Manifestations of Depressive Symptoms in Adolescents:
Identifying Subtypes and their Distinguishing Features

by

Heather Ann Sears
B.Sc., Acadia University, 1987
M.A., University of Victoria, 1991

A Dissertation Submitted in Partial Fulfillment of the
Requirements for the Degree of

DOCTOR OF PHILOSOPHY

in the Department of Psychology

We accept this dissertation as conforming
to the required standard

Dr. N. L. Galambos, Supervisor (Department of Psychology)

Dr. M. F. Ehrenberg, Departmental Member (Department of Psychology)

Dr. K. A. Kerns, Departmental Member (Department of Psychology)

Dr. V. S. Kuehne, Outside Member (School of Child and Youth Care)

Dr. M. K. Reid, External Examiner (Department of Psychiatry and Behavioral Sciences, University of Washington)

Supervisor: Dr. N. L. Galambos

ABSTRACT

The prevalence and nature of depression among adolescents in the general population has received considerable empirical attention in the last decade. Although researchers and clinicians agree that depressive symptoms and depressive disorders are distressing to youths and may have wide ranging effects on their health and development, specific features of depression noted during adolescence (e.g., different manifestations of symptoms) warrant further examination. Using the domain of developmental psychopathology as a conceptual framework, the present study (a) examined sex and age differences in adolescents' reports of depressive symptoms; (b) explored the extent to which other symptoms were associated with adolescents' depressive symptoms; and (c) identified subtypes of adolescents who manifested their symptoms of depression in different ways. Data were collected from 379 community-dwelling adolescents (193 females, 186 males) ranging in age from 12 to 19 years. During one class period, youths completed anonymous questionnaires assessing their depressive and comorbid symptoms, personality style, and relationships with their mothers and fathers. Descriptive analyses showed that adolescent females reported higher levels of depressive symptoms than adolescent males and that adolescents' reports of depressive symptoms tended to show a linear increase across age. Correlational analyses revealed that females who reported depressive symptoms were likely to also report anxiety symptoms whereas males who reported depressive symptoms also reported symptoms of anxiety, substance use, school misconduct, and antisocial behaviour. A

K-means cluster analysis of the MAPI personality scales identified three subtypes of adolescents who manifested their depressive symptoms in different ways. These subtypes were labelled Isolated-Discontented, Engaged-Intrusive, and Inhibited-Insecure and were distinguished by their levels of depressive symptoms, patterns of co-occurring symptoms, relationships with their mothers, adolescent-specific concerns (e.g., personal esteem), and behavioural correlates (e.g., impulse control). The discussion focuses on the clinical implications of these subtypes of depressed adolescents (e.g., their clinical presentation, need for treatment, and appropriateness of specific interventions) as well as factors that may be contributing to the high level of depressive symptoms reported by the adolescents in this sample.

Examiners:

Dr. N. L. Galambos, Supervisor (Department of Psychology)

Dr. M. F. Ehrenberg, Departmental Member (Department of Psychology)

Dr. K. A. Kerns, Departmental Member (Department of Psychology)

Dr. V. S. Kuehne, Outside Member (School of Child and Youth Care)

Dr. M. K. Reid, External Examiner (Department of Psychiatry and Behavioral Sciences, University of Washington)

TABLE OF CONTENTS

Title Page i

Abstract ii

Table of Contents iv

List of Tables vii

List of Figures ix

Acknowledgements x

Dedication xi

CHAPTER I: INTRODUCTION 1

CHAPTER II: LITERATURE REVIEW 6

Developmental Psychopathology 6
Developmental Psychopathology and the Study of Depression in Adolescents 8

Depression in Adolescents 11
Prevalence 12
Sex Differences 14
Age Differences 18
Comorbidity 22
Specific Symptoms 26
Associated Family Factors 31

Research Questions and Hypotheses 37

CHAPTER III: METHOD 41

Participants 41

Procedure 44

Measures 46
Demographic Characteristics 46
Adolescents' Symptoms 47
Adolescents' Personality Style 49
Parent-Adolescent Relationships 52

Analyses of Missing Data 54

CHAPTER IV: RESULTS 57

Description of the Variables 57
Depressive Symptoms 57
Other Symptoms 57
Personality Styles 59
Parent-Adolescent Relationships 62

Analysis of Potential Covariates 64

Question 1: Sex and Age Differences in Adolescents' Depressive Symptoms 64

Question 2: The Association between Adolescents' Depressive Symptoms and Other Symptoms of Psychological Distress 73

Question 3: Subtypes of Adolescents with Depressive Symptoms 78

Question 4: Distinguishing Features of Subtypes of Adolescents with Depressive Symptoms 86
Demographic Characteristics 87
Depressive Symptoms 88
Other Symptoms 91
Parent-Adolescent Relationships 93

Question 5: Other Features of Subtypes of Adolescents with Depressive Symptoms 93
Adolescents' Expressed Concerns 96
Adolescents' Behavioural Correlates 98

CHAPTER V: DISCUSSION 100

Sex and Age Differences in Adolescents' Depressive Symptoms 100

Adolescents' Depressive Symptoms and Other Symptoms 106

Subtypes of Adolescents with Depressive Symptoms 109
Identification of Subtypes 109
Distinguishing Features 111
Clinical Implications 115

Limitations and Strengths 118

Directions for Future Research 122

References 124

Appendix A: Letter to Parents 139

Appendix B: Demographic Information 140

Appendix C: Beck Depression Inventory 142

Appendix D: Dimensions of Depression Profile for Children and Adolescents 145

Appendix E: State Anxiety Scale 149

Appendix F: Substance Use 150

Appendix G: School Misconduct 151

Appendix H: Antisocial Behaviour 152

Appendix I: Millon Adolescent Personality Inventory 153

Appendix J: Parental Acceptance 161

Appendix K: Parental Lax Control 162

Appendix L: Parent's Use of Verbal Coercion 163

Appendix M: Parent-Adolescent Conflict 164

Appendix N: Intercorrelations among Outcome Variables by Domain 165

LIST OF TABLES

Table 1: Distribution of the Sample by Sex and Age 42

Table 2: Summary of MAPI Scale Interpretations 51

Table 3: Means and Standard Deviations of Measures of Depressive Symptoms and Other Symptoms 58

Table 4: Means and Standard Deviations of the MAPI Scales 60

Table 5: Means and Standard Deviations of Parent-Adolescent Relationship Variables for Mothers and Fathers 63

Table 6: Correlations between Adolescents' Reports of Depressive Symptoms and Demographic Variables 65

Table 7: Means and Standard Deviations of BDI Scores by Sex and Age Category 67

Table 8: Distribution of Adolescents within BDI Categories by Sex and Age Category 69

Table 9: Intercorrelations among Adolescents' Reports of Depressive Symptoms by Sex 74

Table 10: Intercorrelations among Adolescents' Reports of Other Symptoms by Sex 75

Table 11: Correlations between Adolescents' Reports of Depressive Symptoms and Other Symptoms by Sex 77

Table 12: Means and Standard Deviations of the MAPI Personality Scales by Subtype 80

Table 13: Chi-Square and ANOVA Analyses of Demographic Variables by Subtype 89

Table 14: Group Means, Standard Deviations, and *F* Values for Depressive Symptoms by Subtype 90

Table 15: Group Means, Standard Deviations, and *F* Values for Other Symptoms by Subtype 92

Table 16: Group Means, Standard Deviations, and *F* Values for Mother-Adolescent Relationship Variables by Subtype 94

Table 17: Group Means, Standard Deviations, and *F* Values for Father-Adolescent Relationship Variables by Subtype 95

Table 18: Group Means, Standard Deviations, and *F* Values for Adolescents' Expressed Concerns by Subtype 97

Table 19: Group Means, Standard Deviations, and *F* Values for Adolescents' Behavioural Correlates by Subtype 99

Table 20: Distinguishing Features of the Subtypes of Adolescents with Depressive Symptoms 113

LIST OF FIGURES

Figure 1: Profiles of Depression Subscales by Age Category 71

Figure 2: MAPI Profile for Isolated-Discontented Subtype 81

Figure 3: MAPI Profile for Engaged-Intrusive Subtype 82

Figure 4: MAPI Profile for Inhibited-Insecure Subtype 83

Acknowledgements

I would like to acknowledge the assistance and support of several people. To Nancy Galambos, my supervisor and academic mentor, thank you for your counsel and example during my graduate education. I hope I can offer my students what you have given me. To Marion Ehrenberg, my clinical mentor, thanks for sharing your experiences and encouraging me to trust my clinical judgment. To Valerie Kuehne, your support and influence has been tremendous and always has been greatly appreciated. Thanks to Mike Hunter for his assistance with many statistical questions, and to Kim Kerns for stepping in during the completion of this project.

A sincere thank you to the Shelburne County District School Board and to Mr. Hogg and his staff whose co-operation was essential for the success of this research. To the students who participated, thank you for sharing your experiences with me. I also would like to thank my sister, Joye, for her assistance with the data collection and with library research.

To Richard Chadwick, thank you for your love as well as your frequent practical support during my Ph.D. training. We now have a new adventure (and yet another move) in store. Thanks also to my parents and grandparents whose confidence in me has helped them seem not quite so far away, and to Crystal and Laurie for keeping the phone lines hopping and for making our last month in Victoria such a memorable one. Finally, to my UVic family, Grace, Pam, Diane, Leslie, Dave, Jennifer, and Shelley - our time together has been very special and I thank you for all your encouragement and laughter along the way.

Dedication

This dissertation is dedicated to Janet Aileen Sears,

whose strength and determination

continually inspires me.

CHAPTER I

INTRODUCTION

A substantial literature is accumulating on factors that are associated with the development of psychopathology in adolescents (e.g., Lewis, Dlugokinski, Caputo, & Griffin, 1988; Pellegrini, 1990). An interest in delineating these factors has been stimulated by the significant numbers of adolescents in psychological distress and the unavailability of treatment services. Epidemiological studies of adolescents in the general population, for example, estimate that the prevalence of psychiatric disorder is about 20% (Brandenburg, Friedman, & Silver, 1990; McGee et al., 1990; Offord et al., 1987). It is likely that the percentage of adolescents currently in need of mental health services is even higher given that many youths who report elevated levels of symptoms do not meet diagnostic criteria for psychiatric disorders (Gotlib, Lewinsohn, & Seeley, 1995). However, at best only one-third of adolescents who need mental health care will receive treatment (Cohen & Hesselbart, 1993; Lewis et al., 1988).

Depression has been identified as a disorder in which the onset frequently occurs during adolescence (Burke, Burke, Regier, & Rae, 1990; Giaconia et al., 1994; Whitaker et al., 1990). It was not until recently, however, that depression was recognized as a disorder experienced by adolescents. Formerly, depression was regarded as part of the normal "storm and stress" of adolescence (Strober, 1986). Although research indicates that depressive *disorders* may affect only about 5% of adolescents in the general population, depressive *symptoms* are reported by 10%-35% of adolescents (Ehrenberg, Cox, & Koopman, 1991; Kaplan, Hong, & Weinhold,

1984; Larsson & Melin, 1990). This prevalence of such feelings of unhappiness and despair among youths indicates the need for further research in this area.

The study of depression in adolescents recently has been housed within the domain of developmental psychopathology. Developmental psychopathology is a conceptual framework that considers psychopathology within a developmental context (Achenbach, 1990; Rutter, 1986b). It promotes assessment of the reciprocal links between typical and atypical behaviours and processes in order to distinguish developmental variations that are within the expected range from those that disrupt development and impair the resolution of developmental tasks (Achenbach, 1990). It also may facilitate an exploration of developmental variation in depression with age, both within adolescence and between adolescence and childhood or adulthood (Rutter, 1986b). Consistent with this perspective, depression in adolescents appears to impede the adventure-seeking and trial-and-error learning that prepares youth to confront challenges and uncertainties (Kovacs, 1989). Deprived of experiences that have the potential to enhance self-esteem, and plagued by feelings of sadness and despondency, depressed adolescents may seek relief through substance use or suicide (White, 1989).

There are three aspects of depression in adolescents that currently are of interest to many researchers and clinicians: (1) sex and age differences; (2) comorbidity or the co-occurrence of depression and other psychiatric disorders; and (3) different manifestations of depressive symptoms. With respect to sex differences, a number of studies have reported that adolescent females are more likely than adolescent males to experience depression (e.g., Allgood-Merten, Lewinsohn, &

Hops, 1990; Renouf & Harter, 1990). A sharp increase in depression at adolescence when compared with childhood points to important age differences in depression (e.g., Kashani, Rosenberg, & Reid, 1989). Within adolescence, sex differences in depression may vary depending on the age of the adolescents and the severity of their symptoms (e.g., Ehrenberg et al., 1991). Some studies of community-dwelling adolescents, however, have found no sex or age differences in depression (e.g., Teri, 1982). The variation in these results suggests that studies must continue to examine how an adolescent's sex and age are related to depression.

With respect to comorbidity, depression in adolescents rarely occurs in isolation; rather it frequently co-occurs with anxiety, conduct disorder, and substance abuse (Fleming & Offord, 1990; Rohde, Lewinsohn, & Seeley, 1991). The relationships among comorbid disorders may, in turn, affect the age of onset, presentation, course, and consequences of depression (Lewinsohn, Rohde, Seeley, & Hops, 1991). Comorbidity research, however, has focused on diagnosable *disorders* with little attention to the co-occurrence of certain *symptoms* or symptom patterns (Brown & Barlow, 1992). Given the high degree of comorbidity in adolescents and the prevalence of depressive symptoms in this population, it is imperative that research also examine patterns of co-occurrence among depressive symptoms and other symptoms (e.g., anxiety, substance use, conduct problems). The few studies that have included measures of co-occurring symptoms suggest that depressive symptoms in adolescents are frequently related to other symptoms (e.g., anxiety, substance use); some of this research also has indicated that the sex of an adolescent

may be a key moderator of these associations (e.g., Henry et al., 1993).

With respect to different manifestations of depressive symptoms, adolescents appear to express these symptoms in one of two ways: Some adolescents become withdrawn, overly sensitive, and self-focused whereas others become uncooperative, defiant, and impulsive (Block, Gjerde, & Block, 1991; Ehrenberg, Cox, & Koopman, 1990; Gjerde, Block, & Block, 1988). Block et al. (1991) reported that these different symptom patterns preceded and co-occurred with adolescents' depressive symptoms at age 18. Using the Millon Adolescent Personality Inventory (MAPI; Millon, Green, & Meagher, 1982), Ehrenberg et al. (1990) described adolescent-specific concerns that were related to these two manifestations of depressive symptoms: Depressed adolescents who were withdrawn and self-focused were more likely to be concerned about their physical appearance and peer relationships whereas depressed adolescents who were defiant and impulsive were more likely to be concerned about family rapport and their academic competence.

Although the two manifestations of depressive symptoms that have been described in these studies are consistent with clinical observations of depressed adolescents (e.g., Pantle, Evert, & Trenerry, 1990), no studies have sought additional empirical support for these different symptom patterns. Further, with the exception of Ehrenberg et al. (1990), no attempts have been made to identify distinguishing features of these depressive symptom patterns. Such investigations may highlight specific profiles of depressed adolescents who, for example, have different patterns of comorbid symptoms or family relationships.

The links between family relationships and different manifestations of depressive symptoms may be especially interesting given that the family has been recognized as an important factor for the development of psychopathology in children and adolescents (e.g., Fauber & Long, 1991; Steinberg, 1987a). Studies of family factors and depression have traditionally focused on children of depressed mothers (e.g., Downey & Coyne, 1990) and to a lesser extent on families with depressed pre-adolescent children (e.g., Cole & Rehm, 1986). Currently, increased attention is being paid to the family climates of depressed adolescents. This research indicates that depression in adolescents is associated with variables that reflect the qualitative aspects of the parent-adolescent relationship (e.g., little parental warmth or acceptance, parent's use of excessive control) (Fendrich, Warner, & Weissman, 1990; Steinberg, 1990). Studies of family factors and depressive symptoms in adolescents, however, have typically examined associations between family relationships and global measures of depressive symptoms (e.g., BDI scores). One goal of the present research was to explore the association between parent-adolescent relationships and different manifestations of depressive symptoms in adolescents.

In summary, the prevalence of depressive symptoms among community-dwelling adolescents and their impact on adolescent health and development demands that this population receive further empirical attention. The present study was designed to examine three aspects of depressive symptoms in adolescents that currently are of interest to researchers and clinicians: sex and age differences, comorbidity, and different manifestations of depressive symptoms.

CHAPTER II

LITERATURE REVIEW

The purpose of this chapter is to review the relevant literature on depression in adolescents. First, an overview of the domain of developmental psychopathology is presented to introduce the conceptual framework of this study. Second, research on depression in adolescents is reviewed with particular attention to studies that have investigated prevalence, sex and age differences, comorbidity, specific symptoms, and associated family factors. Finally, the research questions and hypotheses underlying the study are presented.

Developmental Psychopathology

Developmental psychopathology is a macroparadigm that provides a conceptual framework for organizing the study of psychopathology around the milestones and sequences of development (Achenbach, 1990). More specifically, developmental psychopathology considers (a) the extent to which typical and atypical behaviours and processes are linked; (b) the mechanisms by which development and psychopathology interact and how each may influence the expression of the other; and (c) the continuity and discontinuity of development across the life span (Rutter, 1986b). Although the interface of development and psychopathology is relevant over the entire life span, developmental psychopathology usually has been limited to the study of childhood and adolescence.

The domain of developmental psychopathology is a product of different approaches (e.g., developmental psychology, abnormal psychology, psychiatry) whose

efforts prior to the 1980s had been separate and distinct (Achenbach, 1990; Cicchetti, 1984). Despite these influences, developmental psychopathology does not adhere to a specific theoretical explanation for disorders, their causes, or their outcomes (Achenbach, 1990). However, advances within developmental psychology, in particular, have contributed to compelling progress in unravelling the etiology, course, and sequelae of mental disorders, and, as a result, have made a developmental approach to psychopathology more viable.

A compelling reason for viewing psychopathology within a developmental context is that progress in studies of typical and atypical development can enrich each other (Sroufe, 1990; Wenar, 1982). It seems that functioning or behaviour can be judged atypical (i.e., a developmental deviation) only when there is an exploration of the typical and atypical sequences of development and the target behaviour has been described as deviating significantly from norms for individuals at a given developmental level (Achenbach, 1990; Sroufe, 1990; Wenar, 1982). In some disorders, age-appropriate behaviour is exaggerated (e.g., noncompliance) or is deficient or absent (e.g., an autistic child's lack of imitation) (Wenar, 1982). However, some problem behaviours are quite common within specific developmental periods (e.g., fears). Other problem behaviours may be qualitatively different; that is, they have little or no counterpart in typical development (e.g., attachment is aversive to autistic children) (Wenar, 1982). Thus, a fundamental challenge of developmental psychopathology is to distinguish developmental variations that are within the typical range from those that disrupt development or suggest that future

difficulties are imminent (Achenbach, 1990; Sroufe & Rutter, 1984).

The study of psychopathology also can benefit from one of the hallmarks of a developmental approach; that is, placing the present within the context of the past and the future (Wenar, 1982). In addition to evaluating individual patterns of change with attention to developmental sequences, consideration must also be given to prior functioning, changing sources of support, and environmental challenges (Sroufe & Rutter, 1984). Although some change is expected over time, particularly in response to alterations in context, sudden shifts in behaviour or hyper-responsivity are symptomatic of disorders. Further, individuals are remarkably predictable over time and consistent across situations. Excessive stability, however, suggests failure to shift behaviours in response to changing environmental demands (Cowan, 1988). By focusing on stability as well as change, developmental psychopathology attends to the origins and time course of disorders, their variations with development, their antecedents and consequences, and their relation to adaptive behaviour patterns (Sroufe & Rutter, 1984).

Developmental Psychopathology and the Study of Depression in Adolescents

Traditionally, depression in adolescents has been studied within the domain of psychopathology with little attention to developmental issues (Goldberg, 1989). Recently, however, adolescents with depression have been evaluated in the context of both psychopathology and development (Rutter, 1986a). Initial efforts often targeted a psychological or psychobiological mechanism known to occur in adults with depression and assessed whether a similar process was operating among children and

adolescents. It became apparent from this work that placing adolescents' experiences of depression within a developmental context required that many domains of development (e.g., cognitive, emotional, social, and biological competencies) be considered (Cicchetti & Schneider-Rosen, 1986). A developmental perspective maintains that development proceeds from a state of lack of differentiation to a state of increasing complexity and integration of domains. It follows then that psychopathology occurs when the multiple domains that influence successful resolution of developmental tasks fail to integrate (Carlson & Garber, 1986). Thus, only a comprehensive evaluation of these domains can capture the variation in adolescents' interpretation, experience, and expression of depression (Carlson & Garber, 1986; Cicchetti, 1984).

In accordance with the perspective of developmental psychopathology, depressive symptoms and disorders appear to disrupt or delay the completion of certain developmental tasks of adolescence (Kovacs, 1989; White, 1989). Adolescents who feel immobilized, guilty, and despondent are not likely to seek out and complete activities that will make them feel good about themselves or their futures. Depression, then, may impede the adventure-seeking and trial-and-error learning that prepares adolescents to confront future challenges and uncertainties (Kovacs, 1989). Deprived of experiences that have the potential to enhance self-esteem and plagued by feelings of sadness and despondency, depressed adolescents are at an increased risk for seeking relief through a variety of other means (e.g., substance use, suicide) (White, 1989).

The study of adolescents with depression has only begun to benefit from the conceptual framework offered by the domain of developmental psychopathology. Applications of two tenets of this approach seem especially useful to pursue. First, it is unclear at what point or under what conditions the moodiness experienced by many adolescents exceeds the typical range and becomes a phenomenon that disrupts development or suggests that future impairment is imminent. Studies of adolescents with depression have typically evaluated adolescents who meet a clinical diagnosis or adolescents who have reported symptoms of depression but do not meet diagnostic criteria (e.g., Angold & Rutter, 1992; Garrison, Jackson, Marsteller, McKeown, & Addy, 1990; Petersen, Sarigiani, & Kennedy, 1991). Perhaps a more active integration of these two types of studies would highlight the extent to which these typical and atypical processes are linked.

Second, the continuities and discontinuities in depression across the life span need to be more carefully delineated. Much of the research on depression in adolescents has assumed that the presentation and experiences of this disorder in youths mimics that which had been documented for adults (Cantwell & Baker, 1991). Although empirical evidence has identified a number of continuities between depression in adults and depression in adolescents, depression in adolescents also may have some unique age-specific features which may have implications for how depression is defined, assessed, and treated (e.g., Mitchell, McCauley, Burke, & Moss, 1988). Only through a more rigorous examination of the depressive experiences of individuals across the life span and of the assumptions upon which

these studies are based will the continuities and discontinuities in depression be accurately described.

Depression in Adolescents

Depression is one of the most common psychiatric disorders in the general population (Sorenson, Rutter, & Aneshensel, 1991). Depression in adolescents is of particular concern because of its wide ranging effects on adolescent health: Depression is associated with suicidal thoughts and behaviour; it frequently co-occurs with anxiety, conduct disorder, and substance use; it is distressing to those who experience it; and it increases the likelihood of future depressive episodes and poor psychosocial outcomes (Fleming, Boyle, & Offord, 1993; Harter, Marold, & Whitesell, 1992; Kandel & Davies, 1986; Lewinsohn et al., 1994). The impact of this disorder on adolescents calls attention to the importance of evaluating depression both empirically and clinically. This section will present an overview of depression in adolescents by focusing on research in five areas: prevalence, sex and age differences, comorbidity, specific symptoms, and associated family factors. A discussion of bipolar disorders is excluded from this review because data indicate that there are differences between bipolar disorders and depressive disorders in symptomatic behaviour, clinical course, sex ratio, and response to treatment (American Psychiatric Association (APA), 1987; Weller & Weller, 1991). Unless otherwise stated, the research reported here has also been limited to studies of adolescents in the general population because this is the target group for the present research.

Prevalence

Until recently, depression has been viewed as part of the normal "storm and stress" of adolescence (Strober, 1986; White, 1989). Depression, however, is no longer regarded as a normal developmental phenomenon or a transient disturbance that adolescents outgrow (Kovacs, 1989). While most adolescents experience transient emotional lows (e.g., fluctuating sad or dysphoric moods), depression, in contrast, is more intense and persistent and may impact an individual's affective, behavioural, cognitive, and physical presentation (Strober, 1986; White, 1989).

There is compelling evidence that adolescents experience depression, whether depression is defined as: (a) a sad or negative mood (*symptom*); (b) a presentation of multiple symptoms, such as sadness, poor appetite, and fatigue (*symptom pattern*); (c) a constellation of emotions and behaviours, such as negative mood, feelings of worthlessness, and suicidal thoughts, that occur together in an interpretable pattern (*syndrome*); or (d) a depressive syndrome with a characteristic symptom pattern that is associated with significant levels of distress and with increased risk for impairment in current functioning (*psychiatric disorder*) (Cantwell & Baker, 1991; Compas, Ey, & Grant, 1993; Kovacs, 1989). Such a range in definitions of depression has resulted in considerable variation in prevalence estimates of this disorder. Prevalence estimates also fluctuate depending on how depression is measured (e.g., applying diagnostic criteria to symptoms elicited by interview, responses on a self-report scale) (Fleming, Offord, & Boyle, 1989; Robertson & Simons, 1989).

Despite the difficulty involved in comparing studies of depression prevalence,

it is increasingly clear that the prevalence of depression as a *psychiatric disorder* (i.e., major depression, dysthymia; APA, 1987) among adolescents in the general population is fairly low. Prevalence estimates typically range from 2%-5% (Fleming et al., 1989; Lewinsohn, Hops, Roberts, Seeley, & Andrews, 1993; McGee et al., 1990; Whitaker et al., 1990), although a high of 8% has been reported (Kashani et al., 1987).

The prevalence of depressive *symptom patterns* in adolescents, however, is much higher. Based on Beck Depression Inventory (BDI) scores, which measure the affective, cognitive, physical, and behavioural symptoms of depression, studies have found that 13%-33% of adolescents report mild depressive symptoms and 9%-35% report moderate to severe depressive symptoms (Albert & Beck, 1975; Connelly, Johnston, Brown, Mackay, & Blackstock, 1993; Ehrenberg et al., 1991; Kaplan et al., 1984; Larsson & Melin, 1990; Siegel & Griffin, 1984; Sullivan & Engin, 1986; Teri, 1982). Research that has focused only on the presence of dysphoric or depressed mood reports slightly higher estimates of depressive symptoms (15%-50%) (Kandel & Davies, 1982; Kashani et al., 1987; Rutter, 1986b; Schoenbach, Kaplan, Grimson, & Wagner, 1982). The fluctuation among reports of depressive symptoms may depend somewhat on the age range and context studied (Brooks-Gunn & Petersen, 1991). Nevertheless, considerable consistency across Canadian, American, and Swedish adolescent populations has been observed (e.g., Ehrenberg et al., 1991; Kaplan et al., 1984; Larsson & Melin, 1990).

Overall, research using samples of adolescents in the general population

indicates that depressive syndromes and depressive disorders are not the universal adolescent experience and may affect only a small subset of teens. Depressive symptoms, however, are frequently reported, suggesting that a substantial proportion of young people are suffering from feelings of unhappiness and despair. It is important then for researchers to pursue studies of depressive symptoms in community-dwelling samples of adolescents. Although these symptoms may but may not define a depressive disorder, and findings from such research may not generalize to adolescents diagnosed with depressive disorders, they do warrant attention because they are prevalent, distressing, and persistent, and may significantly impair adolescents' school functioning and peer relationships (Nolen-Hoeksema, Girgus, & Seligman, 1992; Petersen et al., 1991).

Sex Differences

Empirical and clinical data have documented that females are more likely than males to experience depressive symptoms in adolescence (White, 1989). Ratios of two or even three females to one male have been reported (Allgood-Merten et al., 1990; Ehrenberg et al., 1991; Larsson & Melin, 1990; Renouf & Harter, 1990). For example, Ehrenberg et al. (1991) found that 7% of males and 14% of females in a high school sample were moderately/severely depressed. These figures are consistent with the adult pattern of sex differences in depressive symptoms and appear to emerge after the age of 10 and before the age of 15 (Angold & Rutter, 1992; Ge, Lorenz, Conger, Elder, & Simons, 1994; Petersen et al., 1991) (a more thorough discussion of age differences in depressive symptoms follows in the next section).

Within adolescence, however, sex differences in depressive symptoms may vary depending on the adolescent's age and the severity of their symptoms. Ehrenberg et al. (1991) reported that although there were no differences in the proportion of males and females with mild and moderate/severe depressive symptoms in early adolescence (age 13-15.5 years), in middle adolescence (15.5-17 years) more females than males reported mild and moderate/severe depressive symptoms. In late adolescence (17-19 years), more females than males reported mild symptoms of depression, but equal proportions of males and females reported moderate/severe depressive symptoms. In contrast, Kaplan et al. (1984) reported no differences in depressive symptoms of males and females when age and social class were controlled. In fact, some studies have failed to find any sex differences in depressive symptoms during adolescence (e.g., Schoenbach et al., 1982; Siegel & Griffin, 1984; Sullivan & Engin, 1986; Teri, 1982).

Nevertheless, a number of possible explanations for sex differences in the prevalence of depressive symptoms in adolescents have emerged. For instance, the gender intensification hypothesis (Hill & Lynch, 1983) suggests that pubertal change in early adolescence results in males and females focusing on the significance of their gender, thus initiating a process linking sex role development to depression (Petersen et al., 1991). As females adopt gender-linked personality characteristics that also are viewed as risk factors for depression (e.g., reliance on relationships with others for self-esteem, unassertiveness), they may be more prone to depression than males. An alternative explanation centers around negative body image and low self-esteem.

