an 18-item questionnaire used to assess the size, multiplexity, stress/support balance, satisfaction with contact, and reciprocity of social support networks. The PWB uses 18 forced-choice questions to assess feelings of well-being (i.e., self-evaluations of behaviour, feelings, and interpersonal relations). Inter-rater reliability data obtained from the longitudinal sample was .98, while test-retest reliability (Pearson correlation coefficients) for 11 participants was .80.

Results of dependent t-tests for matched pairs revealed that, although individuals with mild intellectual disabilities did not perceive of themselves as more socially isolated or feel less satisfied with the supportiveness of their network members in comparison to matched peers, they had social networks that were almost twice as small and that contained proportionately fewer
friends (48% versus 79%). Only 60% of participants with intellectual disabilities identified their peers as their best friends; 90% of those peers also had intellectual disabilities. Service providers (i.e., agency staff) were named as best friends by 30% of these individuals.

The multiplexity of network relationships (i.e., the type and proportion of relationships found) was also found to be significantly different between groups. Even though participants with intellectual disabilities made greater use of their supports for companionship and support than their peers without disabilities, their actual social integration was extremely limited (i.e., rare and infrequent). This integration was limited not only by the identification of few non-family and non-staff supports and low reciprocity in these relationships, but also by a lack of social skills by which to develop and maintain friendships and insufficient social supports to facilitate initiation of friendships in the community with persons without disabilities.

In terms of well-being, participants with and without intellectual disabilities reported similarly equal and high levels of personal well-being (M = 83.3, SD = 14.1 and M = 86.6, SD = 8.6, respectively). For individuals with intellectual disabilities, well-being was significantly related to perceived supportiveness of social support, r(24) = .41, p = .019. No such relationship was found for individuals without intellectual disabilities, r(24) = .05.

Despite its small sample size, this study provides us with much valuable information. Even though the social support networks of individuals with intellectual disabilities were small and composed of mostly family members (a finding consistent with Krauss et al., 1992), participants with intellectual disabilities did not report feeling dissatisfied with their social supports, themselves, or their well-being. These results emphasise the importance of perception in the construct of social support, and thus the importance of examining this construct from the perspective of the individuals themselves (Rosen & Burchard, 1990).

In a later study conducted by Wenz-Gross and Siperstein (1996), the social support networks and adjustment of pre-adolescents with and without mild intellectual disabilities were
explored. The authors hypothesised that pre-adolescents with mild intellectual disabilities would have fewer peers in the networks and would turn to peers less often for support than preadolescents without intellectual disabilities. They further hypothesised that family support rather than peer support would be related to adjustment.

Participants for this study included 36 grade five and six students: 15 students with mild intellectual disabilities enrolled in self-contained special education classrooms (8 males, 13 females), and 21 students without intellectual disabilities attending the same school (6 males, 9 females). Students in this second group were selected based on their comparability with the special education students in family structuring and minority status. Mean ages for the two groups were 12.0 and 11.5, respectively. Diagnoses of mild intellectual disabilities were determined from recent scores on cognitive, achievement, and adaptive behaviour measures, as well as ministry criteria for special education services eligibility.

Students were interviewed in their homes on two separate occasions by one of four researchers. Participants were prompted to think of all the people they knew in their home, school, and community. They were then asked to name the people to whom they felt close to and who they cared about. A tally was made of the total number of individuals named, as well as of number of individuals named for the home, school, and community setting, respectively. These names were then used in examining participants' perceptions of support as measured by an adapted version of the My Family and Friends interview (Reid, Landesman, Treder, & Jaccard, 1989). Social support scores were calculated for each of three types of support (emotional support, problem solving support, and companionship) received from people in the home, adults outside the home, and peers. As a self-report measure of adjustment, participants completed the CDI (Kovacs, 1992). Items were read aloud to participants who had reading difficulties.

Results of three one-way MANOVAs conducted on the three dependent measures of the social support scale (i.e., number of people in the home, number of adults outside the home, and
the number of peers) showed no significant differences between participants with and without intellectual disabilities in network size or composition. On average, students named 3 people in the home, 7 adults outside the home, and 8 peers as members in their social support networks. However, results of Group x Type of Support repeated measures ANOVAs on support from people in the home, adults outside the home, and peers indicated that students with intellectual disabilities were more likely to look to people in the home ($t(34) = 3.10$, $p < .01$) and adults outside the home for social companionship ($t(34) = 2.56$, $p < .02$). Students with intellectual disabilities were also significantly less likely to turn to peers than students in the second group, $t(34) = -2.15$, $p < .05$, for social companionship (Wenz-Gross & Siperstein, 1996).

Finally, the relationship between social support and adjustment was examined. Results of bivariate correlations indicated that relying on people in the home for problem-solving support was moderately related to fewer symptoms of depression ($r = -.43$, $p < .01$). No significant relationship was found between in-home emotional support and adjustment. In contrast, turning to peers outside the home for problem-solving support was related (albeit weakly) to greater symptoms of depression ($r = .34$, $p < .05$). Overall, results suggested that social support from the family was negatively associated with depression.

Despite the small and predominately female sample used in the study, these results are consistent with previous research which indicates that peers are often not included in the social support network of persons with intellectual disabilities (Cullinan et al., 1992, as cited in Wenz-Gross & Siperstein, 1996). Cullinan and his colleagues propose that this is likely because they are often isolated from and/or are rejected by their peers without intellectual disabilities at school, that they lack the opportunity for social peer contact, which is essential for development (Cullinan et al., 1992, as cited in Wenz-Gross & Siperstein, 1996; Konarski & Cavalier, 1982). Wenz-Gross and Siperstein postulate that this lack of peer support may place these individuals at greater risk for social problems, especially as they move into adolescence. Unfortunately, the
literature suggests that as adolescence approaches, social support is seen to decrease while depressive symptomatology is seen to increase (Harter & Marold, 1994).

Summary

Results of the studies described in this section confirm the widely-held beliefs that the social networks of individuals with intellectual disabilities contain fewer peers than those of persons without intellectual disabilities. Furthermore, individuals with intellectual disabilities tend to rely on a small number of family members and/or service providers for their needs. What impact does this have on depressed mood, if any? The following sections summarise research examining the relationship between social support and depressed mood, first in the general population, and then in persons with intellectual disabilities.

Association with Depressed Mood

Introduction

There exists a great deal of evidence that suggests that the availability of social support is associated with both a reduced risk of mental and physical illness, and a reduced risk of mortality (Pikó, 1998). The importance of social support in the maintenance of health, social functioning, and psychological well-being in the general population has been well documented (Krauss et al., 1992). Unfortunately, the same cannot be said for persons with intellectual disabilities. Although several studies have investigated the various structural components of social support networks, very little work has been conducted to investigate the relationship between perceived availability and/or satisfaction with social support and adjustment outcomes such as depression. As will be discussed later, the few studies that do exist suffer from methodological problems. As such, the studies in this section examine the association between these two variables in the larger, general population. Much of the research described below has examined both the main and buffering effects of perceived social support. For the purposes of this study, emphasis will be placed on the main effects of this relationship.
Individuals Without Intellectual Disabilities

Compas and his colleagues (1986a) examined the relationship between stressful life events, perceived social support, and psychological symptoms in a sample of older adolescents, mean age = 18.4 (N = 64; 12 males, 52 females). Participants were asked to complete three questionnaires, at three times of transition (i.e., periods of vulnerability to stressful events) throughout the school year: near the end of their senior year of high school, two weeks after they entered college, and three months after they entered college. These questionnaires included the Life Events Questionnaire (Newcomb, Huba, & Bentler, 1981), a measure of 27 weighted life events; the Social Support Questionnaire (SSQ; Sarason, Levine, Basham, & Sarason, 1983); and the Hopkins Symptom Checklist (HSCL; Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974). The SSQ assesses participants' level of social support satisfaction, while the HSCL measures a wide variety of physical and psychological symptoms including depression, anxiety, obsessive-compulsiveness, interpersonal sensitivity, and somatisation. (Compas et al., 1986a).

Despite a high attrition rate from the first to third data collection and a predominately female sample, the results of this study are consistent with other studies in the field. Negative life events and satisfaction with social support were significantly and independently related to a range of psychological symptoms, including depression. Lower satisfaction with social support was found to be inversely but weakly related to HSCL total symptom scale scores (r = -.27, p < .001). Additionally, results of a MANOVA indicated that satisfaction with social support resulted in a significant but weak increase in the proportion of variance in total symptoms accounted for by weighted life events alone (R = .35, R^2 = .12, p < .001) (Compas et al., 1986a).

More recently, Benson and Deeter (1992) set out to investigate which variables (such as social support) best predicted maladaptive outcomes such as depressive symptoms. Participants for this study (N = 90) were recruited from grade 10- to grade 12-level psychology and sociology
30

classes. Ages ranged from 16 to 19 years (mean age = 17.0). No further information was
provided as to participants' gender, ethnicity, SES, or place of residence.

Participants were requested to complete a battery of self-report questionnaires during
class time, including the Life Events Checklist (LEC; Johnson & McCutcheon, 1980), Social
Support Questionnaire (SSQ; Sarason et al., 1983), and Depression Inventory (DI; Beck &
Beamesderfer, 1974). The LEC measures frequency, desirability, and personal impact of both
positive and negative life events. Two items, addressing the issues of pregnancy and abortion,
were deleted from the measure at the request of school administrators. Instead, participants were
provided with extra space in which to report the occurrence of life events not included on the
measure. The DI, a 13-item short form of the lengthier Beck Depression Inventory, was used to
assess depressive symptomatology, while the SSQ was used to assess both network size and
degree of satisfaction with available support.

Participants' depression scores were regressed on, among other variables, negative life
events, positive life events, social support-number and social support-satisfaction. Three of these
variables, including high impact ratings of negative life events and low social support
satisfaction were found to be related to high depression scores, accounting for a significant
proportion (a predictive power of 52%) of explainable variance. In summary, the researchers
discovered that satisfaction with social support and the impact of negative life events, among
other variables, were significantly related to the level of participants' depressive
symptomatology. More specifically, it was only ratings of negative (not positive) life events and
satisfaction with social support (not network size) which predicted depression (Benson & Deeter,

In 1997, Cheng conducted a prospective study with 249 Chinese students (103 males, 146
females), grades 7 to 9, to examine the relationships among perceived social support, stressful
life events, and depression. Cheng chose a prospective design to avoid what she described as the
possible contamination of life events, social support, and depression self-report measures that are collected at the same time, a problem commonly found in cross-sectional research.

Students who were recruited from two suburban schools in Hong Kong completed three self-report measures in their classrooms on two separate occasions, 6 months apart. Measures used included the Social Support Appraisals Scale (SS-A; Vaux et al., 1986), a measure of perceived social support; the Chinese Adolescent Life Event Scale (CALES; Cheng, 1995); and the Chinese Beck Depression Inventory (C-BDI; Chan & Tsoi, 1984).

Consistent with the literature, results of a MANOVA that examined the effects of gender, age, and grade on stressful life events, family support, peer support, and depression indicated a significant overall effect for gender, \( F(4, 244) = 12.53, p < .01 \). Females showed higher levels of peer support at both Time 1, \( F(1, 247) = 4.88, p < .01 \) and Time 2, \( F(1, 228) = 11.97, p < .01 \). In addition, females showed higher levels of depression at Time 1, \( F(1, 247) = 20.34, p < .01 \) and Time 2, \( F(1, 235) = 17.47, p < .01 \) than their male counterparts.

Results of prospective regression analyses revealed a "reverse" negative relationship between initial levels of depression (Time 1) and subsequent levels of social support (Time 2) for both male and female participants. These results indicate that adolescents who were initially depressed perceived less subsequent social support (Cheng, 1997). This latter finding is consistent with the existing literature (Amann, 1991; Cui & Vaillant, 1997; Meins, 1993). A longstanding depression, in particular, is likely to have a particular impact on social support and social network, in that depressed individuals' perception of available social resources is affected by cognitive distortion (Amann, 1991). Furthermore, these individuals tend to impair their social supports when they become oversensitive to others' reactions, and thus create further conflict and social isolation (Cui & Vaillant, 1997).

The studies described above all show social support to be weakly to moderately correlated with depression in the general population. Does this association hold true for persons
with intellectual disabilities? At present, there is no empirical research that examines this relationship in adolescents with intellectual disabilities. The following section describes two studies examining this relationship in adults with intellectual disabilities.

**Individuals with Intellectual Disabilities**

Reiss and Benson (1985) hypothesised that depressed mood would be related to low levels of social support for adults with intellectual disabilities. Forty-five adults (25 males, 20 females) with mild intellectual disabilities were recruited from community workshop programmes (n = 17) and a mental health clinic (n = 28). No details were provided as to what criteria were used to diagnose these individuals as "mildly intellectual disabled." In individualized sessions, participants were asked to complete self-report measures, including the Zung Self-Rating Depression Inventory (Zung, 1965) and the Reiss-Peterson Social Support Scale for Mentally Retarded Adults (Reiss & Benson, 1985). The Reiss-Peterson scale consisted of two parts. Participants were first prompted to identify up to seven significant others, and were next asked four questions about each of these individuals: "How often do you see ___ (name)?; how often do you talk to ___ (name) about your feelings?; how much do you like ___ (name)?; and how much does ___ (name) help you with your problem?" (Reiss & Benson, pp. 333 - 334). Response alternatives ranged from 0 (not at all) to 3 points (a lot). All self-report items were read aloud by one of four examiners.

In addition, participant-nominated informants (i.e., workshop or residential supervisors) were asked to complete a 4-item depression scale and 3-item social support scale, both developed by the authors. Based on their combined average scores on the depression measures and pre-existing psychiatric diagnoses (if any), participants were categorised into one of three groups: depressed (n = 10), disturbed/nondepressed (n = 9), and nondisturbed/nondepressed (n = 12). Results of correlational analyses indicated that the measures of depressed mood and social support (both self-report and informant versions) were consistently and negatively correlated.
The lower the level of social support, the higher the level of depression. Self-ratings of depression correlated with self-reports of social support ($r = -.41, p < .01$) and with informant ratings of social support ($r = -.37, p < .05$), while informant ratings of depression correlated with self-reports of social support ($r = -.25, p > .05$) and with informant-ratings of social support ($r = -.76, p < .01$). A MANOVA revealed significant mean differences on self-rated social support scores among groups of "depressed," "disturbed/nondepressed," and "nondisturbed/nondepressed" participants. Self-report social support scores were found to be significantly lower [$F(2, 28) = 4.34, p < .05$] for the depressed group versus the other two groups, who had similar means (Reiss & Benson, 1985).

Results of Reiss and Benson's correlational study provided support for the association between low levels of social support and depressed mood in adults with mild intellectual disabilities. Although their sample size was somewhat small, and the informant measures were somewhat questionable (i.e., insufficient number of items), their finding that low levels of social support were associated with depression was an important first step in assessing this relationship in an underserved population. Little research in this area had been conducted up until this time.

Reiss and Benson's findings were replicated and extended in 1987 by Laman and Reiss. Forty-five adults (23 males, 22 females) who met AAMD criteria for mild intellectual disabilities (Grossman, 1983) were randomly selected from community workshop programmes ($n = 15$) and a mental health clinic ($n = 30$). Following the same procedure as Reiss and Benson (1985), participants and two participant-nominated supervisors were asked to complete self-report and informant measures of depressed mood and social support, respectively. These measures included the Psychopathology Instrument for Mentally Retarded Adults depression subscale (PIMRA; Kazdin et al., 1983), the Illinois-Chicago Informant Rating Scale for Depression (Reiss & Benson, 1985), the Reiss-Peterson Social Support Scale for Mentally Retarded Adults (Reiss
& Benson, 1985), and the Illinois-Chicago Informant Rating Scale for Social Support (Laman & Reiss, 1987).

After conducting intercorrelation analyses and calculating internal consistencies on the five measures, Laman and Reiss decided that a scale comprised of the two supervisor-rated measures was most reliable ($r = .90$), and would be used for all remaining data analyses. Results of correlational analyses on this combination of measures supported the findings of Reiss and Benson (1985); namely, that depressed mood was negatively correlated with low levels of social support ($r = -.49$, $p < .001$). In an effort to evaluate this finding in greater detail, participants were assigned to one of three groups according to their total scores on the depression measures: "high-depressed" ($n = 12$), "middle-depressed" ($n = 21$), and "low depressed" ($n = 12$). Results of an ANOVA showed linear relationships between high levels of depressed mood and low levels of social support. In other words, moderate levels of depressed mood were associated with moderate levels of social support, while high levels of depressed mood were associated with the lowest levels of social support (Laman & Reiss, 1987).

As with the previous study, this investigation presented with several limitations. Despite the fact that participants were asked to complete self-ratings of depression, this information was not used in the data analysis. The authors stated that only the informant ratings were used because "the data provided by the supervisors was more internally reliable than the data provided by the subjects" (Laman & Reiss, 1987, p. 228). The authors admitted, however, that it may have been the examiners' lack of experience in working with individuals with intellectual disabilities that contributed to the poor reliability of the self-report measures. Perhaps the examiners were unable to communicate their expectations to their participants. This concession seems to be quite valid in that previous studies using the same measures have suggested that persons with intellectual disabilities can reliably self-report mood (Kazdin et al., 1983). In addition, as with
Reiss and Benson's study (1985), the participant sample was small. Keeping these limitations in mind, results of this study should be interpreted with caution.

Summary

Results of social support studies conducted with adolescents without intellectual disabilities, and with adults with intellectual disabilities, are consistent in that they indicate a significant negative (albeit weak to moderate) relationship between perceived availability and/or satisfaction with social support and depressive symptomatology. However, research investigating this relationship in adolescents with intellectual disabilities is non-existent. Adolescence is a time of dramatic changes, including adjustments in social support (Pikó, 1998). Peer relationships become more important at this time, while parents remain an important source of support. The research shows, however, that individuals with intellectual disabilities have fewer peers from whom they can receive support, and have available to them a smaller variety of social support resources than persons without intellectual disabilities (Morrison et al., 1992). This potential lack of support, especially from peers, not only provides these individuals with fewer opportunities to socialise with others -- opportunities to establish and maintain relationships that will provide them with supports but also contributes to more long-lasting effects such as depression.

Daily Hassles (Minor Life Events)

Introduction

Daily hassles differ from major life events in that they are minor, more frequently occurring or chronic events (Dohrenwend et al., 1984). For the purposes of this study, daily hassles will be operationally defined as "irritating, frustrating, distressing demands that to some degree characterise everyday transactions with the environment" (Kanner, Coyne, Schaefer, & Lazarus, 1981, p. 3). In simpler terms, daily hassles may be described as the "ongoing stresses and strains of daily life" (Rowlinson & Felner, 1988, p. 433).
At present, there is no published research that examines how daily hassles affect persons with intellectual disabilities. However, research conducted by Dohrenwend et al. (1984), and Kanner et al. (1981, 1987) suggest that, acting cumulatively, common daily stressors may produce wide-ranging, negative effects on the health and psychological functioning of individuals in general. Coddington, a pioneer in research on daily hassles as experienced by children and adolescents, stated that "health depends on an organism's capacity to maintain some sort of equilibrium between internal milieu and external environment. A number of insignificant events occurring during a given period of time may add up to a greater stress than a simple, obviously traumatic event" (Coddington, 1972, p. 262). In fact, Kohn and Milrose (1993) cited numerous studies that suggest that the adverse impact daily hassles have on physical and mental health far exceeds that of major life events. In more than one study, daily hassles have found to be better predictors of psychological symptoms than major life events (Rowlinson & Felner, 1988).

