CHAPTER - V
DISCUSSION

The results have been meaningfully discussed in the context of following two parameters:

a) Brief presentation of earlier studies  
b) Proposed hypotheses

The term “depression” has been used in adolescent research (Compas, Grant, & Ey, 1995) to refer to a continuum of affective disturbances that include dysphoric mood, a syndrome or cluster of symptoms of psychological distress, and psychiatric disorders such as major depressive episodes (cf. Galambos, Leadbeater, & Barker, 2004, p. 16).

More precisely speaking, major advances have been made over the past two decades in our understanding of the prevalence of adolescents’ depressive symptoms* and the factors associated with it. Symptoms of depression include fatigue, irritability, inability to make decisions, somatic problems, lack of interest in day-to-day activities, pessimism, and suicidal thoughts. These symptoms may interfere with adolescents’ abilities to engage effectively in stage-salient tasks, thereby potentially leading to negative life-long consequences for physical and psychological health and well-being. Because the consequences of depression for adolescents can be severe, understanding trajectories of the development of depression in males and females during adolescence and the factors that influence these trajectories are critical to efforts that aim to prevent the emergence of depression and its debilitating effects on well-being. For example, depression in adolescence has been linked to problems with work, stressful life events, early pregnancy, smoking, and substance abuse (Galambos, Leadbeater, & Barker, 2004, p. 16). Depressed adolescents are also at risk for anxiety, eating, and conduct disorders, as well as academic failure and problems in interpersonal relationships (Joiner, Coyne, & Blalock, 1999).

*Adolescence is a time marked by numerous changes, critical developmental tasks, and increased questioning and confusion about the future (Pearcer, Littele, & Prez, 2003). Not surprisingly, a significant number of adolescents suffer from depressive symptoms, with estimates ranging from 2% to 18% (Silverman & Ginsburg, 1998). These numbers are troublesome considering the negative impact depressive symptoms have on adolescents’ psychological, social and academic functioning (e.g., Gotlib, Lewinsohn, & Seeley, 1995) and the elevated risk for major depression associated with such symptoms. Peterson et al., (1993) reported a median rate of 35% of adolescents exceeding clinical cut-off scores on measures of depressive symptoms on the basis of a review of 14 studies (Harrington, Fudge, Rutter, Pickles, & Hill, 1990). The negative consequences of depression make adolescence a critical time for prevention efforts and identifying factors that promote well-being.
Furthermore, depression as a diagnosis is much more common in women and adolescent females than in men and adolescent boys. It is now generally accepted that, as the latest Diagnostic and Statistical Manual says: 'Major Depressive Disorder (Single or Recurrent) is twice as common in adolescent and adult females as in adolescent and adult males (Angold, Erkamli, Silberg, Eaves, & Costello, 2002, p. 1052). In prepubertal children, boys and girls are equally affected (American Psychiatric Association, 1994, p.341). Although several diagnostic general population studies have confirmed that the female excess of unipolar depression arises in adolescence, studies using scale scores have not (Angold et al., 2002).

With respect to the developmental question concerning the sources of the gender difference in adolescence, Angold & Rutter (1992) have argued that there are gender differences in the frequency of risk factors for depression: "…… the different patterns of change in boys and girls suggest a need not only to address the question of what etiological factors operate in the development of depression, but also to search for factors with different distributions in, or effects on boys and girls" (p.26). Review of literature show some progress in understanding gender differences in the pathways that lead to depressive symptoms in males and females (Leadbeater, Blatt, & Quinlan, 1995; Nolen-Hoeksema & Girgs, 1994).

Research work has also shown that young people with depressive symptoms report more negative life events in their own lives, and in those of family members (Ge, Lorenz, Conger, Elder, & Simmons, 1994; Compas, Howell, Phares, Williams, & Ledeannx, 1989), and more daily stressors (Wagner, Compas, & Howell, 1988). They also report lower levels of social support available to help them cope with stressful events (Armsden, McCauley, Greenbur, Barke, & Mitchell, 1990; Daniels & Moos, 1990).