Allgood-Merten et al. (1990) found that negative body image was related to depressive symptoms but only to the extent that it influenced self-esteem. They concluded that for adolescent females body image is critically important to self-esteem and functions as an antecedent and strong correlate of depressive symptoms (Allgood-Merten et al., 1990).

Sex differences in adolescents' depressive symptoms also have been attributed to interpersonal and self-critical personality styles and reactivity to stressful life events involving the self or others. Leadbeater, Blatt, and Quinlan (1995) suggested that adolescent females are more likely to experience depressive symptoms than adolescent males because they show greater interpersonal vulnerability (they fear abandonment and seek attention and nurturing from others) and greater reactivity to stressful events involving others. Gore, Aseltine, and Colten (1993) reported that adolescent females' higher levels of interpersonal caring and involvement in the problems of significant others accounted for a significant proportion of the sex difference in depressive symptoms. Other authors, however, have highlighted the role of males' and females' divergent socialization experiences (e.g., Gjerde, Block, & Block, 1991; White, 1989). For instance, females are discouraged from openly displaying anger and criticizing others but are encouraged to express visible signs of depression (e.g., sadness, crying). Males, on the other hand, are permitted to openly express anger and aggression but are encouraged to deny or suppress the sad and hopeless feelings indicative of depression (Gjerde et al., 1991; White, 1989). Thus, to the extent that only typical symptoms of depression are recognized in adolescents (e.g., sadness

versus anger) it is likely that depressive symptoms in females will be recognized more frequently by others than depressive symptoms in males (Compas et al., 1993).

Nolen-Hoeksema and Girgus (1994) recently presented three models for how sex differences in depression may develop in early adolescence: Model 1 suggested that the causes of depression are the same for females and males, but these causes become more prevalent in females than males in early adolescence; Model 2 suggested that there are different causes of depression in females and males, and the causes of females' depression become more prevalent than the causes of males' depression in early adolescence; and Model 3 suggested that females are more likely than males to carry risk factors for depression (e.g., a ruminative coping style, less aggressive interaction style) even before adolescence, but these risk factors lead to depression only when adolescents are faced with the biological and social challenges associated with early adolescence (e.g., pubertal development, heterosexual peer relationships).

These authors reviewed studies of variables commonly thought to contribute to sex differences in depression during adolescents and concluded that Model 3 was best supported by available data (Nolen-Hoeksema & Girgus, 1994). Females appear to develop more known risk factors for depression and appear to face more new challenges in early adolescence than males. These two factors in combination may generate the sex differences in depression observed in adolescence. However, only a prospective longitudinal study measuring depressive symptoms, risk factors for depressive symptoms, and the biological and social challenges of early adolescence in

a sample of females and males as they move from childhood into adolescence can adequately test this proposed model (Nolen-Hoeksema & Girgus, 1994).

Age Differences

There is evidence that manifestations of depressive symptoms vary with age (Angold & Rutter, 1992; Kashani et al., 1989; Rutter, 1986b). However, studies of the nature of this variation (e.g., linear or nonlinear) have yielded inconsistent results. Research that has investigated depressive symptoms in children and adolescents as a function of age, however, clearly indicate that there is a sharp increase in depressive symptoms for males and females at adolescence when compared with childhood. Authors have reported a three- to four-fold increase in depressive symptoms from childhood to adolescence (e.g., Fleming et al., 1989; Kashani et al., 1989; Rutter, 1986b).

The specific age at which depressive symptoms and depressive disorders first emerge recently has received empirical attention. Initial studies of the age of onset of psychiatric disorders (e.g., Burke et al., 1990) identified ages 15 to 19 as a key period for the onset of major depression. However, this research often relied on the retrospective reports of adults and may not reflect the onset ages for current cohorts of adolescents (Giaconia et al., 1994). More recent studies of community-dwelling adolescents have indicated, in fact, that the peak risk period for onset of major depression is earlier, during middle adolescence (ages 14 to 15) (Giaconia et al., 1994; Lewinsohn et al., 1993). This research also has suggested that an early onset of major depression (by age 14) is associated with impairments in emotional and

behavioural functioning in late adolescence (e.g., poorer self-esteem, more interpersonal problems, subsequent depressive episodes) (Fleming et al., 1993; Giaconia et al., 1994; Kandel & Davies, 1986) as well as significant risk for comorbid disorders (Giaconia et al., 1994).

Only one study has examined the specific age at which depressive symptoms may reliably emerge. Ge et al. (1994) investigated the trajectory of depressive symptoms in adolescents using longitudinal data collected from male and female youths each year from 7th through 10th grade. They found that before age 13 males reported slightly more depressive symptoms than females. However, after that age, females reported more depressive symptoms than males and this pattern continued into later adolescence. The authors concluded that this trajectory supported a proposal by Petersen et al. (1991) that females are more likely than males to experience a postpubertal change in their mental health whereas males are more likely than females to continue the pattern of mental health established in childhood.

The appearance of depressive symptoms and depressive disorders during early or middle adolescence suggests that puberty may be a key onset variable. However, little research has indicated that pubertal status or pubertal timing are associated with depressive symptoms in adolescents (Angold & Rutter, 1992; Brooks-Gunn & Warren, 1989). The relationship between hormonal changes and depressive symptoms in adolescents also is unclear. Typically, studies that have examined hormonal changes and adolescents' depressive symptoms have reported inconsistent results (see Buchanan, Eccles, & Becker, 1992), although Brooks-Gunn, Graber, and

Paikoff (1994) recently concluded that even though direct hormonal effects tend to be small, their interactions with psychological and social factors indicate that they play a role in the development of depressive symptoms. Social factors (e.g., negative life events), however, may play a larger role than biological factors (e.g., hormone levels) in predicting depressive symptoms (Brooks-Gunn & Warren, 1989).

Within adolescence, affective and cognitive symptoms of depression are more likely to be found in late adolescents than in early adolescents (Kaplan et al., 1984; Petersen et al., 1991; White, 1989), suggesting a linear developmental pattern. This pattern may emerge because late adolescents are more likely than early adolescents to have the introspective and critical self-analysis abilities necessary to experience helplessness, despondency, and negative beliefs about one's self and future. Further, late adolescence may be a time of self-doubt, confusion, and disillusionment as teens resolve the identity conflicts they have encountered in their approach to adulthood (White, 1989).

Not all studies, however, report increases in depressive symptoms across adolescence (e.g., Allgood-Merten et al., 1990; Baron & MacGillivray, 1989; Larsson & Melin, 1990; Teri, 1982). Cantwell (1983) has suggested that the primary symptoms of depression (e.g., despondency, negative beliefs) are similar for children, adolescents, and adults. Thus, to the extent that measures tap only typical symptoms of depression (e.g., sadness), little fluctuation may be observed with age. However, there may be changes in age-specific symptoms of depression (e.g., aggression, school refusal) (Cantwell, 1983). In comparison to the vast literature on sex

differences in depressive symptoms during adolescence, variation in adolescents' symptoms of depression with age has received little attention. Future studies examining depressive symptoms prior to, during, and following adolescence may greatly enhance our understanding of this phenomenon in youths.

Research investigating age and sex differences in adolescents' depressive symptoms could be improved in two additional ways: (1) by regularly considering the severity of depressive symptoms; and (2) by exploring sex and age differences in specific depressive symptoms (e.g., self-worth, suicidal ideation). Although most studies of adolescents' depressive symptoms assess mean level differences in symptoms by sex and age, few authors go on to examine whether these relationships are consistent across different levels of symptom severity. Perhaps only mild symptoms of depression fluctuate with age? Or perhaps sex differences are typical of moderate/severe symptoms but not as marked for mild symptoms? It may be that patterns of depressive symptoms which could enhance our understanding of how adolescents experience their distress are being obscured by mean level analyses.

In addition, most studies of sex and age differences in adolescents' depressive symptoms have used global measures of these symptoms (e.g., BDI, CES-D) rather than exploring whether specific symptoms of depression (e.g., mood, self-worth) may fluctuate with age or may be more sensitive for males than females. Perhaps low self-worth is more characteristic of depression in adolescent females and low energy is more characteristic of depression in adolescent males? Perhaps adolescents' level of energy fluctuates with age but low self-worth remains stable? It is likely that

specific depressive symptoms have rarely been compared because most available self-report measures result in a total score which reflects a combination of these symptoms rather than subscale scores and because many researchers have focused solely on one type of depressive symptoms (e.g., affective or cognitive symptoms). Examination of specific depressive symptoms in adolescents by sex and age, however, may clarify further how adolescents' experience of depressive symptoms are similar to or different from the experiences of children or adults with depression.

Comorbidity

An important feature of depressive disorders in adolescents that has recently received empirical attention is its high rate of co-occurrence with other psychiatric disorders (comorbidity) (Brown & Barlow, 1992; Caron & Rutter, 1991; Rohde et al., 1991). In fact, it seems that "pure" depression in adolescents is a rare entity (Fleming & Offord, 1990). Current estimates of comorbidity for adolescents with depressive disorders range from 16%-66% depending on the sample and diagnostic criteria used (Brady & Kendall, 1992; Kashani et al., 1987; Keller et al., 1988; Lewinsohn et al., 1993; McGee et al., 1990).

The most prevalent comorbid diagnosis for depression in adolescents is anxiety, although conduct disorder, attention deficit/hyperactivity disorder, oppositional defiant disorder, substance abuse, and eating disorders also have been reported (Craighead, 1991; Fleming & Offord, 1990; Kashani et al., 1987; Rohde et al., 1991). Rohde et al. (1991) investigated the comorbidity of depressive disorders (e.g., major depression, dysthymia) and other common psychiatric disorders (e.g.,

anxiety) in a community sample of adolescents. They found that depression co-occurred with anxiety, substance abuse, disruptive behaviour, and eating disorders. When adolescents had comorbid disorders, depression was more likely to occur after the other disorder than before it. Other authors (e.g., Brady & Kendall, 1992; Capaldi, 1992; Keller et al., 1988) also have reported this temporal association.

Knowledge about specific disorders or conditions that co-occur with depression may inform empirical research and clinical practice about common etiological factors (e.g., genetic predisposition) and patterns of interaction among comorbid disorders (e.g., when depression consistently precedes another disorder it may be acting as an etiological trigger) (Lewinsohn et al., 1991). Comorbid disorders also may affect the onset age, presentation, course, and consequences of depression, thus making it more difficult to diagnose and treat (Kovacs, 1989; Lewinsohn et al., 1991). Capaldi (1991) reported more severe adjustment problems (e.g., poor academic achievement, increased substance use) in boys experiencing conduct problems and depressed mood at Grade 6. These boys experienced the problems of those with only conduct disorder plus the problems of those with only depressed mood. Similarly, adolescents who were concurrently depressed and anxious reported more symptoms and rated their symptoms as more severe (Brady & Kendall, 1992; Kashani et al., 1987). Although Rohde et al. (1991) found that comorbidity did not affect the onset age, duration, or severity of depression, they did report an association between comorbidity and a greater frequency of past suicide attempts and utilization of mental health services. Bird, Gould, and Staghezza (1993) also reported that utilization of mental health

services increased as the number of comorbid diagnoses increased.

Research also suggests that comorbidity occurs among depressive disorders (i.e., major depression, dysthymia) in community samples of adolescents (Kashani et al., 1987; Keller et al., 1988; Lewinsohn et al., 1991). This phenomenon is also known as "double depression" (Keller & Shapiro, 1982). The extent to which double depression occurs, however, is unclear. Although Lewinsohn et al. (1991) found that major depression and dysthymia were significantly but not completely comorbid, Kashani et al. (1987) reported that all adolescents with major depression in their sample met the diagnostic criteria for dysthymia. When adolescents do experience double depression, dysthymia precedes major depression in the majority of cases (Keller et al., 1988; Lewinsohn et al., 1991). Lewinsohn et al. (1991) also found that the onset age of depression was earlier for adolescents with double depression than for those with major depression only. However, the occurrence of double depression did not increase the likelihood of adolescents experiencing another psychiatric disorder (other than depression) and was not associated with the duration of the depression or the percentage of those who received treatment for depression (Lewinsohn et al., 1991).

Studies such as those by Rohde et al. (1991) indicate that comorbidity of psychiatric disorders in depressed adolescents is high and, as a result, warrants further evaluation. In fact, the degree of comorbidity of depression with other psychiatric disorders may be higher for adolescents (42%) than for adults (25%) (Rohde et al., 1991). Comorbidity research, however, has focused primarily on

diagnosable disorders (i.e., DSM-III-R) with little consideration of the extent to which certain symptoms or symptom patterns co-occur (Brown & Barlow, 1992). Thus, it is not known whether the presence of comorbid symptoms impacts the onset and presentation of depressive symptoms in the same way that comorbid disorders may affect depressive disorders.

Initial studies of the co-occurrence of adolescents' depressive symptoms and other symptoms (e.g., anxiety, substance abuse) suggest that this is a fruitful area to pursue. Self-reported depressive symptoms have been associated with a variety of other mental health and behavioural problems in community-dwelling adolescents (e.g., Henry et al., 1993; Kandel, Raveis, & Davies, 1991; Reinherz et al., 1990). Reinherz et al. (1990) reported that adolescent males and females with depressive symptoms exhibited sad affect, anxiety, and social withdrawal in combination with substance use and a variety of antisocial behaviours (e.g., school suspensions, stealing, history of arrest). Ge, Best, Conger, and Simons (in press) also found that depressive symptoms and conduct problems rated by adolescents, teachers, and both parents covaried significantly among 10th grade adolescents. Similarly, Hops, Lewinsohn, Andrews, and Roberts (1990) reported that depressive symptoms in adolescents co-occurred with symptoms of anxiety and conduct problems.

Other research has reported sex differences in the co-occurrence of depressive symptoms and other symptoms. Kandel et al. (1991) found that adolescent females' reports of depressed mood predicted concurrent drug use. Henry et al. (1993) reported that males' depressive symptoms at age 11 and at age 15 predicted multiple

drug use at age 15. Females' depressive symptoms at age 11, however, were not related to subsequent drug use, although concurrent depressive symptoms were associated with multiple drug use at age 15. With respect to antisocial behaviours, Craighead (1991) found that adolescent females scored high on depression and anxiety whereas adolescent males scored high on depression and sociopathy. Kandel and Davies (1982) also noted higher rates of delinquency among adolescent males with depressive symptoms than among adolescent females with depressive symptoms.

Although the results of these studies require replication, they indicate that adolescents who report depressive symptoms often report other symptoms, and that the sex of an adolescent may be a key variable in understanding the co-occurrence of symptoms. One recent study also has highlighted the continuity of self-reported behavioural and emotional problems across adolescence. Almost 40% of adolescents who reported significant problems at age 15 also reported problems at age 18 (Ferdinand, Verhulst, & Wiznitzer, 1995). Further research clearly is needed to clarify patterns of co-occurrence among adolescents' psychological symptoms and the nature of observed sex differences in these patterns. Such studies also may facilitate identification of factors that create vulnerabilities to depressive symptoms as well as risks for the development of other psychological symptoms.

Specific Symptoms

The current literature on depression in adolescents suggests that this phenomenon is complex and consists of a number of specific types of symptoms. These include affective, cognitive, physical, and behavioural symptoms, each of

which will be discussed below.

Affective Symptoms. Depressive affect in adolescents is characterized by feelings of sadness, gloom, despair, and helplessness and can be detected from their unhappy expressions and downcast eyes (White, 1989). Feelings of guilt, shame, irritation, anger, and resentment also are frequent (Oster & Caro, 1990). Depressed adolescents have lost interest or pleasure in activities and often have trouble finding any sense of hope or excitement in their everyday lives (White, 1989).

Renouf and Harter (1990) concluded that depressive symptoms in adolescents (12-15 years) are experienced as a blend of affects, primarily sadness and anger. Although a higher proportion of females than males reported depressive symptoms (22% versus 10%) in the study, there were no significant differences in the proportion of males and females reporting both sadness and anger. They also found that anger in youths was directed with more frequency and intensity toward others than toward the self, and that adolescents attributed their feelings of depression to the negative actions of others (e.g., rejection, loss through death) (Renouf & Harter, 1990).

Cognitive Symptoms. Since low self-esteem has been recognized as a consistent feature of depression, increased attention has been paid to the cognitions associated with depressive symptoms in adolescents (Renouf & Harter, 1990). Although negative self-evaluation is not a defining criterion for a diagnosis of depression, affective symptoms appear to be accentuated by negative thoughts and negative attitudes about the self and one's future (Garber, Weiss, & Shanley, 1993). Impaired concentration and an inability to make decisions also are characteristic

(Oster & Caro, 1990).

Depressive cognitions often involve a distortion of present and past events, negative self-evaluation, and inappropriate attributions of personal causation (Rehm & Carter, 1990). Depressed adolescents tend to distort or misconstrue events in a negative way. These distortions may manifest themselves through narrowed thinking (e.g., catastrophizing, selective attending), and may result in pessimistic thoughts and low motivation (Oster & Caro, 1990). Negative self-evaluations may occur when depressed adolescents set high and unrealistic standards for themselves only to be devastated when these high standards cannot be achieved (Rehm & Carter, 1990).

Depressed adolescents also may attribute causes of negative events to internal or stable factors (e.g., effort) and causes of positive events to external or unstable factors (e.g., task difficulty) (Rehm & Carter, 1990). Craighead (1991) reported that attributional styles were associated with depressive symptoms when adolescents endorsed internal attributions of negative events and failed to endorse internal attributions of positive events. He also found that this tendency was more frequent in females than in males (Craighead, 1991).

Physical Symptoms: The physical symptoms of depression in adolescents are depicted by a variety of somatic complaints, such as insomnia or hypersomnia, a decrease or increase in appetite, weight loss, excessive fatigue, and low energy (Oster & Caro, 1990). Headaches and a loss of interest in sexual activity are also common (White, 1989). Additional physical symptoms, however, are more subtle. Genetic and family history studies suggest that early onset depression (e.g., during

adolescence) is associated with a high family history of mood disorders when compared with depression of later onset (Burke & Puig-Antich, 1990); neuroendocrine studies have focused on dexamethasone suppression tests and the secretion patterns of norepinephrine, cortisol, and growth hormone in hopes of identifying potential biological markers of depression (see Burke & Puig-Antich, 1990; Weller & Weller, 1991, for summaries of this research); and studies of the EEG sleep patterns of depressed pre- and post-pubertal adolescents have reported changes in EEG sleep parameters only after puberty with these sleep abnormalities more apparent by late adolescence (Burke & Puig-Antich, 1990).

Behavioural Symptoms. A variety of behaviours may be observed when adolescents are depressed. These behavioural symptoms include frequent crying, lethargy, decreased responsiveness, slowed motor and speech responses, poor peer relations, and social withdrawal (White, 1989). Some adolescents who are depressed also manifest symptoms such as restlessness and agitation and may exhibit negativistic or antisocial behaviours (Oster & Caro, 1990). Behavioural symptoms of depression are especially significant when they are changes from ordinary behaviours, last for a period of time, and interrupt daily functioning (Oster & Caro, 1990).

Recent research (e.g., Block et al., 1991; Ehrenberg et al., 1990) has suggested that symptoms of depression in adolescents may manifest themselves in one of two ways: Some adolescents are overtly depressed, withdrawn, and self-focused whereas others are defiant, impulsive, and aggressive. Block et al. (1991) reported that these two symptom patterns occurred concurrently and longitudinally with

depressive symptoms and that each of these symptom patterns was specific to adolescent females or adolescent males. Females who reported depressive symptoms at age 18 were self-focused, ruminating, and concerned about their personal adequacy at ages 14 and 18, whereas males who reported depressive symptoms at age 18 were unresponsive, antagonistic, and aggressive at ages 14 and 18 (Block et al., 1991). Ehrenberg et al. (1990) identified adolescent-specific concerns that were associated with these two manifestations of depressive symptoms. They found that adolescents who were overtly depressed and withdrawn were concerned about their personal adequacy, physical appearance, sexuality, and peer relationships. In contrast, adolescents who were defiant and impulsive were more likely to be concerned about family rapport and their school performance (Ehrenberg et al., 1990).

This research indicates that two different symptom patterns may indicate that adolescents are experiencing depressive symptoms: One symptom pattern is characterized by passive, withdrawn, and self-focused behaviours and a second symptom pattern is characterized by active, defiant, and aggressive behaviours. Although these two manifestations of depressive symptoms also have been observed in clinical samples of depressed adolescents (e.g., Pantle et al., 1990), no studies have sought additional empirical support for these symptom patterns or explored the possibility that other symptom patterns also may describe depressed adolescents. Further, with the exception of Ehrenberg et al. (1990), no attempts have been made to identify distinguishing features of these two symptom patterns. Do depressed adolescents who become withdrawn and self-focused report higher levels of

depression and anxiety than depressed adolescents who become defiant and impulsive? Do defiant and impulsive adolescents report higher levels of parent-adolescent conflict than withdrawn and self-focused adolescents? Because adolescents' family relationships appear to be particularly salient for their psychological well-being (e.g., Steinberg, 1990), they may distinguish depressed adolescents who are withdrawn and self-focused from depressed adolescents who are defiant and impulsive.

Associated Family Factors

The family has been recognized as an important factor for the development of psychopathology in children and adolescents (e.g., Hauser, Vieyra, Jacobson, & Wertlieb, 1985; Steinberg, 1987a). Links between parenting behaviours and psychological symptoms in children and adolescents have been frequently considered (Fauber & Long, 1991). This research has indicated consistently that healthy development is most likely in the contexts of parental warmth and acceptance, firm behavioural control, and psychological autonomy (Fauber & Long, 1991; Maccoby & Martin, 1983). However, when parents become harsh or lax in their discipline, withdraw their affection, or demand emotional and intellectual conformity, the likelihood of psychological symptoms in children and adolescents increases dramatically (Fauber & Long, 1991; Maccoby & Martin, 1983).

The study of family factors and depressive symptoms has proceeded along three lines: (1) studies of attachment patterns in infants and young children; (2) studies of normal and depressed adults' retrospective reports of their relationships with their parents as children; and (3) studies of the interactions between depressed

mothers and their children (Blatt & Homann, 1992; Burbach & Borduin, 1986). Each of these types of studies has indicated that impairments in care-giving relationships are central to the development of depressive symptoms. More specifically, such studies (e.g., Billings & Moos, 1983; Radke-Yarrow, Cummings, Kuczynski, & Chapman, 1985; Zemore & Rinholm, 1989) suggest that depressive symptoms are associated with low parental nurturance, parent's use of excessive authority and control, parent-child conflict, and insecure parent-child attachments.

Other studies have focused on the family climates of depressed pre-adolescent children. This research has found that depressed children perceive their families as more distressed than nondepressed children (John, Gammon, Prusoff, & Warner, 1987; Stark, Humphrey, Crook, & Lewis, 1990). Further, families of depressed children appear to be dominant and oppressive, setting stringent standards, displaying little affection, and exercising absolute control (Amanat & Butler, 1984; Cole & Rehm, 1986; Stark et al., 1990). Recently, Fauber and Long (1992) described parenting as "...not a handful of discrete behavior management skills but instead refers to the broader climate established by parents in which children and parents live together and transact" (p. 910). Thus, it is important to use variables in research that reflect the qualitative aspects of parent-child relationships as they may contribute substantially to the family context in which children develop. This section briefly reviews literature on depressive symptoms in adolescents and four family factors shown to be important in previous research: parental acceptance, parental lax control, parent's use of verbal coercion, and parent-adolescent conflict.

Acceptance. Acceptance is an emotional quality of the parent-adolescent relationship that taps the extent to which parents and adolescents feel cohesive, connected to, warm toward, and supported by one another (Martin, 1975). Although it may be expected that accepting relationships between parents and adolescents are not important given that adolescence is a time when teenagers are separating from their parents, parental acceptance appears to provide a framework within which adolescents can master this and other developmental tasks (Steinberg, 1990).

A lack of acceptance from parents has been identified consistently as a correlate of depressive symptoms in adolescents (e.g., Friedrich, Reams, & Jacobs, 1982; Rubin et al., 1992). Fendrich et al. (1990) found that low family cohesion was associated with nearly a 4-fold increase in risk for major depression in children of nondepressed parents. Garrison et al. (1990) reported that for early adolescents low family cohesion was a better cross-sectional predictor of depressive symptoms than family adaptability or life events for three consecutive years.

In one of the few studies to assess mothers and fathers, Barrera and Garrison-Jones (1992) found that depressive symptoms in adolescent inpatients were related to less satisfaction with paternal but not maternal support. Although mothers did not provide less support or less satisfying support than fathers, it seems that when father-adolescent relations are supportive they are especially effective. Sarigiani (1987) and Sears and Galambos (1993) also found that adolescent females' perceptions of father acceptance were especially salient for their depressed mood (i.e., negatively related to depressed mood).

Lax behavioural control. Behavioural control is the extent to which parents set and clearly state rules and expectations for their children, and enforce these rules with consequences for violations of them (Martin, 1975). Research suggests that adolescents are positively affected by age-appropriate firm behavioural control, particularly in the context of parental warmth and acceptance, whereas lax behavioural control has been associated with psychopathology (Steinberg, 1990).

Lax behavioural control, in which parents avoid asserting their authority and are tolerant of their children's impulses, has been linked to internalized symptoms, immaturity, low impulse control, substance use, and aggressive behaviour in adolescents (Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Steinberg, 1987a). Lamborn et al. (1991) concluded that it may be useful to distinguish between lax parenting based on indulgence versus lax parenting based on neglect. Although they found that adolescents with indulgent or neglectful parents were similar on measures of problem behaviour (e.g., substance use, school misconduct, and delinquency), they were different on measures of psychosocial competence and internalized symptoms. Adolescents with indulgent parents reported more self-confidence and social competence and fewer internalized symptoms than adolescents with neglectful parents (Lamborn et al., 1991).

Use of verbal coercion. There also are links between parents' use of verbal coercion (e.g., verbal threats, sarcasm, criticism) and depressive symptoms in children and adolescents. Fendrich et al. (1990) found that children reporting exposure to low warmth and high control experienced a 5-fold increase in risk for

major depression. Ge et al. (in press) found that hostile parent behaviour observed in two family interaction tasks over three years predicted later occurrence and co-occurrence of depressive symptoms in 10th grade adolescents after controlling for earlier depressive symptoms. Gjerde et al. (1991) reported that mother-daughter interactions observed during preschool that were characterized by authoritarian control were associated with depressive symptoms in adolescents at age 18. Parental rejection, which often involves verbally coercive behaviour, also is related to adolescents' depressive symptoms. Baron and MacGillivray (1989) reported that father's rejection predicted adolescents' depressive symptoms. Robertson and Simons (1989) found that adolescents' perceptions of parental rejection were related to depressive symptoms directly and indirectly through their impact on self-esteem. Lefkowitz and Tesiny (1984) reported that father's rejection of children at age 8 predicted depressive symptoms at age 19 even after accounting for features of the mother-child relationship.

The association between parents' use of verbal coercion and their children's depressive symptoms also was noted in a study of family communication patterns (Dadds, Sanders, Morrison, & Rebgetz, 1992). These authors observed the interaction patterns of families with depressed, conduct-disordered, and comorbid depressed-conduct-disordered school-age children in their homes during an evening meal. They reported that depressed children were exposed to maternal but not paternal aversiveness, infrequently engaged in verbal coercion, and did not reciprocate maternal aversiveness. As the children's level of depression increased, maternal

aversive behaviour decreased, suggesting that depressive symptoms may limit the expression of conflict and anger in these families (Dadds et al., 1992).

Parent-adolescent conflict. Current research on parent-adolescent conflict (e.g., Galambos & Almeida, 1992) suggests that families with adolescents will not necessarily experience serious ongoing conflict. However, adolescents' participation in frequent conflicts or conflicts that escalate into verbal or physical aggression has been related to depressive symptoms. For example, Forehand et al. (1988) reported that adolescents' depressive symptoms were associated with the number and intensity of conflicts teenagers had with their mothers. Kashani, Burbach, and Rosenberg (1988) found that adolescents with depressive symptoms perceived themselves and their mothers, but not their fathers, as verbally aggressive and violent during conflicts. Further, the use of aggressive tactics to resolve conflicts seemed to maintain and even perpetuate their depression (Kashani et al., 1988). Cole and McPherson (1993) reported that father-adolescent conflict was the only significant predictor of adolescents' depressive symptoms after controlling for mother-adolescent and mother-father conflict.

The impact of parent-child conflict on adolescents' depressive symptoms may be buffered by a good relationship with at least one parent (Rutter, 1987). It is not yet known whether one harmonious relationship in the family lessens the overall level of conflict or if the parent with whom the adolescent has a good relationship attempts to ensure that the adolescent does not experience as much conflict. The security of a good relationship also may increase adolescents' self-esteem and competence,

equipping them to better cope with this stressor (Rutter, 1987). Given that an adolescent's relationship with one parent may be of little predictive value for the quality of their relationship with their other parent (Rutter, 1986a), and that mothers and fathers often interact differently with their children (Siegal, 1987), it is important to evaluate separately adolescents' relationships with their mothers and fathers.

This review of parent-adolescent relationships that contribute to the family climates in which adolescents develop suggests that adolescents who lack parental acceptance or experience lax behavioural control, parent's use of verbal coercion, or intense parent-adolescent conflict are likely to report depressive symptoms (e.g., Fendrich et al., 1990). These studies, however, have typically examined the associations between family relationships and global measures of depressive symptoms (e.g., BDI, CES-D) rather than exploring the links between family relationships and specific symptoms of depression (e.g., behavioural symptoms) or specific symptom patterns. When research has assessed specific depressive symptoms, affective symptoms (e.g. depressed mood) usually have been the focus. No study of depressive symptoms in adolescents has explored the relations between parent-adolescent relationships and different manifestations of these depressive symptoms.