The following two sections discuss studies examining daily hassles and their relationship with depression in samples of children and adolescents without intellectual disabilities. These studies are grouped by age, starting with pre-adolescence, followed by adolescence.

Pre-adolescence

The nature and role of daily uplifts (positive experiences) and hassles were examined in a study conducted by Kanner and his colleagues in 1987. Two hundred and thirty-two sixth graders (91 males, 141 females) were recruited from 9 classrooms in two school districts in San Francisco, California. Sixty percent of participants were white, 16% Asian, and 14% Hispanic. Most came from two-parent, middle-class homes. Participants were asked to complete a battery of self-report questionnaires during two 1-hour sessions, including the Children's Hassles Scale (CHS; Kanner et al., 1985), Children's Uplifts Scale (CUS; Kanner et al., 1985), and CDI (Kovacs, 1980), among others. Three scores were calculated for the CHS: (1) frequency -- the
number of hassles that occurred in the past month, (2) frequency of bad hassles -- number of hassles rated as \textit{sort of bad} or \textit{very bad}, and (3) total intensity -- sum of weights for endorsed items. As with the CHS, three scores were obtained for the CUS, a scale that consists of a list of 25 uplifts or positive experiences. Participants were asked to rate whether a given event occurred in the past month and whether they felt \textit{OK}, \textit{sort of good}, or \textit{very good} about it.

Results of correlational analyses conducted on the hassles, uplifts, and a variety of other scales indicated that both hassles and uplifts were associated with a variety of outcomes, including depression, perceived support from friends, perceived social competence, and general self-worth. As expected, an increased frequency of hassles was positively associated with greater emotional distress and perceived interpersonal problems. In contrast, an increased frequency of uplifts or positive experiences was positively correlated with indicators of emotional well-being and social adjustment, accounting for "significant variance in social-emotional functioning above and beyond that attributable to hassles" (Kanner et al., 1987, p. 386). However, it was negative, rather than positive, life events that showed substantial relationships with outcomes such as depression and psychosomatic symptoms.

Hassles were found to be moderately associated with negative outcomes such as anxiety ($r = .60$, $p < .001$) and distress ($r = .43$, $p < .001$), and weakly associated with depression ($r = .38$, $p < .001$), as well as the absence of positive outcomes such as friendship support ($r = -.22$, $p < .001$), general self-worth ($r = -.32$, $p < .001$), and perceived social competence ($r = -.27$, $p < .001$). Results of this study also found some notable gender differences. Although males and females reported approximately the same number of hassles and uplifts, females tended to view these hassles as "bad" more often than males. Even though males reported fewer bad hassles than females, the relationship between bad hassles and social-emotional adjustment was stronger for males than females, a finding that is not consistent with those previously found in adult populations (Kanner et al., 1987).
Limitations of Kanner et al.'s study include a gender-skewed participant sample, the utilisation of several possibly unreliable instruments, and a very convoluted analysis of data. As the authors themselves admitted, the majority of participants came from intact, middle-class, families. The question remains as to whether the association found in this study would hold true for pre-adolescents from one-parent and/or lower class homes. Second, the reader must question whether or not the hassles and uplifts scales are confounded with those of psychopathology and well-being (see Dohrenwend et al., 1984). In other words, were the weak to moderate relationships found between hassles, uplifts, and a variety of outcomes, a function of overlap in scale content? The authors believe this not to be the case, but further research is warranted to substantiate this claim. Finally, the procedure of data analyses undertaken in this study was very difficult to follow, and thus would prove difficult to replicate.

Adolescence

Reynolds and his colleagues conducted a number of studies over a span of several years to demonstrate the construct validity (i.e., convergent validity) of the RADS (Reynolds, 1987). Several of these studies investigated the constructs of minor life events or chronic stressors (daily hassles) and social support, as well as their relationship to depressive symptomatology. As Reynolds noted, a large body of research has supported the causal or interactive relationships of these variables to depression.

The measures used to examine these relationships included the Adolescent Hassles Inventory (AHI; Reynolds & Waltz, 1984a, 1988), the Adolescent Support Inventory (ASI; Reynolds & Waltz, 1984b, 1988), and the RADS (Reynolds, 1986a). The AHI, a measure designed specifically for adolescents, consists of a 32-item paper-and-pencil questionnaire which assesses hassles (i.e., both minor events and chronic stressors) in five domains: school, parents/family, friends, jobs, and personal. Respondents are asked to indicate whether statements are true or false for them. The ASI, consisting of 16 items, follows the same format as the AHI,
but evaluates adolescents' perceived level of social support as provided by sources such as family, friends, peers, teachers, and others.

Correlation coefficients were calculated on the RADS, ASI, and AHI scores of 4,666 adolescents (approximately equal numbers of males and females), including 997 senior- and 1,361 junior-high students. Resulting coefficients were consistent in their size and direction across three studies and age groups (Reynolds, 1986b, 1987; Reynolds & Anderson, 1986), indicating a statistically significant relationship between depressive symptomatology and daily hassles ($r = .60 - .61, p < .001$), as well as a more moderate relationship between depressive symptomatology and perceived social support ($r = -.33$ and -.43, $p < .001$). A multiple regression analysis was then conducted on the scores of adolescents included in the RADS standardisation sample ($N = 2,380$) to further examine the relationship between depressive symptomatology, daily hassles and perceived social support. A multiple correlation coefficient of .69 was found. Significant standardised beta coefficients were also noted between the RADS and the ASI ($\beta = -.28, p < .001$), as well as the RADS and the AHI ($\beta = .46, p < .001$). This latter correlation indicates a particularly strong relationship between depressed mood and daily hassles, and supports a similar finding by Kanner et al. (1981, 1987) (Reynolds, 1987).

In 1988, Rowlison and Felner conducted a study to (a) examine the associations of daily hassles, major life events, and adjustment outcomes (including depressive symptomatology) for adolescents -- a population for which there is a lack of empirical data, and (b) further clarify these associations in general. The authors stated that previous studies investigating these relationships suffered from methodological limitations, and thus resulted in discrepant findings.

Participants included 682 high-school students (44% male, 56% female), ages 12 - 19 years, from the southwestern U.S. The sample was ethnically diverse, and predominately represented by students from low SES families. Students completed a large battery of self-report questionnaires at their respective schools, including the following: the Daily Hassles
Questionnaire (DHQ; Kanner, Coyne, Schaefer, & Lazarus, 1981), Life Events Checklist (LEC; Johnson & McCutcheon, 1980), Perceived Social Support Scale (PSSS; Procidano & Heller, 1983), and CDI (Kovacs, 1981).

Low to moderate correlations (p < .0001) were found between the DHQ and CDI (r = .48), as well as between perceived social support from friends (r = -.20) and family (r = -.45) and the CDI. Strong correlations were found among three of the self-report adjustment measures (r values > .60). In an effort to reduce redundancy among these variables, the total scores were converted to T-scores, summed, and used in all subsequent analyses. Canonical correlational analyses were then conducted to examine the relative contributions of daily hassles, major life events, and perceived social support to adolescent adjustment. Overall, the experience of daily hassles significantly predicted self-reports of adjustment. More specifically, daily hassles remained significantly related to adjustment outcomes even after the effects of major life events had been partialled out (r = .84, p < .001). Perception of social support from friends (r = -.31, p < .001) and family (r = -.63, p < .001) also significantly predicted negative affect (i.e., depression).

A major finding in this study was that daily hassles and major life events were weakly to moderately associated with adolescent depression. More importantly, on all but one of the adjustment measures, daily hassles were shown to be a significant and independent predictor of adjustment outcomes over and above any effects attributable to major life events. In fact, daily hassles predicted adjustment outcomes better than did negative major life events. These findings indicate that even though daily hassles and negative major life events were only moderately related (r = .44, p < .0001), they represent unique sources of life stress that can contribute to outcomes such as depression in adolescents. Finally, perceived social support was found to be related to negative affect, supporting the direct effect of social support on adolescents' ratings of depression (Rowlinson & Felner, 1988).
Although the authors' findings contributed significantly to the adolescent mental health literature and were generally consistent with previous findings, their results do not allow for a direct comparison to other studies. In addition to self-report measures, the authors included informant (i.e., teacher and parent) measures of affective symptomatology and perceived social support. They argued that adolescents who are depressed and report lower levels of social support may "evaluate their lives less favourably" because of a larger negative cognitive outlook, not because of real differences in social support (Rowlinson & Felner, 1988, p. 442). However, previous studies have established that informants are not the most reliable raters of either adolescents' affective states or their perceived social support. In addition, collapsing all adjustment measure scores made it very difficult to untangle the unique associations between depression and the associated variables of daily hassles and social support.

DuBois and his colleagues employed a prospective design to investigate the relationships between life stress and social support on adolescent adjustment. Participants included 339 grade 7 and 8 students (162 males, 177 females) from a midwestern university town in the U.S. The sample was ethnically diverse, with a substantial number of participants coming from low SES families. Data were collected on two separate occasions at participants' schools, at the beginning of the school year and 7 months later (DuBois, Felner, Meares, & Krier, 1994).

Participants were asked at Time 1 and 2 to complete a number of self-report measures, including the Life Events Checklist (Johnson & McCutcheon, 1980), Daily Hassles Questionnaire (DHQ; Rowlison & Felner, 1988; adapted from Kanner et al., 1981), Perceived Social Support Scale (Procidano & Heller, 1983), and CDI (Kovacs, 1981). Three indices of socio-economic "disadvantage" were also collected: (1) level of parents' education, (2) family composition and the number of adults students lived with, and (3) students' participation in the subsidised lunch program.
Preliminary analyses examined zero-order correlations for socio-environmental (i.e., major life events, daily hassles, and social support) and adjustment (i.e., scores on the CDI) variables. These analyses revealed that negative major life events, daily hassles, as well as perceived social support from family and friends, were all weakly to moderately related to adjustment variables, $r = .26, .45, -.34,$ and $-.23$, $p < .001$, respectively.

The primary analyses conducted for this study examined the relation of Time 1 socio-environmental variables on Time 2 adjustment levels. Controlling for Time 1 adjustment levels, multiple regression analyses revealed that socio-environmental variables made a significant contribution to the prediction of follow-up levels of depression. More specifically, both daily hassles ($\beta = .23$, $p < .001$) and bad major life events ($\beta = .13$, $p < .05$) were found to be weak predictors of increased depression ratings at follow-up, whereas family support ($\beta = -.15$, $p < .05$) was a weak predictor of lower levels of subsequent distress.

Next, possible interactions between socio-economic disadvantage and life stress and social support variables were examined by way of regression analyses. Results showed that daily hassles were a significantly stronger predictor of depression among the multiple-disadvantage group compared with the no-disadvantage group ($rs = .47$ vs. $.16$, $p < .05$). Finally, the authors examined possible reciprocal effects of adjustment on life stress and social support experiences. Partial correlations were computed to test for associations between Time 1 adjustment variables and Time 2 life stress and social support variables. Initial ratings of depression were found to be weakly related with both a higher number of daily hassles (partial $r = .13$, $p < .05$) and lower perceived family support (partial $r = -.16$, $p < .01$) at follow-up, indicating that these relationships are reciprocal, but weak.

Results of this study indicated that perceived social support from family members was weakly associated (prospectively) with reduced levels of depression. This finding supports the notion that adolescents continue to rely on their families despite their tendency to become
increasingly involved with peers at this developmental stage. Support from school personnel was also found to be associated (albeit weakly) with a variety of positive outcomes for students from socio-economically disadvantaged homes, and is consistent with earlier studies by DuBois et al. (1994).

Bennett and Bates (1995) chose a short-term prospective study to examine the independent and combined contributions of life stress and social support, among other variables, on early adolescents' depressive symptoms. Ninety-five adolescents (50 males, 45 females), ages 11 - 13, from the midwestern United States were recruited from birth as part of another study. A number of self-report and informant (i.e., mother) measures were mailed to participants' homes for completion one week before interviews were conducted in an effort to prevent participant fatigue. These measures included the Network of Relationships Inventory (NRI; Furman & Buhrmester, 1985), Youth Self-Report (YSR; Achenbach & Edelbrock, 1987), Child Behavior Checklist (CBCL; Achenbach, 1991), Life Events Scale (LES; Coddington, 1972), and an informant version of the CDI.

Interviews were conducted at participants' homes or at the university by trained graduate or undergraduate students. During interviews, participants completed the life stress measure, as well as the CDI (Kovacs, 1983) and Children's Hassles Scale (CHS; Kanner et al., 1987). Participants were interviewed and completed the same measures a second time after 6 months.

As the authors predicted, a lack of social support was concurrently, but weakly associated with increased depressive symptoms, with $r$ values ranging from -.27, $p < .05$ to -.32, $p < .001$ for the self-report measures. In contrast, life stress, in general, failed to correlate with depressive symptoms, although numerous nonsignificant trends were found. As such, results indicated that there was only weak support for a main effect of life stress on depression. In examining the prospective relationships between social support and depression, it was found that social support at Time 1 predicted mother-, but not self-ratings of depression at Time 2, controlling for Time 1
symptoms. However, self-ratings of depression at Time 1 were found to weakly predict daily hassles at Time 2, controlling for Time 1 hassles ($r_{CDI} = .26, p < .05; r_{YSR} = .18, p < .09$). Daily hassles, however, were not found to predict depression.

Consistent with previous studies, these results found that perceived social support was concurrent with and predicted future depressive symptoms. More specifically, adolescents who perceived supportive relationships with their family and friends had fewer depressive symptoms. Support (although weak) for a main effect of life stress on depression was also found. In addition, self-ratings of depressive symptoms showed a trend of predicting future hassles, but only on the CHS. The authors hypothesised that this finding might be attributed to the fact that the CHS is less influenced by participants' symptomatology (Bennett & Bates, 1995).

Results of this study may not necessarily generalise to a more ethnically diverse population due to its predominately white, middle-class sample. Additionally, adults are generally unreliable raters of adolescents' internal states (i.e., depression), the stressfulness of their lives (Kanner et al., 1987), as well as the perception of their social supports. As such, results of this study may have represented an underestimate of the relationship between stressful life events, social support, and depression as experienced by adolescents.

Very recently, Johnson and Sherman (1997) also conducted a prospective study to investigate whether the association between major negative life events and psychiatric symptoms was mediated by the occurrence of daily hassles. One hundred and forty-four undergraduate students, with a mean age of 17.9 years (35 males, 109 females), were asked to complete a number of questionnaires including the Life Experiences Survey (LES; Sarason, Johnson, & Siegel, 1978), Revised Hassles Scale (HS-R; DeLongis, 1985; DeLongis, Folkman, & Lazarus, 1988), and Revised Hopkins Symptom Checklist (SCL-90-R; Derogatis, 1983), on 3 occasions over a two-month interval.
Johnson and Sherman noted that students' mean scores on all 3 measures tended to decline gradually over time, with scores on three SCL-90-R subscales declining significantly between Time 1 and 3: anxiety ($t = 5.26; p < .001$), depression ($t = 4.70; p < .001$), and general symptom index ($t = 6.19; p < .001$). However, 28% of participants ($n = 40$) reported increased levels of psychopathology between baseline and Times 2 and 3. Correlational analyses were conducted on the 3 measures, and indicated significant correlations between HS-R and LES scores, as well as the anxiety and depression subscales and general symptom index of the SCL-90-R throughout the time periods. Additionally, Time 1 HS-R scores ($r = .59, p < .001$) were moderately correlated with Time 2 HS-R scores.

Finally, hierarchical multiple-regression analyses were conducted to determine whether Time 1 daily hassles scores would predict anxiety, depression, and general psychiatric symptom scores, and whether Time 1 major life events scores would predict psychiatric symptom scores after Time 1 daily hassles scores were statistically controlled. Results of these analyses indicated that Time 1 daily hassles mediated the relationship between Time 1 major negative life events and psychiatric symptomatology scores throughout the time periods. In addition, daily hassles at both Times 1 and 2 predicted change in psychiatric symptomatology between Time 1 and 3, even after psychiatric symptom scores were statistically controlled. These results suggest that daily hassles may be associated with long-lasting and acute psychiatric symptomatology such as anxiety and depression.

Johnson and Sherman's findings provide support for the mediating influence of daily hassles on major life events and psychiatric symptoms, and are consistent with some previous findings which indicate that self-report life event measures (i.e., major life events and daily hassles) can predict subsequent symptom levels after current symptomatology is accounted for (DuBois et al., 1994). Results of this study, however, should be interpreted with caution. Very few males were included in the sample, and therefore, the results may be skewed towards
females. Second, few of the participants reported significant increases in daily hassle, major life event, and psychiatric symptom scores during the study period. As such, these results may not generalise to situations that involve significant increases in both symptom and stress levels. Instead, we can say that the present results indicate that low levels of daily hassles may contribute to the maintenance of psychiatric symptoms. It should be noted, however, that psychiatric symptoms could just as likely precipitate the occurrence of daily hassles as be caused and/or worsened by them (Johnson & Sherman, 1997).

Ystgaard conducted two studies in Norway (Ystgaard, 1997 & Ystgaard, Tambs, & Dalgard, 1999), utilising the same sample set, to investigate both the short- (cross-sectional design) and long-term (longitudinal study) effects of negative life events, chronic hassles, and social support on psychological distress in adolescence.

Participants originally included 263 grade 11 students (141 males, 122 girls) attending a senior high school in Oslo in 1990 and 1991. Their mean age was 16.9 years. Study 2 (Time 2) data were collected from 211 participants (110 males, 101 females) drawn from the original sample. No further demographic information was provided. Students completed the following questionnaires at their schools: the 25-item Hopkins Symptoms Checklist (HSCL-25; Hesbacher, Rickels, Morris, Newman, & Rosenfeld, 1980, Winokur, Winokur, Rickels, & Cox, 1984), a negative life events checklist constructed from Coddington's lists of life events (Coddington, 1972; Newcomb et al., 1981; Swearingen & Cohen, 1985), a checklist of "long-lasting adversities" (i.e., daily hassles), and a perceived social support measure. On both the negative life events and daily hassles checklists, participants were asked to rate events they experienced during the previous 12 months using a 5- and 3-point Likert-scale of severity, respectively. Social support was assessed by asking students to rate their perceived relationships with friends (8 items), family (8 items), and people in their classrooms (4 items) on a 3-point Likert scale.
Multiple regression analyses were conducted to examine the relationship of the various stressors and support variables on psychological distress. Consistent with other studies in the adolescent literature, females reported a significantly higher level of psychological distress than males ($t = 4.35, p = .000$). In contrast, there was no significant gender effect of family social support or chronic hassles. However, males reported slightly more classroom support ($t = 1.9, p = .049$), while females reported higher support from their friends ($t = -3.15, p = .002$), as well as a greater severity of negative life events ($t = 2.40, p = .017$). Multiple regression analyses, conducted separately for males and females, showed that support from family was strongest of all sources of support for both genders, $t_s = 3.25, p < .01$ and $4.41, p < .001$, respectively. Support from this source, as well as from friends ($t_s = 2.10$ and $2.16, p_s < .05$, respectively) was found to significantly reduce symptoms of psychological distress for both genders (Ystgaard, 1997).