Higher rates of fatalism, unrealized economic expectations, and diminished efficacy also lead to higher rates of depression among the working class and the low-income (Mirowsky & Russ, 1990; Mirowsky & Russ, 1983). Physical disability, too, has been linked with higher levels of depression (Turner & Noh, 1988), and education has been shown to have an inverse relationship with depressive symptoms levels (Vega & Amaro, 1994). Other demographic risk factors and their relationships are as follows: individuals in disrupted marital statuses and the unemployed report the highest levels of depression; depressive symptom levels are usually greater for women than for men; and the relationship between age and depression is observed as curvilinear, “being highest in late adolescence and early
adulthood and then rising again in late middle age and beyond" (Vega & Rumbaut, 1991). Research has also shown that children growing up in abusive families are much more likely to report symptoms of depression (Kessler & Magee, 1994; Downey & Walker, 1992, Mundy et al., 1990). Having experienced higher rates of family physical and/or sexual abuse, homeless and runaway children are at particular risk for depressive symptoms.

Furthermore, it is commonly believed that social support can have a major impact on children’s psychological health and adjustment (Bao, Whitbeck, & Hoyt, 2000; Furman, 1987; Werner & Smith, 1982). Typically social support reduces the negative effects of life stressors by enhancing children’s ability to cope with stress and make successful adaptations to new situations (Unger et al., 1998). Family and peers are the major sources that provide young people with the most support (Bao, Whitbeck, Hoyt, 2000). Parental relations influence the adolescent’s perceptions of their social reality and future prospects. Relations with friends contribute to the acquisition of social skills through shared experiences, emotions, and knowledge (Youniss & Smollar, 1985).

Researches have also attested that social support can have a major impact on children’s psychological health and adjustment (Furman, 1987; Werner & Smith, 1982). Typically social support reduces the negative effects of life stressors by enhancing children’s ability to cope with stress and make successful adaptations to new situations (Unger, Michele, Thomas, Christine, Susanne, & Ellan, 1998). Social support networks have been found to be particularly important for adolescents from high-stress environments (Cance, Felner, & Primavera, 1982). For example, peer supports have been regarded as a key resource for helping youth to cope with the disruptions and stress that occurs during a move to a new school (Bogat, Jones, & Jason, 1980). Family support has been associated with lower levels of maladjustment among children from lower socioeconomic class and minority backgrounds (Sandler, 1980). Social support has also been found to have a beneficial effect on the mental health of children in divorced families (Wolchik et al., 1989). Likewise, friends (peer-peer relations) are the primary source of emotional and instrumental support. They give advice, teach skills, and provide material assistance, all which contribute to a sense of acceptance and reduce adolescent psychological distress generated by unfamiliar and unsupervised environments. Relations with friends contribute to the acquisition of social skills through shared experiences, emotions, and knowledge.
Young people with depressive symptoms report more negative life events in their own lives and in those of family members (Ge, Lorenz, Conger, Elder, & Simons, 1994) and more daily stressors (Wagner, Compas, & Howell, 1988). They also report lower levels of social support available to help them cope with stressful events (Armsden, Mc Cauley, Greenbur, Burke, & Mitchell, 1990; Daniels & Moos, 1990). Depressed adolescents often view themselves as unpopular with peers and as having poorer relationships with peers (Jacobsen, Lahey, & Strauss, 1983).

The current research expands upon recent scant efforts to advance beyond the examination of concurrent comorbidity between affective and behavioral disorders by including in its purview the developmental age and examining the effect of developmental age on the endorsement of depressive symptomatology in males and females.

It is important to emphasize that depression can be found in a wide range of individuals, from infants to the elderly (DSM-IV, 2000). However, research indicates that children’s experience of depression differs significantly from that evidenced in adults. The current perspective on depression, as indicated in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV, 2000) and the National Institute for Clinical Excellence (NCC MH, 2005), suggests that, although children and adults can have similar symptoms, their presentation may vary. Past reports have indicated the presence of irritability and aggression as symptoms are not listed as evident in depressed adults (Weiss & Catron, 1994). One possible reason for these findings is that children normatively develop cognitive and emotional skills over the course of their childhood. Prior to reaching some of these cognitive milestones, they normatively present with a more behavioural and less cognitively orientation to their environment (cf. Ginicola, 2001, p.2).

Using this observation, it can be asserted that current clinical knowledge suggests that children can have different types of depressive symptoms (irritability and aggression), but presents no theoretical basis for these differences.