Research Questions and Hypotheses

Depression in adolescents is an area of research that has expanded rapidly in the last decade. The previous sections of this chapter reviewed studies of depressive symptoms in community-dwelling adolescents with particular attention to the following issues: prevalence, sex and age differences, comorbidity, specific

symptoms (e.g., affective, cognitive), and associated family factors. This review identified three aspects of depression in adolescents that currently are of interest to many researchers and clinicians: (1) sex and age differences; (2) comorbidity; and (3) different manifestations of depressive symptoms.

The purpose of the present study was to contribute to the literature on depressive symptoms in adolescents by addressing some of the limitations of existing research in these three areas. Five research questions regarding sex and age differences in depressive symptoms, comorbidity of depressive and other symptoms, and different manifestations of adolescents' depressive symptoms were considered. Based on the preceding literature review, several hypotheses were developed. In instances where specific hypotheses were premature, exploratory analyses were planned.

Question 1. Do adolescents differ by sex and age on multiple measures of their depressive symptoms (total symptom score, severity of symptoms, and specific symptom scores)?

1. Sex Differences

Hypothesis 1. Adolescent females, on average, were expected to report higher levels of depressive symptoms than adolescent males.

Hypothesis 2. Adolescent females were expected to report depressive symptoms within the moderate/severe range more often than adolescent males.

Hypothesis 3. Adolescent females were expected to score higher than adolescent males on five specific symptom subscales (depressed mood, low self-

worth, self-blame, low energy/interest, and suicidal ideation).

2. Age Differences

Hypothesis 4. Adolescents' reports of depressive symptoms were expected to show a linear increase with age.

Hypothesis 5. Late adolescents were expected to report depressive symptoms within the moderate/severe range more often than early and middle adolescents.

Hypothesis 6. Adolescents' scores on Harter's five symptom subscales were expected to show linear increases with age.

Question 2. To what extent are depressive symptoms in adolescents associated with other symptoms of psychological distress (e.g., anxiety, substance use)?

Hypothesis 7. Adolescents' reports of depressive symptoms were expected to be positively and linearly related to their reports of anxiety, substance use, school misconduct, and antisocial behaviour. Given the equivocal findings from previous studies that have investigated these associations separately by sex, no hypotheses about patterns of co-occurrence by sex were formulated.

Question 3. Do adolescents manifest their symptoms of depression in different ways?

Hypothesis 8. At least two depressive symptom patterns were expected for adolescents: One symptom pattern that would be defined by depressed adolescents who appear withdrawn and self-focused and a second symptom pattern that would be defined by depressed adolescents who appear defiant and impulsive.

Question 4. Do adolescents who manifest their depressive symptoms in

different ways differ on demographic variables, the extent to which they experience depressive symptoms, the extent to which they experience other psychological symptoms, and their perceptions of parent-adolescent relationships?

The exploratory nature of this research question precluded specific hypotheses. Although the majority of variables selected for this analysis were significant correlates of depressive symptoms in adolescents (e.g., sex, age, anxiety, parental acceptance, parent's use of verbal coercion), it was not known if they would distinguish between depressed adolescents who manifest their symptoms of depression in different ways.

Question 5. Do adolescents who manifest their depressive symptoms in different ways differ on their feelings and attitudes about adolescent-specific issues (e.g., physical appearance, peer relationships) and on their tendencies to act upon their distress (e.g., impulse control, academic underachievement)?

Hypothesis 9. Consistent with the research of Ehrenberg et al. (1990), depressed adolescents who appeared withdrawn and self-focused were expected to be more concerned about their self-concept and personal esteem, physical appearance, sexuality, and peer relationships, and to have more difficulty attending school regularly than depressed adolescents who appeared defiant and impulsive. In contrast, depressed adolescents who appeared defiant and impulsive were expected to be less concerned about how their behaviour affects others, more concerned about family rapport and academic competence, and to have more difficulty with impulse control, social conformity, and academic underachievement than depressed adolescents who appeared withdrawn and self-focused.

CHAPTER III

METHOD

Participants

The participants were 379 adolescents (193 females, 186 males) who were attending one high school (grades 7 through 12) in a rural Nova Scotia community. Data were collected over a three-day period in February 1994 three weeks following mid-year examinations and three weeks prior to spring break. Adolescents ranged in age from 12 to 19 years (M = 15.20, SD = 1.92) and for the purposes of this study they were organized into three age groups: early adolescence (12-14 years; n = 149), middle adolescence (15-16 years; n = 123), and late adolescence (17-19 years; n = 107). These age groups are consistent with adolescent developmental periods described by other authors (e.g., Ehrenberg, 1991; Kaplan et al., 1984; Rutter, 1986b). The distribution of the sample by sex and age is presented in Table 1.

The majority of adolescents (60%) reported that they were living with their natural or adoptive parents who were married or cohabitating. An additional 11% of youths were living in a two-parent family as a result of the remarriage of one of their parents: Nine percent of adolescents were living with their mothers and a stepfather whereas 2% were living with their fathers and a stepmother. Twenty-three percent of participants indicated that they were living in a single-parent family: 19% of youths were living with their mothers and 4% of youths were living with their fathers. The remaining 6% of adolescents were living with someone other than a parent (e.g., grandparent, foster parent).

Table 1

Distribution of the Sample by Sex and Age

Age	Females	Males	Total
Early Adolescents			
12 Years	17	17	34
13 Years	35	16	51
14 Years	34	30	64
Middle Adolescents			
15 Years	28	32	60
16 Years	33	30	63
Late Adolescents			
17 Years	25	29	54
18 Years	20	21	41
19 Years	01	11	12
Total	193	186	379

Note. $N = 379$.

Adolescents also reported on their mother's and father's level of education and occupation. According to the teenagers, 30% of mothers and 36% of fathers had not completed high school; 29% of mothers and 23% of fathers had completed high school; 10% of mothers and 7% of fathers had attended but not completed college, technical school, or university; and 16% of mothers and 19% of fathers had completed college, technical school, or university. Thirteen percent of adolescents reported that they did not know their mother's education level; the comparative figure for fathers was 12%. The educational characteristics of the sample differ slightly from those of the population base: Parents of adolescents in the sample were more likely to have completed high school and were less likely to have left high school than were adults living in the region from where the sample was drawn (Statistics Canada, 1994). Similar proportions of the sample and the population had pursued post-secondary education.

With respect to their parents' occupations, adolescents were asked to report the titles of their parents' jobs. These job titles were coded by two raters for occupational prestige according to Blishen, Carroll, and Moore's (1987) socioeconomic index for occupations in Canada. Inter-rater reliability was .96 for mothers' occupations and .93 for fathers' occupations. Based on adolescents' reports, 62.5% of mothers and 81.2% of fathers were employed. Although this estimate of mothers' labour force participation was comparable to that of employed women with children living in this region, the estimate for fathers' labour force participation was approximately 10% higher than the census data estimate (Statistics Canada, 1994).

The mean occupational prestige of jobs held by mothers was 39.42 (*SD* = 13.65); examples of mothers' occupations and their prestige scores are personal care worker (33.60), secretary (41.82), and elementary school teacher (63.64). The mean occupational prestige of jobs held by fathers was 41.15 (*SD* = 15.37); examples of fathers' occupations and their prestige scores are fisherman (24.59), welder (41.42), and police officer (58.78).

Procedure

Approximately six weeks before the study was conducted, a letter addressed to parents advising them of the general nature and purpose of the study was sent home from school with adolescents (Appendix A). Parents were asked to contact either the investigator or the school principal if they had questions about the study or objected to their adolescent's participation. A summary of this letter also was included in the school newsletter that was distributed to parents in adolescents' report cards about three weeks prior to the data collection.

A passive consent procedure with parents was selected in light of recent research (e.g., Dent et al., 1993; Weinberger, Tublin, Ford, & Feldman, 1990) indicating that active consent procedures with parents of adolescents (i.e., procedures requiring written parental consent in order for adolescents to participate in research) may result in sampling biases that overrepresent well-functioning teenagers and screen out teenagers who have health, adjustment, or family problems. Given that the purpose of the present study was to examine links between adolescents' depressive symptoms and their reports of associated symptoms and family relationships, use of a

passive consent procedure was deemed necessary to prevent selection of a biased sample that would likely underestimate the relationships between these variables. Passive consent procedures have been used successfully in studies of Canadian and American adolescents (e.g., Ehrenberg, 1986; Lamborn et al., 1991; Severson & Ary, 1983) and was approved for use in this research by the University of Victoria Committee on Research and Other Activities Involving Human Subjects, the Superintendent of the local School Board, and the school principal. No parents contacted the school principal or the investigator to object to their adolescent's participation in the study.

To obtain the sample, the investigator visited classrooms of 20-30 adolescents and invited them to participate in the "Family Relations and Adolescent Well-Being Study" (FRAWS). Adolescents were advised that they would have one class period to complete an anonymous questionnaire about their feelings, behaviours, attitudes, and their relationships with their parents. They were asked to read and sign a consent form prior to completing the questionnaire. Participants also were reminded verbally that their survey responses were anonymous and that they were free to refuse to answer any items on the survey or to withdraw from the study at any time. To assure adolescents that their responses to the questionnaire would be anonymous and that their signed consent forms would not be matched to or stored with their surveys, the consent forms were collected prior to the end of the testing period and sealed in an envelope. Identification numbers were placed on the questionnaires only. At the end of the data collection, the focus of the study was described to adolescents and each

participant was given an information sheet listing community resources available to adolescents and their families.

Four hundred adolescents (200 females, 200 males) agreed to participate in the study and received questionnaires and consent forms. At the time of the data collection, 497 students were enroled in the high school. Fifty-one of these students (16 females, 35 males) were enroled in special education or academically adjusted classes and were excluded from the study because the principal indicated that they were unable to manage the Grade Six reading level required to complete the questionnaire. Based on school attendance records, an additional 12 students (8 females, 4 males) were absent on all three days that data were collected. The response rate was computed at 92%. Criteria for inclusion in the analyses were that adolescents be between the ages of 12 and 19 and have a score on the Beck Depression Inventory (BDI), the primary variable of interest. Six adolescents were excluded because their ages exceeded the range selected for the study (1 was age 11 and 5 were age 20). An additional 15 adolescents (6 females, 9 males) were excluded because they did not have a BDI score, reducing the number of participants to 379.

Measures

Four domains were assessed: demographic characteristics, adolescents' symptoms, adolescents' personality style, and parent-adolescent relationships.

Demographic characteristics. Several questions assessed adolescents' demographic characteristics (Appendix B). Adolescents reported their sex, age, and grade and were asked to identify with whom they were living at the time of the study.

They also provided information about their parents' marital status and each of their parent's education level and occupation.

Adolescents' symptoms. Six measures of adolescents' symptoms were used: two measures of depressive symptoms and one measure each of anxiety, substance use, school misconduct, and antisocial behaviour.

Depressive symptoms were measured using the revised Beck Depression Inventory (BDI) (Beck, Rush, Shaw, & Emery, 1979) and the Dimensions of Depression Profile for Children and Adolescents (Harter & Nowakowski, 1987). The BDI is a widely used 21-item scale that assesses affective, cognitive, behavioural, and physical symptoms of depression (Appendix C). It has good psychometric properties (Beck & Steer, 1993; Beck, Steer, & Garbin, 1988) and has been validated as a reliable self-report measure of depression in clinical (Strober, Green, & Carlson, 1981) and nonclinical samples of adolescents (Teri, 1982). Each item is composed of four alternate statements which are rated in severity from 0 to 3, with 0 indicating that the symptom is not present and 3 indicating that the symptom is severe. The total BDI score is the sum of the individual items; total scores can range from 0 to 63. Adolescents were instructed to pick the one statement in each group that best described the way they had been feeling the past week. Using Cronbach's coefficient alpha, the internal consistency of the BDI in this sample was .85.

The Dimensions of Depression Profile for Children and Adolescents is a 30-item measure of five dimensions of depression (6 items each) - depressed mood, global self-worth, self-blame, energy/interest, and suicidal ideation (Appendix D).

These five dimensions have been identified as defining features of depression and yield a profile of scores across dimensions for each individual. Each item presents two contrasting descriptions of adolescents from which adolescents must choose the one most like him or her (e.g., "some kids wish they were different BUT other kids like the way they are."). Adolescents then indicate whether the description is "really true for me" or "sort of true for me". Items are scored from 1 to 4, where 1 represents the most positive response and 4 represents the most negative response. Reliabilities and several indices of validity have been reported (Harter & Nowakowski, 1987; Renouf & Harter, 1990). In this sample, the internal consistencies ranged from .79 to .90 across the five dimensions.

Anxiety was measured by the State Anxiety scale from the revised version of the State-Trait Anxiety Inventory (STAI; Spielberger, 1983) (Appendix E). This 20-item scale assesses the degree to which one currently feels anxious. Possible responses to each item (e.g., "I am tense") range from 1 = "Not at all" to 4 = "Very much so". Items 1, 2, 5, 8, 10, 11, 15, 16, 19, and 20 were reverse coded so that higher scores on the scale indicated more feelings of anxiety. The psychometric properties and usefulness of this instrument have been documented (Buros, 1978; Spielberger, 1983). Coefficient alpha was .89 in the present sample.

Substance use was measured by five items adapted from Canada's Health Promotion Survey (Health & Welfare Canada, 1988) and Jessor's Health Questionnaire (Donovan, Jessor, & Costa, 1991; Jessor & Jessor, 1977) (Appendix F). Adolescents were asked to indicate on a 5-point scale how often in the past

month they had used alcohol (3 items) or drugs (2 items). Possible responses ranged from 1 = "Never" (1) to 5 = "Almost Every Day". Internal consistency for this scale was .91.

School misconduct was measured by seven items used previously by Maggs and Galambos (1993) (Appendix G). Adolescents were asked to report on a 5-point scale how many times in the past month they had engaged in specific school-related behaviours (e.g., "cheated on an exam"). Possible responses ranged from 1 = "Never" to 5 = "Almost Every Day". Maggs and Galambos reported an internal consistency of .86 for this measure in a community-dwelling sample of adolescents. Coefficient alpha in this sample was .83.

Antisocial behaviour was measured by 14 items, 13 of which were used previously by Maggs and Galambos (1993) (Appendix H). One item ("Carried a weapon") was added for this study. Adolescents were asked to indicate on a 5-point scale how often in the past month they had engaged in specific behaviours (e.g., "Used force to get money or valuables"). Possible responses ranged from 1 = "Never" to 5 = "Almost Every Day". Maggs and Galambos reported a coefficient alpha of .84 for their 13-item scale. In this sample, coefficient alpha was .90.

Adolescents' personality style. The Millon Adolescent Personality Inventory (MAPI; Millon et al., 1982) was used to measure each adolescent's personality style (Appendix I). The 150-item MAPI has 20 clinical scales divided into three domains: Eight Personality Styles (e.g., Inhibited, Forceful), eight adolescent-specific Expressed Concerns (e.g., Personal Esteem, Peer Security), and four Behavioral

Correlates (e.g., Impulse Control, Scholastic Achievement). Indices of reliability and validity also are included as additional scales. The reliability index highlights an indifferent response style whereas the validity index detects random responding or extreme disorganization. The validity of the items selected for the MAPI proceeded through three sequential stages (theoretical-substantive, internal-structural, and external-criterion), and the scale was normed on several groups of high school students as well as adolescent outpatients and inpatients (Millon et al., 1982).

Adolescents respond to each MAPI item using a "True" or "False" format. Their raw scores are transformed into base rates which reflect their placement on each of the 20 scales in relation to their same-age and same-sex peers. Interpretations of the MAPI are based on profile configurations of the highest 2-3 scales within each domain. A base rate of 75 suggests the *presence* of a particular feature and a base rate of 85 indicates a *prominent* feature. Scales with a base rate below 65 should not be included in interpretations, although exceptions can be made when profiles have low base rate scores overall (Millon et al., 1982). The 20 MAPI scales and a summary of their intended interpretations are presented in Table 2.

Scores of two or above on the reliability and validity indices identify unreliable or invalid personality profiles (Millon et al., 1982). Ten MAPI profiles (5 females, 5 males) were discarded because they were unreliable and 8 MAPI profiles (8 males) were discarded because they were invalid. An additional 23 MAPI profiles (12 females, 11 males) were eliminated because adolescents had an excessive number of double-marked (both True and False) or omitted items (more than 10) (Millon et al.,

Table 2

Summary of MAPI Scale Interpretations

Scale	Interpretation
Personality Styles	
Introversive	Quiet; not easily excited; keep to themselves
Inhibited	Shy; socially ill-at-ease; lonely but avoid contact
Cooperative	Soft-hearted; dependent; avoid asserting themselves
Sociable	Talkative; charming; dramatic; seek excitement
Confident	Act in self-assured manner; seen as egocentric
Forceful	Strong-willed; dominant; impatient/blunt with others
Respectful	Serious-minded; rule-conscious; orderly; planful
Sensitive	Discontented; pessimistic; unpredictably moody
Expressed Concerns	
Self-Concept	Identity development/integration; self-examination
Personal Esteem	Real vs. ideal self; dissatisfied vs. accepting of self
Body Comfort	Judgment and integration of physical appearance
Sexual Acceptance	Integration of sexual self; friendship vs. intimacy
Peer Security	Move from broad peer group to intimate friendships
Social Tolerance	Indifferent to feelings of others; lack empathy
Family Rapport	Perceptions of family relations; changing autonomy
Academic Confidence	Appraisal of academic competence; fear of failure
Behavioural Correlates	
Impulse Control	Acting-out tendencies; excessive assertiveness
Social Conformity	Disregard for social regulations and constraints
Scholastic Achievement	Academic underachievement; repeated failure
Attendance Consistency	Excess absenteeism; withdrawal from school setting

1982). Of the 379 adolescents participating in the study, 338 had reliable and valid MAPI personality profiles.

Parent-adolescent relationships. Four measures of parent-adolescent relationships were used: parental acceptance, parental lax control, parent's use of verbal coercion, and parent-adolescent conflict. Adolescents completed these scales separately for their mothers and fathers and were instructed to answer the items focusing on the parent(s) with whom they were presently living.

Parental acceptance and parental lax control were assessed by shortened versions of two subscales of Schaefer's Children's Reports of Parental Behavior Inventory (CRPBI) (56-item version; Armentrout & Burger, 1972). The psychometric properties of the CRPBI have been demonstrated in previous studies (e.g., Margolies & Weintraub, 1977). The 24-item parental acceptance subscale assesses the degree of warmth and support expressed by the parent toward their adolescent (e.g., "My mother enjoys doing things with me"); and the 16-item lax control subscale assesses the extent to which parents set or fail to set rules and expectations for their child's behaviour (e.g., "My mother does not bother to enforce rules"). Adolescents endorsed items on a five-point scale ranging from 1 = "Very much unlike her/him" to 5 = "Very much like her/him". Consistent with previous research that has used this measure (e.g., Almeida & Galambos, 1991), the five-point response scale was expanded from the original three-point scale to increase variability.

For this study, which required a questionnaire that could be completed in one class period, the parental acceptance and parental lax control subscales were reduced

to 10 items each based on corrected item-total correlations available from the Two-Earner Family Study (TEFS), a longitudinal study of two-parent employed families with early adolescents (Galambos & Maggs, 1991). In the TEFS, the 10-item parental acceptance scale (Appendix J) had coefficient alphas ranging from .90 to .96 across four times of measurement. Correlations between the 10-item and 24-item acceptance scales ranged from .95 to .99. Similarly, the 10-item lax control scale (Appendix K) had coefficient alphas ranging from .79 to .91 across three times of measurement. Correlations between the 10-item and 16-item lax control scales ranged from .94 to .98. In the present study, coefficient alphas were .93 for mother acceptance, .95 for father acceptance, .83 for mothers' lax control, and .84 for fathers' lax control.

Parent's use of verbal coercion was measured by six items adapted from Barnes and Farrell (1992) and Simons, Beaman, Conger, and Chao (1993) (see Appendix L). These items (e.g., "My mother yells at me when I disobey her") are thought to assess the extent to which parents use specific verbal behaviours to influence or control their child's behaviour. Adolescents endorse items on a 5-point scale ranging from 1 = "Very much unlike her/him" to 5 = "Very much like her/him". Two items ("My mother takes away my privileges to discipline me"; "My mother grounds me to discipline me") were omitted after the data were collected to increase the face validity of the scale as well as its' internal consistency for mothers (from .68 for the 6-item scale to .73 for the 4-item scale). Coefficient alpha for the 4-item scale for fathers was .77.

Parent-adolescent conflict was assessed by 15 items from the Issues Checklist (IC) (Prinz, Foster, Kent, & O'Leary, 1979) (see Appendix M). The IC measures the frequency and intensity of conflict between parents and adolescents by asking adolescents whether they and each of their parents have discussed a variety of specific topics (e.g., cleaning up bedroom) in the last two weeks. For each topic that has been endorsed, they rate the intensity of the discussion from 1 = "Very Calm" to 5 = "Very Angry". Intensity of conflict is computed by calculating the mean level of intensity of all topics discussed. A higher score represents angrier conflicts. Frequency of conflict is computed by summing the number of topics with an intensity of "2" or above (cf. Steinberg, 1987b). Thus, higher scores reflect more frequent conflicts. When adolescents reported on conflicts with their mothers, coefficient alpha was .88 for conflict intensity and .88 for conflict frequency. Similarly, when they rated conflicts with their fathers, coefficient alpha was .85 for conflict intensity and .85 for conflict frequency. For this study, the four conflict intensity and frequency scores were standardized and two composite conflict scores (one for conflicts with mothers and one for conflicts with fathers) were computed from the means of the two standardized scores. Various forms of the IC, including this 15-item version, have been used in research on parent-adolescent conflict (e.g., Galambos & Almeida, 1992; Steinberg, 1987b).

Analyses of Missing Data

Because of the length of the questionnaire and some variation between classes in the amount of time available to adolescents to answer the survey (40 to 45

minutes), many adolescents were unable to complete the questionnaire, a time constraint that resulted in missing data. In order to determine whether adolescents who completed the questionnaire differed from adolescents who did not, analyses of variance (ANOVAs) and chi-squares were conducted comparing seven demographic characteristics (sex, age category, each parent's education level, each parent's job status, and whether adolescents were living in a two-parent family, single-parent family, or with someone else) of adolescents who did and did not have data for the last measure in the questionnaire (i.e., substance use). Only one of these analyses was significant: Males were more likely than females to be missing data on the substance use variable ($\chi^2(1, N = 379) = 4.55, p < .05$). However, there were no significant differences across sex in the demographic characteristics listed above. In addition, the BDI scores of adolescents with complete versus missing data on the substance use variable were compared to determine if adolescents' level of depression was related to whether or not they had completed the questionnaire. This test was not significant ($p > .10$). It was concluded from these analyses that adolescents' demographic characteristics and level of depression were not systematically linked to their ability to complete the questionnaire. Thus, it was deemed appropriate to estimate missing data.

Estimated scores were generated from group means; that is, an adolescent's estimated score on a specific variable was calculated from data available on that variable for adolescents of the same sex and same age. Inserting group means for missing data is recommended because it is not as conservative as inserting overall

mean values, which tends to reduce a variable's variability and potentially attenuates observed relationships between that variable and other variables in the study (Tabachnick & Fidell, 1989). This procedure was limited to a maximum of 10% of scores on a given variable, resulting in 297 estimated scores. Data were not estimated for the BDI nor for the 20 scales of the MAPI. Thus, only 2.7% of the data points available for use in the analyses were estimates.

CHAPTER IV

RESULTS

Description of the Variables

Depressive symptoms. Table 3 presents the means and standard deviations of the depressive symptom variables. The mean BDI score for the total sample was 12.05 (*SD* = 9.20; range 0 to 54), indicating that this group of adolescents, on average, was reporting mild symptoms of depression. Similarly, when BDI scores were examined separately by sex, both females and males, on average, reported depressive symptoms within the mild range. These mean scores were higher than the average BDI scores that typically have been reported in studies of Canadian and American adolescents in high school populations (Connelly et al., 1993; Ehrenberg et al., 1991; Teri, 1982), although Baron and MacGillivray (1989) found similar means in an Anglophone sample of adolescents attending high school in Quebec.

The means and standard deviations of the five subscales of Harter's Dimensions of Depression Profile also are presented in Table 3. These descriptive statistics indicate that adolescents who completed this measure, on average, reported mildly depressed moods, mild feelings of low self-worth and low energy/interest, mild to moderate feelings of self-blame, and little suicidal ideation. Females reported slightly higher levels of depressed mood, low self-worth, self-blame, and low energy/interest than males, and females and males reported similar levels of suicidal ideation.

Other symptoms. Table 3 also presents the means and standard deviations of

Table 3

Means and Standard Deviations of Measures of Depressive Symptoms and Other Symptoms

	Females		Males		Total		
Symptoms	*M*	*SD*	*M*	*SD*	*M*	*SD*	*N*
Depression							
BDI[a]	13.48	9.12	10.58	9.07	12.05	9.20	379
Mood[b]	2.05	.71	1.84	.66	1.97	.70	202
Self-Worth[b]	2.26	.66	1.93	.60	2.13	.66	200
Self-Blame[b]	2.59	.60	2.45	.54	2.54	.58	199
Energy/ Interest[b]	2.22	.74	2.02	.63	2.15	.70	197
Suicidal Ideation[b]	1.66	.73	1.63	.69	1.65	.71	196
Other Symptoms							
Anxiety[b]	2.09	.57	1.90	.49	2.00	.54	359
Substance Use[c]	1.42	.65	1.88	1.04	1.62	.87	178
School Misconduct[c]	1.60	.59	1.95	.76	1.75	.69	177
Antisocial Behaviour[c]	1.19	.35	1.53	.62	1.34	.52	181

Note. For females, n = 101-193. For males, n = 76-186. Higher scores indicate more frequent or intense symptoms.

[a]Possible range = 0 to 63. [b]Possible range = 1 to 4. [c]Possible range = 1 to 5.

four other symptom measures completed by adolescents: Anxiety, substance use, school misconduct, and antisocial behaviour. On average, adolescents reported mild symptoms of anxiety, with females and males endorsing similar levels of symptoms. With respect to substance use, school misconduct, and antisocial behaviour, adolescents reported infrequent participation in each of these activities. However, males were more likely than females to engage in these behaviours as indicated by their higher mean scores on these variables.

Personality styles. The means and standard deviations of the 20 MAPI scales are presented in Table 4. As expected for MAPI profiles from a community-dwelling sample of adolescents, the majority of the mean base rate scores were below the recommended cut-off point of 65 used for clinical interpretations. With respect to the Personality Style scales, adolescents in the sample showed relative elevations on the Sensitivity and Forceful scales, depicting teenagers who are experiencing mild moodiness and discontent and those who are strong-willed with a more dominant and impatient interaction style, respectively. On the Expressed Concerns scales, adolescents, on average, scored relatively high on Personal Esteem and Family Rapport, highlighting two issues often of particular concern to this age group. An examination of the Behavioural Correlates scales showed that adolescents were higher on Impulse Control than the other scales in this group.

When the mean base rate scores on the MAPI scales were examined separately by sex, females and males scored similarly on each of the Personality Style scales with one exception: Females scored higher than males on the Respectful scale,

Table 4

Means and Standard Deviations of the MAPI Scales

Scale	Females		Males		Total	
	M[a]	*SD*	*M*	*SD*	*M*	*SD*
Personality Styles[b]						
Introversive	30.10	18.26	32.41	21.86	31.21	20.07
Inhibited	53.91	23.77	54.83	29.28	54.35	26.52
Cooperative	41.97	19.90	42.43	25.58	42.19	22.77
Sociable	49.91	22.57	51.52	25.97	50.68	24.24
Confident	45.49	17.52	47.05	25.36	46.24	21.62
Forceful	59.84	19.67	63.31	27.73	61.50	23.90
Respectful	49.00	22.99	40.98	22.75	45.15	23.19
Sensitive	68.63	23.26	65.65	28.40	67.20	25.85
Expressed Concerns[c]						
Self-Concept	59.22	19.47	63.54	23.67	61.29	21.66
Personal Esteem	74.19	19.53	63.94	22.18	69.28	21.43
Body Comfort	67.16	20.48	57.14	24.10	62.36	22.81
Sexual Acceptance	64.64	15.54	55.87	21.91	60.44	19.34
Peer Security	60.19	19.61	54.52	24.67	57.47	22.33
Social Tolerance	49.93	22.71	56.38	27.76	53.02	25.43
Family Rapport	65.93	23.49	63.24	28.65	64.64	26.08
Academic Confidence	49.02	21.88	55.85	25.25	52.29	23.77
Behavioural Correlates[d]						
Impulse Control	57.49	15.97	65.73	26.82	61.44	22.21
Social Conformity	55.89	15.61	59.70	23.57	57.72	19.89
Scholastic Achievement	40.35	18.88	49.11	23.87	44.55	21.83
Attendance Consistency	59.30	19.69	53.44	19.27	56.49	19.68

Note. For females, $n = 176$. For males, $n = 162$.

[a]Means and standard deviations were computed using adolescents' base rate scores. [b]Higher scores reflect a higher probability that adolescents display the personality style. [c]Higher scores reflect a higher level of concern about the issue. [d]Higher scores reflect a higher degree of difficulty in this area.

indicating that the females in this sample were more likely than the males to be rule-conscious and to approach activities in an orderly, planful, and serious manner. On the Expressed Concerns scales, females and males scored similarly on only two scales (Self-Concept and Family Rapport). Females scored higher than males on Personal Esteem, Body Comfort, Sexual Acceptance, and Peer Security, whereas males scored higher than females on Social Tolerance and Academic Confidence. Higher scores on the Expressed Concerns scales reflect a higher level of concern about the issue. With respect to the Behavioural Correlates scales, females scored higher than males on Attendance Consistency and males scored higher than females on Impulse Control, Social Conformity, and Scholastic Achievement. Higher scores on the Behavioural Correlates scales reflect a higher degree of similarity between the respondents and adolescents who are known to have difficulty in these areas.