As with the 1997 study, females reported significantly greater psychological distress than males in the longitudinal follow-up study (Ystgaard et al., 1999). In contrast to Time 1, however, females did not report significantly greater social support from friends than did males. Multiple regression analyses were again used to examine the main effects of various stressors and social support variables on psychological distress. Results of these analyses showed that psychological distress at Time 1 was the strongest predictor of symptom scores at Time 2 ($\beta = .62$ for males, $\beta = .44$ for females, $p = .001$). In addition, chronic daily hassles explained a small portion of the variance in distress scores at Time 2 for both genders ($\beta = .23$ for males, $\beta = .29$ for females, $p < .001$). Time 1 negative life events were also found to weakly contribute to Time 2 distress scores for females ($\beta = .22, p < .01$). In terms of social support, change in family support for males ($\beta = .21, p < .05$) and change in classmate support for females ($\beta = .17, p < .05$) was weakly associated with psychological distress at Time 2.
It is difficult to determine how the results of these two studies would compare to others that examine the relationships among daily hassles, negative life events, social support and depression. This is in large part due to the fact that many of the measures used are of a questionable nature. Although the authors claimed that the "correlations between time 1 and 2 measures were relatively high, ranging from 0.46 to 0.66" (Ystgaard et al., 1999, p. 15), these correlations should not be considered high. Additionally, scant psychometric data were provided on the measures included in the methodology, and even fewer details were given as to what items are included on these instruments. A review of the few items provided on the "long-lasting adversities" or daily hassles checklist reveal that a good proportion of these tap into events that are typically included on measures of major life events. This confounding of measures leads one to question the generalisability of findings, not to mention the validity of the measures employed. The authors even admitted that "some uncertainty is attached to the qualities of the scales" (Ystgaard et al., 1999, p. 17), and then proceeded to provide alpha reliability coefficients ranging from 0.67 to 0.91, and test-retest correlation coefficients ranging from 0.46 to 0.66.

**Summary**

Whether examining at pre-adolescent or adolescent populations, researchers have found that daily hassles appear to be positively albeit weakly to moderately correlated with psychopathology, including depression (Johnson & Sherman, 1997; Kanner et al, 1987; Reynolds, 1987). In addition, some of these studies report correlations with major life events (Johnson & Sherman, 1997), and negative outcomes such as anxiety and lowered self-worth (Kanner et al., 1987). Results of Johnson and Sherman's study suggest that daily hassles can predict psychological symptomatology. In sum, the adolescent literature reviewed thus far supports the significant (albeit weak to moderate) association between daily hassles and psychological health and/or depressed mood.
Before any predictions are made, however, research in this field requires some fine-tuning. Many of the studies described above lacked essential methodological information and/or utilised unreliable instruments. Thus, the generalisability of these studies is limited. For example, Kanner et al.'s study (1987) recruited a participant sample consisting of predominantly intact, middle-class families. Would these results hold true for participants from one-parent, lower class families, or individuals of "non-white" backgrounds? Johnson and Sherman's study (1997) included almost all female participants. Would their findings, particularly their claim that daily hassles could predict psychiatric symptomatology, hold true for males? At least one study used a daily hassles measure whose item content could possibly have been contaminated with symptoms of psychopathology (Kanner et al., 1987). As such, their finding that daily hassles were associated with negative outcomes such as depression, could simply be a function of content overlap.

It is also important to note that none of the studies reviewed in this section investigate daily hassles for adolescents with intellectual disabilities. Research in this field has not kept pace for these individuals. Daily living poses an enormous challenge for many adolescents, particularly those with intellectual disabilities. The often limited capacity of the latter group to cope with the pressures and demands of daily life may very well explain the increase in prevalence rates of depression in this population (Dosen, 1993).

Summary

The literature reviewed in this chapter shows that adolescents with intellectual disabilities evidence a greater number and severity of depressive symptomatology than adolescents without intellectual disabilities (Matson et al., 1988; Reynolds & Miller, 1985; Schloss et al., 1988). The social support literature, meanwhile, indicates that the social support networks of adults with intellectual disabilities are smaller, and contain fewer peers than their peers without intellectual disabilities. Despite their smaller social networks, empirical studies indicate that these
individuals do not perceive of themselves as receiving less support than adults without intellectual disabilities (Krauss et al., 1992; Rosen & Burchard, 1990). Will this association hold true for adolescents?

A review of the social support research conducted with both persons with and without intellectual disabilities indicates consistent findings of a weak to moderate negative relationship between perceived availability and/or satisfaction with social support and depressive symptomatology (Benson & Deeter, 1992; Cheng, 1997; Compas et al., 1986a; Laman & Reiss, 1987; Reiss & Benson, 1985). However, research investigating this relationship in adolescents is non-existent. Adolescence is a time of dramatic changes (Morrison et al., 1992; Riesch et al., 1994). Peers become increasingly more important at this time. Studies show, however, that individuals with intellectual disabilities have fewer peers than their equals without intellectual disabilities from whom they can draw support, and a smaller variety of social support resources in general (Rosen & Burchard, 1990; Wenz-Gross & Siperstein, 1996). This potential lack of support, especially from peers, may contribute to the higher prevalence of depression in this population.

At present, there is no published research available that details how daily hassles affect adolescents with intellectual disabilities. However, research conducted with adolescents without intellectual disabilities suggest that these common daily stressors are positively correlated with psychopathology, including depression (Bennett & Bates, 1995; DuBois et al., 1994; Reynolds, 1987; Rowlinson & Felner, 1988; Ystgaard, 1997, 1999). Research in this field requires fine-tuning, however. Many of the studies reviewed lack essential methodological information and/or utilise unreliable instruments.

Daily living poses an enormous challenge for many adolescents, particularly those with intellectual disabilities. These individuals are often limited in their capacity to cope with the pressures and demands of daily life (Dosen, 1993). This fact, in itself, points to the need for
corresponding research in daily hassles to be conducted with adolescents with intellectual disabilities.
PROBLEM STATEMENT

CHAPTER 3

Introduction

A review of the literature examined a number of variables considered important in investigating depressed mood in adolescents. However, this review demonstrated a lack of empirical research investigating socio-environmental variables and their association with depressed mood in adolescents with intellectual disabilities. Although several small sample studies have explored depressed mood in adolescents, as well as the relationship between social support and depressed mood in adults with intellectual disabilities, there is no published research which has examined daily hassles (minor life events) and/or their relationship to depressed mood in this population.

The present study seeks to examine the mean differences between adolescents with and without intellectual disabilities in depressive symptomatology; amount of daily hassles; and perceived social support, as well as to explore the relationships among depressed mood, daily hassles, and social support in these two groups of adolescents. The purpose of this study is sixfold: first, to replicate the findings of Benavidez and Matson (1993) and Reynolds and Miller (1985) with a larger sample of adolescents ($N = 100$). The second focus of this study is to determine whether Rosen and Burchard's findings (1990) would generalize to a sample of adolescents with intellectual disabilities, and compare the results to those evidenced by adolescents without intellectual disabilities. A third purpose is to compare adolescents with and without intellectual disabilities on the number of daily hassles they experience. The fourth focus of this study is to examine the concurrent relationship between daily hassles and depressed mood as evidenced by adolescents with intellectual disabilities. The fifth purpose is to determine whether the relationship Reiss and Benson (1985) established between social support and depressed mood would generalize to a sample of adolescents with intellectual disabilities, and
the sixth purpose is to compare these relationships to those manifested by adolescents without intellectual disabilities.

Assuming that the constructs of perceived social support, daily hassles, and depressed mood may be reliably and validly assessed using the self-report measures included in the methodology (see subsequent chapter), the following hypotheses and research questions provide the focus of the present study:

Hypothesis

It is expected that adolescents with intellectual disabilities will report a significantly higher level of depressive symptoms than adolescents without intellectual disabilities. More specifically, it is expected that females with intellectual disabilities will report a significantly higher level of depressive symptoms than females without intellectual disabilities, and that males with intellectual disabilities will report a significantly higher level of depressive symptoms than males without intellectual disabilities.

Rationale

Prior to the mid-1980s, few empirical studies existed to validate the claim that the prevalence of depression in persons with intellectual disabilities was higher than that found in the general population. Since then, researchers have investigated both the prevalence and symptom presentation of depression, comparing groups of individuals with and without intellectual disabilities. Results of the majority of their studies support the belief that individuals with intellectual disabilities evidence a greater number and severity of depressive symptomatology than individuals without intellectual disabilities.

Matson et al. (1988), Reynolds and Miller (1985), as well as Schloss et al. (1988) all investigated depression in adolescents with and without intellectual disabilities. Regardless of the type of depression measure used, and whether participants with intellectual disabilities were recruited from a psychiatric care facility (Matson et al.) or self-contained special education
classrooms (Reynolds & Miller; Schloss et al.), results were consistent in that adolescents with intellectual disabilities manifested significantly greater depressive symptomatology than their peers without intellectual disabilities.

Depressed mood or severity of depressive symptomatology will be assessed by way of a self-report measure of depression developed for adolescents, and proven reliable in assessing this construct in both adolescents with and without intellectual disabilities. A self-report instrument will be employed because the perception of the participants is of the utmost importance in assessing symptoms requiring subjective knowledge such as depression (Harter & Marold, 1994). Research has shown that significant others (i.e., informants) may also under-report symptoms of depression (Matson et al., 1988).

To address consistent findings of gender differences for both adolescents with and without intellectual disabilities (Cheng, 1997; Compas et al., 1986a; Píkó, 1998, Schloss et al., 1988; Ystgaard et al., 1999), depression scores will be separately analysed for males and females using two t-tests for independent groups (adolescents with and without intellectual disabilities).

Research Questions

Question 1

Is there a significant difference in the number of daily hassles reported by adolescents with intellectual disabilities as compared to adolescents without intellectual disabilities?

Rationale

Although some empirical studies have investigated socio-environmental variables such as social support in persons with intellectual disabilities (Laman & Reiss, 1987; Reiss & Benson, 1985; Rosen & Burchard, 1990; Wenz-Gross & Siperstein, 1996), no research has been conducted to examine the experience of daily hassles for individuals with intellectual disabilities. Although it might be expected, due to their often limited capacity to cope with the pressures and demands of daily life (Dosen, 1993), that adolescents with intellectual disabilities will report
more daily hassles than their peers without intellectual disabilities, there are no empirical data to
support this claim. Predicting outcomes based on research conducted with adolescents without
intellectual disabilities would also prove problematic. Many of these studies lack essential
methodological information and/or utilise unreliable instruments, and thus provide a poor
foundation for generalisability.

Daily hassles or minor life events will be assessed by way of a self-report checklist
developed by Reynolds and Waltz (1984a, 1988). Daily hassle items include minor life events,
which occur in the daily lives of adolescents with and without intellectual disabilities, covering
the areas of school; family; and friends. It is expected that adolescents with mild to moderate
intellectual disabilities will be reliable raters of common, stressful daily events.

Studies that have explored possible gender differences in the experience of daily hassles
have been mixed in their findings (Kanner et al., 1987). To address the possibility of gender
differences for both adolescents with and without intellectual disabilities, daily hassles scores
will be analysed separately for males and females (in each group) using two t-tests for
independent groups (adolescents with and without intellectual disabilities):

**Question 2a**

Is there a significant difference in the correlation between daily hassles and depressed
mood for adolescents with intellectual disabilities as compared to their peers without intellectual
disabilities?

**Question 2b**

Is there a significant difference between males and females without intellectual
disabilities with regard to the relationship between daily hassles and depressed mood? Is there a
significant difference between males and females with intellectual disabilities with regard to the
relationship between daily hassles and depressed mood?
Rationale

A growing body of literature has demonstrated that daily hassles are associated with a wide variety of maladaptive outcomes, including depression (Johnson & Sherman, 1997; Kanner et al., 1981, 1987). For example, Kanner et al. (1987) found that an increase of hassles was positively associated with greater emotional distress and perceived interpersonal problems. In a prospective study, Ystgaard et al. (1999) found that Time 2 daily hassles explained a significant portion of the variance in the psychological distress scores of Norwegian adolescents.

Acting cumulatively, common daily stressors generate wide-ranging, negative effects on individuals' health and psychological functioning (Dohrenwend et al., 1984; Kanner et al., 1987). As such, research in this area should be given priority, especially for persons who, because of their limitations in cognitive and adaptive functioning, find coping with the pressures and demands of daily life difficult. Given their more limited cognitive and social abilities and lack of social support, as well as the inadequacy of available mental health services for persons with intellectual disabilities, coping with the pressures and demands of daily life would present a challenging task (Dosen, 1993; Reiss & Benson, 1985). Thus, it would seem that it would not take a major life event to over-extend the coping abilities of these individuals (Menolascino & Fleisher, 1993). Research has indicated that individuals with intellectual disabilities experience particular difficulties coping with stressful situations (Reiss, Levitan, & Szyszko, 1982). Their anxiety about these situations may be related to factors such as chronic failure and frustration, unrealistic expectations from others (i.e., parents, teachers, peers), and limited opportunities to interact with others (Eaton & Menolascino, 1982).

At present, there is no available published research which details how daily hassles are related to depressed mood in adolescents with intellectual disabilities. Given the general lack of methodologically sound studies examining daily hassles in adolescents without intellectual disabilities, it is difficult to ascertain how daily hassles might be associated with depressed mood.
for adolescents with intellectual disabilities. Does the relationship between these two variables look the same or different (i.e., stronger, weaker) for adolescents with intellectual disabilities? The proposed study offers the first comparative assessment of daily hassles in adolescents with and without intellectual disabilities.

The investigation of daily hassles for adolescents in the general population is sparse. As such, there are few data regarding gender differences in the relationship between daily hassles and depressed mood. However, Kanner et al. (1987) noted that pre-adolescents' depression scores were strongly associated with the number of bad hassles they reported. This positive correlation was found to be statistically stronger for males ($r = .60, p < .001$) than females ($r = .26, p < .01$). A somewhat different finding resulted from a longitudinal study of Norwegian high school students (Ystgaard et al., 1999). The experience of daily hassles explained a significant portion of the variance in both males' ($\beta = 0.23, p < .001$) and females' ($\beta = 0.29, p < .001$) psychological symptom scores at Time 2.

Two bivariate correlations will be conducted to determine whether there are positive, statistically significant correlations between daily hassles and depressed mood (for group, then group by gender). The resulting six coefficients (2 group, 4 gender) will be transformed into z-scores, using the formula for Fisher's z-transformation, to allow for a comparison of independent r's. Using an alpha value of .05, values above $z_{crit} = 1.96$ will be deemed statistically significant to detect differences for group and/or gender (Howell, 1992).

**Question 3**

Is there a significant difference between adolescents with and without intellectual disabilities with regard to their perception of received social support?

**Rationale**

Results of both Rosen and Burchard's (1990) and Wenz-Gross and Siperstein's (1996) studies confirmed wide-held beliefs that the social support networks of adults and pre-
adolescents with intellectual disabilities contained fewer peers than did networks of adults and pre-adolescents without intellectual disabilities, respectively. Furthermore, individuals with intellectual disabilities tended to rely on a small number of family members and/or service providers for their needs. However, despite having social support networks almost twice as small as their peers without intellectual disabilities, persons with intellectual disabilities did not perceive of themselves as more socially isolated (Rosen & Burchard). The two studies described above were conducted with adults and pre-adolescents, respectively. Research needs to be conducted to determine whether these findings hold true for adolescents with intellectual disabilities, and how these might compare to adolescents without intellectual disabilities.

Perceived social support is viewed by many researchers as the key element in the construct of social support (Barrera & Ainlay, 1983). Therefore, it is not only preferable, but essential to examine issues related to social support from the perspective of the individuals themselves rather than relying on informant report. Because research on social support in the general population is based on self-report, it makes logical sense that this construct should be similarly measured in persons with intellectual disabilities. Informants (i.e., parents, teachers, staff) are not always familiar with the entire social support network of those for whom they provide care, and as such, self-reported perceptions of social support provide a more accurate picture (Lunsky & Benson, 1999).

Results of Lunsky and Benson's study (1997) demonstrated that adults with mild intellectual disabilities were reliable reporters of their own social support. Perceived social support will be assessed using a 16-item self-report research instrument developed by Reynolds & Waltz (1984b, 1988). This measure taps into several sources of support, including peers, parents, and teachers.

Many studies examining social support in adolescents without intellectual disabilities have found that females report greater perceptions of emotional social support than males
(Cheng, 1997; Pikó, 1998; Slavin & Rainer, 1990). To address consistent findings of gender differences for both adolescents with and without intellectual disabilities (see Chapter 2), social support scores will be separately analysed for males and females (in each group) using two t-tests for independent groups (adolescents with and without intellectual disabilities).

**Question 4a**

Is there a significant difference in the correlation between perceived social support and depressed mood for adolescents with intellectual disabilities as compared to their peers without intellectual disabilities?

**Question 4b**

Is there a significant difference between males and females without intellectual disabilities with regard to the relationship between perceived social support and depressed mood? Is there a significant difference between males and females with intellectual disabilities with regard to the relationship between perceived social support and depressed mood?

**Rationale**

Children and adolescents require social support to help them deal with stress and adjust to their environment (Lazarus & Folkman, 1984; Wenz-Gross & Siperstein, 1996). In fact, researchers agree that low satisfaction with and/or low perceptions of social support are correlated with psychological symptoms, including higher levels of depression (Benson & Deeter, 1992; Cheng, 1997; Compas et al., 1986a).

Inadequate social support, especially in combination with negative or stressful life events, seems to have a far worse effect on persons with intellectual disabilities than it does on those without intellectual disabilities (Meins, 1993). Perhaps, this is because adolescents with intellectual disabilities lag behind their peers in both adaptive and cognitive functioning. They are at high risk for failure in society, especially without the support of others. It would follow,
then, that these individuals require more community integration and support than their peers without intellectual disabilities do to live mentally healthy lives (Eaton & Menolascino, 1982).

Unfortunately, persons with intellectual disabilities not only experience more social and environmental disadvantages than their peers without intellectual disabilities (Matson, 1982), but in many cases they lack adequate sources of social support (Helsel & Matson, 1988; Morrison et al., 1992). A lack of social networks, in combination with a high risk of failure, often contributes to rejection; social isolation and loneliness; as well as an under-diagnosis of psychopathology in persons with intellectual disabilities (Menolascino & Fleisher, 1993).

Results from previous studies have highlighted the importance of analysing data separately for males and females in order to properly understand how social support may be differentially related to depressed mood. Pikó (1998) reported a stronger correlation between psychological well-being and emotional support for females ($t = 0.17$, $p < .001$) than for males ($t = -0.23$, $p < .001$) in her sample of Hungarian high school students. Compas et al. (1986b) did not find such a gender difference. Both male and female adolescents' depression scores correlated substantially with friendship support. Finally, Slavin and Rainer (1990) reported partial gender differences with their longitudinal study of high school students. Only Time 1 family support was correlated with later depressive symptoms in females. Adult and friend support also predicted Time 2 depressive symptoms among females after controlling for initial symptoms.