There is scant information in the literature to date which directly tested the hypothesis of a relationship between developmental level and depressive symptom patterns. In this context, the investigations of Kovacs (1984) and Ginicola (2007) are noteworthy.
In Ginicola's study participants were 252 current or past patients from a children's psychiatric inpatient service with an urban hospital setting from 2000 to 2005. Although inpatient children are not representative of all children due to the severity of their symptoms and subsequent functioning difficulties, they were utilized in the Ginicola's research study because they were fully experiencing severe depression. Additionally, a large quantity of detailed records (including symptom notes from staff and clinicians, parent or guardian reports, observable child behavior and survey scores) were available. The author argued that given these reasons, using an inpatient samples provides a good degree of power to identify the relationship between developmental level and patterning of depressive symptoms, if indeed such a relationship exists.

Ginicola's study indicates that a developmental approach is useful in understanding children's depressive symptoms and has implications for both diagnosis and treatment of depression. However, Ginicola's findings were markedly different from Kovacs (1984) findings. The results of Kovacs study indicated that there was no relationship between the identified level of development (developmental level) and children's pattern of depressive symptoms.

**Based upon the conceptualizations of behavior proposed by Achenbach (1991) and the action-thought theory (1961), depressive symptoms could be delineated into internalizing and externalizing symptoms. Internalizing symptoms are those that are more thought or emotion oriented (feelings of worthlessness/hopelessness, feelings of guilt, suicidal ideations/Attempts), whereas externalizing symptoms are behavioral and action oriented (irritability, aggression, changes in psychomotor patterns.**
In the context of conflicting findings reported above and scant information available in the literature the purpose of the present study was to re-investigate the relationship between developmental level, using Mental Age (IQ multiplied by CA and divided by 100) and symptom patterns in non-clinical sample of adolescents. Even though mental age is not a perfect measure of developmental level, it is a simple, brief and singular measure which has both clinical application and significance for children as well as adolescents. The present study is based on the premise that developmental approach is useful in understanding depressive symptoms. Depressive symptoms were measured by using Beck Depression Inventory and Mental Age was assessed by using Cattell’s Culture Fair Intelligence Test (CF IT), Scale 2 Forms A and B.*

MA** was split at the median score, with the expectation that low and high MA should delineate between different depressive symptoms. This was done separately for male and female adolescents.

The proposed hypothesis that mental age would be positively correlated with depressive symptoms was tested with a more stringent alpha level of <.01 in order to account for inflated error. \( \chi^2 \) was used to identify the association between MA and pattern of depressive symptoms. The pattern of individual symptoms across developmental level failed to support the proposed hypotheses, because the current study revealed negative association between MA (an index of developmental level) and pattern of depressive symptoms.

---

*Form A was used as practice test. The scores on Form B were used for analyzing developmental level.

**Mental Age
The depressive symptom analysis did indicate that for male adolescents, the following depressive symptoms did change with the developmental level groupings:

1. Pessimism
2. Loss of interest
3. Indecisiveness
4. Loss of energy
5. Irritability
6. Tiredness or fatigue
7. Loss of interest in Sex

The remaining symptoms can be seen as physiological symptoms of depression with no visible differences across developmental levels.

The results reveal two important features:

1. 70 percent of the depressive symptoms which emerged to be relevant in the context of low developmental level refer to externalizing depressive symptoms.
2. These externalizing symptoms were more prevalent in case of adolescents low on mental age. In other words, participants low on mental age endorsed markedly more the presence of externalizing symptoms referring to irritability, loss of interest, tiredness or fatigue, loss of energy (psychomotor retardation) and loss of interest in sex in comparison to internalizing symptoms. In general, in terms of gender, multiple studies have indicated that males present with predominantly externalizing symptoms and females internalizing (Galston, Kaslow, Seeley, & Lewinsohn, 1997).
3. Developmental research indicates that externalizing behaviors are present at low developmental level and gradually change to internalizing behaviors with increase in developmental levels (Ginicola, 2007; p.2).
The results of the current study corroborate developmental researches which indicate that externalizing behaviors are present at low developmental levels and gradually change to internalizing behaviors over time.* Mental age served as a correlate of depressive symptoms and the relationship can be seen across developmental levels. The findings from this study differ from the results of Kovacs and Paulauskas (1984) study, which did not find a significant relationship between developmental level and depressive symptoms, which may be because this study had participants with a larger age range. The results of the Kovacs study indicated that there was no relationship between the identified developmental level and children's pattern of depressive symptoms. One possible explanation for the negative results of Kovacs and Paulauskas study could be the very restricted range of ages represented in the sample (45 percent of children were 10 years old).