Parent-adolescent relationships. Table 5 presents the means and standard deviations of the parent-adolescent relationship variables for mothers and fathers. With respect to mothers, adolescents reported mild to moderate levels of acceptance, occasional use of lax control and verbal coercion, and mild levels of conflict. When these means were examined separately by sex, females and males reported similar levels of mother acceptance, mother's use of lax control, and mother-adolescent conflict, although males reported that mothers used verbal coercion slightly more often than females. Similar overall patterns among the father-adolescent relationship variables were evident (see Table 5). Adolescents reported mild levels of acceptance, occasional use of lax control and verbal coercion, and mild levels of conflict with

Table 5

Means and Standard Deviations of Parent-Adolescent Relationship Variables for Mothers and Fathers

Variables	Females		Males		Total		
	M	*SD*	*M*	*SD*	*M*	*SD*	*N*
			Mothers				
Acceptance[a]	3.67	1.02	3.54	.89	3.61	.96	315
Lax Control[a]	2.52	.85	2.42	.68	2.48	.78	314
Use of Verbal Coercion[a]	2.43	.97	2.62	.99	2.52	.98	315
Conflict[b]	-.08	.83	.07	1.03	-.03	.91	155
			Fathers				
Acceptance[a]	3.17	1.18	3.37	1.05	3.25	1.13	145
Lax Control[a]	2.24	.74	2.36	.80	2.29	.77	143
Use of Verbal Coercion[a]	2.33	1.05	2.68	.96	2.47	1.02	142
Conflict[b]	-.10	.85	.09	1.01	-.01	.93	261

Note. For females, n = 85-165. For males, n = 57-150. Higher scores indicate a higher level of the variable.

[a]Possible range = 1 to 5. [b]Standardized score.

their fathers. Compared to females, males reported higher levels of father acceptance and more frequent use of verbal coercion by fathers. Males and females both reported that fathers used lax control occasionally and that conflicts with their fathers were mild.

Analysis of Potential Covariates

Correlations were computed to determine whether adolescents' symptoms of depression were related to demographic variables. The demographic variables were age category, each parent's level of education, the socioeconomic status of each parent's job, and whether adolescents were living in a two-parent family, a single-parent family, or with someone other than a parent. The relationships between these variables and adolescents' scores on the BDI and the five subscales of Harter's Dimensions of Depression Profile were minimal. That is, only 3 of the 36 correlations were significant (a number that would be expected by chance), and the magnitude of all the correlations was small (see Table 6). Thus, it was not deemed necessary to use any of these demographic variables as covariates in subsequent analyses.

Question 1: Sex and Age Differences in Adolescents' Depressive Symptoms

Three analyses examined sex and age differences in adolescents' reports of depressive symptoms. The first analysis evaluated mean level sex and age differences in adolescents' reports of overall symptoms of depression with a 2 X 3 (Sex X Age Category) analysis of variance (ANOVA). Adolescents' BDI score was the dependent variable. Linear and quadratic polynomial contrasts tested hypotheses about

Table 6

Correlations between Adolescents' Reports of Depressive Symptoms and Demographic Variables

Depressive Symptoms	AGE[a]	MEDUC[b]	FEDUC[c]	MSES[d]	FSES[e]	FAMILY[f]
BDI	.12*	-.09	-.02	-.10	-.03	-.14**
Mood	.05	-.06	-.05	-.13	.03	-.10
Self-Worth	-.13	-.03	.02	-.11	-.04	-.06
Self-Blame	.04	-.01	-.05	-.11	-.08	-.09
Energy/ Interest	.19**	-.07	-.05	-.12	.08	-.02
Suicidal Ideation	.08	.01	-.02	-.16	-.06	-.13

Note. n for correlations with BDI = 237-379; n for other correlations = 117-202.

[a]Early, middle, or late adolescent. [b]Mother's level of education. [c]Father's level of education. [d]Socioeconomic status of mother's job. [e]Socioeconomic status of father's job. [f]Adolescent living in a two-parent family, a single-parent family, or with someone other than a parent.

*$p < .05$. **$p < .01$.

fluctuations in depressive symptoms across age. Table 7 displays the means and standard deviations of adolescents' BDI scores by sex and age category.

The results of this analysis showed a significant main effect for sex, $F(1, 373) = 11.46$, $p < .001$, such that females' BDI scores were higher than those of males. There also was a significant age category effect, $F(2, 373) = 7.16$, $p < .001$, with significant linear ($F(1, 373) = 11.39$, $p < .001$) and quadratic ($F(1, 373) = 4.09$, $p < .05$) components. These results suggested that adolescents' BDI scores increased across age category and that the largest increase was between middle (15-16 years) and late adolescence (17-19 years). The sex by age category interaction was not significant.

The second analysis evaluated sex and age differences in the severity of adolescents' depressive symptoms using logit analysis. Logit analysis is a form of multiway frequency analysis that is used to assess the relationship between a categorical dependent variable and one or more categorical and/or continuous independent variables (Tabachnick & Fidell, 1989). Used this way, multiway frequency analysis is like a multiple regression or ANOVA; the significance of the relationship with the dependent variable is assessed overall and for all independent variables and their interactions. When the dependent variable has more than two categories, or when all variables are categorical as in the present case, logit analysis is particularly appealing because it makes fewer and less restrictive assumptions than other statistical techniques (Tabachnick & Fidell, 1989).

For the logit analysis, first adolescents were classified as minimally, mildly, or

Table 7

Means and Standard Deviations of BDI Scores by Sex and Age Category

	Females		Males		Total		
Age Category	*M*	*SD*	*M*	*SD*	*M*	*SD*	*N*
Early Adolescence (12 - 14 Years)	12.59	.96	9.23	1.13	10.92	.74	149
Middle Adolescence (15 - 16 Years)	13.21	1.14	8.48	1.14	10.85	.81	123
Late Adolescence (17 - 19 Years)	15.48	1.32	14.08	1.14	14.78	.87	107

Note. For females, $n = 193$. For males, $n = 186$. Higher scores indicate higher levels of depressive symptoms. Possible range = 0 to 63.

moderately/severely depressed based on their total BDI score. The cut-off scores employed to form the groups were those recommended by Beck and Steer (1993): Adolescents scoring between 0 and 9 comprised the minimal symptoms group (n = 188); adolescents scoring between 10 and 16 comprised the mild symptoms group (n = 100); and adolescents scoring 17 and above comprised the moderate/severe symptoms group (n = 91). The distribution of the sample within these symptom groups by sex and age category is presented in Table 8.

Next, a model was tested predicting the severity of adolescents' depressive symptoms (i.e., whether they were in the minimally, mildly or moderately/severely depressed group) from their sex, age category, and the sex by age category interaction. The overall test of this model was significant ($\chi^2(10, N = 379) = 29.08$, $p = .001$, McFadden $\rho^2 = .037$). Sex was the only individual parameter of the model that was significant (Wald test statistic = 5.64, $p = .05$). This significant sex effect indicated that the odds of being in the moderately/severely depressed group versus the minimally depressed group was higher for females than males ($t = 2.31$, $p = .02$). Specifically, females were approximately three times more likely than males to be in the moderately/severely depressed group than the minimally depressed group (Odds Ratio (OR) = 2.95). The odds of being in the mildly depressed group versus the moderately/severely depressed group was not significantly different for females and males (OR = 1.84, $t = 1.17$, $p = .24$).

The third analysis examined sex and age differences in adolescents' reports of specific symptoms of depression using profile analysis. Profile analysis is a specific

Table 8

Distribution of Adolescents within BDI Categories by Sex and Age Category

BDI Category	Females	Males	Total
Minimal Symptoms (BDI = 0 to 9)			
Early Adolescents	38	39	77
Middle Adolescents	24	43	67
Late Adolescents	16	28	44
Mild Symptoms (BDI = 10 to 16)			
Early Adolescents	25	16	41
Middle Adolescents	23	10	33
Late Adolescents	14	12	26
Moderate/Severe Symptoms (BDI = 17 to 63)			
Early Adolescents	23	8	31
Middle Adolescents	14	9	23
Late Adolescents	16	21	37

Note. For females, $n = 193$. For males, $n = 186$.

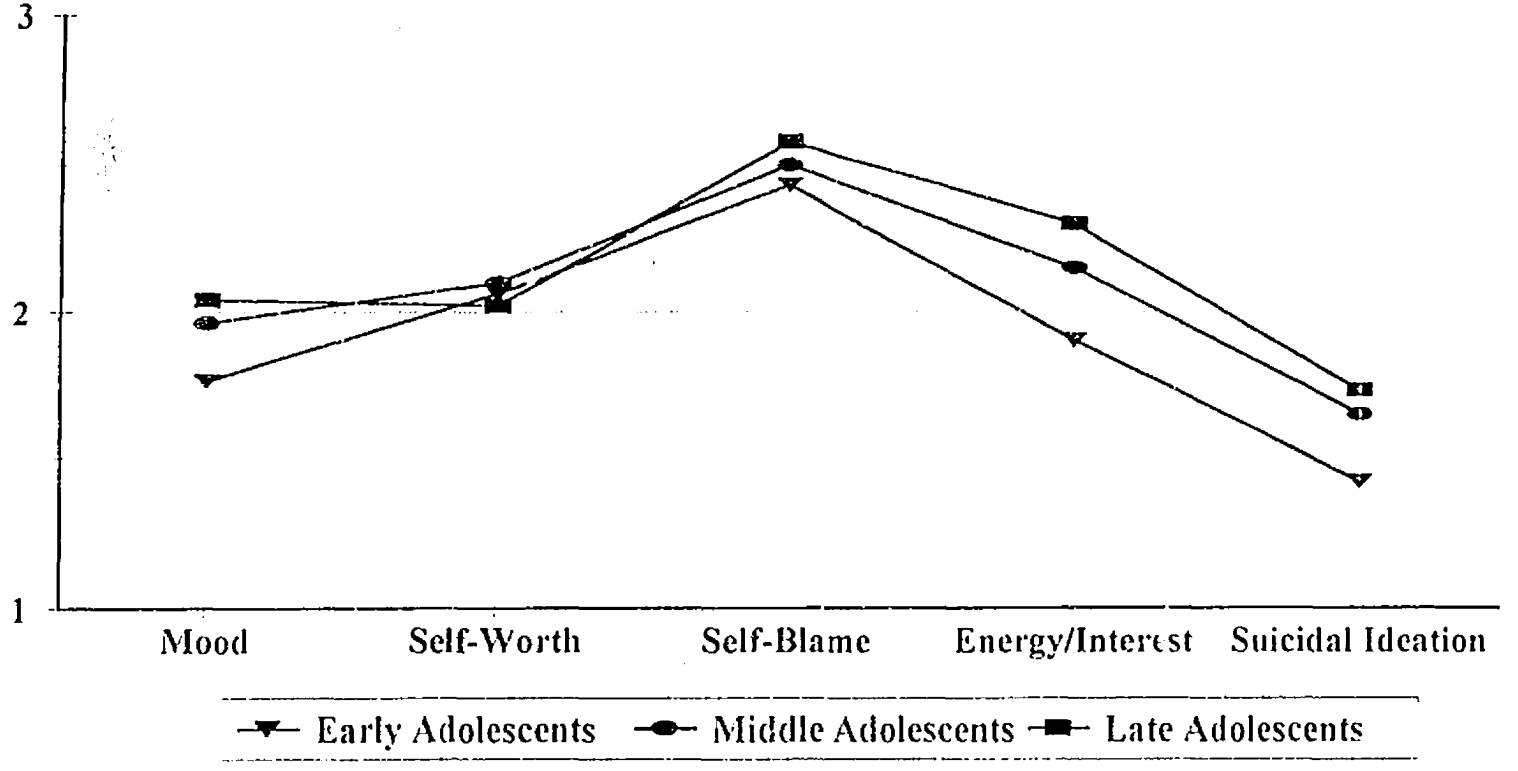
form of MANOVA applied when a set of dependent variables is measured on the same scale (Tabachnick & Fidell, 1989). This method is used to determine whether different groups of participants show the same pattern of highs and lows on a set of subscales (i.e., parallelism); whether one group scores higher on average on the set of dependent variables (i.e., the levels test); and whether subtest scores are similar independent of groups (i.e., flatness of profiles). Appropriate contrasts were chosen based on which combination of these effects (parallelism, levels, or flatness) was significant (Tabachnick & Fidell, 1989). This analysis was performed on the five symptom subscales of Harter's Dimensions of Depression Profile for Children and Adolescents: Mood, self-worth, self-blame, energy/interest, and suicidal ideation. The grouping variables were sex (females, males), age category (early, middle, and late adolescents), and the sex by age category interaction (early, middle, and late adolescent females; early, middle, and late adolescent males). The means of the five subscales for females and males are presented in Table 3. Profiles of mean subscale scores for the three age groups of adolescents are presented in Figure 1.

Using Wilk's criterion, the test of parallelism for sex was not significant, $F(4, 184) = 1.66$, $p = .16$, indicating that the depression profiles of males and females were similar in shape (see Table 3). However, a significant levels test revealed that females were higher than males on their overall level of depressive symptoms when their scores were averaged across the five symptom subscales, $F(1, 187) = 7.56$, $p = .007$, $\eta^2 = .038$.

Turning to age category, the test of parallelism was significant, $F(8, 368) =$

Figure 1

Profiles of Depression Subscales by Age Category



1.96, $p = .05$, $\eta^2 = .08$, indicating that there were reliable differences in the shapes of the depression profiles of early, middle, and late adolescents. The significant interaction between age category and adolescents' responses to the symptom subscales was probed by conducting one-way ANOVAs separately for each subscale. For these analyses, alpha was set at .01. The LSD method was used to follow up significant ANOVAs since it controls alpha at .05 when the number of contrasts equals three (Howell, 1987). The ANOVA analyses revealed a significant age category difference on the energy/interest subscale, $F(2, 194) = 3.91$, $p = .01$. The post-hoc comparisons indicated that early adolescents reported more energy and interest than did middle adolescents ($p = .036$) or late adolescents ($p = .009$) (see Figure 1). The levels test, however, was not significant ($F(2, 187) = 2.35$, $p = .10$), suggesting that early, middle, and late adolescents did not differ when their depressive symptom scores on the five subscales were combined.

The parallelism test for the sex by age category interaction was not significant, $F(8, 368) = 1.25$, $p = .27$, indicating that the depression profiles for early, middle, and late adolescents did not vary between females and males. A significant levels test ($F(2, 187) = 3.25$, $p = .04$, $\eta^2 = .033$), however, revealed that when their scores were averaged over the symptom subscales, the six groups of adolescents differed on their level of depressive symptoms. Three comparisons were of interest (the differences between females and males for early adolescents, for middle adolescents, and for late adolescents) and were tested at alpha equal to .017 (Bonferroni adjustment). These three analyses showed that females' averaged scores on the

depressive symptom subscales were significantly higher than males' averaged scores among early adolescents ($F(1, 187) = 7.07$, $p = .009$) and among middle adolescents ($F(1, 187) = 6.85$, $p = .01$). There was no significant difference between males' and females' averaged symptom scores for late adolescents ($p = .62$). When adolescents' scores were averaged across all groups (sex and age category), the flatness test showed that the profile of the symptom subscale means were significantly nonhorizontal (Hotelling's trace = 1.36, $F(4, 184) = 62.71$, $p < .001$, $\eta^2 = .577$).

Question 2: The Association between Adolescents' Depressive Symptoms and Other Symptoms of Psychological Distress

Before evaluating the extent to which adolescents' symptoms of depression were related to other symptoms of psychological distress, it was useful to inspect the interrelations within each of these sets of variables. Table 9 presents the intercorrelations, by sex, among adolescents' scores on the BDI and the five subscales of Harter's Dimensions of Depression Profile. Females' and males' BDI scores were positively and significantly correlated with each of the Dimensions of Depression Profile subscales. Similarly, the intercorrelations among the Dimensions of Depression Profile subscales were significant ranging from .34 to .71 for females and from .25 to .79 for males. This range of intercorrelations is consistent with those reported by Harter and Nowakowski (1987).

The intercorrelations among adolescents' scores on anxiety, substance use, school misconduct, and antisocial behaviour are presented by sex in Table 10. Females' reports of anxiety were positively related to their school misconduct,

Table 9

Intercorrelations among Adolescents' Reports of Depressive Symptoms by Sex

Depressive Symptoms	1	2	3	4	5
		Females			
1. BDI					
2. Mood	.69***				
3. Self-Worth	.56***	.66***			
4. Self-Blame	.50***	.58***	.54***		
5. Energy/Interest	.43***	.60***	.45***	.34***	
6. Suicidal Ideation	.56***	.71***	.52***	.40***	.37***
		Males			
1. BDI					
2. Mood	.58***				
3. Self-Worth	.52***	.79***			
4. Self-Blame	.33**	.48***	.49***		
5. Energy/Interest	.32**	.60***	.62***	.25*	
6. Suicidal Ideation	.60***	.78***	.57***	.35**	.42***

Note. For females, n = 119-124. For males, n = 75-78.

*$p < .05$. **$p < .01$. ***$p < .001$.

Table 10

Intercorrelations among Adolescents' Reports of Other Symptoms by Sex

Other Symptoms	1	2	3
	Females		
1. Anxiety			
2. Substance Use	.08		
3. School Misconduct	.27**	.76***	
4. Antisocial Behaviour	.12	.68***	.64***
	Males		
1. Anxiety			
2. Substance Use	.31**		
3. School Misconduct	.34**	.76***	
4. Antisocial Behaviour	.34**	.73***	.69***

Note. For females, $n = 101$. For males, $n = 75$-79.

*$p < .05$. **$p < .01$. ***$p < .001$.

but were not related to their substance use or antisocial behaviour. Females' substance use, school misconduct, and antisocial behaviour, however, were highly interrelated. The intercorrelations for males indicated positive links between their reports of anxiety and their substance use, school misconduct, and antisocial behaviour. Males' substance use, school misconduct, and antisocial behaviour also were highly interrelated.

To determine the extent to which adolescents' symptoms of depression were associated with other symptoms of psychological distress, Pearson correlations were computed between adolescents' reports of depressive symptoms (their scores on the BDI and the five subscales of Harter's Dimensions of Depression Profile) and their reports of anxiety symptoms, substance use, school misconduct, and antisocial behaviour. Table 11 displays these correlations by sex. This analysis for females indicated that adolescent girls' symptoms of depression were significantly and positively related to their symptoms of anxiety. In contrast, only females' total BDI score was related to their substance use, school misconduct, and antisocial behaviour. The correlations between the five subscales of Harter's Dimensions of Depression Profile and females' reports of substance use, school misconduct, and antisocial behaviour were small in magnitude and none were significant. Examination of these correlations for males, however, indicated that adolescent boys' symptoms of depression were significantly and positively associated with their reports of anxiety, substance use, school misconduct, and antisocial behaviour. Only the correlation between males' reports of self-blame and antisocial behaviour was not significant.

Table 11

Correlations between Adolescents' Reports of Depressive Symptoms and Other Symptoms by Sex

	Other Symptoms			
Depressive Symptoms	Anxiety	Substance Use	School Misconduct	Antisocial Behaviour
		Females		
BDI	.66***	.21*	.34***	.25*
Mood	.67***	.04	.09	.09
Self-Worth	.65***	.07	.10	.09
Self-Blame	.50***	-.15	-.02	-.07
Energy/Interest	.40***	.16	.20	.15
Suicidal Ideation	.54***	.00	.02	.12
		Males		
BDI	.55***	.34**	.45***	.44***
Mood	.67***	.48***	.52***	.55***
Self-Worth	.55***	.38**	.47***	.36**
Self-Blame	.53***	.29*	.34**	.23
Energy/Interest	.38***	.40**	.35**	.34**
Suicidal Ideation	.62***	.46***	.57***	.60***

Note. For females, *n* for correlation between BDI and anxiety = 186; *n* for other correlations = 87-124. For males, *n* for correlation between BDI and anxiety = 173; *n* for other correlations = 57-80.

*$p < .05$. **$p < .01$. ***$p < .001$.

Question 3: Subtypes of Adolescents with Depressive Symptoms

To explore whether community-dwelling adolescents manifest their symptoms of depression in different ways, a *K*-means cluster analysis was conducted on the eight Personality Scales of the MAPI available for adolescents who scored 10 and above on the BDI. Of the 191 adolescents in the sample who reported at least mild symptoms of depression (BDI = 10 or above), 172 (107 females, 65 males) had reliable and valid MAPI profiles. The Personality Scales of the MAPI were selected for analysis because specific profile configurations of these scales have been linked to depression in clinical populations of adolescents (e.g., Pantle et al., 1990). A minimum BDI score of 10 is thought to indicate mild symptoms of depression (Beck & Steer, 1993). The purpose of this analysis was to determine if the personality styles of adolescents with at least mild symptoms of depression would indicate the manner in which these youths would express their depressive symptoms. Because cluster analysis is a procedure that organizes or classifies individuals into relatively homogeneous groups based on their similarity on chosen variables (Aldenderfer & Blashfield, 1984; Bailey, 1994), it was an appropriate technique to determine whether there may be distinguishable subtypes of adolescents with depressive symptoms. It was expected that adolescents who manifest their symptoms of depression in similar ways would group into individual clusters.

K-means cluster analysis is a specific iterative partitioning method whereby the data set is initially divided by arbitrarily assigning cases into *K* nonoverlapping clusters specified by the user (Aldenderfer & Blashfield, 1984; Bailey, 1994). The

centroids of the clusters are computed and data points are allocated to the cluster with the nearest centroid. New centroids for each cluster are then computed and data points are redistributed to maximize between-cluster variation and minimize within-cluster variation. In SYSTAT, the statistical package used for this analysis, centroids for new clusters are chosen by finding the case farthest from the centroid of all cases using Euclidean distances as the similarity measure (Wilkinson, 1990). Computation of new centroids and the redistribution of data points continues until no data points change clusters (Aldenderfer & Blashfield, 1984).

In order to select the number of subtypes in the results, several solutions of different numbers of clusters (2-5) were examined given that empirical knowledge about a priori subtypes of depressed adolescents was limited. Following an examination of (a) the pseudo *F* tests (measures of how well the eight Personality Scales separated the clusters), (b) the number of adolescents in each cluster, and (c) the clinical interpretability of the results, a three-cluster solution was chosen as the optimal one for further analysis. Table 12 presents the means and standard deviations of the eight Personality Scales associated with each cluster or subtype. The mean personality profiles for each cluster also are presented in Figures 2, 3, and 4. On the basis of the personality profile configurations of each cluster, the following descriptive labels were assigned to each subtype: Isolated-Discontented, Engaged-Intrusive, and Inhibited-Insecure. Note that these labels simply describe the most salient features of the mean personality profile for each cluster.

Cluster 1, the *Isolated-Discontented* subtype, contained 61 adolescents (34

Table 12

Means and Standard Deviations of the MAPI Personality Scales by Subtype

	DISC[a]		INTR[b]		INSC[c]	
MAPI Scale	*M*	*SD*	*M*	*SD*	*M*	*SD*
Introversive	19.67	16.36	21.24	15.79	37.92	19.10
Inhibited	86.69	13.64	42.12	13.90	68.75	22.06
Cooperative	37.38	17.51	27.36	11.11	62.90	19.59
Sociable	32.92	15.34	70.08	17.21	32.33	17.45
Confident	24.15	9.40	55.98	15.57	34.27	16.69
Forceful	72.25	19.20	76.64	14.33	39.67	14.84
Respectful	25.84	13.26	35.73	17.85	61.50	17.02
Sensitive	98.74	10.91	74.05	18.25	64.63	17.28

Note. $n = 172$. Means and standard deviations were computed from adolescents' base rate scores.

[a]Isolated-Discontented subtype. [b]Engaged-Intrusive subtype. [c]Inhibited-Insecure subtype