To determine whether there are negative, statistically significant correlations between perceived social support and depressed mood (for group, then group by gender), depression and social support scores will be subjected to two bivariate correlation analyses. The resulting six coefficients (2 group, 4 gender) will be transformed into $z$ scores, using the Fischer's $z$-transformation formula, to allow for a comparison of independent $r$'s. Using an alpha value of
.05, values above $z_{crit} = 1.96$ will be deemed statistically significant to detect differences for group and/or gender (Howell, 1992).
METHODOLOGY

CHAPTER 4

Participants

Participants were 50 high-school students (27 males, 23 females) without intellectual disabilities who were matched by age and gender (see Appendix A) to 50 high-school students (27 males, 23 females) with mild to moderate intellectual disabilities. They included students in grades 8 – 12, ages 13 – 19 years. Participation in the study was voluntary. Students were recruited from 14 secondary schools in 3 school districts in the Greater Vancouver Regional District of British Columbia with the written permission of their respective school boards (see Appendix B). Parents or legal guardians received and were asked to sign letters of consent on behalf of themselves and their children (see Appendixes C and D). Both parents and participants were assured that all information would be coded to ensure anonymity, and would be kept confidential. In addition, participants were informed that they could withdraw from the study at any time without penalty.

Students with intellectual disabilities were selected to participate in this study if they met the British Columbia Ministry of Education’s criteria for designation as students with mild intellectual disabilities (including IQ scores of approximately 50 to 75 on an individually administered measure of intellectual functioning) (DSM-IV criteria, APA, 1994). The Kaufman Brief Intelligence Test (K-BIT; Kaufman & Kaufman, 1990) was administered to participants with intellectual disabilities for whom there were no recent (i.e., within the past 3 years or at the secondary level) and/or available Level C cognitive ability test scores. Twenty-four K-BITs were administered overall. Four students were subsequently eliminated from the sample on the basis of attaining IQ scores above 75. Results of cognitive ability testing also indicated that three of the students included in this study demonstrated moderate, not mild, levels of intellectual functioning. The range of IQ scores was 40 to 74, with a mean of 61.30, and a standard
deviation of 10.53 (n = 20). All participants with intellectual disabilities were connected to special education resource rooms in their respective schools, but all attended mainstreamed classes. The amount of time (i.e., number of resource blocks) students spent in these self-contained resource rooms depended on their level of cognitive and adaptive functioning, and ranged from 1 to 6 blocks out of a possibility of 8 blocks (M = 3.30, SD = 1.51).

Demographic Characteristics

Demographic information was collected from each participant and included the following: date of birth; age; gender; self-rated achievement level; ethnicity; place of residence; and parental occupation(s) (see Appendix A). For students with intellectual disabilities only, resource room teachers provided information regarding number of resource blocks and date of most recent psycho-educational assessment. K-BIT scores were also calculated for students for whom there were no recent and/or available cognitive ability test scores. A summary of demographic characteristics for the two groups (participants with and without intellectual disabilities) are presented in Table 1.

As Table 1 indicates, school SES did not differ between participants with and without intellectual disabilities, t (98) = -0.67, p > .05, d = -0.13. For example, 13 students (26%) with intellectual disabilities and 10 students (20%) without intellectual disabilities attended schools that were rated by their respective principals as consisting primarily of low to middle class families. This result indicates that the researcher’s attempt to randomly select students without intellectual disabilities from schools that were SES-equivalent to those of students with intellectual disabilities was successful.

There were notable differences between the two groups in grade, ethnic composition, and socio-economic status (SES). For example, because a number of students with intellectual disabilities had been retained for 1 year during their school careers, the proportions of participants in each grade were not equal for those with and without intellectual disabilities. In
terms of ethnicity, there were significantly fewer students of Asian descent in the group with intellectual disabilities (12%) than in the group without intellectual disabilities (36%). Eight students with intellectual disabilities and 4 students without intellectual disabilities indicated an ethnic background other than the five categories provided. Students who categorised themselves as other gave the following descriptions of their ethnic backgrounds: "Canadian" (n = 2), Iranian (n = 2), Iraqi (n = 1), "Aboriginal" (n = 1), "half-white, half black" (n = 1), "half white, half native" (n = 1), "half white, half Asian" (n = 1), "Greek, Native, German" (n = 1), and "Italian, French, Canadian" (n = 1). The remaining student did not provide a description of their ethnic background.

A t-test for independent groups was also employed to examine overall mean differences between groups on the Hollingshead Socio-Economic Status Occupational Factor (Hollingshead, 1975). The t-test was significant, $t(93) = -3.49, p < .01, d = -0.72$, indicating that students without intellectual disabilities rated their families’ SES (i.e., parental occupations) significantly higher than students with intellectual disabilities. Previous research has indicated that, in general, individuals with mild intellectual disabilities come from lower SES backgrounds than individuals without intellectual disabilities (Hodapp, 1995; Reed & Reed, 1965).

Measures

All participants completed three self-report paper-and-pencil measures assessing depressed mood, daily hassles, and perceived social support, as well as a demographic information (Student Information) form (see Appendix E). A brief measure of intellectual functioning was also administered to participants with intellectual disabilities for whom there were no recent (i.e., within the past 3 years or at the secondary level) and/or available test scores.
Table 1

Participant Demographic Characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Participants with Intellectual Disabilities</th>
<th>Participants without Intellectual Disabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
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<td></td>
</tr>
<tr>
<td>Males</td>
<td>27 (54%)</td>
<td>27 (54%)</td>
</tr>
<tr>
<td>Females</td>
<td>23 (46%)</td>
<td>23 (46%)</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>15.12</td>
<td>15.08</td>
</tr>
<tr>
<td>SD</td>
<td>1.64</td>
<td>1.58</td>
</tr>
<tr>
<td>Range</td>
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<td>13 - 19</td>
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<td></td>
</tr>
<tr>
<td>8</td>
<td>12 (24%)</td>
<td>11 (22%)</td>
</tr>
<tr>
<td>9</td>
<td>11 (22%)</td>
<td>9 (18%)</td>
</tr>
<tr>
<td>10</td>
<td>13 (26%)</td>
<td>16 (32%)</td>
</tr>
<tr>
<td>11</td>
<td>6 (12%)</td>
<td>3 (6%)</td>
</tr>
<tr>
<td>12</td>
<td>8 (16%)</td>
<td>11 (22%)</td>
</tr>
<tr>
<td>Ethnicity</td>
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</tr>
<tr>
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<td>1 (2%)</td>
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</tr>
<tr>
<td>Asian</td>
<td>6 (12%)</td>
<td>18 (36%)</td>
</tr>
<tr>
<td>Caucasian (white)</td>
<td>22 (44%)</td>
<td>20 (40%)</td>
</tr>
<tr>
<td>East Indian</td>
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<td>6 (12%)</td>
</tr>
<tr>
<td>Hispanic</td>
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<td>2 (4%)</td>
</tr>
<tr>
<td>Pacific Islands</td>
<td>3 (6%)</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>8 (16%)</td>
<td>4 (8%)</td>
</tr>
<tr>
<td>SES (Hollingshead)</td>
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<td></td>
</tr>
<tr>
<td>M</td>
<td>6.45</td>
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</tr>
<tr>
<td>SD</td>
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</tr>
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<td>Range</td>
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<td>2</td>
</tr>
<tr>
<td>SES (school)</td>
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</tr>
<tr>
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</tr>
<tr>
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<td>0 - 5</td>
</tr>
</tbody>
</table>

Note: Parental SES is a cumulative score of both parents' occupation coded from 1 (unemployed/welfare/stay-at-home) to 9 (executive/highly trained professional/medical doctor) using Hollinghead's occupational categories. Therefore, the potential total range for SES is 1 to 18.
Demographic Information

Achievement

Participants provided self-ratings of achievement, circling the letter grade that best reflected their overall level of academic performance in school. These letter grades were later transformed into numbers using the following coding system: $A^+ = 13, A = 12 \ldots D^+ = 2, F = 1$.

Socio-Economic Status

Participants were also asked to describe their parents' occupations. The cumulative score of both parents' occupations were then coded from 1 (unemployed/welfare/stay-at-home) to 9 (executive/highly trained professional/medical doctor) using categories from the Hollingshead Socio-Economic Status Occupational Factor (Hollingshead, 1975). Therefore, the potential total range of participants' SES could range from 1 to 18.

Secondary-level principals were asked to rate the overall socio-economic status of their schools' students, using a Likert-style rating scale of 1 to 6: 1 = low, 2 = low to middle, 3 = middle, 4 = middle to high, 5 = high, and 6 = low to high. These ratings were collected to ensure that participants without intellectual disabilities were randomly selected from the same or SES-equivalent schools as participants without intellectual disabilities.

Cognitive Assessment

Kaufman Brief Intelligence Test (K-BIT; Kaufman & Kaufman, 1990)

The K-BIT is a brief, individually-administered measure of verbal and non-verbal intelligence that may be used as a gross estimate of intellectual functioning. As its authors state, "the K-BIT may not substitute for a comprehensive measure of a child's or adult's intelligence" (Kaufman & Kaufman, 1990, p. 1). Similar to other standardised intelligence tests, the K-BIT has a mean of 100 and a standard deviation of 15.

The K-BIT is comprised of two subtests: Vocabulary (verbal) and Matrices (non-verbal). The Vocabulary subtest is subdivided into two parts: Expressive Vocabulary (45 items) and
Definitions (37 items). Administration time takes approximately 15 to 30 minutes. The examinee's responses are scored as either 0 or 1; no partial credit is given. Raw scores can be converted into standard scores, normal curve equivalents, confidence intervals, percentiles, stanines, and/or descriptive categories such as "well below average." Three total scores may be generated: Vocabulary, Matrices, and an IQ Composite (Kaufman & Kaufman, 1990).

Reliability and validity studies indicate that the K-BIT is a reliable, psychometrically sound instrument. Internal consistency (split-half reliability) coefficients for Vocabulary and the IQ Composite were found to be high (.89 to .98 and .88 to .98, respectively), while lower but acceptable coefficients were obtained for the Matrices subtest (.74 to .95). Test-retest reliability coefficients range from .86 to .97 for Vocabulary, .80 to .92 for Matrices, and .92 to .95 for the IQ Composite. Evidence of construct validity comes from several sources. Correlations between the Vocabulary and Matrices range from .38 to .75, and show good internal construct validity. Steady increases in mean raw scores on all tasks throughout childhood and adolescence also demonstrate good internal construct validity. Evidence of adequate external construct validity comes from moderate to high correlations with other measures of intelligence such as the K-ABC, WISC-R, and WAIS-R, as well as moderate correlations with other achievement tests (Kaufman & Kaufman, 1990).

Psychological Assessment

Reynolds Adolescent Depression Scale (RADS; Reynolds, 1986a)

Severity of depressive symptomatology was assessed using the RADS, a self-report questionnaire specifically designed to measure a range of symptomatology (including cognitive, psychomotor, somatic, and interpersonal) in adolescents ages 13 - 18. The author cautions that the RADS does not provide a formal diagnosis of depression according to any specific diagnostic criteria. However, item selection was based on symptomatology outlined by the Diagnostic and
The RADS consists of 30 items, including 6 critical items, and uses a 4-point Likert-style response format to assess the frequency of occurrence or duration of each symptom (i.e., *almost never, hardly ever, sometimes, or most of the time*). Adolescents respond to items by endorsing the response that best indicates how they usually feel. The inclusion of reverse-keyed items as well as statements which are inconsistent with depression are used as a check against response bias. Administration of the RADS may take place in individual or small-group settings, requiring approximately 5 to 10 minutes for completion. A cut-off score of 77 or above is seen to delineate a level of symptomatology associated with clinical depression (Reynolds, 1987).

Internal consistency reliability was computed for all studies included in the standardisation process, using both coefficient alpha and split-half reliability coefficients. Coefficient alphas by grade were high, ranging from .90 to .93, with a total sample alpha of .92. The split-half reliability coefficient for the total standardisation sample was found to be .91. Internal consistency reliabilities and split-half reliabilities obtained by other researchers support these high values, with coefficients ranging between .90 to .95, and .90 to .93, respectively (Reynolds, 1987). Three studies have established the stability of the RADS, yielding test-retest reliabilities ranging from .80 to .63 for 6-week and 1-year intervals, respectively (Reynolds, 1987).

Four types of validity evidence are available for the RADS, including content, criterion-related, construct, and clinical validity. The manual lists a number of studies which demonstrated a consistently strong relationship between the RADS and other self-report measures of depression, including the BDI (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), the CDI (Kovacs, 1979; 1981), the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977), and the Self-Rating Depression Scale (Zung; 1965). Correlations ranged from .68
to .76 (Reynolds, 1987). Finally, discriminant validity was illustrated by low correlations between the RADS and measures of constructs that are theoretically unrelated to depression, such as academic achievement (values ranging from .06 to .24) and social desirability (values ranging from -.25 to -.24).

The reliability of the RADS with adolescents with intellectual disabilities has been examined in several studies. Reynolds and Miller (1985) verbally administered the RADS to 26 adolescents classified as "educably mentally retarded" (EMR), attaining an alpha coefficient of .87. More recently, Manikam and his colleagues (1995) conducted a study with 100 adolescents with above average intelligence to those with moderate intellectual disabilities. An alpha coefficient of .82 was calculated for the RADS with this sample. While these reliability coefficients are somewhat lower than those found with the RADS standardisation sample (which did not include special populations), they are still quite acceptable, and lend support to the use of the RADS in assessing depressed mood in adolescents with intellectual disabilities.

Socio-Environmental Assessment

Adolescent Support Inventory (ASI; Reynolds & Waltz, 1984b, 1988)

This research instrument was developed to assess self-perceived social support in adolescents. It consists of a list of 16 statements that tap into perceived social support from family members, friends, peers, teachers, and others (Reynolds, 1987; Reynolds & Waltz, 1984a, 1988). Respondents are asked to indicate whether statements are true or false for them. A count of the number of statements respondents endorse yields a frequency score which may range from 0 to 16. (see Appendix F). In a study examining the relationship between psychological distress, major negative life events, daily hassles, and social support in adolescence, Reynolds and Waltz (1984b, 1988) reported an internal consistency of .81 for the ASI.
Adolescent Hassles Inventory (AHI; Reynolds & Waltz, 1984a, 1988)

The AHI, a measure designed specifically for adolescents, consists of a 31-item paper-and-pencil questionnaire that assesses hassles (i.e., both minor events and chronic stressors) in five areas: school, parents/family, friends, jobs, and personal. These items were gleaned from existing literature dealing with the minor life events or hassles that occur in the daily lives of adolescents, and were developed to avoid confounding with symptoms of psychopathology (Reynolds, 1987; Reynolds & Waltz, 1984a, 1988). Respondents are asked to circle true or false to indicate which hassles they have experienced in the past month or two. A count of the number of hassles that occurred in the past month yields a frequency score that may range from 0 to 31. (see Appendix G). Reynolds and Waltz (1984a, 1988) reported an internal consistency for the AHI of .86 in a study they conducted with 920 high-school students in the mid-western U.S.

Procedure

Upon receiving permission from 3 school boards to conduct research, the researcher met with school principals and/or special education coordinators to explain the selection of potential participants with intellectual disabilities. School personnel were asked to pull the files of students matching the study’s inclusion criteria (i.e., BC Ministry of Education criteria for students designated with mild intellectual disabilities, including IQ scores of approximately 50 to 75 on an individually administered measure of intellectual functioning) (DSM-IV criteria, APA, 1994). School personnel then sent home consent forms with these individuals for consideration. The researcher did not have access to these students’ files. A total of 107 consent forms were distributed to students with intellectual disabilities. Sixty-three consents were returned to school, six of them indicating a “no” response. An additional three students were not available on the dates of data collection. Overall, this resulted in a response rate of approximately 50% (n = 54). However, the proportion of consent forms returned varied greatly depending on the school, and ranged from 14 to 86%.
The researcher also individually met with all homeroom classes to describe the research project to students without intellectual disabilities and hand out parental consent forms. Students were informed that they would not necessarily be selected for the study even if they chose to participate; however, all would have their names entered into a prize draw for one of five $50 gift certificates to a local music store if they returned signed consent forms to school. Consent forms outlined the general purposes of the study, informed parents that not all students would be selected to participate, guaranteed anonymity, and informed participants that they could withdraw from the study at any time without penalty.

Data were collected through the use of three self-report measures (i.e., the RADS, ASI, AHI) completed by participants and administered by the researcher to students in their respective schools. Assessments occurred during the months of November 2000 to May 2001. Participants without intellectual disabilities did not observe participants with intellectual disabilities complete their questionnaires. In the same way, participants with intellectual disabilities did not witness participants without intellectual disabilities complete their questionnaires. Participants’ identities were kept confidential. No names appeared on the questionnaires; participants were assigned a code number that appeared both on the cover sheet and remaining questionnaire packet. Participants were instructed to print their first and last name on the cover sheet and tear this sheet off from the remaining questionnaire packet (see Appendix H). The cover sheets with participants’ names and code numbers were then placed in a sealed envelope and submitted to the schools’ principals. The researcher did not have access to this information.

Participants without intellectual disabilities independently completed the three self-report measures in a group setting in the library or other quiet room in their respective schools. Administration time took approximately 20 minutes. The researcher, a Master's student in School Psychology, spoke briefly to each group about the study and emphasised the importance of honest responses. Students were informed that there were no right or wrong answers, assured of
complete confidentiality of responses, and given the opportunity to ask questions. Then, the researcher read the instructions aloud, informed participants that completion of questionnaires would be considered giving consent to participate, and remained present in the room during the completion of the questionnaires (see Appendix I). Students who chose not to participate or were not selected for participation in the study completed regular classroom work during the administration of these questionnaires.

The three self-report measures were administered to small groups of participants (i.e., 3 to 5 students) with intellectual disabilities by a Masters-level student with over 5 years of experience working with children and adults with physical and intellectual disabilities. After receiving informed consent, the interviewer verbally administered each measure to control for reading difficulties (see Appendix I). Administration of these measures took place in a quiet room in participants' respective schools, and took approximately 30 to 45 minutes.

Upon collection of the questionnaires, all students were thanked for their participation in the study (see Appendix J). Opportunity was provided to ask questions, and students were reminded that, if requested on the consent form, a summary of research findings would be mailed to participants' homes upon completion of the study. The researcher provided school principals and/or school counsellors with the code numbers of students who endorsed a significant level of depressive symptomatology (i.e., a cut-off score of 77 or higher on the RADS), and were, therefore, identified as at risk for depression, for appropriate follow-up purposes (i.e., a meeting with students' school counsellor).

Data Analysis

Preliminary Analyses

Descriptive Statistics

Descriptive information (i.e., age, grade, and gender) of the sample was reported in means and ranges. Means and standard deviations for scores achieved on the RADS, ASI, and
AHI were calculated for the overall sample, as well as for males and females with and without intellectual disabilities. Internal consistency reliability estimates for the RADS, ASI, and AHI were computed for participants with and without intellectual disabilities using Cronbach’s (1951) coefficient alpha.

**Primary Analyses**

A minimum alpha value of .05 was set for determining statistical significance. T-tests for independent groups were computed to determine whether there were significant differences between groups (participants with and without intellectual disabilities) and group by gender on depressed mood, daily hassles, and perceived social support. The effect sizes were examined using d values to determine the magnitude of the differences between the 2 groups and group by gender.

Comparisons of rs (i.e., r’s), using Fischer’s z-transformation formula, were conducted to determine whether there were significant differences between groups and group by gender on the relationships between depressed mood and daily hassles, and depressed mood and perceived social support, respectively. Effect sizes for the correlations were examined using r²-values to determine what proportion of the overall variability in depression scores was attributable to variability in the number of reported daily hassles or perception of social support.

**Hypothesis**

It is expected that adolescents with intellectual disabilities will report a significantly higher level of depressive symptoms than adolescents without intellectual disabilities. More specifically, it is expected that females with intellectual disabilities will report a significantly higher level of depressive symptoms than females without intellectual disabilities, and that males with intellectual disabilities will report a significantly higher level of depressive symptoms than males without intellectual disabilities. Depression scores were separately analysed for males and females using two t-tests for independent groups (adolescents with and without intellectual
disabilities. Power values of .08 and .23 were expected to detect small (.20) and medium (.50) effect sizes, respectively (Cohen, 1988).

**Question 1**

Is there a significant difference in the number of daily hassles reported by adolescents with intellectual disabilities as compared to adolescents without intellectual disabilities? Two t-tests for independent groups were conducted on total daily hassles scores to determine whether there were significant differences between groups (adolescents with intellectual disabilities and adolescents without intellectual disabilities) on the dependent variable of daily hassles. To address the possibility of gender differences, daily hassles scores were analysed separately for males and females in each group.

**Question 2a**

Is there a significant difference in the correlation between daily hassles and depressed mood for adolescents with intellectual disabilities as compared to their peers without intellectual disabilities?

**Question 2b**

Is there a significant difference between males and females without intellectual disabilities with regard to the relationship between daily hassles and depressed mood? Is there a significant difference between males and females with intellectual disabilities with regard to the relationship between daily hassles and depressed mood?

Two bivariate correlations were conducted to determine whether there were statistically significant correlations between daily hassles and depressed mood (for group, then group by gender). The resulting six coefficients (2 group, 4 gender) were transformed into z-scores, using the formula for Fisher's z-transformation, to allow for a comparison of independent r's. Using an alpha value of .05, values above $z_{crit} = 1.96$ were deemed statistically significant to detect differences for group and group by gender (Howell, 1992). Power values of .06 ($n = 13$) to .08 ($n$
= 25) and .17 (n = 13) to .31 (n = 25) were expected to detect small (.10) and medium (.30) effect sizes, respectively (Cohen, 1988).

**Question 3**

Is there a significant difference between adolescents with and without disabilities with regard to their perception of received social support? To address consistent findings of gender differences for both adolescents with and without intellectual disabilities (see Chapter 2), social support scores were separately analysed for males and females (in each group) using two t-tests for independent groups (adolescents with and without intellectual disabilities).

**Question 4a**

Is there a significant difference in the correlation between social support and depressed mood for adolescents with intellectual disabilities as compared to their peers without intellectual disabilities?

**Question 4b**

Is there a significant difference between males and females without intellectual disabilities with regard to the relationship between social support and depressed mood? Is there a significant difference between males and females with intellectual disabilities with regard to the relationship between social support and depressed mood?

To determine whether there were statistically significant correlations between perceived social support and depressed mood (for group, then group by gender), depression and social support scores were subjected to two bivariate correlation analyses. The resulting six coefficients (2 group, 4 gender) were transformed into z scores, using the Fischer's z-transformation formula, to allow for a comparison of independent r's. Using an alpha value of .05, values above $z_{\text{crit}} = 1.96$ were deemed statistically significant to detect differences for group and/or gender (Howell, 1992).
RESULTS

CHAPTER 5

Preliminary Analyses

Comparison of Age- and Gender-Matches to Larger Sample

Participants without intellectual disabilities were randomly selected from a larger subsample of students without intellectual disabilities to match participants with intellectual disabilities on the basis of age and gender. The procedure utilised in randomly selecting 50 age- and gender-matched students without intellectual disabilities is described in detail in Appendix A. Means on self-ratings of achievement, as well as on the total scores on the RADS were compared to determine whether there were any significant differences between the randomly selected 50 matches and the larger sample of students without intellectual disabilities (n = 279). Results of two independent samples t-tests indicate that there were no significant differences between participants randomly selected for inclusion in the study and the larger sample from which they were drawn on either achievement, \( t (324) = -0.40, p > .05, d = -0.06 \), or depressed mood, \( t_{\text{males}} (131) = -0.74, p > .05, d = -0.16 \) and \( t_{\text{females}} (183) = -0.77, p > .05, d = -0.17 \).

Internal Consistency Reliability

Internal reliability estimates for the RADS, ASI, and AHI were computed for participants with and without intellectual disabilities using Cronbach’s (1951) coefficient alpha. Because the ASI and AHI have not previously been used with students with intellectual disabilities, it was considered especially necessary to determine the reliability of these two measures for students with intellectual disabilities (as well as their peers without intellectual disabilities). Coefficient alpha was computed separately for these two groups of participants (see Table 2).

As can be seen from the table, values for coefficient alpha on the RADS and AHI were similar for participants with and without intellectual disabilities, and indicate satisfactory reliability. For example, the internal consistency reliability of the RADS was .93 for participants
with intellectual disabilities and .92 for participants without intellectual disabilities. Lower reliability was found for the ASI, with values for coefficient alpha being meaningfully different for participants with and without intellectual disabilities. Coefficient alpha was also computed for all potential matches (i.e., all students without intellectual disabilities who consented to participate). As indicated in Table 2, values for the RADS, ASI, and AHI did not meaningfully differ for students selected for the matched sample ($n = 50$) and all potential matches ($n = 329$).

Primary Research Results

Analysis of Group Differences

The hypothesis, as well as questions 1 and 3, examined differences between participants with and without intellectual disabilities on the variables of depressed mood, daily hassles, and perceived social support, respectively, by comparing mean scores between the two groups. For the hypothesis, as well as the two questions, there was a comparison for males and females. The alpha rate was set at .05 for each measure comparison for both group and gender. Males and females were examined separately based on the different prevalence rates found between genders for some of the selected variables (i.e., depression and social support). Means and standard deviations for participants with and without intellectual disabilities on the RADS, ASI, and AHI broken down by gender are presented in Table 3.

Hypothesis

It is expected that adolescents with intellectual disabilities will report a significantly higher level of depressive symptoms than adolescents without intellectual disabilities. More specifically, it is expected that females with intellectual disabilities will report a significantly higher level of depressive symptoms than females without intellectual disabilities, and that males with intellectual disabilities will report a significantly higher level of depressive symptoms than males without intellectual disabilities.
Table 2

Internal Consistency Reliability (coefficient alpha) for Participants with and without Intellectual Disabilities (IDs)

<table>
<thead>
<tr>
<th>Measures</th>
<th>Participants with IDs (n = 50)</th>
<th>Participants without IDs (n = 50)</th>
<th>All potential matches (n = 329)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RADS</td>
<td>.93</td>
<td>.92</td>
<td>.91</td>
</tr>
<tr>
<td>ASI</td>
<td>.63</td>
<td>.72</td>
<td>.73</td>
</tr>
<tr>
<td>AHI</td>
<td>.86</td>
<td>.83</td>
<td>.84</td>
</tr>
</tbody>
</table>
Table 3
Means (M) and Standard Deviations (SD) of Participants with and without Intellectual Disabilities (IDs) on the RADS, ASI, and AHI

<table>
<thead>
<tr>
<th>Variable</th>
<th>Gender</th>
<th>Participants with Intellectual Disabilities</th>
<th>Participants without Intellectual Disabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>RADS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Males</td>
<td>63.81</td>
<td>14.81</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>70.96</td>
<td>17.59</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>67.10</td>
<td>16.37</td>
</tr>
<tr>
<td>ASI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Males</td>
<td>12.04</td>
<td>2.61</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>12.87</td>
<td>2.12</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>12.42</td>
<td>2.41</td>
</tr>
<tr>
<td>AHI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Males</td>
<td>12.04</td>
<td>6.57</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>11.74</td>
<td>6.45</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>11.90</td>
<td>6.45</td>
</tr>
</tbody>
</table>
Results: Two independent-samples t-tests were conducted to evaluate the hypothesis that adolescents with intellectual disabilities (male and female) endorse a higher level of depressive symptomatology than adolescents (male and female) without intellectual disabilities. The test was not significant for females, $t(44) = 1.46$, $p > .05$, $d = 0.43$, or males, $t(52) = 1.53$, $p > .05$, $d = 0.42$.

Question 1

Is there a significant difference in the number of daily hassles reported by male and female adolescents with intellectual disabilities as compared to male and female adolescents without intellectual disabilities?

Results: The result for Question 1, which examined differences in the amount of reported daily hassles between adolescents with and without intellectual disabilities by gender was also non-significant. Results of two independent-samples t-tests indicated that males with intellectual disabilities did not report a significantly different amount of daily hassles than males without intellectual disabilities, $t(52) = 1.17$, $p > .05$, $d = 0.32$. A similar result was found for females, $t(44) = -0.59$, $p > .05$, $d = -0.17$.

Question 3

Is there a significant difference between male and female adolescents with and without intellectual disabilities with regard to their perception of received social support?

Results: Two independent-samples t-tests were conducted to evaluate whether students with intellectual disabilities significantly differed from their peers without intellectual disabilities by gender in their perception of received social support. One test was significant: males with intellectual disabilities reported a significantly lower level of social support than their same-gender peers without intellectual disabilities, $t(52) = -4.14$, $p < .001$, $d = -1.13$. Females with intellectual disabilities did not report a significantly lower level of social support than females without intellectual disabilities, $t(44) = -0.77$, $p > .05$, $d = -0.23$. 
Correlations between Variables

Questions 2 and 4 examined and compared the relationship between socio-environmental variables and depressed mood for participants with and without intellectual disabilities by gender. For both questions, there was a comparison for males and females. A minimum alpha value of .05 was set for each measure comparison.

Question 2a

Is there a significant difference in the correlation between daily hassles and depressed mood for adolescents with intellectual disabilities as compared to their peers without intellectual disabilities?

Results: The results of the correlational analyses indicated that the relationship between daily hassles and depressed mood was significant for both adolescents with, \( r (48) = .34, p < .05, r^2 = .12 \), and without intellectual disabilities, \( r (48) = .56, p < .001, r^2 = .31 \). A comparison of the two independent rs, using Fischer’s z transformation formula, indicated that there was no significant difference between groups with regard to this relationship (\( z = -1.36 \)).

Question 2b

Is there a significant difference between males and females without intellectual disabilities with regard to the relationship between daily hassles and depressed mood? Is there a significant difference between males and females with intellectual disabilities with regard to the relationship between daily hassles and depressed mood?

Results: The results of the correlational analyses indicated that the relationship between daily hassles and depressed mood was statistically significant for both females with intellectual disabilities, \( r (21) = .55, p < .01, r^2 = .30 \), and males without intellectual disabilities, \( r (25) = .68, p < .001, r^2 = .47 \), but not for females without intellectual disabilities, \( r (21) = .40, p > .05, r^2 = .16 \), or males with intellectual disabilities, \( r (25) = .17, p > .05, r^2 = .03 \). A comparison of the four
independent rs, using Fischer’s z transformation formula, indicated that there was no significant gender difference for either participants with (z = 1.47) or without intellectual disabilities (z = -1.36) with regard to this relationship.

Question 4a

Is there a significant difference in the correlation between social support and depressed mood for adolescents with intellectual disabilities as compared to their peers without intellectual disabilities?

Results: The results of the correlational analyses indicated that the relationship between perceived social support and depressed mood was statistically significant for both adolescents with, r (48) = -.41, p < .01, r^2 = .17, and without intellectual disabilities, r (48) = -.47, p = .001, r^2 = .22. A comparison of the two independent rs, using Fischer’s z transformation formula, indicated that there was no significant difference between groups with regard to this relationship (z = -0.40).

Question 4b

Is there a significant difference between males and females without intellectual disabilities with regard to the relationship between social support and depressed mood? Is there a significant difference between males and females with intellectual disabilities with regard to the relationship between social support and depressed mood?

Results: The results of the correlational analyses indicated that the relationship between perceived social support and depressed mood was statistically significant for both females with, r (21) = -.56, p < .01, r^2 = .31, and without intellectual disabilities, r (21) = -.55, p < .01, r^2 = .30, as well as males with intellectual disabilities, r (25) = -.40, p < .05, r^2 = .16, but not for males without intellectual disabilities, r (25) = -.29, p > .05, r^2 = .09. A comparison of the four independent rs, using Fischer’s z transformation formula, indicated that there was no significant
gender difference for either participants with ($z = 0.69$) or without intellectual disabilities ($z = 1.03$) with regard to this relationship.

Supplementary Analyses

In the previous sections the hypothesis and research questions were analysed according to the proposed methodology. However, analysing the hypothesis and research questions by group and gender resulted in low numbers of students per group (i.e., 23 to 27), and in turn, insufficient statistical power to detect possible significant group differences. Because the study sample was already matched by age and gender, there was equal gender composition in the two groups of participants (students with and without intellectual disabilities). As such, the hypothesis, as well as questions 1 and 3, were re-analysed using alternative methods. Analyses of mean group differences were examined via 2 (group) x 2 (gender) analyses of variance (ANOVAs). The effect sizes were examined using eta-squared values ($\eta^2$) to determine the proportion of variance of the dependent variable that is related to a particular main effect or interaction effect, excluding the other main and interaction effects.

The hypothesis was examined via a 2 x 2 (group by gender) ANOVA to evaluate the main effects of group and gender on level of depressive symptomatology. Differences in total group means were evident, and are presented in Table 3. The ANOVA of scores on the RADS produced no significant interaction between group and gender, $F(1, 96) = 0.04, p > .05, \eta^2 = .00$, but significant main effects for group, $F(1, 96) = 4.48, p < .05, \eta^2 = .05$, and gender, $F(1, 96) = 4.59, p < .05, \eta^2 = .05$. The group and gender main effects indicated that students with intellectual disabilities endorsed a significantly higher level of depressed mood than their peers without intellectual disabilities, and overall, females reported a greater level of depressed mood than males (see Figure 1).

Two-way ANOVAs were also employed as alternate methods of analyses for questions 1 and 3. A 2 x 2 ANOVA was conducted for question 1 to evaluate the main effects of group and
gender on the number of reported daily hassles. The means and standard deviations for number
of reported daily hassles as a function of the 2 factors (group and gender) are presented in Table
3. The results for the ANOVA indicated nonsignificant main effects for both group, $F(1, 96) =
0.11, p > .05, \eta^2 = .00$ and gender, $F(1, 96) = 0.95, p > .05, \eta^2 = .01$, as well as a nonsignificant
interaction between group and gender, $F(1, 96) = 1.48, p > .05, \eta^2 = .02$ (see Figure 2).

For question 3, a 2 x 2 ANOVA was conducted to evaluate the main effects of group and
gender on perceived social support. The means and standard deviations as a function of the two
factors have been previously presented in Table 3. The ANOVA of scores on the ASI produced
significant main effects for group, $F(1, 96) = 10.33, p < .01, \eta^2 = .10$, but not gender, $F(1, 96) =
0.04, p > .05, \eta^2 = .00$, indicating that students with intellectual disabilities perceived less
available social support than their peers without intellectual disabilities. The group by gender
interaction term was also significant, $F(1, 96) = 3.97, p < .05, \eta^2 = .04$. Because this interaction
was significant, we have to exercise caution when interpreting the main effects. Looking back at
the primary (t-test) analysis for question 3, we can see that it was only males with intellectual
disabilities who perceived a significantly lower level of social support than their peers without
intellectual disabilities. Females with and without intellectual disabilities, however, did not
statistically differ in their perception of available social support (see Figure 3).
Figure 1. Mean Total Scores of Participants with and without Intellectual Disabilities (IDs) on the RADS.
Figure 2. Mean Total Scores of Participants with and without Intellectual Disabilities on the AHI.
Figure 3. Mean Total Scores of Participants with and without Intellectual Disabilities on the ASI.
DISCUSSION
CHAPTER 6
Purpose of this Study

The few studies assessing depressed mood in persons with intellectual disabilities support the finding that adolescents with intellectual disabilities evidence a greater number and severity of depressive symptomatology than adolescents without intellectual disabilities (Matson et al., 1988; Reynolds & Miller, 1985; Schloss et al., 1988). This study replicated these findings with a larger sample of adolescents ($n = 50$).

Results of several studies have indicated that the social networks of pre-adolescents and adults with intellectual disabilities contain fewer peers than those without intellectual disabilities (Rosen & Burchard, 1990; Wenz-Gross & Siperstein, 1996). Furthermore, these studies have shown that individuals with intellectual disabilities tend to rely on a small number of family members and/or service providers for their needs (Helsel & Matson, 1982; Morrison et al., 1992). Despite these findings, adults with mild intellectual disabilities did not perceive of themselves as more socially isolated (Rosen & Burchard, 1990). The present study examined whether these findings would hold true for adolescents with intellectual disabilities, and compared them to those of adolescents without intellectual disabilities.

No research has been conducted to investigate the experience of daily hassles for individuals with intellectual disabilities. Although it might be expected, due to their often limited capacity to cope with the pressures and demands of daily life (Dosen, 1993), that adolescents with intellectual disabilities would report more daily hassles than their peers without intellectual disabilities, there are no empirical data to support this claim. This study offered the first assessment of daily hassles using a sample of adolescents with mild to moderate intellectual
disabilities, and thus contributed something new and unique to the mental health literature of an often underserved population.

In summary, this study examined depressed mood; perceived social support; and daily hassles, as well as the relationships among depressed mood and two socio-environmental variables (i.e., perceived social support and daily hassles) in a sample of school-based adolescents with mild to moderate intellectual disabilities and an age- and gender-matched group (control group) of adolescents without intellectual disabilities. This study did not attempt to offer cause and effect answers to the relationships among depressed mood, daily hassles, and perceived social support, but to extend the findings of previous correlational studies conducted in the fields of special education and psychology. Results are compared to other community/school-based studies that have examined depressed mood, perceived social support, and daily hassles in individuals with intellectual disabilities.

Preliminary Discussion

Demographic Data

As expected, school SES (as rated by school principals) did not meaningfully differ for students with and without intellectual disabilities. This result indicates that the researcher’s attempt to randomly select students without intellectual disabilities from the same (or SES-equivalent) schools as students with intellectual disabilities was successful. So, even though participants were not matched on school SES per se, school SES was similar between the two groups.

As expected, students with intellectual disabilities rated their families’ level of SES (based on parental occupation(s)) significantly lower than did their peers without intellectual disabilities. Previous research has indicated that, in general, individuals with mild intellectual
disabilities come from lower SES backgrounds than individuals without intellectual disabilities (Hodapp, 1995; Reed & Reed, 1965).

There were also significant differences between students with and without intellectual disabilities in ethnic composition. For example, there were significantly fewer students of Asian descent in the group of students with intellectual disabilities (12%) than in the group without intellectual disabilities (36%). It should be emphasised that this difference should not be seen as a finding that is generalisable to the larger population, but simply a function of this study (i.e., a significant proportion of the schools sampled in this particular study had large numbers of students of Asian descent).

**Internal Consistency Reliability of Measures**

The results of this study further support the utility of using the RADS with adolescents with mild intellectual disabilities. The internal consistency reliability of the RADS was found to be excellent, and even higher than that found in a previous, smaller-sample study (Reynolds & Miller, 1985). Coefficient alphas for students with and without intellectual disabilities were similarly high (rsₐ = .93 and .92, respectively). Use of the self-report for students with intellectual disabilities was very reliable, with the exception of the ASI. Students demonstrated no difficulties with language and/or communication, clearly understood the directions, were accurate in their reporting of items, and many requested to complete the questionnaire independently (instead of having the researcher read aloud the items).