Figure 2

MAPI Profile for Isolated-Discontented Subtype

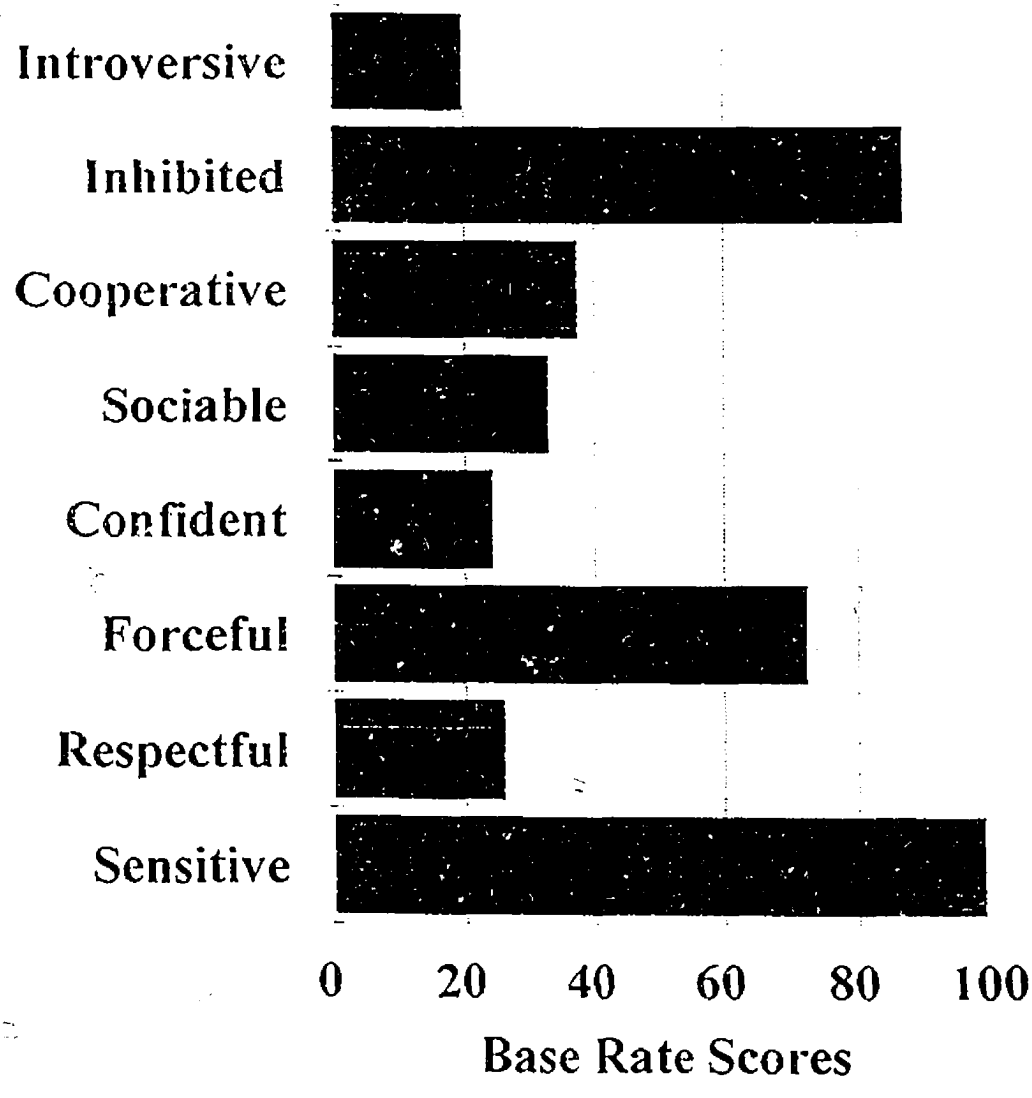


Figure 3

MAPI Profile for Engaged-Intrusive Subtype

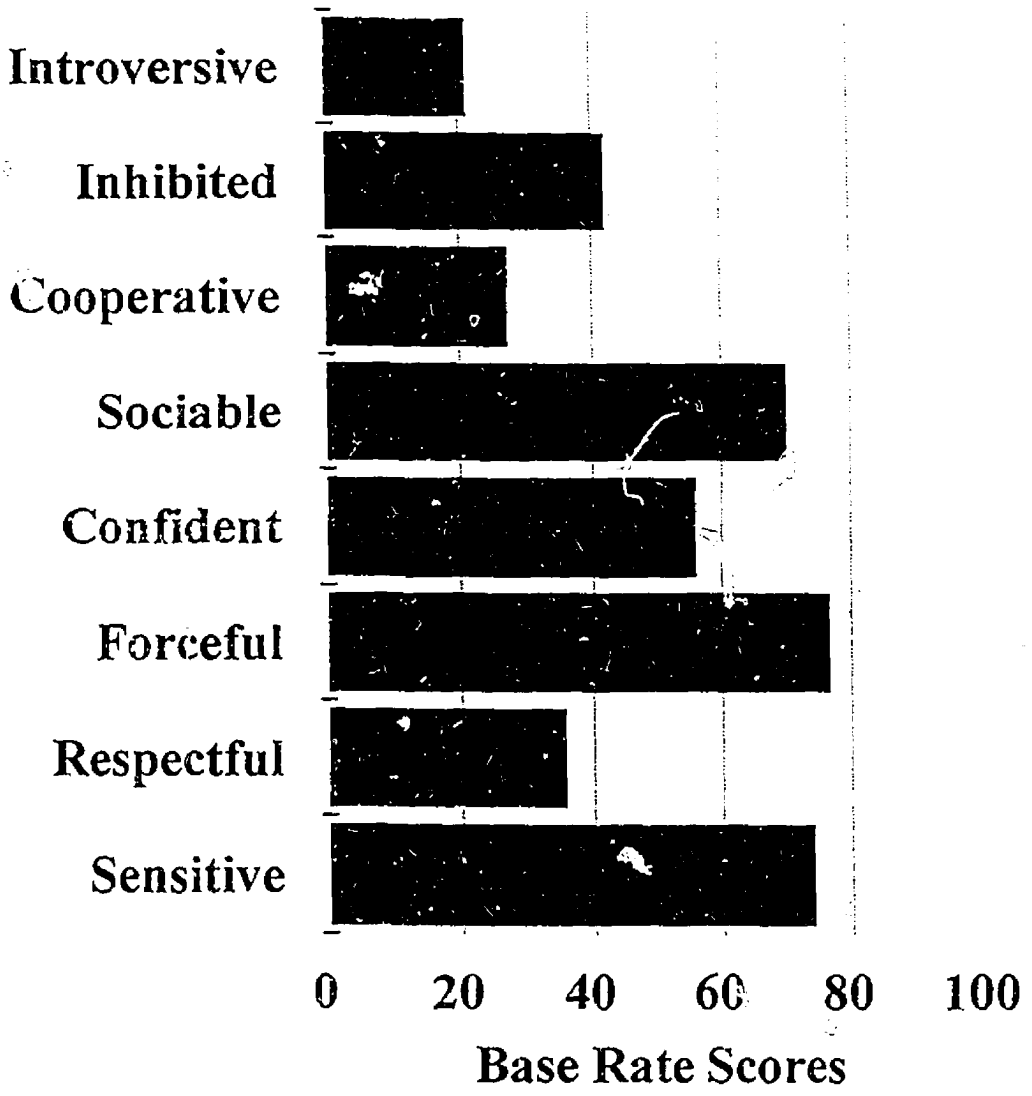
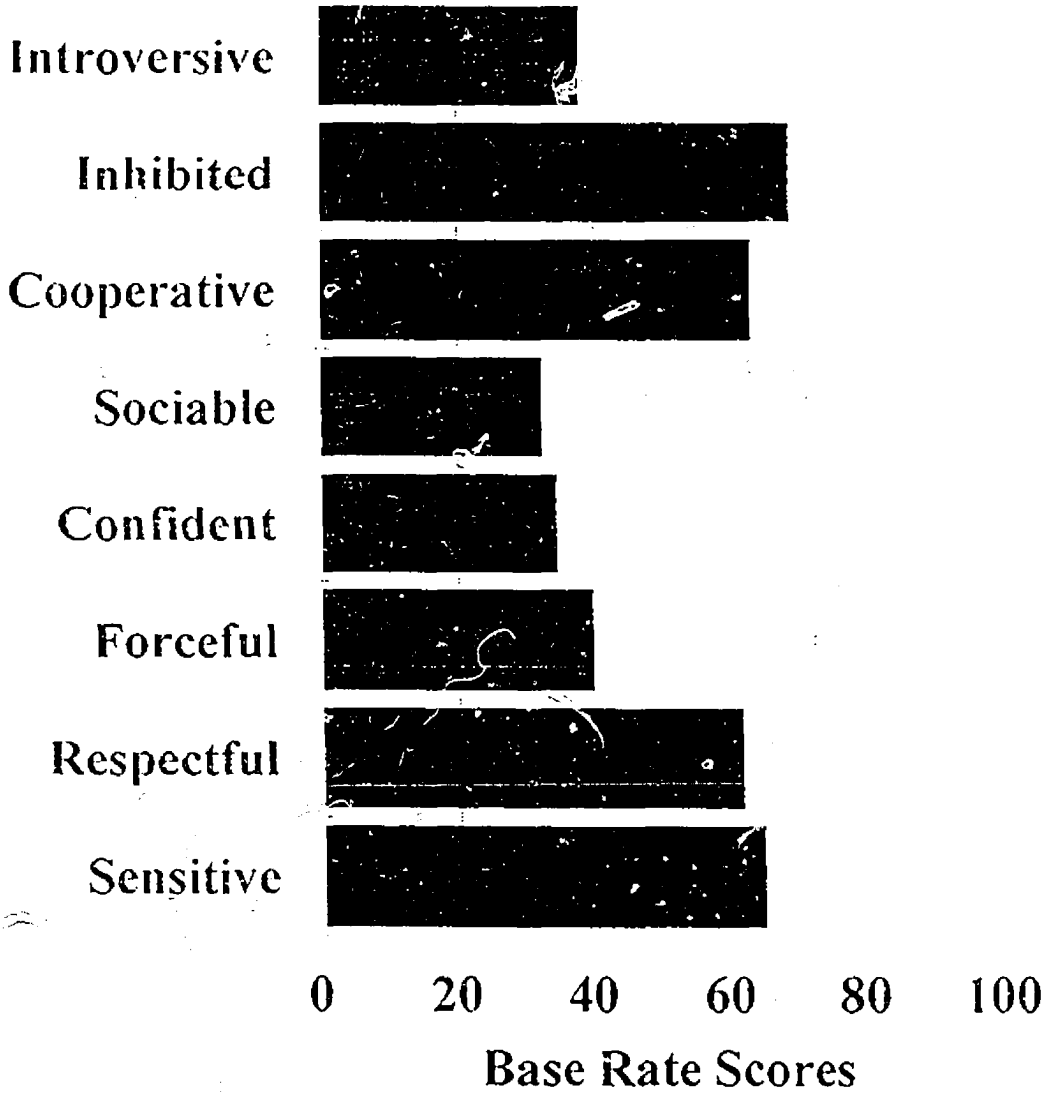


Figure 4

MAPI Profile for Inhibited-Insecure Subtype



females, 27 males) whose profiles were characterized by elevations on the Sensitive and Inhibited personality scales of the MAPI (see Figure 2). This profile configuration depicts a sad and irritable adolescent who presents as discontented, moody, and pessimistic, is hypersensitive to perceived negative feedback, and prefers to withdraw from or avoid social situations because s/he fears rejection. Cluster 2, the *Engaged-Intrusive* subtype contained 59 adolescents (41 females, 18 males) whose MAPI profiles were characterized by elevations on the Forceful and Sensitive personality scales (see Figure 3). This profile configuration depicts a strong-willed and discontented adolescent who responds impulsively and with anger to perceived injustices, tends to be dominant, impatient, and blunt during his/her interactions with others, and justifies his/her intrusiveness by highlighting the hostile and exploitive behaviour of others. Cluster 3, the *Inhibited-Insecure* subtype, contained 52 adolescents (32 females, 20 males) whose MAPI profiles were characterized by slight elevations on the Inhibited and Sensitive personality scales (see Figure 4). This profile configuration depicts an adolescent who is experiencing mild moodiness, is somewhat sensitive to perceived rejection, and feels uneasy in social circumstances. A similar 3-cluster solution was obtained when the Personality Scales of adolescents who scored in the moderate/severe range on the BDI (17 or higher) were clustered using the *K*-means method. It is also noteworthy that the repeated elevations on the Sensitive and Inhibited personality scales observed in these clustering solutions is consistent with the results of other studies that have evaluated the MAPI profiles of clinically depressed adolescents (e.g., Pantle et al., 1990).

After a cluster solution has been obtained, it is important to assess its adequacy and stability because of the limitations and subjective decisions involved in the clustering process (Everitt, 1993; Morris, Blashfield, & Satz, 1981). For example, a limitation of the *K*-means clustering method is that the results may be affected by the choice of the initial partition (Bailey, 1994). In the present study, a split-sample replication procedure was used to evaluate the internal consistency of the cluster solution (Aldenderfer & Blashfield, 1984). The rationale is that if the cluster solution remains similar after manipulating the sample, which causes changes in the initial cluster centroids, this indicates that the cluster solution is stable. For this analysis, the sample was divided randomly into two subsamples (86 adolescents in each) and each subsample was clustered using the *K*-means method. The number of individuals changing clusters and the cluster characteristics (i.e., mean profile configurations) of each subsample were examined, as movement of a few individuals between clusters may result in some differences in cluster profile interpretations (Morris et al., 1981).

The results of three split-sample replications revealed consistently two clusters in each subsample that were obtained in the original cluster analysis (the Isolated-Discontented subtype and the Engaged-Intrusive subtype). The Inhibited-Insecure subtype emerged in three of the six subsamples. Adolescents in the third cluster of the remaining three subsamples were defined by their sole elevation on the Respectful personality scale. The mean percentages of adolescents matching the original clusters in three split-sample replications were 81% for the Isolated-Discontented subtype,

83% for the Engaged-Intrusive subtype, and 82% for the Inhibited-Insecure subtype. These percentages are comparable to those reported in other studies that have utilized the split-sample replication procedure (e.g., Korhonen, 1991; Morris et al., 1981). Although the Inhibited-Insecure subtype appeared less stable than the Isolated-Discontented or Engaged-Intrusive subtypes, the percentage of adolescents who were matched, on average, with the original Inhibited-Insecure subtype was equivalent to the percentages of adolescents who were matched with the original Isolated-Discontented and Engaged-Intrusive subtypes. Thus, all three subtypes were retained for further analysis. The internal consistencies of the Isolated-Discontented and Engaged-Intrusive subtypes were considered adequate and that of the Inhibited-Insecure subtype was considered fair according to the split-sample method criterion (cf. Korhonen, 1991).

Question 4: Distinguishing Features of Subtypes of Adolescents with Depressive Symptoms

Comparisons on variables not included in the cluster analysis is another procedure recommended to validate a cluster solution (Aldenderfer & Blashfield, 1984; Everitt, 1993). This approach directly tests the generality of a cluster solution against relevant criteria. In this study, the three subtypes of adolescents with depressive symptoms were compared across variables in four domains: demographic characteristics (adolescents' sex, age category, family status [whether they were living in a two-parent family, single-parent family, or with someone other than a parent], each parent's education level, and the socioeconomic status of each parent's job);

depressive symptoms (adolescents' scores on the BDI and the five subscales of Harter's Dimensions of Depression Profile); measures of other symptoms (adolescents' reports of anxiety symptoms, substance use, school misconduct, and antisocial behaviour); and parent-adolescent relationships (adolescents' reports of parental acceptance, parental lax control, parent's use of verbal coercion, and parent-adolescent conflict, separately for their mothers and fathers). With the exception of the demographic characteristics that were categorical in nature, all analyses were conducted using univariate ANOVAs. Multiple univariate analyses are appropriate when the research is exploratory in nature or when outcome variables are conceptually independent and the investigator is interested in each outcome variable rather than a linear composite of these variables (Huberty & Morris, 1989). In order to balance the probabilities of Type I and Type II errors, a more conservative alpha was used ($p < .01$). Fisher's Least Significant Difference procedure (LSD) was used to follow up significant ANOVAs since it controls alpha at .05 when the number of contrasts equals three (Howell, 1987). As recommended by Huberty and Morris (1989), the intercorrelations among the outcome variables also are presented for each domain (see Appendix N).

Demographic characteristics. Chi-square analyses were used to compare subtype membership by adolescents' sex, age category, each parent's level of education, and the family status of adolescents (i.e., whether they were living in a two-parent family, single-parent family, or with someone other than a parent). The socioeconomic status of each parent's job was compared by ANOVAs with subtype

membership as the independent variable. The results presented in Table 13 indicate that subtype membership was not associated with demographic characteristics. The three subtypes of adolescents with depressive symptoms were not significantly different in composition by adolescents' sex, age category, family status, parents' education level, or the socioeconomic status of parents' jobs. Even though sex differences in depressive symptoms were marked in the sample, the nonsignificant result for sex in this analysis was not surprising given that adolescents' scores on the MAPI scales, which were used to define the subtypes, reflect their adjustment relative to their same-sex and same-age peers.

Depressive symptoms. Table 14 shows the results from the ANOVAs and post-hoc comparisons evaluating differences across subtypes in these measures of depressive symptoms. The analyses revealed that there was an overall difference in adolescents' BDI scores by subtype. Note that to be included in the cluster analysis adolescents scored at least 10 on the BDI. Post-hoc comparisons showed that adolescents in the Isolated-Discontented subtype scored significantly higher on the BDI than adolescents in the Engaged-Intrusive and Inhibited-Insecure subtypes. However, the BDI scores of adolescents in the Engaged-Intrusive and Inhibited-Insecure subtypes were not significantly different from one another.

The same pattern was observed for adolescents' scores on the depressed mood and suicidal ideation subscales of Harter's Dimensions of Depression Profile (see Table 14). The ANOVAs indicated that the three subtypes were significantly different overall on these two variables. Post-hoc comparisons revealed that

Table 13

Chi-Square and ANOVA Analyses of Demographic Variables by Subtype

Demographic Variable	DISC[a] (n = 61)	INTR[b] (n = 59)	INSC[c] (n = 52)	df	χ^2
Sex				2	2.43
Females	34	41	32		
Males	27	18	20		
Age Category				4	4.38
Early Adolescent	19	23	22		
Middle Adolescent	20	14	18		
Late Adolescent	22	22	12		
Family Status				4	11.61
Two Parents	44	36	39		
Single Parent	8	19	12		
Other	9	4	1		
Mother's Education				6	7.91
< high school	28	15	14		
High school	13	19	15		
Some univ/college	5	8	5		
Finished univ/college	8	9	10		
Father's Education				6	10.19
< high school	30	20	18		
High school	8	16	7		
Some univ/college	2	3	6		
Finished univ/college	9	10	10		
				df	F
Mother's Job Status				(2,	4.18
M	33.75	41.59	41.07	103)	
SD	11.85	11.48	15.45		
Father's Job Status				(2,	1.51
M	38.97	42.33	44.50	135)	
SD	14.16	15.75	16.94		

Note. α = .01. All analyses were nonsignificant.

[a]Isolated-Discontented subtype. [b]Engaged-Intrusive subtype. [c]Inhibited-Insecure subtype.

Table 14

Group Means, Standard Deviations, and *F* Values for Depressive Symptoms by Subtype

Depressive Symptoms	DISC[a] (n = 61)	INTR[b] (n = 59)	INSC[c] (n = 52)	*df*	*F*
BDI				(2, 169)	16.14***
M	23.12_a	15.66_b	16.23_b		
SD	9.33	7.38	6.73		
Mood				(2, 90)	9.77***
M	2.74_a	2.04_b	2.21_b		
SD	.68	.55	.68		
Self-Worth				(2, 90)	5.09**
M	2.75_a	2.26_b	$2.45_{a/b}$		
SD	.56	.62	.59		
Self-Blame				(2, 89)	3.82
M	2.95	2.56	2.72		
SD	.51	.59	.53		
Energy/Interest				(2, 88)	1.05
M	2.55	2.43	2.29		
SD	.61	.85	.55		
Suicidal Ideation				(2, 88)	14.01***
M	2.48_a	1.81_b	1.56_b		
SD	.78	.70	.53		

Note. $\alpha = .01$. Means with different subscripts show the subtypes that differ at $p < .05$ according to Fisher's LSD test.

[a]Isolated-Discontented subtype. [b]Engaged-Intrusive subtype. [c]Inhibited-Insecure subtype.

*$p < .05$. **$p < .01$. ***$p < .001$.

adolescents in the Isolated-Discontented subtype were significantly higher on depressed mood and suicidal ideation than adolescents in the Engaged-Intrusive or Inhibited-Insecure subtypes, but that the latter two subtypes did not differ significantly on these subscales. The ANOVA comparing the subtypes of adolescents on their feelings of self-worth also was significant. Followup comparisons showed that adolescents in the Isolated-Discontented subtype reported significantly lower self-worth than adolescents in the Engaged-Intrusive subtype. The other two comparisons were not significant. Adolescents in the three subtypes were not significantly different overall in their feelings of self-blame and in their levels of energy/interest.

Other symptoms. The results of the ANOVAs and post-hoc comparisons examining differences by subtype in these measures are presented in Table 15. The ANOVAs revealed overall significant differences among the subtypes for each of these variables. Post-hoc comparisons for anxiety and school misconduct showed similar patterns of differences across subtypes. That is, adolescents in the Isolated-Discontented subtype were significantly higher on anxiety and school misconduct than adolescents in the Engaged-Intrusive or Inhibited-Insecure subtypes. Adolescents in the Engaged-Intrusive and Inhibited-Insecure subtypes, however, did not differ significantly on anxiety and school misconduct. With respect to substance use, adolescents in the Isolated-Discontented and Engaged-Intrusive subtypes were not significantly different from one another. However, adolescents in the Isolated-Discontented and Engaged-Intrusive subtypes were significantly higher on substance use than adolescents in the Inhibited-Insecure subtype. Post-hoc comparisons for

Table 15

Group Means, Standard Deviations, and *F* Values for Other Symptoms by Subtype

Other Symptoms	DISC[a] (n = 61)	INTR[b] (n = 59)	INSC[c] (n = 52)	*df*	*F*
Anxiety				(2, 163)	14.27***
M	2.57_a	2.09_b	2.16_b		
SD	.56	.45	.53		
Substance Use				(2, 83)	7.23***
M	2.01_a	$1.65_{a/b}$	1.22_c		
SD	.93	.79	.29		
School Misconduct				(2, 82)	5.19**
M	2.14_a	1.76_b	1.54_b		
SD	.86	.65	.38		
Antisocial Behaviour				(2, 85)	5.24**
M	1.54_a	$1.36_{a/b}$	1.16_b		
SD	.55	.47	.17		

Note. $\alpha = .01$. Means with different subscripts show the subtypes that differ at $p < .05$ according to Fisher's LSD test.

[a]Isolated-Discontented subtype. [b]Engaged-Intrusive subtype. [c]Inhibited-Insecure subtype.

*$p < .05$. **$p < .01$. ***$p < .001$.

antisocial behaviour indicated that adolescents in the Isolated-Discontented subtype scored significantly higher on this measure than adolescents in the Inhibited-Insecure subtype. The other two comparisons were not significant.

Parent-adolescent relationships. Mother-adolescent and father-adolescent relationship variables were compared across subtypes. Table 16 presents the results of these comparisons for adolescents' reports of their relationships with their mothers. Two of the four ANOVAs were significant. Adolescents in the three subtypes reported overall differences in perceptions of mother acceptance and mother's use of verbal coercion. The post-hoc comparisons revealed similar patterns of differences across subtypes. That is, adolescents in the Isolated-Discontented subtype reported less mother acceptance and more frequent use of verbal coercion by mothers than adolescents in the Engaged-Intrusive or Inhibited-Insecure subtypes. Adolescents in the Engaged-Intrusive and Inhibited-Insecure subtypes did not differ significantly on these variables. There also were no overall significant differences among adolescents by subtype in their perceptions of mother's lax control and mother-adolescent conflict.

Table 17 presents the results of the ANOVAs for adolescents' reports of their relationships with their fathers by subtype. None of the four ANOVAs was significant. There were no overall significant differences by subtype in adolescents' reports of father acceptance, father's lax control, father's use of verbal coercion, or father-adolescent conflict.

Question 5: Other Features of Subtypes of Adolescents with Depressive Symptoms

To identify other distinguishing features of the three subtypes of adolescents

Table 16

Group Means, Standard Deviations, and *F* Values for Mother-Adolescent Relationship Variables by Subtype

Variable	DISC[a] (n = 61)	INTR[b] (n = 59)	INSC[c] (n = 52)	*df*	*F*
Mother Acceptance				(2, 138)	5.83**
M	2.90_a	3.37_b	3.63_b		
SD	1.11	1.09	.93		
Mother Lax Control				(2, 138)	1.91
M	2.59	2.59	2.29		
SD	.85	.89	.78		
Mother's Use of Verbal Coercion				(2, 138)	5.22**
M	3.08_a	2.59_b	2.39_b		
SD	1.16	1.04	.98		
Mother-Adolescent Conflict				(2, 73)	2.88
M	.19	.14	-.38		
SD	.97	1.00	.59		

Note. $\alpha = .01$. Means with different subscripts show the subtypes that differ at $p < .05$ according to Fisher's LSD test.

[a]Isolated-Discontented subtype. [b]Engaged-Intrusive subtype. [c]Inhibited-Insecure subtype.

*$p < .05$. **$p < .01$. ***$p < .001$.

Table 17

Group Means, Standard Deviations, and *F* Values for Father-Adolescent Relationship Variables by Subtype

Variable	DISC[a] (n = 61)	INTR[b] (n = 59)	INSC[c] (n = 52)	*df*	*F*
Father Acceptance				(2, 62)	0.88
M	2.70	3.16	3.11		
SD	1.29	1.28	1.13		
Father Lax Control				(2, 61)	1.22
M	2.41	2.49	2.16		
SD	.81	.68	.62		
Father's Use of Verbal Coercion					
M	2.81	2.82	2.06	(2, 61)	3.57
SD	1.17	1.22	.66		
Father-Adolescent Conflict					
M	.27	.23	-.19	(2, 133)	2.67
SD	1.03	.97	.88		

Note. $\alpha = .01$. All analyses were nonsignificant.

[a]Isolated-Discontented subtype. [b]Engaged-Intrusive subtype. [c]Inhibited-Insecure subtype.

with depressive symptoms described in Question 3, the subtypes were compared across the eight Expressed Concerns scales and the four Behavioural Correlates scales of the MAPI. As described in Question 4, a series of univariate ANOVAs was conducted with the MAPI scales within these two domains as the dependent variables. Significant F-tests were followed by LSD post-hoc comparisons.

Adolescents' expressed concerns. The results of the ANOVAs and post-hoc comparisons examining differences by subtype in adolescents' scores on eight Expressed Concerns are presented in Table 18. The ANOVAs revealed overall significant differences among the subtypes for each of the eight variables. Post-hoc comparisons for the Self-Concept and Personal Esteem scales showed similar patterns of differences across subtypes. Adolescents in the Isolated-Discontented subtype were significantly more concerned about their Self-Concept and Personal Esteem than adolescents in the Engaged-Intrusive and Inhibited-Insecure subtypes. Adolescents in the Inhibited-Insecure subtype, in turn, reported significantly more distress about these two areas than adolescents in the Engaged-Intrusive subtype. Significant differences by subtype in adolescents' perceptions of Body Comfort, Sexual Acceptance, and Peer Security also were observed. Adolescents in the Isolated-Discontented subtype were not significantly different from adolescents in the Inhibited-Insecure subtype in their concern about these areas, although adolescents in both these subtypes reported significantly more concern about Body Comfort, Sexual Acceptance, and Peer Security than adolescents in the Engaged-Intrusive subtype.

Post-hoc comparisons also showed significant differences among the three

Table 18

Group Means, Standard Deviations, and *F* Values for Adolescents' Expressed Concerns by Subtype

Expressed Concerns	DISC[a] (n = 61)	INTR[b] (n = 59)	INSC[c] (n = 52)	*df*	*F*
Self-Concept				(2, 169)	50.38***
M	84.84_a	56.56_b	67.04_c		
SD	11.69	16.40	18.44		
Personal Esteem				(2, 169)	23.34***
M	89.08_a	71.07_b	79.21_c		
SD	10.70	14.95	17.45		
Body Comfort				(2, 169)	19.35***
M	74.16_a	55.80_b	75.08_a		
SD	12.71	22.06	20.73		
Sexual Acceptance				(2, 169)	14.23***
M	69.64_a	56.25_b	71.96_a		
SD	14.00	19.76	16.91		
Peer Security				(2, 169)	66.29***
M	75.33_a	44.85_b	72.65_a		
SD	14.41	12.61	20.22		
Social Tolerance				(2, 169)	13.94***
M	63.39_a	58.59_a	41.37_b		
SD	23.31	25.00	20.07		
Family Rapport				(2, 169)	39.15***
M	84.80_a	79.73_a	54.35_b		
SD	19.83	19.44	18.46		
Academic Confidence				(2, 169)	23.41***
M	73.72_a	54.29_b	49.39_b		
SD	21.30	22.39	16.09		

Note. $\alpha = .01$. Means with different subscripts show the subtypes that differ at $p < .05$ according to Fisher's LSD test.

[a]Isolated-Discontented subtype. [b]Engaged-Intrusive subtype. [c]Inhibited-Insecure subtype.

*$p < .05$. **$p < .01$. ***$p < .001$.

subtypes on adolescents' perceptions of Social Tolerance and Family Rapport. Adolescents in the Isolated-Discontented and Engaged-Intrusive subtypes reported significantly more concern about these two areas than adolescents in the Inhibited-Insecure subtype. However, adolescents in these two subtypes did not differ significantly from one another. When the subtypes of adolescents were compared on their concern about Academic Confidence, adolescents in the Isolated-Discontented subtype reported significantly more concern about this area than adolescents in the Engaged-Intrusive or Inhibited-Insecure subtypes. Adolescents in the latter two subtypes did not differ significantly in their concern about Academic Confidence.

Adolescents' behavioural correlates. The results from the final series of ANOVAs are presented in Table 19. These analyses revealed that there were significant overall differences among the subtypes on each of these variables. Post-hoc comparisons showed that adolescents in the Isolated-Discontented subtype reported significantly more difficulty with Impulse Control, Social Conformity, Scholastic Achievement, and Attendance Consistency than adolescents in the Engaged-Intrusive or Inhibited-Insecure subtypes. Adolescents in the Engaged-Intrusive subtype reported significantly more difficulty with Impulse Control and Social Conformity and significantly less difficulty with Attendance Consistency than adolescents in the Inhibited-Insecure subtype. Adolescents in the Engaged-Intrusive and Inhibited-Insecure subtypes did not differ significantly on their reports of Scholastic Achievement.

Table 19

Group Means, Standard Deviations, and *F* Values for Adolescents' Behavioural Correlates by Subtype

Behavioural Correlates	DISC[a] (n = 61)	INTR[b] (n = 59)	INSC[c] (n = 52)	*df*	*F*
Impulse Control				(2, 169)	61.85***
M	79.49_a	70.58_b	46.94_c		
SD	18.53	17.04	10.04		
Social Conformity				(2, 169)	56.47***
M	74.39_a	66.34_b	44.92_c		
SD	17.75	15.36	10.54		
Scholastic Achievement				(2, 169)	36.29***
M	68.53_a	44.37_b	41.94_b		
SD	18.80	18.49	18.77		
Attendance Consistency				(2, 169)	56.24***
M	81.05_a	56.36_b	61.42_c		
SD	12.39	11.74	16.17		

Note. $\alpha = .01$. Means with different subscripts show the subtypes that differ at $p < .05$ according to Fisher's LSD test.

[a]Isolated-Discontented subtype. [b]Engaged-Intrusive subtype. [c]Inhibited-Insecure subtype.

*$p < .05$. **$p < .01$. ***$p < .001$.

CHAPTER V

DISCUSSION

The present study examined three areas of interest to researchers investigating the nature of depressive symptoms in community-dwelling adolescents: (1) sex and age differences; (2) comorbidity of symptoms; and (3) different manifestations of depressive symptoms. This chapter summarizes the results and discusses their implications. Limitations and strengths of this research and directions for future investigations also are presented.

Sex and Age Differences in Adolescents' Depressive Symptoms

The first research question asked whether there were sex and age differences in adolescents' reports of depressive symptoms. Adolescents' total symptom score, the severity of their symptoms, and their scores on five specific depressive symptoms were assessed. The hypotheses that adolescent females would report higher levels of depressive symptoms than adolescent males (Hypothesis 1) and would be more likely than adolescent males to be moderately-severely depressed (Hypothesis 2) were supported. Females scored significantly higher than males on the BDI and on their overall level of depressive symptoms as measured by the average of the symptom scales of Harter's Dimensions of Depression Profile. They also were more likely than males to report depressive symptoms within the moderate/severe range. Specifically, adolescent females in this study were approximately three times more likely than adolescent males to be in the moderately/severely depressed group than the minimally depressed group. Consistent with Hypothesis 3, adolescent females also

scored significantly higher than adolescent males on five specific depressive symptoms (depressed mood, low self-worth, self-blame, low energy/interest, suicidal ideation).

These sex differences in adolescents' reports of depressive symptoms are consistent with many previous studies which have found that females typically score higher than males on self-report measures of depression (e.g., BDI or CES-D), and that more females than males are likely to report depressive symptoms in the moderate/severe range (e.g., Allgood-Merten et al., 1990; Ehrenberg, 1991; Larsson & Melin, 1990; Renouf & Harter, 1990). Females' higher scores on Harter's specific symptom scales (e.g., depressed mood, low energy/interest, suicidal ideation) also reflect the sex difference noted when adolescents have completed self-report measures of depression that assess a mixture of affective, cognitive, and physical symptoms (e.g., BDI).

A number of explanations for the marked and consistent sex difference in adolescents' depressive symptoms have been offered. Hypotheses involving gender intensification following pubertal change, adolescents' exposure to stressful life events, their coping style, and their divergent socialization experiences each have received empirical attention, although no one explanation has been deemed satisfactory. It seems likely that each of these hypotheses has identified risk factors that may contribute to adolescent females' increased vulnerability to depression relative to adolescent males. Few studies, however, have examined how these risk factors interact. Currently, authors (e.g., Angold & Rutter, 1992; Compas et al., 1993; Nolen-Hoeksema & Gurgis, 1994) are recognizing that to advance our

understanding of the mechanisms and processes operating in the development of depression, we must evaluate complex models that include biological, social, and psychological variables simultaneously and explore how these variables differentially affect females and males as they move from childhood into adolescence.

The hypothesis that adolescents' depressive symptoms would show a linear increase across age (Hypothesis 4) received some support. Significant linear and quadratic increases in adolescents' BDI scores were found across age with the largest increase in depressive symptoms occurring between middle and late adolescence. In contrast, adolescents' overall level of depressive symptoms, as measured by Harter's Dimensions of Depression Profile, did not differ across age. Contrary to Hypothesis 5, age also was not associated with the severity of adolescents' depressive symptoms. However, the hypothesis that adolescents' reports of specific depressive symptoms would vary with age (Hypothesis 6) also received some support. Middle and late adolescents reported significantly less energy/interest than early adolescents. Although no significant sex by age category interactions were expected, the profile analysis indicated that females' overall level of depressive symptoms in early and middle adolescence were significantly higher than the overall level of symptoms reported by their male counterparts.

These results, taken together, indicate that adolescents' depressive symptoms showed an increase across adolescence, a finding that is supported by some previous research (e.g., Angold & Rutter, 1992; Kaplan et al., 1984). Similar to the literature on sex differences in adolescent depression, increases in adolescents' depressive

symptoms across age have been attributed to a variety of factors, including pubertal development, school transitions, increased exposure to negative life events, and changes in adolescents' peer relationships, family relationships, and cognitive abilities. Although the relative contributions of these factors to observed age trends in depressive symptoms have yet to be thoroughly examined, it is important that future research attempt to link changes in adolescents' levels of depression to variables that represent these developmental transitions.

Interestingly, other studies have not found increases in depressive symptoms with age (e.g., Allgood-Merten et al., 1990; Teri, 1982) or they have observed fluctuations in the relationship between adolescents' age and different measures of depressive symptoms (e.g., Petersen, Stemmler, & Rice, 1992). Such variation in age effects appears to reflect differences across studies in the age ranges sampled and the measures of depressive symptoms used. In this research, for example, two measures of adolescents' overall level of depressive symptoms, although moderately correlated, yielded different results, suggesting that each measure may be tapping slightly different aspects of adolescents' depressive symptoms. Only additional research can clarify the association between adolescents' age and their reports of depressive symptoms.

Before turning to the results for comorbid symptoms, the overall level of depressive symptoms in adolescents in this study must be acknowledged. It is noteworthy that adolescent females and males, on average, scored within the mild range of depressive symptoms and reported higher average scores on the BDI than

have typically been documented by previous studies of community-dwelling youth (e.g., Connelly et al., 1993; Ehrenberg et al., 1991; Larsson & Melin, 1990). Using cutoffs to assess symptom severity as recommended by Beck and Steer (1993), 26% of adolescents in this study reported mild levels of depressive symptoms and 24% reported moderate/severe levels of depressive symptoms. Comparable figures of symptom severity reported by others who have used similar cutoffs range from 12%-22% for mild levels of depression and 8%-11% for moderate/severe levels of depression (Connelly et al., 1993; Ehrenberg et al., 1991; Larsson & Melin, 1990). Two explanations are worthy of consideration: (1) use of a passive versus an active consent procedure with parents of adolescents, and (2) current exposure of these adolescents and their families to an environmental stressor.

First, a passive rather than an active consent procedure with parents was used in this study; that is, parents were asked to contact the investigator or the school principal if they objected to their adolescent's participation in the research project, and parents were not required to provide written consent. This method was selected because research indicates that use of active consent procedures with parents of adolescents may result in sampling biases that overrepresent well-functioning teenagers and screen out those with adjustment problems (e.g., Dent et al., 1993; Weinberger et al., 1990). One group of adolescents who may be experiencing significant depressive symptoms and who likely are screened out of community-based studies of adolescents which require active parental consent are youths who live with someone other than a parent (e.g., Teri, 1982). In this study, 6% of the participants

(10 females, 13 males) were living with someone other than a parent and, as expected, these adolescents showed elevated BDI scores (M = 18.30, SD = 10.52). Sixty-one percent of these youths reported levels of depressive symptoms that fell within the moderate to severe range. It seems plausible that the high prevalence of depressive symptoms reported by the adolescents in this study partially reflects inclusion of one high-risk group of youths (i.e., adolescents who are not living with a parent) who typically have not participated in research.

However, use of a passive consent procedure with parents is likely only one part of a complex explanation for the high prevalence of depressive symptoms in this sample, given that other studies that have employed similar consent procedures (e.g., Ehrenberg et al., 1991) have reported much lower levels of depressive symptoms than were found here. Another explanation centers around the community context of this study. This research was conducted in a rural community on the East Coast of Canada whose local economy is dependent on the fishing industry. Given the recent decline in the availability of this resource, it is expected that many parents of adolescents in this study are experiencing psychological and perhaps economic stress. Based on the adolescents' reports of each of their parent's jobs, approximately 33% of fathers and 6% of mothers are employed in occupations directly related to the fishing industry, thereby placing a substantial proportion of adolescents in this study at risk for experiencing stress because of the insecurity of their parents', particularly fathers', jobs. The links between parents' experiences of economic stress and unemployment and their own and their children's adjustment has been documented

(e.g., Ge et al., 1992; Lempers, Clark-Lempers, & Simons, 1989, McLoyd, 1989). The late adolescent males in this study who had anticipated soon being employed in the fishing industry may be at a high risk for depressive symptoms as there is no obvious alternative for local employment. Indeed, the mean BDI score of late adolescent males approached and was not significantly different from the mean BDI score of late adolescent females ($t = .66$, $p > .05$), despite the overall sex difference observed in adolescents' depressive symptoms. Only future research with the adolescents and families in this community, however, can link this particular stressor to their psychological well-being.

Adolescents' Depressive Symptoms and Other Symptoms

The second research question examined the extent to which adolescents' reports of depressive symptoms were associated with their reports of other symptoms of psychological distress. Measures of anxiety, substance use, school misconduct, and antisocial behaviour were evaluated. The hypothesis that adolescents' depressive symptoms would be positively and linearly related to their reports of other symptoms (Hypothesis 7) was supported, although different patterns of relationships were found for females and males. Adolescent females who reported depressive symptoms were likely to report anxiety symptoms. However, only their BDI scores (and not their scores on Harter's specific symptoms of depression) were associated with their reports of substance use, school misconduct, or antisocial behaviour. In contrast, adolescent males who reported depressive symptoms also reported a variety of other symptoms (i.e., anxiety, substance use, school misconduct, and antisocial behaviour).

These results are somewhat consistent with a growing body of literature that has reported sex differences in correlates of adolescents' depressive symptoms. Such studies have found that the strongest correlates of depressive symptoms in females are other internalizing symptoms (e.g., anxiety) whereas the strongest correlates of depressive symptoms in males are externalizing symptoms (e.g., substance use, conduct problems) (e.g., Gjerde et al., 1988; Henry et al., 1993). The patterns of co-occurrence among self-reported symptoms found here also are similar to some patterns of co-occurrence reported among psychiatric disorders in adolescents. For example, Lewinsohn, Rohde, and Seeley (1995) found that co-occurring depressive and anxiety disorders were common in females and that the majority of adolescents whose depression co-occurred with conduct problems were males.

Although sex differences in symptom co-occurrence are receiving increasing empirical support, few authors have discussed explanations for these results. Lewinsohn et al. (1995) suggested that sex differences in the comorbidity of symptoms and disorders indicates that etiological factors may differ for adolescent females and males. The significant relationships between depressive symptoms and externalizing problems (i.e., substance use, school misconduct, and antisocial behaviour) for males but not females in this study may indicate that at least some of the causes of externalizing problems in males differ from the causes of similar problems in females. Alternatively, sex differences in symptom co-occurrence may depend on the developmental function that these symptoms and behaviours serve for adolescents. Different symptoms and behaviours (e.g., anxiety symptoms, substance

use) may serve different functions, such as eliciting care-giving from others, accelerating their transition to adulthood, or linking them to peers who engage in antisocial activities. To the extent that males and females differentially value the outcomes associated with various symptom expressions, sex differences in their reports of symptom co-occurrence may be observed.

Regardless of their etiology, sex differences in symptom co-occurrence may have tremendous implications for adolescents' suicide risk, referrals for treatment, and the effectiveness of interventions. Adolescent males who report depressive symptoms and externalizing problems may pose a higher risk for suicide completions than adolescent females who report co-occurring feelings of depression and anxiety given the potentially lethal combination of feelings of hopelessness and despair, poor impulse control, and aggressive behaviour patterns. In addition, adolescent males who exhibit externalizing symptoms are more likely to come to the attention of parents, school officials, and professionals than adolescent females who exhibit typical internalizing symptoms. However, their depressive symptoms frequently are overlooked. Finally, adolescent males who present with depressive and externalizing symptoms often are more resistant to treatment and require interventions that address their multiple symptoms rather than treatments that focus on just their behavioural difficulties. These implications highlight the importance of identifying patterns of comorbid symptoms empirically and of conducting comprehensive assessments of adolescents in clinical settings which probe for symptoms other than those suggested by the referral.

Subtypes of Adolescents with Depressive Symptoms

The next three research questions focused on identifying and validating subtypes of adolescents with depressive symptoms. First, three subtypes of adolescents with depressive symptoms were identified and the stability of the subtypes was evaluated. Second, the three subtypes of adolescents were compared on demographic variables, depressive symptoms, other psychological symptoms, and perceptions of mother-adolescent and father-adolescent relationships. Third, to further describe the three subtypes, the adolescents also were compared on the Expressed Concerns and Behavioural Correlates scales of the MAPI.

Identification of Subtypes

A *K*-means cluster analysis of the eight Personality Scales of the MAPI was used to determine if there were distinguishable subtypes of adolescents with depressive symptoms. Only adolescents who scored at least 10 on the BDI were included in the analysis. Although a priori knowledge about the expected number of subtypes was scant, research that has explored different manifestations of adolescents' depressive symptoms suggested that at least two subtypes were plausible: One subtype of depressed adolescents who would appear withdrawn and self-focused and a second subtype of depressed adolescents who would appear defiant and impulsive.

The results of the clustering procedure indicated that a three-cluster solution was optimal. Based on the personality profile configurations of the clusters, the three subtypes were labelled Isolated-Discontented, Engaged-Intrusive, and Inhibited-Insecure. The Isolated-Discontented subtype described a sad and irritable adolescent

who appears moody and pessimistic and who prefers to withdraw from or avoid social situations because s/he fears rejection by others. The Engaged-Intrusive subtype described a strong-willed and discontented adolescent who tends to be dominant, impatient, and blunt during interactions with others. The Inhibited-Insecure subtype described an adolescent who is experiencing mild moodiness and who feels uncomfortable in social situations. A split-sample replication procedure indicated that the internal consistencies of the Isolated-Discontented and the Engaged-Intrusive subtypes were adequate whereas that of the Inhibited-Insecure subtype was fair.

These three subtypes of adolescents with depressive symptoms showed similarities to and differences from the two symptom patterns identified in previous research; that is, adolescents who appear sad, withdrawn, and self-focused, and adolescents who appear defiant and impulsive (Block et al., 1991; Ehrenberg et al., 1990). These features were apparent in this study among the Inhibited-Insecure and the Engaged-Intrusive subtypes, respectively. Although the Isolated-Discontented subtype of adolescents showed similarities to the Inhibited-Insecure subtype, in that they were characterized by an internalizing versus an externalizing personality style, the features of these youths were more pronounced, suggesting quantitative and qualitative differences between these adolescents and adolescents in the Inhibited-Insecure and the Engaged-Intrusive subtypes. In other words, the Isolated-Discontented subtype does not seem to match exactly either the withdrawn and self-focused or the defiant and impulsive subtypes of adolescents observed in previous research. It is noteworthy that the MAPI profiles which define the three subtypes of

adolescents identified in this study are consistent with the MAPI profiles that were most frequently associated with high depression scores in a sample of adolescent inpatients (Pantle et al., 1990).

A number of differences in participants, methodologies, and analyses between this study and previous studies may account for the variation in subtypes identified. First, the study conducted by Block et al. (1991) used a sample of adolescents who were recruited at age 3 from nursery schools and followed to age 18 whereas this study relied on cross-sectional data from a community-dwelling sample of adolescents who were recruited using a passive consent procedure with their parents. The potential impact of use of this procedure on the nature of the sample was discussed earlier in this chapter. Second, the analyses completed by Block et al. (1991) and Ehrenberg et al. (1990) included adolescents who were reporting a full range of depressive symptoms whereas this study focused on adolescents who were reporting at least mild symptoms of depression (BDI $>$ 9). Finally, this study employed a cluster analysis to identify groups of adolescents whereas the results of Ehrenberg et al. (1990) and Block et al. (1991) were based on principal components analysis and correlational analyses, respectively.

Distinguishing Features

To further validate the three-cluster solution and identify distinguishing features of the subtypes, the subtypes of adolescents were compared on demographic variables, measures of depressive symptoms, measures of other symptoms, and mother-adolescent and father-adolescent relationship variables. Comparisons also

were conducted across subtypes for the Expressed Concerns and Behavioural Correlates scales of the MAPI. Table 20 presents the distinguishing features of the three subtypes of adolescents with depressive symptoms. Before describing their salient characteristics, it is important to note that the subtypes did not differ significantly on any demographic variables (adolescents' sex, age category, family status, parent's level of education, and the socioeconomic status of parent's job).

Isolated-Discontented subtype. Adolescents in the Isolated-Discontented subtype were characterized by moderate symptomatic affect, expressed as a blend of moderate depressive symptoms, anxiety symptoms, suicidal ideation, and school misconduct. These youths also reported the most negative mother-adolescent relationships, scoring significantly lower on mother acceptance and significantly higher on mother's use of verbal coercion than adolescents in the other subtypes. In addition, Isolated-Discontented adolescents indicated that their self-concept, personal esteem, family relationships, and peer security were of significant concern. Their high elevations on the Self-Concept and Personal Esteem scales distinguished this subtype from the other subtypes. Although their concerns about body comfort, sexual acceptance, social tolerance, and academic confidence were significantly different from at least one other subtype of adolescents, the intensity of these concerns fell in the average range and were of no clinical significance. Finally, adolescents in the Isolated-Discontented subtype reported more difficulties with impulse control, attendance consistency, social conformity and scholastic achievement than adolescents in the other subtypes.

Table 20

Distinguishing Features of Subtypes of Adolescents with Depressive Symptoms

Variable Domain	Subtypes		
	Isolated-Discontented	Engaged-Intrusive	Inhibited-Insecure
Symptoms	Moderate depression Suicidal ideation Anxiety School misconduct	Mild depression Mild substance use	Mild depression Mild anxiety
Relationship with Mother	Low acceptance Mild use of verbal coercion	Mild acceptance Occasional use of verbal coercion	Mild acceptance Occasional use of verbal coercion
Significant Expressed Concerns	Self-concept Personal esteem Family rapport Peer security	Family rapport	Personal esteem Body comfort
Significant Behavioural Correlates	Difficulties with: Impulse control School attendance Social conformity Underachievement	Difficulties with: Impulse control Social conformity	Difficulties with: School attendance

Engaged-Intrusive subtype. Adolescents in the Engaged-Intrusive subtype were characterized by mild symptomatic affect, expressed as mild depressive symptoms and mild substance use. These youths also reported more mother acceptance and less frequent use of verbal coercion by mothers than adolescents in the Isolated-Discontented subtype. In addition, Engaged-Intrusive adolescents indicated that only family rapport was problematic. Their other elevations on the Expressed Concerns scales fell in the average range and did not warrant clinical interpretation. Of the three subtypes, adolescents in the Engaged-Intrusive subtype reported the fewest concerns overall about the areas measured by the Expressed Concerns scales. Finally, adolescents in the Engaged-Intrusive subtype reported some difficulty with impulse control and social conformity, although their scores on all the Behavioural Correlates scales were significantly lower than those reported by youths in the Isolated-Discontented subtype. Higher scores on Impulse Control and Social Conformity and a lower score on Attendance Consistency distinguished adolescents in this subtype from adolescents in the Inhibited-Insecure subtype.

Inhibited-Insecure subtype. Adolescents in the Inhibited-Insecure subtype were characterized by mild symptomatic affect, expressed as mild symptoms of depression and anxiety. Their scores on all symptom measures were significantly lower than those reported by Isolated-Discontented adolescents (the exception was low self-worth); however, only their lower substance use score distinguished them from Engaged-Intrusive adolescents. Inhibited-Insecure adolescents did not differ significantly from Engaged-Intrusive adolescents in their perceptions of mother acceptance and mother's

use of verbal coercion. Adolescents in the Inhibited-Insecure subtype indicated some concerns about their personal esteem and body comfort, although their elevations on the other Expressed Concerns scales fell in the average range and did not warrant clinical interpretation. In addition, these adolescents reported more concerns overall than the Engaged-Intrusive adolescents, and fewer concerns overall than the Isolated-Discontented adolescents. They also reported some difficulty with attendance consistency; however, it is important to note that their scores on the Attendance Consistency, Impulse Control, and Social Conformity scales were significantly lower than those of adolescents in the other two subtypes.

Clinical Implications

Comparisons of the three subtypes of adolescents with depressive symptoms highlighted some unique features of each group. Clearly, the adolescents who comprise the Isolated-Discontented subtype are of significant clinical concern. Their reports of moderate depressive affect and a variety of other symptoms indicate the intensity of their current distress as well as their risk for future difficulties (Brady & Kendall, 1992; Lewinsohn et al., 1995). The combination of a moderate level of depression, suicidal ideation, and poor impulse control, in particular, suggests that these adolescents may pose a suicide risk. Given their unpredictable moods, hypersensitivity to perceived criticism, and tendency to relate to others in an ambivalent way, it also is not surprising that they are reporting negative relationships with their mothers and concerns about their peer relationships. Perceived social acceptance has been negatively associated with depression severity in clinical samples

of adolescents (e.g., King, Naylor, Segal, Evans, & Shain, 1993). Although many of the Isolated-Discontented adolescents likely recognize that they could benefit from others' assistance (e.g., support from peers, parents, or professionals in the community), their fear of being taken advantage of or rejected makes it difficult for them to seek out and accept help from others. Thus, they tend to withdraw and isolate themselves as a way to cope with their distress.

Adolescents in the Engaged-Intrusive subtype highlight the importance of attending to the angry as well as the sad feelings characteristic of depression (e.g., Renouf & Harter, 1990). When they feel that they have been betrayed or exploited by others, Engaged-Intrusive youths respond impulsively and with anger rather than with a typical depressive symptom picture (e.g., sadness, social withdrawal). Their lack of respect for rules and the rights of others combined with their uncooperative and impatient interaction style usually overshadows their depressive symptoms and feelings of vulnerability. Thus, they are at risk for not being identified as depressed. Engaged-Intrusive youths have few concerns about themselves or their behaviour and therefore are not likely to perceive treatment as necessary. Instead, they justify their intrusiveness by highlighting the hostile and exploitive behaviour of others. Like the Isolated-Discontented adolescents, the Engaged-Intrusive adolescents showed elevated scores on the Family Rapport scale, indicating that these youths are experiencing conflicts at home over autonomy. However, when adolescents are having difficulty with impulse control and social conformity, parents likely are more reluctant to increase their independence. The links between adolescents' reports of depressive

symptoms and their struggle to achieve autonomy from parents have received empirical support (e.g., Allen, Hauser, Eickholt, Bell, & O'Connor, 1994).

Adolescents in the Inhibited-Insecure subtype are similar to adolescents in the Isolated-Discontented subtype in that they have an internalizing rather than an externalizing symptom pattern. They also are sensitive to perceived rejection from others and see interpersonal relationships as risky. However, they appear to be somewhat engaged with their families and peers even though their low self-worth and feelings of dysphoria may make this an uncomfortable experience. Although these adolescents seem to have sufficient internal and/or external resources to manage their feelings and behaviour at the present time, if their accessability to these resources is decreased or they experience additional stress they may pose significant risk for symptom elevation.

The subtypes of adolescents with depressive symptoms identified in this research may have implications for the success of interventions offered to community-dwelling adolescents. Currently, interventions offered to adolescents with depression advocate either an interpersonal (e.g., Mufson, Moreau, Weissman, & Klerman, 1993) or a cognitive (e.g., Wilkes, Belsher, Rush, & Frank, 1994) focus. It may be that both treatment approaches are important, but each may be more successful with a specific depressive subtype. Specifically, the Isolated-Discontented and the Inhibited-Insecure adolescents may respond better to an intervention with an interpersonal focus which would address their concerns about their personal competence and relationships with others, and help them develop new skills (e.g., communication) for dealing with

interpersonal problems. In contrast, the Engaged-Intrusive adolescents may respond better to an intervention with a cognitive focus which would clarify the bases for their views of themselves and others and would challenge and correct their misperceptions and misattributions.

The three subtypes of adolescents with depressive symptoms were not distinguished by their reports of self-blame and low energy/interest, their perceptions of mother's use of lax control and mother-adolescent conflict, and their perceptions of father-adolescent relationships. The lack of significant findings for father-adolescent relationships implies that fathers' interactions with their adolescents are not related to adolescents' depressive symptoms. Recent studies and reviews (e.g., Cole & McPherson, 1993; Larson & Richards, 1994; Phares & Compas, 1992), however, do not indicate that this is the case. One plausible explanation for these results is that when adolescents are showing depressive symptoms, fathers are unable to tolerate their adolescent's sadness or anger and subsequently withdraw from the interaction (Larson & Richards, 1994). Their withdrawal may provide even more opportunities for mothers to have both positive and negative interactions with the adolescent. Alternatively, it seems likely that the links between father-adolescent relationships and adolescents' depressive symptoms were not adequately tested in the present study. The missing data on these variables appears to have resulted in insufficient power to detect significant results (Cohen, 1992).

Limitations and Strengths

Interpretations of the results must be made in light of the limitations and

strengths of the data. First, these data were collected from adolescents attending one high school in a rural community. Thus, the results may not generalize well to adolescents living in urban areas, adolescents who have dropped out of high school or have problems learning, or clinical samples of adolescents.

Second, this study relied solely on adolescents' self-reports. Although self-reports are necessary for the study of depressive symptoms given that (a) some defining features of depression (e.g., low self-worth, suicidal ideation) may be concealed (Kendall, Cantwell, & Kazdin, 1989; Whitaker et al., 1990), and (b) there often are notable discrepancies between parents' and adolescents' reports of adolescents' symptoms (e.g., Fleming et al., 1989; Ivens & Rehm, 1988), investigations that employ this method can be strengthened by using behavioural observations and collecting information from multiple informants. Parents' reports, for example, could also include measures of their own psychopathology, a potentially important risk factor for adolescents' depressive symptoms (Downey & Coyne, 1990; Kaslow, Deering, & Racusin, 1994; Phares & Compas, 1992).

Reliance on self-report data also leaves open the possibility that the associations between adolescents' depressive symptoms, other symptoms, and negative family relationships found in this study are inflated because adolescents reporting negative affect may exaggerate their symptoms and negative experiences (Blaney, 1986). Although such speculation cannot be ruled out, only adolescents' perceptions of their relationships with their mothers and only specific aspects of parenting (e.g., acceptance) discriminated among the subtypes of depressed youths suggesting that a

global negative response pattern was not operating. In addition, self-report data precludes conclusions about adolescents' diagnostic status, so it is not clear what proportion of adolescents in this study would meet diagnostic criteria for Major Depression, Dysthymia, or Adjustment Disorder with Depressed Mood. Currently, it is being recognized that the use of dichotomous diagnoses (depressed versus not depressed) assumes that adolescents who do not meet diagnostic criteria for depression are less important clinically, and recent research (e.g., Gotlib et al., 1995) has indicated that adolescents with elevated levels of depressive symptoms do not differ on measures of psychosocial functioning from adolescents who have received a clinical diagnosis.

Third, many adolescents in the sample were not able to complete the questionnaire, resulting in missing data. Although several analyses comparing adolescents who completed the measures with those who did not failed to reveal significant differences between these two groups, the reduced number of participants available for some analyses likely resulted in sufficient loss of power to detect some differences.

Finally, some limitations of *K*-means cluster analysis must be recognized. First, the selection of variables used in the cluster analysis is of utmost importance (Bailey, 1994). Thus, a more diverse set of measures than the MAPI personality scales may reveal other clusters of adolescents that also warrant empirical and clinical attention. Second, the most obvious way to discover the optimal partition of the data using an iterative clustering method is to form all possible partitions of that data. This solution,

however, is computationally impossible, so any cluster solution may only approximate the optimal partition of the data (Aldenderfer & Blashfield, 1984).

This research also was characterized by a number of strengths. First, the response rate for the study was high (92%). Thus, the present results likely reflect the experiences of adolescents in this community with substantial accuracy. In addition, the sample included at least one group of community-dwelling youths, adolescents living with someone other than a parent, who may pose a high risk for experiencing depression and who frequently are not included in studies that employ an active rather than a passive consent procedure with parents.

Second, this study focused on adolescents who were reporting depressive symptoms rather than limiting the analyses to youths who met diagnostic criteria for a depressive disorder. Although both types of participants warrant our clinical and empirical attention, adolescents with depressive symptoms typically have been viewed as less important by researchers who have assumed that adolescents with depressive symptoms but without a psychiatric diagnosis are less affected by their distress than adolescents with depressive disorders.

Third, this study explored different manifestations of depressive symptoms of adolescents, improving on past research by (a) focusing on youths who reported at least mild symptoms of depression rather than adolescents who reported a full range of depressive affect (no symptoms to severe symptoms); and (b) using cluster analysis to identify subgroups of adolescents on the basis of their similarities rather than exploring dimensions of variables that could account for the individual differences among

adolescents. Although they require further internal and external validation, the three subtypes of adolescents that emerged from this research are consistent with clinical observations of depressed adolescents and may have implications for adolescents' subsequent well-being as well as the effectiveness of interventions.

Directions for Future Research

Future research must continue to explore potential causes of sex differences in depression in adolescents. Such studies may pinpoint the processes and mechanisms associated with the increase in depressive symptoms and depressive disorders observed among adolescent females and identify how risk and protective factors for the development of depression in adolescence operate differently for males and females.

Future research also must explore the links between depressive symptoms and a variety of other symptoms in adolescents (e.g., anxiety, substance use, conduct problems) with particular attention to sex differences in the base rate occurrences of different patterns of comorbidity. The present study indicated, as have others, that adolescent males and females may report different symptoms and behaviours along with depressive symptoms. Given the high rate of comorbid disorders among adolescents in the general population and the consequences of comorbidity for their subsequent health and psychosocial functioning, it is necessary that the co-occurrence of symptoms be documented. Perhaps identifying patterns of comorbidity at the symptom level will offer insights into etiological factors or provide professionals (e.g., psychologists, social workers, teachers, school counsellors) with profiles that could be used to offer effective interventions to at-risk adolescents before clinical disorders are manifested.

Future research on subtypes of adolescents who may manifest their symptoms of depression in different ways also is warranted. This study identified three subtypes of adolescents with depressive symptoms who differed in their levels of depression, patterns of comorbid symptoms, relationships with their mothers, adolescent-specific areas of concern, and behavioural correlates. Additional studies are necessary to replicate these subtypes in independent samples and assess their internal validity. Subtypes of adolescents also could be compared on other features of family functioning (e.g., marital conflict, parental involvement, perceived autonomy from parents), the nature of their peer relationships, and their attachment styles. An examination of such variables may further distinguish these subtypes of depressed adolescents and also may highlight key areas for interventions.

Finally, future research on depression in adolescents must attempt to integrate our knowledge from studies of community-dwelling adolescents with depressive symptoms and depressive disorders with our knowledge from studies of clinical samples of youths. By adopting this feature of the developmental psychopathology perspective, researchers and clinicians may clarify what factors differentiate adolescents who experience a depressed mood from those who develop Major Depression or Dysthymia. Such studies also may identify how adolescents' experience of depression is similar to and different from that of children or adults. Only by recognizing and responding to the unique as well as the core symptoms of depression in adolescents can we hope to effectively intervene or perhaps even prevent the distress of many youths.

References

Achenbach, T. M. (1990). Conceptualization of developmental psychopathology. In M. Lewis & S. M. Miller (Eds.), Handbook of developmental psychopathology (pp. 3-14). New York: Plenum.

Albert, N., & Beck, A. T. (1975). Incidence of depression in early adolescence: A preliminary study. Journal of Youth and Adolescence, 4, 301-307.

Aldenderfer, M. S., & Blashfield, R. K. (1984). Cluster analysis (Sage University Paper #07-044). Beverly Hills: Sage.

Allen, J. P., Hauser, S. T., Eickholt, C., Bell, K. L., & O'Connor, T. G. (1994). Autonomy and relatedness in family interactions as predictors of expressions of negative adolescent affect. Journal of Research on Adolescence, 4, 535-552.

Allgood-Merten, B., Lewinsohn, P. M., & Hops, H. (1990). Sex differences and adolescent depression. Journal of Abnormal Psychology, 99, 55-63.

Almeida, D. M., & Galambos, N. L. (1991). Examining father involvement and the quality of father-adolescent relations. Journal of Research on Adolescence, 1, 155-172.

Amanat, E., & Butler, C. (1984). Oppressive behaviors in the families of depressed children. Family Therapy, 11, 65-77.

American Psychiatric Association (1987). Diagnostic and statistical manual of mental disorders (3rd ed., revised). Washington, DC: Author.

Angold, A., & Rutter, M. (1992). Effects of age and pubertal status on depression in a large clinical sample. Development and Psychopathology, 4, 5-28.

Armentrout, J. A., & Burger, G. K. (1972). Children's reports of parental child-rearing behavior at five grade levels. Developmental Psychology, 7, 44-48.

Bailey, K. D. (1994). Typologies and taxonomies (Sage University Paper #07-102). Beverly Hills: Sage.

Barnes, G. M., & Farrell, M. P. (1992). Parental support and control as predictors of adolescent drinking, delinquency, and related problem behaviors. Journal of Marriage and the Family, 54, 763-776.

Baron, P. & MacGillivray, R. G. (1989). Depressive symptoms in adolescents as a function of perceived parental behaviour. Journal of Adolescent Research, 4, 50-62.

Barrera, M. Jr., & Garrison-Jones, C. (1992). Family and peer social support as specific correlates of adolescent depressive symptoms. Journal of Abnormal Child Psychology, 20, 1-16.

Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). Cognitive therapy of depression. New York: Guilford.

Beck, A. T., & Steer, R. A. (1993). Beck Depression Inventory. San Antonio, TX: The Psychological Corporation.

Beck, A. T., Steer, R. A., & Garbin, M. G. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. Clinical Psychology Review, 8, 77-100.

Billings, A. G., & Moos, R. H. (1983). Comparisons of children of depressed and non-depressed parents: A social-environmental perspective. Journal of Abnormal Child Psychology, 11, 463-486.

Bird, H. R., Gould, M. S., & Staghezza, B. M. (1993). Patterns of diagnostic comorbidity in a community sample of children aged 9 through 16 years. Journal of the American Academy of Child and Adolescent Psychiatry, 32, 361-368.

Blaney, P. H. (1986). Affect and memory: A review. Psychological Bulletin, 99, 229-246.

Blatt, S. J., & Homann, E. (1992). Parent-child interaction in the etiology of dependent and self-critical depression. Clinical Psychology Review, 12, 47-91.