**Primary Discussion**

**Analyses of Mean Group Differences**

The hypothesis, as well as questions 1 and 3, examined differences between participants with and without intellectual disabilities on level of depressive symptomatology (i.e., depressed mood), number of daily hassles, and perceived social support, respectively. Analysing the
hypothesis, as well as questions 1 and 3, by group and gender resulted in low numbers of
students per group (i.e., 23 to 27), and hence, insufficient statistical power to detect possible
significant group differences. Because the study sample was already matched by age and gender,
there was equal gender composition in the two groups of participants (students with and without
intellectual disabilities). As such, the discussion of mean group differences will focus on the
results of the supplementary analyses.

**Group Differences in Depressed Mood**

As hypothesized, results of this study indicated that adolescents with intellectual
disabilities reported a significantly higher level of depressive symptomatology than their peers
without intellectual disabilities. These results are in accord with previous studies comparing
smaller school-based samples of students with and without intellectual disabilities (Reynolds &
Miller, 1985; Schloss et al., 1988), as well as studies examining depressed mood in adolescents
without intellectual disabilities (Reynolds, 1987).

For example, the mean scores for participants without intellectual disabilities in this study
were very similar to those found for adolescents in the RADS standardization sample ($M_{\text{males}} =
57.51, M_{\text{females}} = 62.85$) (Reynolds, 1987). No students with intellectual disabilities were included
in the RADS standardization sample; however, a comparison between the obtained means from
this study and those reported by Reynolds and Miller (1985) indicate comparable means for
adolescents with intellectual disabilities, $M_{\text{males}} = 64.20, M_{\text{females}} = 73.82,$ and $M_{\text{total}} = 68.27.$

There are many plausible reasons why students with intellectual disabilities endorsed a
greater level of depressive symptomatology than their peers without intellectual disabilities, and
these may have included socio-environmental factors such as daily hassles, perceived social
support (or lack thereof), limited coping and social skills, social isolation, restricted social
opportunities, rejection and/or teasing by others, and repeated experiences of failure. Two of these factors, daily hassles and perceived social support, will be discussed later.

Adolescence represents a time of heightened stress and many changes. Research has shown that the prevalence of depression increases significantly at this time. In fact, findings from epidemiological studies suggest that depression is a major health concern among adolescents (Reynolds, 1983, as cited in Reynolds, 1987). Due to a lack of mental health services and school-wide depression screenings, many adolescents, particularly those with intellectual disabilities, are under-identified and at-risk for developing more serious psychopathology. School personnel, mental health professionals, and parents need to understand and be aware of the need to intervene so that students receive the assistance they require before their functioning in school, home, and the community becomes significantly impaired.

Gender Differences in Depressed Mood

A gender difference in reported depressive symptomatology was also found, with females reporting a higher level of depressive symptomatology than males. Females without intellectual disabilities reported approximately the same level of depressive symptomatology as males with intellectual disabilities. These results are consistent with findings of adolescents without intellectual disabilities (Cheng, 1997; Compas et al., 1986a; Pikó, 1998; Reynolds, 1987), as well as a previous study of adolescents with intellectual disabilities (Reynolds & Miller, 1985).

Group Differences in Daily Hassles

Question 1 examined whether there was a significant difference in the number of daily hassles reported by adolescents with intellectual disabilities as compared to adolescents without intellectual disabilities. Because of a lack of daily hassles research with individuals with intellectual disabilities, no predictions regarding outcomes were formulated. The results of this study indicated that there was no significant difference between adolescents with and without
intellectual disabilities with regard to the number of reported daily hassles. Gender differences, as well as the interaction effect of gender and group, were also found to be nonsignificant.

What these results indicate is that adolescents with and without intellectual disabilities report a similarly high number of daily hassles, $M = 11.90$ and 11.38, respectively. These findings are comparable to those found by Kanner et al. (1987), Bennett and Bates (1995), and Johnson and Sherman (1997). Results of all three of these studies were similar in that participants' (whether pre-adolescents or adolescents) reported a high number of daily hassles, using the Children’s Hassles Scale (Kanner et al., 1987) or the Revised Hassles Scale (DeLongis, 1985; DeLongis et al., 1988). Also, males and females in Kanner et al.'s study (1987) did not differ in the number of hassles they reported, a finding that supports the lack of gender difference in this study.

Many researchers agree that daily hassles, acting cumulatively, contribute to wide-ranging, negative effects on the health and psychological functioning of individuals in general (Dohrenwend et al., 1984; Kanner et al., 1981, 1987). The period of adolescence represents a time of transition and a time of heightened stress related to changes in physical, cognitive, and social-emotional development (Morrison et al., 1992; Riesch et al., 1994). Perhaps, this is why adolescents seem to be particularly vulnerable to the adverse effects of stressful events such as daily hassles (Compas et al., 1986b). Adolescents with intellectual disabilities, for example, encounter social isolation, rejection and/or teasing by others, limited social opportunities, and repeated experiences of failure. Perhaps because of these stresses, in addition to a limited capacity to cope with the pressures and demands of daily life, adolescents with intellectual disabilities endorse a higher level of depressive symptomatology than their peers without intellectual disabilities (Dosen, 1993). Further research is required to bring clarity to the relationship between life stressors and depression in adolescents with intellectual disabilities.
Group Differences in Social Support

Question 3 examined whether there was a significant difference in the perception of social support reported by adolescents with intellectual disabilities as compared to adolescents without intellectual disabilities. Because of a lack of social support research with adolescents with intellectual disabilities, no predictions regarding outcomes were formulated. The results of this study indicated that males with intellectual disabilities perceived a significantly lower level of social support than their same-gender peers without intellectual disabilities. A parallel finding for females was not found.

An examination of mean scores suggests that females with and without intellectual disabilities, as well as males without intellectual disabilities perceived a relatively high level of social support from a variety of sources including family, friends, peers, and teachers. This perception was not quite as great for males with intellectual disabilities, though. An examination of individual scores indicates that over half (52%) of males with intellectual disabilities perceived a less than satisfactory level (a score of 12 or below out of 16) of social support. It is not known why males with intellectual disabilities perceived a lower level of social support than both females with intellectual disabilities, and their peers without intellectual disabilities. It is probable, however, that low numbers of students per group contributed to insufficient statistical power to detect significant main effect differences between group and/or gender.

These results are somewhat consistent with a previous study (n = 54) which indicated that adults with mild intellectual disabilities did not perceive of themselves as more socially isolated or feel less satisfied with the supportiveness of their social network members in comparison to matched peers without intellectual disabilities (Rosen & Burchard, 1990). Gender differences, however, were not explored in this previous study.
Persons with intellectual disabilities are particularly dependent on the support of others (Meins, 1993) to maintain physical, social, and psychological well-being (Krauss et al., 1992). However, for many persons with intellectual disabilities, sources of social support are limited (Helsel & Matson, 1988). Results of two previous studies conducted with pre-adolescents and adults with intellectual disabilities suggested that the social support networks of individuals with intellectual disabilities contain fewer peers than those of individuals without intellectual disabilities. Furthermore, pre-adolescents with intellectual disabilities were less likely to turn to peers for social companionship than pre-adolescents without intellectual disabilities (Rosen & Burchard, 1990; Wenz-Gross & Siperstein, 1996).

Gender Differences in Social Support

A gender difference in perceived social support was not found in this study. This finding is in accord with those of Compas et al. (1986a). While females in their study reported having more individuals available for support than males, both genders reported approximately the same level of satisfaction with social support. Slavin and Rainer (1997) reported similar results with regard to emotional support perceived from family members. However, there were significant gender differences in the perception of social support from adults (p < .05) and friends (p < .001), with females perceiving more emotional support than males.

It appears that findings from previous studies are mixed, depending on whether or not various sources of social support were assessed. To further demonstrate, results of Cheng’s (1997) study found that females reported higher levels of peer support, but not family support, than males. Ystgaard (1997) reported a similar result, but only at Time 1, not Time 2, with females reporting a significantly higher level of social support from friends than males. Finally, consistent with both Cheng’s and Ystgaard et al.’s (1997) study, results of Ystgaard et al.’s (1999) study indicated that females reported stronger support from friends, but not family.
Overall, the results of these previous studies suggest that it is important to differentiate between various sources of social support when investigating gender differences in adolescents without intellectual disabilities. It is likely that the same would hold true for adolescents with intellectual disabilities. Even though no predictions were made with regard to a gender difference in perceived social support, it is possible that such a difference was not detected because the research instrument utilized in this study did not differentiate between various sources of social support. Additionally, and as previously mentioned, it is likely that insufficient statistical power, due to low numbers of students per group could account for a nonsignificant difference between genders.

Correlations between Variables

Correlations between Daily Hassles and Depressed Mood

Group differences. Question 2a examined the association between daily hassles and depressed mood for adolescents with intellectual disabilities as compared to their peers without intellectual disabilities. Results from this study show that, despite a larger (i.e., medium) effect size for adolescents without intellectual disabilities \( r^2 = .31 \), there was no significant difference in the association between daily hassles and depressed mood for this group as compared to their peers with intellectual disabilities \( r^2 = .12 \). More specifically, results of the correlational analyses indicated that adolescents' depression scores, regardless of group, were positively associated (weakly to moderately) with the amount of hassles they reported.

This outcome is fairly consistent with previous studies conducted by Johnson and Sherman (1997), Reynolds (1987), and Rowlinson and Felner (1988). These three studies established that daily hassles were positively associated with depressive symptomatology in adolescents without intellectual disabilities. Johnson and Sherman, as well as Rowlinson and Felner reported weak to moderate associations between the two variables, \( r^2 = .24 \) and .23,
respectively. These effect sizes are somewhat smaller than those found for adolescents without intellectual disabilities in the present study; however, they are notably larger than those found for adolescents with intellectual disabilities. Reynolds (1987) reported a moderate to strong relationship between daily hassles and depressed mood ($r^2 = .37$) for adolescents without intellectual disabilities in his RADS standardization sample using the same research instrument utilized in this study. This result is comparable to that found for adolescents without intellectual disabilities in this study, but is again notably larger than that found for adolescents with intellectual disabilities. It is important to keep in mind, however, that the association between daily hassles and depressed mood was not found to be significantly different for adolescents with and without intellectual disabilities.

Until now, published research investigating the relationship between daily hassles and depressed mood in individuals with intellectual disabilities has been unavailable. Results from this study indicate a weak relationship between daily hassles and depressed mood, a finding that is not fully in agreement with previous research conducted with adolescents without intellectual disabilities. While not representing a statistically significant difference, it is not known why the association between daily hassles and depressed mood for adolescents with intellectual disabilities was lower than that evidenced by adolescents without intellectual disabilities. It is plausible that this difference represents an under-estimation that is, again, partially attributable to insufficient statistical power.

The results of this study associate daily hassles to social-emotional functioning, namely depression, in adolescents with and without intellectual disabilities. Acting cumulatively, the daily hassles that adolescents reported could increase their vulnerability to, or place them at greater risk for, impairments in health and psychological functioning (Compas et al., 1986b). Daily living poses an enormous challenge for many adolescents, particularly those with
intellectual disabilities. As is the case with their peers without intellectual disabilities, it is likely that other factors interact with daily hassles in heightening the association between life stress and depression in adolescents with intellectual disabilities. These factors possibly include coping skills, feelings of self-efficacy, major life events, and social support. Previous research has indicated that individuals with intellectual disabilities experience particular difficulties coping with stressful situations (Reiss et al., 1982). It is plausible that some of these factors partially explain the differences between adolescents with and without intellectual disabilities in terms of the amount of variance in depressed mood that is accounted for by its relationship with daily hassles.

Gender differences. Question 2b examined possible gender differences in the association between daily hassles and depressed mood. While $r^2$-values ranged from .03 for males with intellectual disabilities to .47 for males without intellectual disabilities, these differences were not found to be significant. More specifically, a significant gender difference was not found for either adolescents with or without intellectual disabilities. Thus, the strength of the relationship between depressed mood and daily hassles appeared similar for all adolescents, regardless of gender.

Previous research regarding gender differences in the relationship between daily hassles and depressed mood in the general population is sparse, and findings are mixed, due in part to the lack of methodological information, and use of less than reliable instruments. Hence, the results of this study are difficult to compare to others. Similar to the present study, Kanner et al. (1987) reported a weak association between daily hassles for his sample of pre-adolescents ($r^2 = .14$). When this relationship was examined separately for males and females, however, a significant gender difference was noted. The association of pre-adolescents' depression scores with daily hassles was statistically stronger for males ($r^2 = .36$) than females ($r^2 = .07$), a finding
that is in contrast to that found in the present study. Ystgaard et al. (1997) found no such
gender difference in their sample of Norwegian high school students. Results of their
correlational analyses indicated that the association between daily hassles and psychological
symptoms was similarly weak to moderate for both males ($r^2 = .20$) and females ($r^2 = .36$).

Again, a comparison of the results of this study with the two studies described above is a
difficult task. The first study examined the relationship between daily hassles and depressed
mood in pre-adolescents, not adolescents, using a daily hassles scale that contains items which
may be contaminated with symptoms of psychopathology. The second study examined the
relationship between depressed mood and "psychological symptoms", which may include
depression and a variety of other types of psychological distress. No further information
regarding this instrument was available in the study's methodology. Also, it was noted that a
good proportion of the items included on the "long-lasting adversities"/daily hassles scale
appeared similar to those typically included on measures of major life events.

Evidently, as illustrated by the brief review described above, very few studies to date
have explored gender differences in the association between daily hassles and depressed mood.
And the ones that have, as shown earlier, are not readily comparable to the findings of this study.
As such, results of the present study should be seen as exploratory, and must be scrutinized in
future research.

Correlations between Perceived Social Support and Depressed Mood

Group differences. Question 4a examined the association between perceived social
support and depressed mood for adolescents with intellectual disabilities as compared to their
peers without intellectual disabilities. Results of this study show that there was no significant
difference in the association between social support and depressed mood for adolescents with
intellectual disabilities ($r^2 = .17$) as compared to their peers without intellectual disabilities ($r^2 =$
More specifically, results of the correlational analyses indicated that adolescents' depression scores, regardless of group, were negatively, although weakly to moderately, associated with their perception of social support.

This finding suggests that social support (or lack thereof) does not appear to be differentially related to psychological functioning for adolescents with intellectual disabilities in this particular sample. Overall, individuals with intellectual disabilities perceived a satisfactory level of social support from family members, friends, peers, and teachers, suggesting that they are cared for by significant others and regularly participate in social activities in a manner similar to that of their peers without intellectual disabilities.

This outcome is somewhat in accord with previous studies examining the relationship between perceived social support and depressed mood in both individuals with (Laman & Reiss, 1987; Reiss & Benson, 1985) and without intellectual disabilities (Reynolds, 1987; Rowlinson & Felner, 1988). However, a difficulty exists in comparing the results of this study with many of the previous studies investigating this relationship. For adolescents with intellectual disabilities, previous studies have either examined this relationship in pre-adolescents or adults, and/or utilized measures that assessed various constructs of social support (i.e., perception, frequency, as well as varying types of support -- emotional, problem-solving, etc.). One of the main sources of difficulty in comparing the present study's results to previous investigations using samples of adolescents without intellectual disabilities, is the fact that a majority of these studies have differentiated between various sources of social support, whereas this study did not. The first study described below does not present with this difficulty, however.

Results from Reynolds' (1987), and Rowlinson and Felner's (1988) studies suggest that perceived social support is negatively associated with depressive symptomatology in adolescents without intellectual disabilities. Reynolds (1987) reported a small effect size between perceived
social support and depressed mood ($r^2 = .16$) for adolescents without intellectual disabilities in his RADS standardization sample using the same research instrument utilized in this study. This result is comparable to that found for adolescents with and without intellectual disabilities in this study, and confirms a weak association between perceived social support for both groups of adolescents. Rowlinson and Felner (1988) differentiated between support perceived from family members, friends, and school. Results from their correlational analyses suggested a weak to moderate relationship between family support and depressed mood ($r^2 = .20$), and a weak association between friend support and depressed mood ($r^2 = .04$), as well as school support and depressed mood ($r^2 = .08$). These effect sizes are basically in line with this study's finding for adolescents with and without intellectual disabilities.

Very little research has been conducted that investigates the relationship between perceived social support and depression in individuals with intellectual disabilities. Reiss and Benson (1985), however, investigated this association in adults with mild intellectual disabilities. Results from this study again indicate a weak relationship between social support and depressed mood ($r^2 = .17$); a finding that is identical to the one found for adolescents with intellectual disabilities in this study. This comparison is limited, however, in that Reiss and Benson utilized a social support instrument that assessed not only the perception, but also the frequency and type of social support received. Additionally, the overall reliability of this measure, although unreported, is most likely limited by its low number of items (i.e., four items). Clearly, further research must be undertaken to better understand the relationship between perceived social support and depressed mood for adolescents with intellectual disabilities.

Even though no predictions were made with regard to a group difference in the association between perceived social support and depressed mood, it is possible that such a difference was not detected because of (a) lack of heterogeneity in students' responses, (b)
insufficient statistical power and (c) the lower reliability of the social support measure. First, the majority of adolescents without intellectual disabilities, as well as females with intellectual disabilities reported a high level of social support. It is plausible that students responded to items in a "socially desirable" manner. On the other hand, it is possible that most adolescents in this sample are quite satisfied with the amount and quality of social support that is made available to them. Second, as indicated elsewhere, the sample size of this study was limited, and hence, contributed to insufficient statistical power to detect possible significant group differences. Finally, the lower (internal consistency) reliability of the ASI ($r_a = .63$), particularly for participants with intellectual disabilities, could account for a nonsignificant group difference in the association between social support and depressed mood.

Inadequate social support, especially in combination with negative or stressful life events, is associated with depressed mood for both adolescents with and without intellectual disabilities (Benson & Deeter, 1992; Cheng, 1997; Compas et al., 1986a). Research has shown, however, that adolescents with intellectual disabilities experience more social and environmental disadvantages than their peers without intellectual disabilities (Matson, 1982), and in many cases lack adequate sources of social support (Helsel & Matson, 1988; Morrison et al., 1992). Results of the current study certainly support the notion that adolescent males with intellectual disabilities perceive less available support than do their same-gender peers without intellectual disabilities. Over half of the males with intellectual disabilities perceived a less than satisfactory level (a score of 12 or below out of 16) of social support. Adolescents with intellectual disabilities are at high risk for failure in society, especially without the support of others. It would follow, then, that these individuals require more community integration and support than their peers without intellectual disabilities to live mentally healthy lives (Eaton & Menolascino,
Hence, research investigating the relationship between perceived social support and depressed mood in adolescents with intellectual disabilities should be a primary focus.

**Gender differences.** Question 4b examined possible gender differences in the association between perceived social support and depressed mood. Results of this study do not indicate a significant gender difference for either adolescents with or without intellectual disabilities; the strength of the relationship between perceived social support and depressed mood appeared similarly weak to moderate for all adolescents, regardless of gender. But, an examination of $r^2$-values ranging from .09 for males without intellectual disabilities to .31 for females with intellectual disabilities, suggests that insufficient power due to low numbers of students per group may have contributed to this nonsignificant finding.

Results from several previous studies have indicated that perceived social support may be differentially related to psychological well-being in adolescents, depending on gender (Pikó, 1998). However, as with studies discussed in Question 2, a comparison of studies is difficult given the varying methods of assessing perceived social support, as well as the tendency for some studies to combine depression scores with other psychological symptom scores into a composite “adjustment” or “psychological well-being” score.

Results from both Cheng’s (1997) and Ystgaard’s (1997) studies, however, indicated similarly weak associations between perceived social support and depressed mood for both male and female adolescents in their respective samples. More specifically, consistent with the results of this study, no significant gender differences were found. Cheng reported $r^2$-values for males ranging from .10 to .12 to demonstrate the strength of the association between depressed mood and family support, and depressed mood and peer support, respectively. For females, $r^2$ values ranged from .07 to .16 to demonstrate the strength of the relationship between depressed mood and family support, and depressed mood and peer support, respectively. Ystgaard also reported
small effect sizes for the association between depressed mood and social support from family, friends, and school class, respectively. Again, there were no significant gender differences evidenced in these relationships with $r^2$-values ranging from .14 to .23 for males and .09 to .16 for females.

**Summary**

Findings from epidemiological studies suggest that depression is a major health concern among adolescents (Reynolds, 1983, as cited in Reynolds, 1987). The higher endorsement of depressive symptomatology by adolescents with intellectual disabilities points to the need for investigating causal/and or associated variables of depression (i.e., potential factors that may differentially affect or exacerbate depression) in this population. Examining the relationships among these factors in adolescents with intellectual disabilities will enhance our understanding of the nature of depression in this population, and provide mental health professionals, school personnel, and parents with valuable information as to how to better support these individuals in their daily lives.

Results of this study replicate previous investigations that have reported a higher level of depressive symptomatology in adolescents with intellectual disabilities than in adolescents without intellectual disabilities (Matson et al., 1988; Reynolds & Miller, 1985; Schloss et al., 1988). Significantly higher levels of depressed mood were found in adolescents with mild to moderate intellectual disabilities compared to their peers without intellectual disabilities. An expected gender difference was also found, with females endorsing a significantly higher level of depressive symptomatology than males.

The relationship between depressed mood and socio-environmental variables such as daily hassles and perceived social support has been minimally studied among individuals with intellectual disabilities. The social support literature has indicated that the social support
networks of adults with intellectual disabilities are smaller, and contain fewer peers than their peers without intellectual disabilities. Despite their smaller social networks, results of two small-sample studies examining perceived social support in pre-adolescents and adults have indicated that individuals with intellectual disabilities do not perceive of themselves as receiving less support than adults without intellectual disabilities (Krauss et al., 1992; Rosen & Burchard, 1990).

A review of the social support research conducted with both persons with and without intellectual disabilities indicates consistent findings of a weak to moderate negative relationship between perceived availability and/or satisfaction with social support and depressive symptomatology (Benson & Deeter, 1992; Cheng, 1997; Compas et al., 1986a; Laman & Reiss, 1987; Reiss & Benson, 1985). However, research investigating this relationship in adolescents with intellectual disabilities was non-existent prior to this study. It is plausible that a potential lack of support, especially from peers, may contribute to the higher endorsement of depressive symptomatology (and higher prevalence of depressed mood in general) in adolescents with intellectual disabilities.

To test this hypothesis, a one-way analysis of covariance (ANCOVA) was conducted with students in this study. Results of this analysis indicated a nonsignificant relationship between level of depressed mood and group (adolescents with and without intellectual disabilities), controlling for perceived social support, $F (1, 97) = 0.42, p > .05, \eta^2 = .00$. In other words, when the perception of social support was held constant, there was no significant difference between adolescents with and without intellectual disabilities with regard to the level of depressive symptomatology they endorsed. The covariate, perceived social support, accounted for approximately 19% (i.e., $\eta^2$ of .19) of variance of depressed mood for group. This finding clearly suggests that one of the key reasons adolescents (particularly males) with intellectual
disabilities endorse a higher level of depressive symptomatology than their peers without intellectual disabilities is because they also perceive a lower level of social support than their peers without intellectual disabilities.

As previously indicated, results of this study illustrate that over 50% of males with intellectual disabilities perceived a less than satisfactory level of social support. More specifically, males with intellectual disabilities perceived a significantly lower level of social support than their same-gender peers without intellectual disabilities. Males and females without intellectual disabilities, as well as females with intellectual disabilities, reported a relatively high level of social support in comparison.

Results of this study also indicated that perceived social support was negatively (although weakly) associated with depressive mood for both adolescents with and without intellectual disabilities; no significant group or gender differences were found. These results generally are in accord with previous research investigating this association in adolescents without intellectual disabilities, as well as several small-sample studies conducted with adults with intellectual disabilities. However, a comparison of studies proved difficult given the varying definitions and sources of social support utilized.

Until now, there was no published research available that investigated daily hassles or their relationship to depressed mood in adolescents with intellectual disabilities. Research conducted with adolescents without intellectual disabilities suggest that these common daily stressors are positively correlated with psychopathology, including depression (Bennett & Bates, 1995; DuBois et al., 1994; Reynolds, 1987; Rowlinson & Felner, 1988; Ystgaard, 1997, 1999). Daily living poses an enormous challenge for many adolescents, particularly those with intellectual disabilities. These individuals are often limited in their capacity to cope with the pressures and demands of daily life (Dosen, 1993). This fact, in itself, pointed to the need for
corresponding research in daily hassles to be conducted with adolescents with intellectual disabilities.

Results of this study indicate that the amount of reported daily hassles was found to be positively related (albeit weakly) to depressive symptomatology for males and females with and without disabilities. This finding is consistent with previous studies conducted with adolescents without intellectual disabilities. Effect sizes for adolescents without intellectual disabilities were comparable or slightly higher than that found in previous studies. The strength of the relationship between daily hassles and depressed mood proved to be somewhat smaller, but not statistically so, for adolescents with intellectual disabilities. Furthermore, no significant difference was noted between adolescents with and without intellectual disabilities with regard to the number of daily hassles reported; both groups endorsed a similarly high number of daily hassles.

Limitations of the Study

There are several limitations in this study that require mentioning. These involve the identification and low participation rate of students with intellectual disabilities, sample size, the reliability of the social support measure, and the generalisability of results in general.

One of the most difficult issues in conducting empirical research with individuals with intellectual disabilities, is establishing standardized and/or agreed upon criteria for inclusion. As indicated in Chapter II, very few researchers use established criteria for mental retardation (AAMR, 1992; DSM-IV, 1994) in their entirety to determine which individuals to include/exclude in their studies. Because the researcher did not have access to students' files, detailed data regarding levels of cognitive and/or adaptive functioning were unavailable for those who had received a recent psycho-educational assessment. As such, the researcher was not entirely certain as to whether all participants with intellectual disabilities actually met all (or
most) of the criteria for designation as a student with mild or moderate intellectual
disabilities, and, therefore, whether all participants should have been included in this study.

Although the sample size of this study was considerably larger compared to previous
school-based studies investigating depressed mood (and associated variables) in individuals with
intellectual disabilities, it was still small compared to similar studies conducted with adolescents
without intellectual disabilities. Students with mild to moderate intellectual disabilities are not
considered to be a low incidence population per se; however, for a number of reasons, it was
considerably more difficult to locate, access, and receive written consent from these students
than students without intellectual disabilities. These reasons include: low numbers of students
designated with mild to moderate intellectual disabilities; reluctance of some school personnel
and/or parents to support studies investigating sensitive subject matter in students with special
needs; hesitation of some students to participate for fear of being “singled out,” and the tendency
of some students, despite their verbal willingness to participate, to misplace and/or neglect to
return their consent forms. To illustrate, even though 107 consent forms were distributed, only
54 students with intellectual disabilities (approximately 50%) returned the consent forms to
school, received permission from their parents or legal guardians, verbally agreed to participate,
and/or were in attendance the day of data collection.

This study’s relatively small sample size also posed a difficulty in properly examining
gender differences. Insufficient numbers of students per group (23 to 27) resulted in low
statistical power to detect possible significant differences in gender, and thus increased the
probability of Type II error. Low statistical power could also have resulted in an under-detection
of true differences between groups and/or gender in the correlations between depressed mood
and the two socio-environmental variables.
A second limitation to this study relates to the use of the social support scale in particular. Although considered a research instrument, the internal consistency reliability of this measure for both participants with and without intellectual disabilities was notably lower ($r_a = .63$ and $.72$, respectively) than that of the other two self-report measures employed in this study. This lower reliability could account for the lack of significant main or interaction effects for group and/or gender, thereby increasing the probability of Type II error. But because the ASI total score represents a composite index of perceived social support from a wide variety of sources (as does the instrument used in Reiss and Benson’s 1985 study), we might expect the internal consistency reliability of this measure to be lower than that of the other two measures. It is logical to assume, for example, that an individual’s perception of social support received from family members may differ from the perception of social support received from peers, and thus, may not represent the same construct. But because the ASI does not distinguish between varying sources of support in its calculation of scores, a possible under-detection and/or confounding of possible significant effects may have occurred.

A final limitation to this study is related to the generalisability of study results to the general population. The sample was drawn from one geographic location, a suburban area (the Greater Vancouver Regional District of British Columbia). While ethnically diverse, it does not account for adolescents across various geographic (particularly rural) regions. Rural adolescents with intellectual disabilities may show different levels of depressive symptomatology, daily hassles, and perceived social support than suburban adolescents. Without adequate representation of this population, generalizations from this study should not be made to rural adolescents.

Further Research

Further research examining the relationships among depressed mood and associated variables in adolescents with intellectual disabilities is warranted to clarify the nature of
depression (by identifying some of the underlying factors causing and/or exacerbating depression) in this population, and to develop improved methods of supporting these individuals through prevention and intervention programs.

One important study would be examining the relationship of various psychosocial (self-efficacy, loneliness, and hopelessness) and behaviour factors (coping and social skills and adaptive functioning) to depressed mood. Results of a study by Manikam et al. (1995) has suggested that high levels of adaptive functioning buffer the association between intellectual functioning and depressed mood. In other words, individuals with intellectual disabilities who exhibit concurrent levels of high adaptive skills are less likely to endorse significant levels of depressed mood than their peers with low adaptive skills. Investigating whether or not other factors such as social and coping skills, self-efficacy, loneliness, and/or hopelessness would also influence the relationship between intellectual disabilities and depressed mood, would greatly enhance our understanding of the potentially differential nature of depression as evidenced by individuals with intellectual disabilities, and may help pinpoint specific areas for school- and community-based intervention.

Another future study would be to compare adolescents with and without intellectual disabilities on their endorsement of subgroups of depressive symptomatology. Results of some exploratory analyses by Reynolds and Miller (1985) suggest that adolescents with intellectual disabilities tend to score higher on somatic, self-evaluative, and behavioural symptoms of depression, but approximately the same on items tapping mood and vegetative functioning. It is plausible that depression is experienced and manifested differently by adolescents with intellectual disabilities than by adolescents without intellectual disabilities, and if proved true, could have significant implications for the design of intervention and prevention programs.
A third research project would be to more closely examine various life stress factors (such as daily hassles); perceived social support; and their relationship with depressed mood again, comparing adolescents with and without intellectual disabilities. To help clarify possible significant differences between adolescents with and without intellectual disabilities, this study would ideally explore not only the number (or amount) of daily hassles students report, but also the type or sub-group of daily hassles reported (i.e., school, home, social, peer), as well as their perceived impact. Identifying sub-groups of daily hassles may help pinpoint what areas of daily life prove most stressful and evidence the greatest effect on depressed mood. Assessing the perceived impact may also prove important. Results of Kanner et al.'s (1987) study indicated that while males and females reported approximately the same number of hassles, females rated the hassles as "bad" more often than males. It is plausible that adolescents with and without intellectual disabilities differ in the perceived impact of daily hassles they report.

In the same way, distinguishing between various sources of perceived social support (i.e., adults outside the home, adults inside the home, parents, peers, friends) would help clarify potential significant differences between students with and without intellectual disabilities. A study by Barrera and Ainlay (1983) indicated that specific types of social support may act as a buffer against particular types of stress. The authors hypothesized that the strength or direct effect of social support on health (i.e., depression) might vary depending on what aspects of social support are assessed.

Finally, these relationships should be studied using prospective or longitudinal study designs to allow for an examination of directionality and/or buffering effects in the relationships among life stress, social support, and depressed mood. As with adolescents without intellectual disabilities, further research must be conducted to determine the exact nature of the relationship between daily hassles and depressed mood, and the association between perceived social support...
and depressed mood in adolescents with intellectual disabilities. These studies must explore the interactions or indirect effects of various socio-environmental factors with daily hassles to determine how they may cause and/or exacerbate depression in adolescents with intellectual disabilities. And as previously mentioned, it is plausible that there may be improved methods of assessing daily hassles. For example, instead of simply measuring the amount of daily hassles, it may prove more advantageous to assess the type and/or perceived impact of daily hassles.

A review of existing literature with adolescents without intellectual disabilities would seem to suggest that lack of social support is not necessarily a direct cause of depressed mood. Instead, many researchers propose that social support moderates the damaging effects of negative life events, thereby reducing the risk of depression (Harter & Marold, 1994; Lin, 1986; Nezu, Nezu, Saraydarian, Kalmar, & Ronan, 1986). This buffering effect model views social support as a direct source of self-esteem and adjustment and a buffer against potentially detrimental effects of negative life events (Harter & Marold, 1994). Satisfaction with social support and the impact of negative life events, among other variables, were found to directly predict the level of participants' depressive symptomatology in a study conducted by Benson and Deeter (1992). In addition, the interaction between social support satisfaction and negative life events was found to significantly contribute to the prediction of depression scores. Again, to prove useful, future studies should employ prospective and/or longitudinal designs to adequately investigate the relationships among depressed mood, perceived social support, and life stress.

Conclusions

This study provides additional evidence that adolescents with mild to moderate intellectual disabilities report a higher level of depressed mood than their peers without intellectual disabilities. And in accord with previous research, females endorse a significantly higher level of depressive symptomatology than males.
Results of this study also indicate that males with mild to moderate intellectual disabilities perceive a lower level of social support than their same-gender peers without intellectual disabilities. Furthermore, the association between this perception and depressed mood was found to be significant (although weak) for males and females with and without intellectual disabilities, a finding in accordance with previous studies investigating this relationship in adolescents without intellectual disabilities, as well as several small-sample studies conducted with adults with mild intellectual disabilities.

Finally, findings from this study indicate no significant group or gender differences in the number of reported daily hassles. Additionally, the amount of reported daily hassles was found to be significantly (albeit weakly) related to depressed mood for males and females with and without intellectual disabilities. This finding was also comparable to those of previous studies conducted with adolescents without intellectual disabilities.

The results of this study need to be cautiously interpreted, as the study was exploratory in nature. This study did not attempt to offer cause and effect answers to the relationships among depressed mood, daily hassles, and perceived social support, but to extend the findings of previous correlational studies conducted in the fields of special education and psychology. For example, this study offered the first examination of daily hassles, as well as their association with depressed mood, as experienced by individuals with intellectual disabilities. Additionally, this study provided a first look at the relationship between perceived social support and depression in adolescents with intellectual disabilities. Finally, this study compared these relationships with an age-and gender-matched sample of adolescents without intellectual disabilities. Although gender differences were explored, results of these analyses were restricted due to limited numbers of students per group.
The evidence presented in this study highlights the need for socio-environmental variables such as perceived social support to be considered key factors associated with depressed mood in adolescents with intellectual disabilities. Future investigations should employ prospective or longitudinal study designs to allow for an examination of directionality and/or buffering effects in the relationships among life stress, social support, and depressed mood. Previous research studies (conducted with adolescents without intellectual disabilities) that have employed these methods have contributed greatly to our understanding of depression in adolescence. Corresponding research for adolescents with intellectual disabilities is warranted to clarify the nature of depression (by identifying some of the underlying factors causing and/or exacerbating depression), and to develop improved methods of supporting these individuals through prevention and intervention programs.
References


Selection of 50 matches (participants without intellectual disabilities)

Students without intellectual disabilities who returned consent forms were randomly selected to match students with intellectual disabilities on age and gender. Several constraints were imposed on the selection of the 50 matches from the total sample of 331 students without intellectual disabilities so as to ensure the best fit. At the outset, two students were eliminated from the sample set. In one instance, a student offered highly improbable and/or sarcastic responses for demographic information. As such, their responses to the questionnaires were held in serious question. In the second instance, a student who consented to participate as a potential match for participants without intellectual disabilities had great difficulties completing the questionnaires independently (i.e., he required the researcher to read the items to him, and took approximately 20 minutes longer than his peers to complete the questionnaires). He exhibited behaviours consistent with an individual with autism (an observation later confirmed by his teacher), and thus was eliminated from the list of potential matches for participants with intellectual disabilities.

The remaining 329 students were then divided into two groups -- males and females. All questionnaire packets with missing gender data were excluded (n = 10). Next, male and female students were categorized according to age. Those students outside of the 13 to 19 year old age range (i.e., 12-year olds) were excluded (n = 1). One student with missing grade data was also excluded from the list of potential matches. In all possible instances, students without intellectual disabilities were randomly selected from the same schools as students with intellectual disabilities. In the few instances where this was not possible, students without intellectual disabilities were randomly selected from schools that were rated similarly on the variable of school SES by the respective school principals.
All potential matches for each participant with intellectual disabilities were placed in a jar and one match was randomly drawn for inclusion in the study. Fifty-four draws resulted in a selection of 54 students without intellectual disabilities (27 males, 27 females) who were matched on age and gender to 54 students with intellectual disabilities. Finally, participants with intellectual disabilities who attained a score of 75 or higher on the K-BIT (n = 4) and their matches (n = 4) were excluded from the study. This procedure was undertaken to ensure that only students who met the DSM-IV definition of mild to moderate intellectual disabilities were selected for inclusion in this study. The final matched sample included 50 students without intellectual disabilities (27 males, 23 females) who were matched on age and gender to 50 students with intellectual disabilities (27 males, 23 females).
Appendix B
Letter of Initial Contact with School District

April 2000

Dear School Superintendent, _________ School District,

My name is Karen Ott VandeKamp and I am a Master’s-level student in the Department of Educational and Counselling Psychology & Special Education at the University of British Columbia (UBC). Within the next two weeks, I will be defending my thesis proposal, which investigates the relationships between depressed mood, perceived social support, and daily hassles in adolescents with and without intellectual disabilities.

I am writing to ask your permission to conduct research with students in your school district. This would involve administering several questionnaires, covering topics such as depression, perceived social support; and daily hassles, to students ages 13 - 19 in grades 8 - 12. In addition, students designed as "mildly intellectual disabled" who consent to participate will complete a brief measure of intellectual functioning. A graduate student in School Psychology who is fully qualified to administer standardised tests of cognitive ability will administer this measure.

All of the research tools to be utilised in this study have previously been used with adolescents in schools, and there have been no negative effects from answering the questions. In fact, most students find the questionnaires interesting. Opportunity will be given to ask questions prior to and following the administration of the questionnaires. Also, a summary of research results will be mailed to parents who request it on the written consent form.