Blishen, B. R., Carroll, W. K., & Moore, C. (1987). The 1981 socioeconomic index for occupations in Canada. Canadian Review of Sociology and Anthropology, 24, 465-488.

Block, J. H., Gjerde, P. F., & Block, J. H. (1991). Personality antecedents of depressive tendencies in 18-year-olds: A prospective study. Journal of Personality and Social Psychology, 60, 726-738.

Brady, E. U., & Kendall, P. C. (1992). Comorbidity of anxiety and depression in children and adolescents. Psychological Bulletin, 111, 244-255.

Brandenburg, N. A., Friedman, R. M., & Silver, S. E. (1990). The epidemiology of childhood psychiatric disorders: Prevalence findings from recent studies. Journal of the American Academy of Child and Adolescent Psychiatry, 29, 76-83.

Brooks-Gunn, J., Graber, J. A., & Paikoff, R. L. (1994). Studying links between hormones and negative affect: Models and measures. Journal of Research on Adolescence, 4, 469-486.

Brooks-Gunn, J., & Petersen, A. C. (1991). Studying the emergence of depression and depressive symptoms during adolescence. Journal of Youth and Adolescence, 20, 115-119.

Brooks-Gunn, J., & Warren, M. P. (1989). Biological contributions to affective expression in young adolescent girls. Child Development, 60, 372-385.

Brown, T. A., & Barlow, D. H. (1992). Comorbidity among anxiety disorders: Implications for treatment and DSM-IV. Journal of Consulting and Clinical Psychology, 60, 835-844.

Buchanan, C. M., Eccles, J. S., & Becker, J. B. (1992). Are adolescents the victims of raging hormones: Evidence for activational effects of hormones on moods and behavior at adolescence. Psychological Bulletin, 111, 62-107.

Burbach, D. J., & Borduin, C. M. (1986). Parent-child relations and the etiology of depression: A review of methods and findings. Clinical Psychology Review, 6, 133-153.

Burke, K. C., Burke, J. D., Jr., Regier, D. A., & Rae, D. S. (1990). Age at onset of selected mental disorders in five community populations. Archives of General Psychiatry, 47, 511-518.

Burke, P., & Puig-Antich, J. (1990). Psychobiology of childhood depression. In M. Lewis & S. M. Miller (Eds.), Handbook of developmental psychopathology (pp. 327-339). New York: Plenum.

Buros, O. K. (Ed.). (1978). Eighth mental measurements yearbook (Vol. 1). Highland Park, NJ: Gryphon Books.

Cantwell, D. P. (1983). Depression in childhood: Clinical picture and diagnostic criteria. In D. P. Cantwell & G. A. Carlson (Eds.), Affective Disorders in Childhood and Adolescence: An Update (pp. 3-18). New York: Spectrum.

Cantwell, D. P., & Baker, L. (1991). Manifestations of depressive affect in adolescence. Journal of Youth and Adolescence, 20, 121-133.

Capaldi, D. M. (1991). Co-occurrence of conduct problems and depressive symptoms in early adolescent boys: I. Familial factors and general adjustment at Grade 6. Development and Psychopathology, 3, 277-300.

Capaldi, D. M. (1992). Co-occurrence of conduct problems and depressive symptoms in early adolescent boys: II. A 2-year follow-up at Grade 8. Development and Psychopathology, 4, 125-144.

Carlson, G. A., & Garber, J. (1986). Developmental issues in the classification of depression in children. In M. Rutter, C. E. Izard, & P. B. Read (Eds.), Depression in young people: Developmental and clinical perspectives (pp. 399-434). New York: Guilford.

Caron, C., & Rutter, M. (1991). Comorbidity in child psychopathology: Concepts, issues, and research strategies. Journal of Child Psychology and Psychiatry, 32, 1063-1080.

Cicchetti, D. (1984). The emergence of developmental psychopathology. Child Development, 55, 1-7.

Cicchetti, D., & Schneider-Rosen, K. (1986). An organizational approach to childhood depression. In M. Rutter, C. E. Izard, & P. B. Read (Eds.), Depression in young people: Developmental and clinical perspectives (pp. 71-134). New York: Guilford.

Cohen, J. (1992). A power primer. Psychological Bulletin, 112, 155-159.

Cohen, P., & Hesselbart, C. S. (1993). Demographic factors in the use of children's mental health services. American Journal of Public Health, 83, 49-52.

Cole, D. A., & McPherson, A. E. (1993). Relation of family subsystems to adolescent depression: Implementing a new family assessment strategy. Journal of Family Psychology, 7, 119-133.

Cole, D. A., & Rehm, L. P. (1986). Family interaction patterns and childhood depression. Journal of Abnormal Child Psychology, 14, 297-314.

Compas, B. E., Ey, S., & Grant, K. E. (1993). Taxonomy, assessment, and diagnosis of depression during adolescence. Psychological Builetin, 114, 323-344.

Connelly, B., Johnston, D., Brown, I. D. R., Mackay, S., & Blackstock, E. G. (1993). The prevalence of depression in a high school population. Adolescence, 28, 149-158.

Cowan, P. A. (1988). Developmental psychopathology: A nine-cell map of the territory. In E. D. Nannis & P. A. Cowan (Eds.), Developmental psychopathology and its treatment (pp. 5-29). New Directions for Child Development, no. 39. San Francisco: Jossey-Bass.

Craighead, W. E. (1991). Cognitive factors and classification issues in adolescent depression. Journal of Youth and Adolescence, 20, 311-326.

Dadds, M. R., Sanders, M. R., Morrison, M., & Rebgetz, M. (1992). Childhood depression and conduct disorder: II. An analysis of family interaction patterns in the home. Journal of Abnormal Psychology, 101, 505-513.

Dent, C. W., Galaif, J., Sussman, S., Stacy, A., Burtun, D., & Flay, B. R. (1993). Demographic, psychosocial and behavioral differences in samples of actively and passively consented adolescents. Addictive Behaviors, 18, 51-56.

Donovan, J. E., Jessor, R., & Costa, F. M. (1991). Adolescent health behavior and conventionality-unconventionality: An extension of problem-behavior theory. Health Psychology, 10, 52-61.

Downey, G., & Coyne, J. C. (1990). Children of depressed parents: An integrative review. Psychological Bulletin, 108, 50-76.

Ehrenberg, M. F. (1986). The relationship between self-efficacy status and depression in adolescents. Unpublished master's thesis, Simon Fraser University, Burnaby, British Columbia, Canada.

Ehrenberg, M. F., Cox, D. N., & Koopman, R. F. (1990). The Millon Adolescent Personality Inventory profiles of depressed adolescents. Adolescence, 25, 415-424.

Ehrenberg, M. F., Cox, D. N., & Koopman, R. F. (1991). The prevalence of depression in high school students. Adolescence, 26, 361-374.

Everitt, B. S. (1993). Cluster analysis (3rd ed.). London: Edward Arnold.

Fauber, R. L., & Long, N. (1991). Children in context: The role of the family in child psychotherapy. Journal of Consulting and Clinical Psychology, 59, 813-820.

Fauber, R. L., & Long, N. (1992). Parenting in a broader context: A reply to Emery, Fincham, and Cummings (1992). Journal of Consulting and Clinical Psychology, 60, 913-915.

Fendrich, M., Warner, V., & Weissman, M. M. (1990). Family risk factors, parental depression, and psychopathology in offspring. Developmental Psychology, 26, 40-50.

Ferdinand, R. F., Verhulst, F. C., & Wiznitzer, M. (1995). Continuity and change of self-reported problem behaviors from adolescence into young adulthood. Journal of the American Academy of Child and Adolescent Psychiatry, 34, 680-690.

Fleming, J. E., Boyle, M. H., & Offord, D. R. (1993). The outcome of adolescent depression in the Ontario Child Health Study follow-up. Journal of the American Academy of Child and Adolescent Psychiatry, 32, 28-33.

Fleming, J. E., & Offord, D. R. (1990). Epidemiology of childhood depressive disorders: A critical review. Journal of the American Academy of Child and Adolescent Psychiatry, 29, 571-580.

Fleming, J. E., Offord, D. R., & Boyle, M. H. (1989). Prevalence of childhood and adolescent depression in the community: Ontario Child Health Study. British Journal of Psychiatry, 155, 647-654.

Forehand, R., Brody, G., Slotkin, J., Fauber, R., McCombs, A., & Long, N. (1988). Young adolescent and maternal depression: Assessment, interrelations, and family predictors. Journal of Consulting and Clinical Psychology, 56, 422-426.

Friedrich, W., Reams, R., & Jacobs, J. (1982). Depression and suicidal ideation in early adolescents. Journal of Youth and Adolescence, 11, 403-407.

Galambos, N. L., & Almeida, D. M. (1992). Does parent-adolescent conflict increase in early adolescence? Journal of Marriage and the Family, 54, 737-748.

Galambos, N. L., & Maggs., J. L. (1991). Out-of-school care of young adolescents and self-reported behavior. Developmental Psychology, 27, 644-655.

Garber, J., Weiss, B., & Shanley, N. (1993). Cognitions, depressive symptoms, and development in adolescents. Journal of Abnormal Psychology, 102, 47-57.

Garrison, C. Z., Jackson, K. L., Marsteller, F., McKeown, R., & Addy, C. (1990). A longitudinal study of depressive symptomatology in young adolescents. Journal of the American Academy of Child and Adolescent Psychiatry, 29, 581-585.

Ge, X., Best, K. M., Conger, R. D., & Simons, R. L. (in press). Parenting behaviors and the occurrence and co-occurrence of adolescent depressive symptoms and conduct problems. Developmental Psychology.

Ge, X., Conger, R. D., Lorenz, F. O., Elder, G. H., Jr., Montague, R., & Simons, R. L. (1992). Linking economic hardship to adolescent distress. Journal of Research on Adolescence, 2, 351-378.

Ge, X., Lorenz, F. O., Conger, R. D., Elder, G. H., Jr., & Simons, R. L. (1994). Trajectories of stressful life events and depressive symptoms during adolescence. Developmental Psychology, 30, 467-483.

Giaconia, R. M., Reinherz, H. Z., Silverman, A. B., Pakiz, B., Frost, A. K., & Cohen, E. (1994). Ages of onset of psychiatric disorders in a community population of older adolescents. Journal of the American Academy of Child and Adolescent Psychiatry, 33, 706-717.

Gjerde, P. F., Block, J., & Block, J. (1988). Depressive symptoms and personality during late adolescence: Gender differences in the externalization-internalization of symptom expression. Journal of Abnormal Psychology, 97, 475-486.

Gjerde, P. F., Block, J., & Block, J. (1991). The preschool family context of 18-year olds with depressive symptoms: A prospective study. Journal of Research on Adolescence, 1, 63-91.

Goldberg, E. H. (1989). Severity of depression and developmental levels of psychological functioning in 8-16-year-old girls. American Journal of Orthopsychiatry, 59, 167-178.

Gore, S., Aseltine, R. H., Jr., & Colten, M. E. Gender, social-relational involvement, and depression. Journal of Research on Adolescence, 3, 101-125.

Gotlib, I. H., Lewinsohn, P. M., & Seeley, J. R. (1995). Symptoms versus a diagnosis of depression: Differences in psychosocial functioning. Journal of Consulting and Clinical Psychology, 63, 90-100.

Harter, S., Marold, D. B., & Whitesell, N. R. (1992). Model of psychosocial risk factors leading to suicidal ideation in young adolescents. Development and Psychopathology, 4, 167-188.

Harter, S., & Nowakowski, M. (1987). Dimensions of Depression Profile for Children and Adolescents. Manual, University of Denver, Denver, CO.

Hauser, S. T., Vieyra, M. A., Jacobson, A. M., & Wertlieb, D. (1985). Vulnerability and resilience in adolescence: Views from the family. Journal of Early Adolescence, 5, 81-100.

Health and Welfare Canada (1988). Canada's Health Promotion Survey: Technical report. I. Rootman, R. Warren, T. Stephens, & L. Peters (Eds.). Ottawa: Minister of Supply and Services Canada.

Henry, B., Feehan, M., McGee, R., Stanton, W., Moffitt, T. E., & Silva, P. (1993). The importance of conduct problems and depressive symptoms in predicting adolescent substance use. Journal of Abnormal Child Psychology, 21, 469-480.

Hill, J. P., & Lynch, M. E. (1983). The intensification of gender-related role expectations during early adolescence. In J. Brooks-Gunn & A. C. Petersen (Eds.), Girls at puberty: Biological and psychosocial perspectives (pp. 201-228). New York: Plenum.

Hops, H., Lewinsohn, P. M., Andrews, J. A., & Roberts, R. E. (1990). Psychosocial correlates of depressive symptomatology among high school students. Journal of Clinical Child Psychology, 3, 211-220.

Howell, D. C. (1987). Statistical methods for psychology (2nd ed.). Boston: PWS Publishers.

Huberty, C. J., & Morris, J. D. (1989). Multivariate analysis versus multiple univariate analyses. Psychological Bulletin, 105, 302-308.

Ivens, C., & Rehm, L. P. (1988). Assessment of childhood depression: Correspondence between reports by child, mother, and father. Journal of the American Academy of Child and Adolescent Psychiatry, 27, 738-741.

Jessor, R., & Jessor, S. L. (1977). Problem behavior and psychosocial development: A longitudinal study of youth. New York: Academic.

John, K., Gammon, G. D., Prusoff, B. A., & Warner, V. (1987). The Social Adjustment Inventory for Children and Adolescents (SAICA): Testing of a new semistructured interview. Journal of the American Academy of Child and Adolescent Psychiatry, 26, 898-911.

Kandel, D. B., & Davies, M. (1982). Epidemiology of depressive mood in adolescents. Archives of General Psychiatry, 39, 1205-1212.

Kandel, D. B., & Davies, M. (1986). Adult sequelae of adolescent depressive symptoms. Archives of General Psychiatry, 43, 255-262.

Kandel, D. B., Raveis, V. H., & Davies, M. (1991). Suicidal ideation in adolescence: Depression, substance use, and other risk factors. Journal of Youth and Adolescence, 20, 289-309.

Kaplan, S. T., Hong, G. K., & Weinhold, C. (1984). Epidemiology of depressive symptomatology in adolescents. Journal of the American Academy of Child Psychiatry, 23, 91-98.

Kashani, J. H., Burbach, D. J., & Rosenberg, T. K. (1988). Perception of family conflict resolution and depressive symptomatology in adolescents. Journal of the American Academy of Child and Adolescent Psychiatry, 27, 42-48.

Kashani, J. H., Carlson, G. A., Beck, N. C., Hoeper, E. W., Corcoran, C. M., McAllister, J. A., Fallahi, C., Rosenberg, T. K., & Reid, J. C. (1987). Depression, depressive symptoms, and depressed mood among a community sample of adolescents. American Journal of Psychiatry, 144, 931-934.

Kashani, J. H., Rosenberg, T. K., & Reid, J. C. (1989). Developmental perspectives in child and adolescent depressive symptoms in a community sample. American Journal of Psychiatry, 146, 871-875.

Kaslow, N. J., & Deering, C. G., & Racusin, G. R. (1994). Depressed children and their families. Clinical Psychology Review, 14, 39-59.

Keiler, M. B., Beardslee, W. R., Lavori, P. W., Wunder, J., Drs, D. L., & Samuelson, H. (1988). Course of major depression in non-referred adolescents: A retrospective study. Journal of Affective Disorders, 15, 235-243.

Keller, M. B., & Shapiro, R. W. (1982). "Double depression": Superimposition of acute depressive episodes on chronic depressive disorders. American Journal of Psychiatry, 139, 438-442.

Kendall, P. C., Cantwell, D. P., & Kazdin, A. E. (1989). Depression in children and adolescents: Assessment issues and recommendations. Cognitive Therapy and Research, 13, 109-146.

King, C. A., Naylor, M. W., Segal, H. G., Evans, T., & Shain, B. N. (1993). Global self-worth, specific self-perceptions of competence, and depression in adolescents. Journal of the American Academy of Child and Adolescent Psychiatry, 32, 745-752.

Korhonen, T. T. (1991). An empirical subgrouping of Finnish learning-disabled children. Journal of Clinical and Experimental Neuropsychology, 13, 259-277.

Kovacs, M. (1989). Affective disorders in children and adolescents. American Psychologist, 44, 209-215.

Lamborn, S. D., Mounts, N. S., Steinberg, L., & Dornbusch, S. M. (1991). Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful families. Child Development, 62, 1049-1065.

Larson, R., & Richards, M. (1994). Divergent realities: The emotional lives of mothers, fathers, and adolescents. New York: Basic Books.

Larsson, B., & Melin, L. (1990). Depressive symptoms in Swedish adolescents. Journal of Abnormal Child Psychology, 18, 91-103.

Leadbeater, B. J., Blatt, S. J., & Quinlan, D. M. (1995). Gender-linked vulnerabilities to depressive symptoms, stress, and problem behaviors in adolescents. Journal of Research on Adolescence, 5, 1-29.

Lefkowitz, M. M., & Tesiny, E. P. (1984). Rejection and depression: Prospective and contemporaneous analyses. Developmental Psychology, 20, 776-785.

Lempers, J. D., Clark-Lempers, D., & Simons, R. L. (1989). Economic hardship, parenting, and distress in adolescence. Child Development, 60, 25-39.

Lewinsohn, P. M., Hops, H., Roberts, R. E., Seeley, J. R., & Andrews, J. A. (1993). Adolescent psychopathology: I. Prevalance and incidence of depression and other DSM-III-R disorders in high school students. Journal of Abnormal Psychology, 102, 133-144.

Lewinsohn, P. M., Roberts, R. E., Seeley, J. R., Rohde, P., Gotlib, I. H., & Hops, H. (1994). Adolescent psychopathology: II. Psychosocial risk factors for depression. Journal of Abnormal Psychology, 103, 302-315.

Lewinsohn, P. M., Rohde, P., & Seeley, J. R. (1995). Adolescent psychopathology: III. The clinical consequences of comorbidity. Journal of the American Academy of Child and Adolescent Psychiatry, 34, 510-519.

Lewinsohn, P. M., Rohde, P., Seeley, J. R., & Hops, H. (1991). Comorbidity of unipolar depression: I. Major depression with dysthymia. Journal of Abnormal Psychology, 100, 205-213.

Lewis, R. J., Dlugokinski, E. L., Caputo, L. M., & Griffin, R. B. (1988). Children at risk for emotional disorders: Risk and resource dimensions. Clinical Psychology Review, 8, 417-440.

Maccoby, E., & Martin, J. (1983). Socialization in the context of the family: Parent-child interaction. In E. M. Hetherington (Ed.), Handbook of child psychology. Vol. 4. Socialization, personality, and social development (pp. 1-101). New York: Wiley.

Margolies, P. J., & Weintraub, S. (1977). The revised 56-item CRPBI as a research instrument: Reliability and factor structure. Journal of Clinical Psychology, 33, 472-476.

Martin, B. (1975). Parent-child relations. In F. D. Horowitz (Ed.), Review of child development research (Vol. 4) (pp. 463-540). Chicago: University of Chicago.

Maggs, J. L., & Galambos, N. L. (1993). Risky business: Why do adolescents engage in problem behaviour anyway? In J. L. Maggs & R. Silbereisen (Chairs), Risky business: Adolescents' perceived and actual vulnerability to problem behaviour in different countries. Symposium presented at the biennial meeting of the Society for Research on Child Development, New Orleans, LA.

McGee, R., Feehan, M., Williams, S., Partridge, F., Silva, P. A., & Kelly, J. (1990). DSM-III disorders in a large sample of adolescents. Journal of the American Academy of Child and Adolescent Psychiatry, 29, 611-619.

McLoyd, V. C. (1989). Socialization and development in a changing economy: The effects of paternal job and income loss on children. American Psychologist, 44, 293-302.

Millon, T., Green, C. J., & Meagher, R. B. (1982). Millon Adolescent Personality Inventory Manual. Minneapolis, MN: Interpretive Scoring Systems.

Mitchell, J., McCauley, E., Burke, P. M., & Moss, S. J. (1988). Phenomenology of depression in children and adolescents. Journal of the American Academy of Child Psychiatry, 27, 12-20.

Morris, R., Blashfield, R., & Satz, P. (1981). Neuropsychology and cluster analysis: Potentials and problems. Journal of Clinical Neuropsychology, 3, 79-99.

Mufson, L., Moreau, D., Weissman, M. M., & Klerman, G. L. (1993). Interpersonal psychotherapy for depressed adolescents. New York: Guilford Press.

Nolen-Hoeksema, S., & Girgus, J. S. (1994). The emergence of gender differences in depression during adolescence. Psychological Bulletin, 115, 424-443.

Nolen-Hoeksema, S., Girgus, J. S., & Seligman, M. E. (1992). Predictors and consequences of childhood depressive symptoms: A 5-year longitudinal study. Journal of Abnormal Psychology, 101, 405-422.

Offord, D. R., Boyle, M. H., Szatmari, P., Rae-Grant, N. I., Links, P. S., Cadman, P. I., Byles, J. A., Crawford, J. W., Blum, H. M., Byrne, C., Thomas, H., & Woodward, C. A. (1987). Ontario child health study: Six-month prevalence of disorder and rates of service utilization. Archives of General Psychiatry, 44, 832-836.

Oster, G. D., & Caro, J. E. (1990). Understanding and treating depressed adolescents and their families. New York: John Wiley & Sons.

Pantle, M. L., Evert, J. M., & Trenerry, M. R. (1990). The utility of the MAPI in the assessment of depression. Journal of Personality Assessment, 55, 673-682.

Pellegrini, D. S. (1990). Psychosocial risk and protective factors in childhood. Developmental and Behavioral Pediatrics, 11, 201-209.

Petersen, A. C., Sarigiani, P. A., & Kennedy, R. E. (1991). Adolescent depression: Why more girls? Journal of Youth and Adolescence, 20, 247-271.

Petersen, A. C., Stemmler, M., & Rice, K. (1992). Gender differences in the developmental patterns of depressed affect. In R. L. Paikoff (Chair), Emotional health during the transition from adolescence to young adulthood. Symposium presented at the biennial meeting of the Society for Research on Adolescence, Washington, D.C.

Phares, V., & Compas, B. E., (1992). The role of fathers in child and adolescent psychopathology: Make room for daddy. Psychological Bulletin, 111, 387-412.

Prinz, R., Foster, S., Kent, R., & O'Leary, K. (1979). Multivariate assessment of conflict in distressed and nondistressed mother-adolescent dyads. Journal of Applied Behavioral Analysis, 12, 691-700.

Radke-Yarrow, M., Cummings, E. M., Kuczynski, L., & Chapman, M. (1985). Patterns of attachment in two- and three-year-olds in normal families and families with parental depression. Child Development, 56, 884-893.

Rehm, L. P., & Carter, A. S. (1990). Cognitive components of depression. In M. Lewis & S. M. Miller (Eds.), Handbook of developmental psychopathology (pp. 341-351). New York: Plenum.

Reinherz, H. Z., Frost, A. K., Stewart-Berghauer, G., Pakiz, B., Kennedy, K., & Schille, C. (1990). The many faces of correlates of depressive symptoms in adolescents. Journal of Early Adolescence, 10, 455-471.

Renouf, A. G., & Harter, S. (1990). Low self-worth and anger as components of the depressive experience in young adolescents. Development and Psychopathology, 2, 293-310.

Robertson, J. F., & Simons, R. L. (1989). Family factors, self-esteem, and adolescent depression. Journal of Marriage and the Family, 51, 125-138.

Rohde, P., Lewinsohn, M., & Seeley, J. R. (1991). Comorbidity of unipolar depression: II. Comorbidity with other mental disorders in adolescents and adults. Journal of Abnormal Psychology, 100, 214-222.

Rubin, C., Rubenstein, J. L., Stechler, G., Heeren, T., Halton, A., Housman, A., & Kasten, L. (1992). Depressive affect in "normal" adolescents: Relationship to life stress, family, and friends. American Journal of Orthopsychiatry, 62, 430-441.

Rutter, M. L. (1986a). Child psychiatry: The interface between clinical and developmental research. Psychological Medicine, 16, 151-169.

Rutter, M. L. (1986b). The developmental psychopathology of depression: Issues and perspectives. In M. Rutter, C. E. Izard, & P. B. Read (Eds.), Depression in young people: Developmental and clinical perspectives (pp. 3-30). New York: Guilford.

Rutter, M. L. (1987). Psychosocial resilience and protective factors. American Journal of Orthopsychiatry, 57, 316-331.

Sarigiani, P. (1987, April). Perceived closeness in relationship with father: Links to adjustment and body image in adolescent girls. Paper presented at the biennial meeting of the Society for Research in Child Development, Baltimore, MD.

Schoenbach, V. J., Kaplan, B. H., Grimson, R. C., & Wagner, E. H. (1982). Use of a symptom scale to study the prevalence of a depressive syndrome in young adolescents. American Journal of Epidemiology, 116, 791-800.

Sears, H. A., & Galambos, N. L. (1993). Early adolescent precursors of adolescent depressive symptoms. Paper presented at the biennial meeting of the Society for Research on Child Development, New Orleans, LA.

Severson, H. H., & Ary, D. V. (1983). Sampling bias due to consent procedures with adolescents. Addictive Behaviors, 8, 433-437.

Siegal, M. (1987). Are sons and daughters treated more differently by fathers than by mothers? Developmental Review, 7, 183-209.

Siegel, L. J., & Griffin, N. J. (1984). Correlates of depressive symptoms in adolescents. Journal of Youth and Adolescence, 13, 475-487.

Simons, R. L., Beaman, J., Conger, R. D., & Chao, W. (1993). Childhood experience, conceptions of parenting, and attitudes of spouse as determinants of parental behavior. Journal of Marriage and the Family, 55, 91-106.

Sorenson, S. B., Rutter, C. M., & Aneshensel, C. S. (1991). Depression in the community: An investigation into age of onset. Journal of Consulting and Clinical Psychology, 59, 541-546.

Spielberger, C. D. (1983). Manual for the state-trait anxiety inventory. Palo Alto, CA: Consulting Psychologists Press.

Sroufe, L. A. (1990). Considering normal and abnormal together: The essence of developmental psychopathology. Development and Psychopathology, 2, 335-347.

Sroufe, L. A., & Rutter, M. L. (1984). The domain of developmental psychopathology. Child Development, 55, 17-29.

Stark, K. D., Humphrey, L. L., Crook, K., & Lewis, K. (1990). Perceived family environments of depressed and anxious children: Child's and maternal figure's perspectives. Journal of Abnormal Child Psychology, 18, 527-547.

Statistics Canada (1994). Profile of census divisions and subdivisions in Nova Scotia, Part B. (Catalogue #95-313). Ottawa: Industry, Science, and Technology Canada.

Steinberg, L. (1987a). Familial factors in delinquency: A developmental perspective. Journal of Early Adolescence, 2, 255-268.

Steinberg, L. (1987b). Impact of puberty on family relations: Effects of pubertal status and pubertal timing. Developmental Psychology, 23, 451-460.

Steinberg, L. (1990). Autonomy, conflict, and harmony in the family relationship. In S. S. Feldman & G. R. Elliott (Eds.), At the threshold: The developing adolescent (pp. 255-276). Cambridge, MA: Harvard University.

Strober, M. (1986). Psychopathology in adolescence revisited. Clinical Psychology Review, 6, 199-209.

Strober, M., Green, J., & Carlson, G. (1981). Utility of the Beck Depression Inventory with psychiatrically hospitalized adolescents. Journal of Consulting and Clinical Psychology, 49, 482-483.

Sullivan, W. O., & Engin, A. W. (1986). Adolescent depression: Its prevalence in high school students. Journal of School Psychology, 24, 103-109.

Tabachnick, B. G., & Fidell, L. S. (1989). Using multivariate statistics (2nd ed.). New York: HarperCollins.

Teri, L. (1982). The use of the Beck Depression Inventory with adolescents. Journal of Abnormal Child Psychology, 10, 277-284.

Weller, E. B., & Weller, R. A. (1991). Mood disorders. In M. Lewis (Ed.), Child and adolescent psychiatry: A comprehensive textbook (pp. 646-664). Baltimore, MD: Williams & Wilkins.

Weinberger, D. A., Tublin, S. K., Ford, M. E., & Feldman, S. S. (1990). Preadolescents' social-emotional adjustment and selective attrition in family research. Child Development, 61, 1374-1386.

Wenar, C. (1982). Developmental psychopathology: Its nature and models. Journal of Clinical Child Psychology, 11, 192-201.

Whitaker, A., Johnson, J., Shaffer, D., Rapoport, J. L., Kalikow, K., Walsh, B. T., Davies, M., Braiman S., & Dolinsky, A. (1990). Uncommon troubles in young people: Prevalence estimates of selected psychiatric disorders in a nonreferred adolescent population. Archives of General Psychiatry, 47, 487-496.

White, J. L. (1989). The troubled adolescent. New York: Pergamon.

Wilkes, T. C. R., Belsher, G., Rush, A. J., & Frank, E. (1994). Cognitive therapy for depressed adolescents. New York: Guilford Press.

Wilkinson, L. (1990). SYSTAT: The system for statistics. Evanston, IL: SYSTAT Inc.

Zemore, R., & Rinholm, J. (1989). Vulnerability to depression as a function of parental rejection and control. Canadian Journal of Behavioural Science, 21, 364-376.

APPENDIX A

Letter to Parents

Dear Parents:

I am a Ph.D. student at the University of Victoria in British Columbia studying clinical and developmental psychology. I am interested in adolescents and their families and am conducting my doctoral research in this area under the supervision of Dr. Nancy Galambos. I wish to collect information for my research from students at Shelburne Regional High School. This project has been approved by the Superintendent of the Shelburne County District School Board as well as the University of Victoria Ethics Committee, and is being funded by the Medical Research Council of Canada.