Conducting my research in your school will benefit school personnel and students in the following ways. First, this study will provide an increased understanding of depression, and possibly its related factors, in adolescents with and without intellectual disabilities. Second, if required, students with intellectual disabilities will receive an updated (brief) assessment of cognitive ability.

Please find enclosed an application for conducting research in your school district. I understand that this is an especially busy time of year for school personnel. So, I thank you in advance for your time and consideration. If you have any questions, comments, or concerns about my research, please contact me at (604) XXX-XXXX or jott@interchange.ubc.ca. I look forward to hearing from you in the near future.

Sincerely,

William M. Reynolds, Ph.D.
Professor/Faculty Advisor,
Department of Educational and Counselling Psychology & Special Education, UBC

Karen Ott VandeKamp, B.C.S.
Graduate Student
Informed Consent Form
(Participants without Intellectual Disabilities)

A Comparison Study of Depression, Daily Hassles, and Social Support in Adolescents with and without Intellectual Disabilities

Dear Parent or Guardian:

I am a graduate student in the Department of Educational and Counselling Psychology & Special Education at the University of British Columbia (UBC). In partial fulfilment of my Master's degree, and with the permission of the ________ School District, I am conducting a research project at your son's/daughter's school. The general focus of this study is to examine the potential effects of daily hassles and social support on depression in adolescents. The purpose of this letter is to provide you and your son/daughter with information about this project, and to ask your child's permission to participate in it.

Purpose of the Study:

Parents, teachers, and mental health professionals need to know more about the relationships between social support, daily hassles, and depression in adolescents so that they can better support individuals at greater risk for depression. The research shows that individuals with intellectual disabilities seem to be at greater risk for depression than persons without intellectual disabilities. The high prevalence rate of depression in these persons points to the need for investigating causal and/or associated factors of depression. I hope to contribute to a better understanding of the nature of depression in these individuals by examining the differences between adolescents with and without intellectual disabilities.

Your child's involvement:

Not all students will be asked to participate. Students will be selected to match another group of students participating in the study. If your son/daughter is selected and chooses to participate in this project, he/she will be asked to complete a set of questionnaires. The questionnaires cover topics such as feelings about self, relationships with others, and daily hassles. All have previously been used with adolescents in schools and there have been no negative effects from answering the questions. Most students find the questionnaires interesting. Students will complete these questionnaires during a 20 – 25 minute block of classroom time with the prior permission of their teachers.

Participation is Voluntary:

Participation in this research project is voluntary. Even if you/your child do give initial written permission, your son/daughter may withdraw at any time without negative consequences.
Confidentiality:

Your son's/daughter's answers will be kept strictly confidential. No names will appear on the questionnaires; your child will be assigned a code number. The questionnaires will be kept in a locked filing cabinet at UBC. Only the researchers will have access to this information. The list of code numbers will be secured by the __________ School District.

Incentive for Returning the Consent Form:

After reading this letter, please discuss the project with your son/daughter and then complete the attached consent form (page 3) indicating that you do/do not give permission for him/her to participate. Please send the completed form back to school with your child whether or not he/she chooses to participate. A copy of the consent form is included for your records. If your child returns page 3 of this form completed (whether or not they choose to or are selected to participate), their name will be entered in a draw for one of five $50. gift certificates to a local music store (i.e., A & B Sound).

More information:

If you would like more detailed information about this project or your son/daughter's participation in it, before consenting to participate, please contact Dr. William Reynolds at reynolds@unixg.ubc.ca or Karen Ott VandeKamp at XXX-XXXX. You may also contact Dr. Richard Spratley, Director of the UBC Office of Research Services and Administration, if you have any concerns about your rights as participants in this research project. His phone number is 822-8598. If you would like to receive a copy of my research results, please provide your phone number on the attached consent form.

Thank you for your consideration.

Sincerely,

William M. Reynolds, Ph.D. 
Professor/Faculty Advisor, 
Department of Educational and Counselling Psychology & Special Education, UBC

Karen Ott VandeKamp, B.C.S. 
Graduate Student
Please complete the section below the dotted line and return the form to school with your son/daughter within the next five days. Keep the top section for your records. Thank-you.

Consent:

I understand that my son's/daughter's participation in this study is voluntary and confidential, and that he/she may withdraw from the project at any time without negative consequences.

In providing my signature below, I acknowledge that I have read the consent form, discussed it with my son/daughter, and have kept a copy for my personal records.

I give consent /I do not give consent (please circle one) for my son/daughter to participate.

Parent's/Guardian's Name: ____________________________ (please print) Phone #: _________

Parent's/Guardian's Signature: ____________________________ Date: ____________________________

Son's/Daughter's Name: ____________________________ (please print first and last name)

☐..................................................................................................................................................

Consent:

I understand that my son's/daughter's participation in this study is voluntary and confidential, and that he/she may withdraw from the project at any time without negative consequences.

In providing my signature below, I acknowledge that I have read the consent form, discussed it with my son/daughter, and have kept a copy for my personal records.

I give consent /I do not give consent (please circle one) for my son/daughter to participate.

Parent's/Guardian's Name: ____________________________ (please print) Phone #: _________

Parent's/Guardian's Signature: ____________________________ Date: ____________________________

Son's/Daughter's Name: ____________________________ (please print first and last name)

Son's/Daughter's Age: _____ Gender (please mark one circle): ☐ Male ☐ Female

Name of Son's/Daughter's Homeroom Teacher: ____________________________

I would like to receive a copy of the research results. ☐ yes ☐ no

Please send this form back to school with your son or daughter within the next five days. It should be given to their homeroom teacher. Thank-you.
Appendix D
Dear Parent or Guardian:

I am a graduate student in the Department of Educational and Counselling Psychology & Special Education at the University of British Columbia (UBC). In partial fulfilment of my Master's degree, and with the permission of the ________ School District, I am conducting a research project at your son's/daughter's school. The general focus of this study is to examine the potential effects of daily hassles and social support on depression in adolescents. The purpose of this letter is to provide you and your son/daughter with information about this project, and to ask your child's permission to participate in it.

Purpose of the Study:

Parents, teachers, and mental health professionals need to know more about the relationships between social support, daily hassles, and depression in adolescents so that they can better support individuals at greater risk for depression. The research shows that individuals with intellectual disabilities seem to be at greater risk for depression than persons without intellectual disabilities. The high prevalence rate of depression in these persons points to the need for investigating causal and/or associated factors of depression. I hope to contribute to a better understanding of the nature of depression in these individuals by examining the differences between adolescents with and without intellectual disabilities.

Your child's involvement:

If your son/daughter participates in this project, he/she will be asked to complete a set of questionnaires, and possibly take a brief test of cognitive skills in a quiet room near their classrooms. The questionnaires cover topics such as feelings about self, relationships with others, and daily hassles. All have previously been used with adolescents in schools and there have been no negative effects from answering the questions. Most students find the questionnaires interesting. Completion of questionnaires is expected to take approximately 25 - 30 minutes.

The questionnaires will be administered in small groups of 3 - 5 students, by a fully qualified Master-level student with over 5 years of experience working with children and adults with physical and intellectual disabilities. All items will be read aloud. Students not wishing to participate in the study will complete class work during these 2 occasions.

A brief measure of intellectual functioning will be individually administered to students for whom recent (i.e., secondary school-level) cognitive ability scores are unavailable. (Your child's school will not provide us with specific test scores, but will provide us with the date of your child's last cognitive assessment.) Administration of this test will take place on a second, separate occasion from the questionnaires, and is expected to take 15 - 30 minutes.
Benefits to Participants:

First, this study will provide an increased understanding of depression, and possibly its related factors, in adolescents with intellectual disabilities. Second, if required, your son/daughter will receive an updated brief assessment of cognitive ability.

Participation is Voluntary:

Participation in this research project is voluntary. Even if you/your child do give initial written permission, your son/daughter may withdraw at any time without negative consequences.

Confidentiality:

Your son's/daughter's answers will be kept strictly confidential. No names will appear on the questionnaires; your child will be assigned a code number. The questionnaires will be kept in a locked filing cabinet at UBC. Only the researchers will have access to this information. The list of code numbers will be secured by the _________ School District.

Incentive for Returning the Consent Form:

After reading this letter, please discuss the project with your son/daughter and then complete the attached consent form (page 3) indicating that you do/do not give permission for him/her to participate. Please send the completed form back to school with your child whether or not he/she chooses to participate. A copy of the consent form is included for your records. If your child returns page 3 of this form completed (whether or not they choose to participate), their name will be entered in a draw for one of five $50. gift certificates to a local music store (i.e., A & B Sound).

More information:

If you would like more detailed information about this project or your son/daughter's participation in it, before consenting to participate, please contact Dr. William Reynolds at reynolds@unixg.ubc.ca or Karen Ott VandeKamp at XXX-XXXX. You may also contact Dr. Richard Spratley, Director of the UBC Office of Research Services and Administration, if you have any concerns about your rights as participants in this research project. His phone number is 822-8598. If you would like to receive a copy of my research results, please provide your phone number on the attached consent form. Thank you for your consideration.

Sincerely,

William M. Reynolds, Ph.D.  Karen Ott VandeKamp, B.C.S.
Professor/Faculty Advisor,  Graduate Student
Department of Educational and Counselling
Psychology & Special Education, UBC
Please complete the section below the dotted line and return the form to school with your son/daughter within the next five days. Keep the top section for your records. Thank-you.

Consent:

I understand that my son's/daughter's participation in this study is voluntary and confidential, and that he/she may withdraw from the project at any time without negative consequences.

In providing my signature below, I acknowledge that I have read the consent form, discussed it with my son/daughter, and have kept a copy for my personal records.

I give consent /I do not give consent (please circle one) for my son/daughter to participate.

Parent's/Guardian's Name: ___________________________ (please print) Phone #: ____________

Parent's/Guardian's Signature: ___________________________ Date: ____________

Son's/Daughter's Name: ___________________________ (please print first and last name)

X...................................................................................................................................................................

Consent:

I understand that my son's/daughter's participation in this study is voluntary and confidential, and that he/she may withdraw from the project at any time without negative consequences.

In providing my signature below, I acknowledge that I have read the consent form, discussed it with my son/daughter, and have kept a copy for my personal records.

I give consent /I do not give consent (please circle one) for my son/daughter to participate.

Parent's/Guardian's Name: ___________________________ (please print) Phone #: ____________

Parent's/Guardian's Signature: ___________________________ Date: ____________

Son's/Daughter's Name: ___________________________ (please print first and last name)

Son's/Daughter's Age: ______ Gender (please mark one circle): ☐ Male ☐ Female

Name of Son's/Daughter's Homeroom Teacher: ____________________________________________

I would like to receive a copy of the research results. ☐ yes ☐ no

Please send this form back to school with your son or daughter within the next five days. It should be given to their homeroom teacher. Thank-you.
Appendix E
STUDENT INFORMATION FORM

Instructions: This packet of questionnaires will take you about 20 - 25 minutes to complete. Please read all questions and answer as honestly as you can. There are no right or wrong answers.

Today's Date: ______________________________

Date of Birth: ____ / ____ / ____          Age: ____
month    day    year

Sex:  ○ Male       ○ Female

Grade: ____

What is your average grade in school (e.g., A, A-, B, B-, C, D...)? ______

Race/Ethnicity (mark one circle):
○ African American
○ Asian
○ Caucasian (white)
○ East Indian
○ Hispanic
○ Pacific Islands
○ Other (please describe) ____________________________

Who do you live with? __________________________________________

What job does your Mother have? ________________________________

What job does your Father have? _________________________________
Appendix F
Adolescent Support Inventory (ASI; Reynolds & Waltz, 1984b)

**INSTRUCTIONS:**
The following statements describe some good or not so good things that may have happened to you in the past month or two. Read each statement carefully and decide if the statement is true or mostly true for you, or if it is false or mostly false for you. **Be sure to answer every item** by circling either true or false. Remember, there are no right or wrong answers.

| 1. I had friends who would be there if I needed them. | TRUE | FALSE |
| 2. My parents helped me with problems when they could. | TRUE | FALSE |
| 3. My family cared about me. | TRUE | FALSE |
| 4. I had friends with whom I did things. | TRUE | FALSE |
| 5. I spent time in extracurricular activities at school. | TRUE | FALSE |
| 6. People at school included me in activities. | TRUE | FALSE |
| 7. There were people who counted on me for help. | TRUE | FALSE |
| 8. I knew my parents would be there if I needed them. | TRUE | FALSE |
| 9. I was part of a group at school. | TRUE | FALSE |
| 10. Teachers in school cared about how I was doing. | TRUE | FALSE |
| 11. I had a good friend who I spent time with. | TRUE | FALSE |
| 12. I had friends I could talk to about my problems. | TRUE | FALSE |
| 13. I had a group of friends with whom I did things. | TRUE | FALSE |
| 14. People that I know cared about me. | TRUE | FALSE |
| 15. I felt I had something to give to others. | TRUE | FALSE |
| 16. I did things at church or after school that I enjoyed. | TRUE | FALSE |

**Total:** _____
Appendix G
Adolescent Hassles Inventory (AHI; Reynolds & Waltz, 1984a)

**INSTRUCTIONS:**
The following statements describe some not so good things that may have happened to you in the past month or two. Read each statement carefully and decide if the statement is true or mostly true for you, or if it is false or mostly false for you. **Be sure to answer every item** by circling either true or false. Remember, there are no right or wrong answers.

1. My grades in school got worse.
   - TRUE
   - FALSE

2. People talked about me behind my back.
   - TRUE
   - FALSE

3. I argued with a good friend.
   - TRUE
   - FALSE

4. My family had money problems.
   - TRUE
   - FALSE

5. I didn't have many friends.
   - TRUE
   - FALSE

6. My parents expected too much of me.
   - TRUE
   - FALSE

7. I missed my girlfriend or boyfriend.
   - TRUE
   - FALSE

8. I was hassled by my parents because of things I wanted to do.
   - TRUE
   - FALSE

9. I was bothered by how I looked.
   - TRUE
   - FALSE

10. I didn't have enough money to buy things I really wanted.
    - TRUE
    - FALSE

11. I had problems with my health that bothered me.
    - TRUE
    - FALSE

12. I wished I had more or different clothes.
    - TRUE
    - FALSE

13. I looked but could not find a good job.
    - TRUE
    - FALSE

14. A friend treated me badly.
    - TRUE
    - FALSE

15. I had hassles with my boyfriend or girlfriend.
    - TRUE
    - FALSE

16. My parents bothered me about my grades.
    - TRUE
    - FALSE

17. I was pressured by others my age to do things I didn't want to do.
    - TRUE
    - FALSE

18. I didn't get along with people at work.
    - TRUE
    - FALSE

19. I didn't make a team or group that I wanted to.
    - TRUE
    - FALSE

20. A teacher did not like me.
    - TRUE
    - FALSE

21. I did not do as well in school as I could have.
    - TRUE
    - FALSE

22. My parents made me do too much work at home.
    - TRUE
    - FALSE

23. My parents did not get along with each other.
    - TRUE
    - FALSE

24. I couldn't do things I wanted because I did not have a car.
    - TRUE
    - FALSE

25. I did not get along with my parents.
    - TRUE
    - FALSE

26. My parents did not like my friends.
    - TRUE
    - FALSE

27. I got into hassles at school.
    - TRUE
    - FALSE

28. My parents treated me like a child.
    - TRUE
    - FALSE

29. People teased or made fun of me.
    - TRUE
    - FALSE

30. I didn't get along with my brother(s) or sister(s).
    - TRUE
    - FALSE

31. I got into hassles at home.
    - TRUE
    - FALSE

**Total # of Events:** ___
Appendix H
Survey Cover Sheet

Please print your name below:

____________________________________

After printing your name above, carefully remove this top sheet from the rest of your packet for your teacher to collect.
Appendix I
Instructions to participants

Individuals without intellectual disabilities

Today many of the students in the school will be filling out questionnaires. The questionnaires ask about how you feel about yourself, your friends and family, and things in general. This is a very important activity that should be taken seriously. There are no right or wrong answers -- answer each question just the way you feel. All your answers will be kept private. If you have any questions, just raise your hand.

First, print your name on the first page of your packet - it's called the 'Survey Cover Sheet'. When you have finished printing your name, tear the first page off from the rest of your packet and place it face down on your desk. I will collect it from you. Then carefully fill out the Student Information Form. This should now be the first page of your packet. When you have finished filling out this page, carefully read the instructions at the top of the first questionnaire. Now turn the questionnaire to the backside and answer all the questions. The instructions will tell you how to mark your answers.

When you are finished the first questionnaire, turn to the next one, read the instructions at the top of the page, and answer the questions. Keep going until you have answered all the questionnaires in your package. Please complete the questionnaires in the order in which they appear in your packages. When you have completed everything, look over your answers to make sure you haven't skipped any. When you have finished that, turn your package of questionnaires over to the front side and sit quietly. Please do not talk to or disturb other students. I will collect the questionnaires when everyone is finished.

Does anyone have any questions? Two final things: First, in order to complete the questionnaires, you should have a pencil. If you don't have a pencil, please raise your hand and you will be given one. Second, you should know that if you choose to complete the questionnaires, you have given your consent to participate in the study. OK, you may now begin by carefully completing the information on the first page of your packet.
Individuals with intellectual disabilities

Good morning, [name], my name is Karen. Many of the students in this school will be filling out questionnaires today. These questionnaires ask about how you feel about yourself, your family and friends, and things in general. That's what we're going to be doing in a few minutes. Answering these questions is a very important activity. You should know that there are no right or wrong answers -- answer each question just how you feel. Everything you say will be kept private. If you have any questions about anything, just ask. Do you have any questions right now? You should know that if you choose to complete the questionnaires, you have given me your permission to participate in the study.

(Researcher provides pencils if participants don't have one). OK, first I'd like you to print your NAME on the first page of your packet -- it's called the 'Survey Cover Sheet'. When you have finished printing your name, tear the page off from the rest of the packet and place it face down on your desk. I will collect it from you. (Researcher waits until all participants have completed this step before collecting cover sheets). Now carefully fill in your DATE OF BIRTH, AGE, GRADE, and AVERAGE GRADE IN SCHOOL. (Researcher points to spaces on the first page. When participants are finished, researcher helps participants fill in the correct circles for SEX, and RACE/ETHNICITY, as well as the correct information for PLACE OF RESIDENCE and PARENTS' OCCUPATIONS).

Great! Now, we're going to begin the questionnaires. Remember there are no right or wrong answers -- just answer the way you feel. If you make a mistake, just erase it, and circle the answer you want. If you have a question, I'll try to help. Ready? Let's begin.

(Researcher reads aloud instructions, questions, and response alternatives, pointing to response alternatives while participants circle or verbally indicate their responses). Do you have any questions? OK, let's go on to the next one.
Appendix J
Participant de-briefing

Participants without intellectual disabilities

I want to thank you for the time you took to answer my questions. Your answers will help me find out why students your age feel the way they do about themselves, their family and friends, and life in general. As I mentioned before, I will not use your names in my project, so your answers will be kept private. Does anyone have any questions? Thanks again for your help.

Participants with intellectual disabilities

I want to thank you for helping me today. Your answers to these questions will help me find out why students your age feel the way they do about themselves, their family and friends, and life in general. I will not use your name in my project, so your answers will be kept private. Do you have any questions? It was nice meeting you, ______. Thanks again for your help.