Students in Grades 7 to 12 will be invited to participate in the **"Family Relations and Adolescent Well-Being Study" (FRAWS).** The study will be conducted in their classrooms and involves completing a questionnaire about their thoughts, feelings, attitudes, and behaviours as teenagers and their relationships with their parents. Students will be asked to reveal only their age, sex, and grade on the survey so their responses will be anonymous. Participation in the study is voluntary and students may withdraw their consent to participate in the study at any time. Students' decision to participate or to not participate in the study will have no effect on their grades or school placement.

After all the students in the study have completed questionnaires, there will be time for us to talk about the project and for me to address questions and comments. When a summary of the results becomes available, a copy will be forwarded to the Superintendent of the Shelburne County District School Board. You may obtain a copy of this summary by writing to me at P.O. Box 214, Shelburne, N.S. BOT 1W0

If you have any questions about this project or object to your son's or daughter's participation, please contact me by leaving a message at 875-2390 or telephone Mr. Hogg at 875-3265. I thank you in advance for your co-operation and hope that this will be an educational experience for your teenager. The long-term goals of studies such as this one are to increase our understanding of how teenagers experience adolescence and to translate our knowledge into practical improvements for our educational system. As a graduate of S.R.H.S (1983), I am eager to contribute information that may benefit students in this school.

Thank you for your support.

Sincerely,

Heather Sears, M.A.
Ph.D. Candidate

APPENDIX B

Demographic Information

1. I am _____ years old. My birth date is _____
   Day/Month/Year

2. Sex: _____ Female _____ Male

3. What grade are you in? _____

4. Are your parents (please circle one):

   a. single, never married
   b. unmarried, living together
   c. married
   d. remarried
   e. separated
   f. divorced
   g. widowed

5. With whom do you live right now (please circle one):

   a. both natural parents
   b. both adoptive parents
   c. natural/adoptive mother and stepfather
   d. natural/adoptive father and stepmother
   e. mother only (natural or adoptive)
   f. father only (natural or adoptive)
   g. other (e.g., grandparent(s), foster parent(s), etc.)

6. What is the highest level of education your mother completed?

   a. less than finishing high school
   b. finished high school
   c. some college, technical school, or university
   d. finished college, technical school, or university
   e. more than that (e.g., graduate school)
   f. don't know

7. If your mother is employed, what kind of work does she do (what is her job title)?

   _____
   (For example: office clerk, teacher)

8. What is the highest level of education your father completed?

   a. less than finishing high school
   b. finished high school
   c. some college, technical school, or university
   d. finished college, technical school, or university
   e. more than that (e.g., graduate school)
   f. don't know

9. If your father is employed, what kind of work does he do (what is his job title)?

   _____

   (For example: office clerk, teacher)

APPENDIX C

Beck Depression Inventory

This section consists of 21 groups of statements. After reading each group of statements carefully, pick the **ONE** statement in each group which best describes the way you have been feeling the **past week, including today**. Place an **X** beside the statement you picked. If several statements within a group seem to apply equally well, mark each one. **Be sure to read all the statements in each group before making your choice.**

1. ___ I do not feel sad.
   ___ I feel sad.
   ___ I am sad all the time and I can't snap out of it.
   ___ I am so sad or unhappy that I can't stand it.

2. ___ I am not particularly discouraged about the future.
   ___ I feel discouraged about the future.
   ___ I feel I have nothing to look forward to.
   ___ I feel that the future is hopeless and that things cannot improve.

3. ___ I do not feel like a failure.
   ___ I feel I have failed more than the average person.
   ___ As I look back on my life, all I can see is a lot of failures.
   ___ I feel I am a complete failure as a person.

4. ___ I get as much satisfaction out of things as I used to.
   ___ I don't enjoy things the way I used to.
   ___ I don't get real satisfaction out of anything anymore.
   ___ I am dissatisfied or bored with everything.

5. ___ I don't feel particularly guilty.
   ___ I feel guilty a good part of the time.
   ___ I feel quite guilty most of the time.
   ___ I feel guilty all of the time.

6. ___ I don't feel I am being punished.
   ___ I feel I may be punished.
   ___ I expect to be punished.
   ___ I feel I am being punished.

7. ___ I don't feel disappointed in myself.
   ___ I am disappointed in myself.
   ___ I am disgusted with myself.
   ___ I hate myself.

8. ___ I don't feel I am any worse than anybody else.
___ I am critical of myself for my weaknesses or mistakes.
___ I blame myself all the time for my faults.
___ I blame myself for everything bad that happens.

9. ___ I don't have any thoughts of killing myself.
___ I have thoughts of killing myself, but I would not carry them out.
___ I would like to kill myself.
___ I would kill myself if I had the chance.

10. ___ I don't cry any more than usual.
___ I cry more now than I used to.
___ I cry all the time now.
___ I used to be able to cry, but now I can't cry even though I want to.

11. ___ I am no more irritated now than I ever am.
___ I get annoyed or irritated more easily than I used to.
___ I feel irritated all the time now.
___ I don't get irritated at all by the things that used to irritate me.

12. ___ I have not lost interest in other people.
___ I am less interested in other people now than I used to be.
___ I have lost most of my interest in other people.
___ I have lost all my interest in other people.

13. ___ I make decisions as well as I ever could.
___ I put off making decisions more than I used to.
___ I have greater difficulty in making decisions than before.
___ I can't make decisions at all any more.

14. ___ I don't feel I look any worse than I used to.
___ I am worried that I am looking old or unattractive.
___ I feel that there are permanent changes in my appearance that make me look unattractive.
___ I believe that I look ugly.

15. ___ I can work about as well as before.
___ It takes extra effort to get started doing something.
___ I have to push myself very hard to do anything.
___ I can't do any work at all.

16. ___ I can sleep as well as usual.
___ I don't sleep as well as I used to.
___ I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
___ I wake up several hours earlier than I used to and cannot get back to sleep.

17. ___ I don't get more tired than usual.
___ I get tired more easily than I used to.
___ I get tired from doing almost anything.
___ I am too tired to do anything.

18. ___ My appetite is no worse than usual.
___ My appetite is not as good as it used to be.
___ My appetite is much worse now.
___ I have no appetite at all anymore.

19. ___ I haven't lost much weight, if any, lately.
___ I have lost more than 5 pounds.
___ I have lost more than 10 pounds.
___ I have lost more than 15 pounds.

I am purposely trying to lose weight by eating less. Yes ___ No ___

20. ___ I am no more worried about my health than usual.
___ I am worried about physical problems such as aches and pains; or upset stomach or constipation.
___ I am very worried about physical problems and it's hard to think of much else.
___ I am so worried about physical problems that I cannot think about anything else.

21. ___ I have not noticed any recent change in my interest in sex.
___ I am less interested in sex than I used to be.
___ I am much less interested in sex now.
___ I have lost interest in sex completely.

APPENDIX D

Dimensions of Depression Profile for Children and Adolescents

I am interested in which of these statements is most true for you. This is a survey, not a test. There are no right or wrong answers. Since kids are very different from one another, each of you will be putting down something different. Each statement talks about two kinds of kids, and I would like to know which kids are most like you.

First, I would like you to decide whether you are more like the kids on the left side of the statement or more like the kids on the right side of the statement. Don't mark anything down yet, just go to that side of the sentence. Now, I would like you to decide whether the statement is only sort of true for you or really true for you, and then put an **X** on that line. For each sentence you only mark one line. Sometimes it will be on one side of the page and sometimes it will be on the other side of the page. You don't mark both sides, just the one side most like you.

Really True for Me	**Sort of True for Me**				**Sort of True for Me**	**Really True for Me**
___	___	Some kids are *unhappy* a lot of the time	**BUT**	Other kids are pretty *happy* a lot of the time	___	___
___	___	Some kids *don't* blame themselves for things that go wrong	**BUT**	Other kids *do* blame themselves for things that go wrong	___	___
___	___	Some kids wish they were *different*	**BUT**	Other kids *like* the way they are	___	___
___	___	Some kids *don't* have a lot of energy to do things children their age like to do	**BUT**	Other kids *do* seem to have enough energy to do things children their age like to do	___	___
___	___	Some kids don't really care if they live or die	**BUT**	Other kids do care if they live or die	___	___

Really True for Me	Sort of True for Me			Sort of True for Me	Really True for Me
___	___	Some kids are usually pretty *cheerful* about things in their life	**BUT**	Other kids are often *sad* about things in their life	___	___
___	___	Some kids often feel like it's their *fault* when *something bad* happens	**BUT**	Other kids *don't* often feel like it's their fault when something bad happens	___	___
___	___	Some kids think the way they do things is *fine*	**BUT**	Other kids do *not* think the way they do things is fine	___	___
___	___	Some kids find it easy to get up in the morning because they have the energy to do what they have to do	**BUT**	Other kids find it hard to get up because they do not have the energy to do what they have to do	___	___
___	___	Some kids hardly ever think about committing suicide	**BUT**	Other kids do think about committing suicide	___	___
___	___	Some kids feel kind of "down" and *depressed* a lot of the time	**BUT**	Other kids feel "up" and *happy* most of the time	___	___
___	___	Some kids usually *don't* think it's their own fault when things go wrong	**BUT**	Other kids think that when things go wrong it usually *is* their own *fault*	___	___
___	___	Some kids *don't like* the way they are leading their life	**BUT**	Other kids *do* like the way they are leading their life	___	___

Really True for Me	Sort of True for Me				Sort of True for Me	Really True for Me
___	___	Some kids are full of energy and feel wide awake most of the day	**BUT**	Other kids don't have much energy and feel tired a lot	___	___
___	___	Some kids hardly ever have thoughts about killing themselves	**BUT**	Other kids often have thoughts about killing themselves	___	___
___	___	Some kids feel pretty *happy* about most of the things that happen to them	**BUT**	Other kids often feel *sad* about a lot of the things that happen to them	___	___
___	___	Some kids blame *themselves* and *feel mad* when they do something wrong	**BUT**	Other kids *don't* feel mad or blame themselves when they do something wrong	___	___
___	___	Some kids are *happy* with themselves most of the time	**BUT**	Other kids are often *not* happy with themselves	___	___
___	___	Some kids *don't* have the energy to do the things they are supposed to do	**BUT**	Other kids really do feel like doing the things they have to do each day	___	___
___	___	Some kids want to commit suicide	**BUT**	Other kids do not want to commit suicide	___	___
___	___	Some kids *don't* feel happy very often	**BUT**	Other kids *do* feel happy pretty often	___	___
___	___	Some kids think that when things don't work out for them it's their own *fault*	**BUT**	Other kids *don't* think it's their fault when things don't work out	___	___

Really True for Me	Sort of True for Me				Sort of True for Me	Really True for Me
___	___	Some kids *like* the kind of person they are	**BUT**	Other kids often wish they were someone else	___	___
___	___	Some kids have lots of *energy* to do things during the day	**BUT**	Other kids *don't* have much energy to do things during the day	___	___
___	___	Some kids spend long periods of time thinking about killing themselves	**BUT**	Other kids hardly ever spend any time thinking about killing themselves	___	___
___	___	Some kids feel *happy* about things in their life	**BUT**	Other kids feel *sad* about how their life is going	___	___
___	___	Some kids don't blame themselves when they have problems	**BUT**	Other kids *do* blame themselves when they have problems	___	___
___	___	Some kids *don't* feel pleased with themselves very often	**BUT**	Other kids are usually pretty *pleased* with themselves	___	___
___	___	Some kids *often* just don't have the energy to do much of anything	**BUT**	Other kids usually have the energy to do lots of things	___	___
___	___	Some kids have lots of reasons to want to live	**BUT**	Other kids don't have many reasons to want to live	___	___

APPENDIX E

State Anxiety Scale

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number beside each statement to indicate how you feel right now, that is, **at this moment**. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to best describe your present feelings.

	Not at All	**Somewhat**	**Moderately So**	**Very Much So**
I feel calm	1	2	3	4
I feel secure	1	2	3	4
I am tense	1	2	3	4
I feel strained	1	2	3	4
I feel at ease	1	2	3	4
I feel upset	1	2	3	4
I worry about possible misfortunes	1	2	3	4
I feel satisfied	1	2	3	4
I feel frightened	1	2	3	4
I feel comfortable	1	2	3	4
I feel self-confident	1	2	3	4
I feel nervous	1	2	3	4
I am jittery	1	2	3	4
I feel indecisive	1	2	3	4
I am relaxed	1	2	3	4
I feel content	1	2	3	4
I am worried	1	2	3	4
I feel confused	1	2	3	4
I feel steady	1	2	3	4
I feel pleasant	1	2	3	4

APPENDIX F

Substance Use

Think back over the last month. **HOW MANY TIMES** in the **PAST MONTH** have you (circle number corresponding with correct answer):

	Never	Once or Twice	3 or 4 Times	Pretty Often	Almost Every Day
Used beer, wine, or liquor.	1	2	3	4	5
Smoked marijuana.	1	2	3	4	5
Used other drugs (e.g., pep pills, cocaine).	1	2	3	4	5
Gotten drunk (not just light-headed).	1	2	3	4	5
Had an older person buy alcohol for you.	1	2	3	4	5

APPENDIX G

School Misconduct

Think back over the last month. **HOW MANY TIMES** in the **PAST MONTH** have you (circle number corresponding with correct answer):

	Never	Once or Twice	3 or 4 Times	Pretty Often	Almost Every Day
Cut a class or skipped school.	1	2	3	4	5
Been suspended or expelled from school.	1	2	3	4	5
Cheated on an exam.	1	2	3	4	5
Talked back to teachers.	1	2	3	4	5
Copied someone's homework or let someone copy your homework.	1	2	3	4	5
Been late for class without permission.	1	2	3	4	5
Been kicked out of class by a teacher.	1	2	3	4	5

APPENDIX H

Antisocial Behaviour

Think back over the last month. **HOW MANY TIMES** in the **PAST MONTH** have you (circle number corresponding with correct answer):

	Never	Once or Twice	3 or 4 Times	Pretty Often	Almost Every Day
Took things worth between $2 and $50.	1	2	3	4	5
Took things worth less than $2.	1	2	3	4	5
Had contact with police.	1	2	3	4	5
Became angry and broke things.	1	2	3	4	5
Started a fist fight.	1	2	3	4	5
Took part in gang fights.	1	2	3	4	5
Used force to get money or valuables.	1	2	3	4	5
Broke into and entered a home, store or building.	1	2	3	4	5
Damaged or destroyed public or private property.	1	2	3	4	5
Beat up someone who did nothing to you.	1	2	3	4	5
Took things worth $50 or more.	1	2	3	4	5
Bought stolen or "hot" goods (e.g., bike parts, stereo equipment).	1	2	3	4	5
Carried a weapon (e.g., a knife).	1	2	3	4	5
Used a weapon in a fight.	1	2	3	4	5

APPENDIX I

Millon Adolescent Personality Inventory

This section contains a list of statements that young people use to describe themselves. They are printed here to help you describe your feelings and attitudes. Try to be as honest and serious as you can in marking the statements. Do not be concerned that a few of the statements will seem unusual to you; they are included to describe many types of teenagers. When you agree with a statement or decide that it describes you, please circle the **T** to mark it true. If you disagree with the statement or decide that it does not describe you, please circle the **F** to mark it false. Try to mark every statement even if you are not sure of your choice. If you have tried your best and can still not decide, mark the **F** for false.

1.	T	F	I feel good showing my body in a bathing suit.
2.	T	F	I almost always think before I act.
3.	T	F	My parents have made a very good home for their family.
4.	T	F	I stay cool even when I'm really angry with someone.
5.	T	F	I have a strong need to feel like an important person.
6.	T	F	I get a lot of satisfaction in my school work.
7.	T	F	I enjoy thinking about sex.
8.	T	F	I sort of feel sad when I see someone who's lonely.
9.	T	F	I'm sure of my feelings about most things.
10.	T	F	I always try to do what is proper.
11.	T	F	I am a quiet and cooperative person.
12.	T	F	I'm pretty sure I know who I am and what I want in life.
13.	T	F	I feel guilty when I have to lie to a friend.
14.	T	F	I get so touchy that I can't talk about certain things.
15.	T	F	I try hard to do well at almost everything I do.

16. T F I become very excited or upset once a week or more.

17. T F When I get angry, I usually cool down and let my feelings pass.

18. T F I'm quite sure that I am sexually attractive.

19. T F I get along well with the other children at home.

20. T F I like to follow instructions and do what others expect of me.

21. T F I have more friends than I can keep up with.

22. T F I am very uneasy when I'm supposed to tell people what to do.

23. T F I like the way I look.

24. T F I do my very best not to hurt people's feelings.

25. T F I look forward to growing up and making something of myself.

26. T F I am more worried about finishing things that I start than most people.

27. T F I can depend on my parents to be understanding of me.

28. T F I would never use drugs, no matter what.

29. T F Sex is enjoyable.

30. T F Rather than demand things, people can get what they want by being gentle and thoughtful.

31. T F It is very important that children learn to obey their elders.

32. T F I have a pretty clear idea of what I want to do.

33. T F It is easy for me to take advantage of people.

34. T F I'd like to trade bodies with someone else.

35. T F I like to arrange things down to the last detail.

36. T F In this world, you either push or get shoved.

37. T F My social life is very satisfying to me.

38. T F I don't think I have as much interest in sex as others my age.

39. T F When someone hurts me, I try to forget it.

40. T F I enjoy getting one of the highest grades on a test.

41. T F My parents are very kind to me.

42. T F I have a strong desire to win any game I play with others.

43. T F I think I have a good build.

44. T F I have almost no close ties with others my age.

45. T F I have faith that human nature is good.

46. T F If I see a person I know from a distance,I usually try to avoid him.

47. T F When I don't get my way, I usually lose my temper.

48. T F I have a better idea of the kind of person I am than other teenagers do.

49. T F My friends seem to turn to me more than to others when they have problems.

50. T F What this country really needs are more serious and devoted citizens.

51. T F I make friends easily.

52. T F I don't like looking at myself in the mirror.

53. T F I usually let other people have their own way.

54. T F I'm always busy in lots of social activities.

55. T F I don't seem to know what I want out of life.

56. T F Other people my age seem more sure than I am of who they are and what they want.

57. T F When I was a young child, my parents felt very proud of me.

58. T F I have not seen a car in the last ten years.

59. T F I often doubt whether people are really interested in what I am saying to them.

60. T F Someone else will probably have to support me when I'm an adult.

61. T F I find it hard to feel sorry for people who are always worried about things.

62. T F I seem to have a problem getting along with other teenagers.

63. T F Thinking about sex confuses me much of the time.

64. T F I would much rather follow someone than be the leader.

65. T F To get ahead in this world I'm willing to push people who get in my way.

66. T F I am pleased with the way my body has developed.

67. T F I can see more sides of a problem better than others can.

68. T F I would rather be almost any place but home.

69. T F Becoming involved in other people's problems is a waste of time.

70. T F I guess I'm a complainer who expects the worst to happen.

71. T F I often do things for no reason other than it might be fun.

72. T F It is not unusual to feel lonely and unwanted.

73. T F I feel pretty aimless and don't know where I'm going.

74. T F I do my best to stop anyone from trying to boss me.

75. T F If I see someone yawn, I often start to yawn, too.

76. T F My parents often tell me I'm no good.

77. T F I am a dramatic and showy sort of person.

78. T F I sometimes feel I am in this world all alone.

79. T F I really hate to have my work pile up.

80. T F I would rather be direct with people than avoid telling them something they don't like.

81. T F I'm pretty immature about sexual matters.

82. T F I'd rather just lie around doing nothing than work or go to school.

83. T F Lots of kids seem to have it in for me.

84. F Among the most important things a person can have are a strong will and the drive to get ahead.

85. T F At no time in my life have I had hair on my head or my body.

86. T F I often get so stoned (either from alcohol or drugs) that I don't know what I'm doing.

87. T F Punishment never stopped me from doing whatever I wanted.

88. T F I very often think I am not wanted by others in a group.

89. T F Others my age seem to have things together better than I do.

90. T F People can influence me quite easily.

91. T F I often feel so angry that I want to throw and break things.

92. T F I find it hard to understand why people cry at a sad movie.

93. T F I often say things that I regret having said.

94. T F I guess I depend too much on others to be helpful to me.

95. T F I am not answering these questions honestly at all.

96. T F I have a pretty hot temper.

97. T F I feel left out of things socially.

98. T F I like to be the one in authority to take charge of things.

99. T F I've just about given up as far as school is concerned.

100. T F I like it at home.

101. T F I don't mind that other teenagers are not interested in my friendship.

102. T F I think teenagers are expected to know too much about sex.

103. T F I am very pleased with all the things I have done up to now.

104. T F Others my age never seem to call me to get together with them.

105. T F I like to tell others about the things I have done well.

106. T F I am glad that feelings about sex have become a part of my life now.

107. T F I get very frightened when I think of being all alone in the world.

108. T F If you asked me to describe myself I wouldn't know what to say.

109. T F I don't depend much on other people for friendship.

110. T F I doubt if I'll make much of myself in life.

111. T F If I read these questions a month from now, I'm sure I would change most of my answers.

112. T F To see someone suffering doesn't bother me.

113. T F I'm jealous of the special attention that the other children in the family get.

114. T F Most people are better looking than I am.

115. T F All my life I have to "blow up" every now and then.

116. T F A quiet hobby is more fun for me than a party.

117. T F I get upset when I see a very sick person.

118. T F I get upset when things I don't expect happen to me.

119. T F I worry about my looks.

120. T F I'm among the more popular kids at school.

121. T F There are always a number of reasons why most problems can't be solved.

122. T F I do my best to get along with others by being pleasant and agreeable.

123. T F Sex is disgusting.

124. T F I have flown across the Atlantic 30 times last year.

125. T F It is good to have a regular way of doing things so as to avoid mistakes.

126. T F My family is always yelling and fighting.

127. T F I would like to continue in school and college as long as I can.

128. T F I seem to fit in right away with any group of new kids I meet.

129. T F There's nothing I like more than getting in a car and zooming off.

130. T F I've done most things in my life very well.

131. T F Lonely kids usually deserve to be lonely.

132. T F If I want to do something, I just do it without thinking of what might happen.

133. T F So little of what I have done has been appreciated by others.

134. T F I haven't been paying much attention to the questions on these pages.

135. T F I make nasty remarks to people if they deserve it.

136. T F I often feel as if I'm floating around, sort of lost in life.

137. T F I'm ashamed of my body.

138. T F Nobody seems to care about me at home.

139. T F I think I'm better looking than most of the kids I know.

140. T F I'm very mature for my age and know what I want to do in life.

141. T F I like being in a crowd just to be with lots of people.

142. T F In many ways I feel very superior to most people.

143. T F Most other teenagers don't seem to like me.

144. T F Most people can be trusted to be kind and thoughtful.

145. T F I like to flirt a lot.

146. T F I don't really care what I'll do in life.

147. T F I often feel that others do not want to be friendly with me.

148. T F It is very difficult for me to stop feelings from coming out.

149. T F I worry a great deal about sexual matters.

150. T F I can control my feelings easily.

APPENDIX J

Parental Acceptance

On the following pages you will find a series of statements that a person might use to describe his/her **MOTHER** as a parent. Read each statement and decide which answer most closely describes the way your mother or the female parent in your household (e.g., stepmother) acts toward you. Circle your answer using the following numbers:

1 = Very much unlike her
2 = Unlike her
3 = Somewhat like her
4 = Like her
5 = Very much like her

My mother likes to talk to me and be with me much of the time.	1	2	3	4	5
My mother enjoys talking things over with me.	1	2	3	4	5
My mother gives me a lot of care and attention.	1	2	3	4	5
My mother enjoys doing things with me.	1	2	3	4	5
My mother makes me feel like the most important person in her life.	1	2	3	4	5
My mother comforts me when I'm afraid.	1	2	3	4	5
My mother cheers me up when I'm sad.	1	2	3	4	5
My mother often speaks of the good things I do.	1	2	3	4	5
My mother has a good time at home with me.	1	2	3	4	5
My mother seems proud of the things I do.	1	2	3	4	5

APPENDIX K

Parental Lax Control

On the following pages you will find a series of statements that a person might use to describe his/her **MOTHER** as a parent. Read each statement and decide which answer most closely describes the way your mother or the female parent in your household (e.g., stepmother) acts toward you. Circle your answer using the following numbers:

1 = Very much unlike her
2 = Unlike her
3 = Somewhat like her
4 = Like her
5 = Very much like her

My mother lets me off easy when I do something wrong.	1	2	3	4	5
My mother doesn't pay much attention to my misbehaviour.	1	2	3	4	5
My mother can't say no to anything I want.	1	2	3	4	5
My mother seldom insists that I do anything.	1	2	3	4	5
My mother does not insist I obey if I complain or protest.	1	2	3	4	5
My mother does not bother to enforce rules.	1	2	3	4	5
I can talk my mother out of an order, if I complain.	1	2	3	4	5
My mother lets me get away without doing work I had been given to do.	1	2	3	4	5
My mother can be talked into things easily.	1	2	3	4	5
My mother lets me get away with lots of things.	1	2	3	4	5

APPENDIX L

Parent's Use of Verbal Coercion

On the following pages you will find a series of statements that a person might use to describe his/her **MOTHER** as a parent. Read each statement and decide which answer most closely describes the way your mother or the female parent in your household (e.g., stepmother) acts toward you. Circle your answer using the following numbers:

1 = Very much unlike her
2 = Unlike her
3 = Somewhat like her
4 = Like her
5 = Very much like her

My mother takes away my privileges to discipline me.	1	2	3	4	5
My mother screams at me when I disobey her.	1	2	3	4	5
My mother uses sarcasm and insults me when I disobey her.	1	2	3	4	5
My mother uses verbal threats to discipline me.	1	2	3	4	5
My mother grounds me to discipline me.	1	2	3	4	5
My mother yells at me when I disobey her.	1	2	3	4	5

APPENDIX M

Parent-Adolescent Conflict

Below is a list of things that sometimes get talked about at home. For each topic that you and your **MOM** or the female parent in your household (e.g., stepmother) have discussed during the last 2 weeks, indicate how angry the discussions were (circle the appropriate number). If a topic has not been discussed, circle 0.

TOPIC		**DISCUSSED**				
	NOT DISCUSSED	Very Calm		Angry		Very Angry
Cleaning up bedroom	0	1	2	3	4	5
Putting away clothes	0	1	2	3	4	5
Which clothes to wear	0	1	2	3	4	5
How neat clothing looks	0	1	2	3	4	5
Making too much noise at home	0	1	2	3	4	5
Table manners	0	1	2	3	4	5
Cursing	0	1	2	3	4	5
How money is spent	0	1	2	3	4	5
Allowance	0	1	2	3	4	5
Drugs	0	1	2	3	4	5
Drinking beer or other liquor	0	1	2	3	4	5
Buying music, games, toys	0	1	2	3	4	5
Helping out around the house	0	1	2	3	4	5
Smoking	0	1	2	3	4	5
Earning money away from home	0	1	2	3	4	5

APPENDIX N

Intercorrelations among Outcome Variables Separately by Domain

Intercorrelations among the Demographic Characteristics

Demographic Variables	1	2	3	4	5	6
1. Sex						
2. Age[a]	.17*					
3. Family Status[b]	.07	.08				
4. Mother's Education	.10	-.12	-.06			
5. Father's Education	-.08	-.17*	-.06	.19*		
6. Mother's Job Status	.14	.07	.02	.57***	.40***	
7. Father's Job Status	-.06	-.01	-.09	.38***	.66***	.46***

Note. n = 86-172.

[a]Early, middle, or late adolescent. [b]Adolescent living in a two-parent family, a single-parent family, or with someone other than a parent.

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

Intercorrelations among Measures of Adolescents' Depressive Symptoms

Depressive Symptoms	1	2	3	4	5
1. BDI					
2. Mood	.66***				
3. Self-Worth	.51***	.62***			
4. Self-Blame	.52***	.58***	.45***		
5. Energy/Interest	.25*	.50***	.22*	.30**	
6. Suicidal Ideation	.50***	.69***	.39***	.29**	.21*

Note. n = 90-93.

*$p < .05$. **$p < .01$. ***$p < .001$.

Intercorrelations among Measures of Adolescents' Other Symptoms

Other Symptoms	1	2	3
1. Anxiety			
2. Substance Use	.23*		
3. School Misconduct	.26*	.74***	
4. Antisocial Behaviour	.21*	.59***	.60***

Note. n = 85-88.

*$p < .05$. **$p < .01$. ***$p < .001$.

Intercorrelations among Parent-Adolescent Relationship Variables Separately for Mothers and Fathers

Variables	1	2	3
	Mothers		
1. Acceptance			
2. Lax Control	.05		
3. Use of Verbal Coercion	-.41***	.04	
4. Parent-Adolescent Conflict	-.02	.13	.33**
	Fathers		
1. Acceptance			
2. Lax Control	.14		
3. Use of Verbal Coercion	-.28*	.02	
4. Parent-Adolescent Conflict	-.10	.02	.54***

Note. For mothers, n = 76-141. For fathers, n = 64-65.

*$p < .05$. **$p < .01$. ***$p < .001$.

Intercorrelations among Adolescents' Expressed Concerns

Expressed Concerns	1	2	3	4	5	6	7
1. Self-Concept							
2. Personal Esteem	.52***						
3. Body Comfort	.23**	.61***					
4. Sexual Acceptance	.27***	.55***	.77***				
5. Peer Security	.54***	.66***	.50***	.61***			
6. Social Tolerance	.31***	.08	-.21**	-.10	.04		
7. Family Rapport	.23**	.29***	-.15	-.12	-.10	.44***	
8. Academic Confidence	.58***	.31***	-.00	-.12	.17*	.51***	.59***

Note. $n = 172$.

*$p < .05$. **$p < .01$. ***$p < .001$.

Intercorrelations among Adolescents' Behavioural Correlates

Behavioural Correlates	1	2	3
1. Impulse Control			
2. Social Conformity	.88***		
3. Scholastic Achievement	.64***	.71***	
4. Attendance Consistency	.39***	.42***	.58***

Note. $n = 172$.

$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.