Likewise, for female adolescents, for the purpose of investigating the patterns of depressive symptoms as measured by 21-items Beck Depression Inventory (each item referring to a specific symptom), MA was split at the median into a low and high category. The endorsement of the presence or absence of a specific depressive symptom as revealed by each item of the Beck Depression Inventory, especially with reference to the category of MA (an index of developmental level used in the current study) were analysed. The analysis revealed the salience of the following depressive symptoms in relation to developmental level:

<table>
<thead>
<tr>
<th>Internalizing Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feelings of Guilt</td>
</tr>
<tr>
<td>Feelings of Worthlessness</td>
</tr>
<tr>
<td>Crying</td>
</tr>
<tr>
<td>Fatigue</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Externalizing Symptoms</td>
</tr>
</tbody>
</table>

*Based upon the conceptualizations of behavior proposed by Achenbach (1978, 1991) and the action thought theory (Phillips & Zigler, 1961), depressive symptoms could be delineated to internalizing and externalizing symptoms. Depressed mood, feelings of worthlessness/hopelessness, feelings of guilt, suicidal ideations/ attempts are internalizing symptoms, whereas irritability, aggressive behavior, changes in psychomotor pattern refer to externalizing symptoms. The remaining symptoms can be seen as physiological symptoms of depression with no visible difference across developmental levels (DSM-IV criteria).
In the current study, developmental level was determined through mental age rather than pubertal stage. For female adolescents, the results revealed the presence of two internalizing symptoms* and two externalizing symptoms** in context of low mental age. The obtained results for female adolescents partially support developmental research which indicates that externalizing behaviors are present at low developmental levels. The presence of two internalizing symptoms (feelings of guilt, feeling of worthlessness) at low developmental level needs replication of results to confirm the obtained findings.

Furthermore, the failure of suicidality to differ between the developmental time periods may be due to the failure to distinguish between gestures, serious intentional self-injurious behavior (SIB) and attempts. SIB is noted to occur in children as young as 3 years old (Bowen & John, 2001). Suicidality is not a singular concept: it may be divided into serious SIB, suicidal thoughts and actual suicidal attempts. Since the present study did not separate out thoughts and attempts and did not include SIB, it is impossible to say how developmental level is realistically related to suicide in this sample.

Gender, even when controlling for MA, had a significant relationship with depressive symptomatology, which is consistent with previous research that indicates a possible socialization or biological difference for these behaviors. However, if a more complete measure of developmental level (which also includes social development) was used, then developmental level might have accounted for the differences found between the genders.

The results are contradictory to Kovacs (1984) investigation who has directly tested the hypothesis of a relationship between developmental level and depressive symptom patterns. Participants of this were psychiatric outpatients and were between the ages of 8 and 13 years of age. Using depression diagnoses based upon the DSM-III, children’s depressive symptoms were identified through a standard interview. Developmental level was determined through pubertal and cognitive stages. The results of Kovacs (1984) study indicated that there was no relationship between the identified developmental level and children’s pattern of depressive symptoms.

---

*Internalizing symptoms are those that are more thought or emotion oriented (cognitive symptoms)

**Externalizing symptoms are those that are behavioral and action oriented (Behavioral, somatic symptoms)
One possible explanation for the negative results of this study could be the very restricted range of ages represented in the sample (45 percent of the children were 10 or 11 years old). In brief, the findings from this study differ from the results of the Kovacs and Paulaskas (1984) study, which did not find a significant relationship between developmental level and depressive symptoms, which may be because this study had participants with a larger age range.

Conclusion

The current study was conducted on non-clinical population of adolescents. Non clinical sample has important implications. Adolescence is a time marked by numerous changes, critical developmental tasks, and increased questioning and confusion about the future (Pearce, Little, & Perez, 2003, p. 267). Not surprisingly, a significant number of adolescents suffer from depressive symptoms, with estimates ranging from 2 percent to 18 percent (Silverman & Ginsburg, 1998). These numbers are troublesome considering the negative impact depressive symptoms have on adolescents’ psychological, social, and academic functioning (e.g., Gotlib, Lewinsohn, & Seeley, 1995) and the elevated risk for major depression associated with such symptoms (Harrington, Fudge, Rutter, Pickles, & Hill, 1990). The negative consequences of depression make adolescents a critical time for prevention efforts and identifying factors that promote well-being. A study of adolescents is a merit of the study.

The notion that pre-pubertal children could experience clinical depression was rejected by developmental theorists for decades because it was believed that pre-pubertal children would be too immature cognitively and emotionally to experience core depressive affects (cf. Luby, Heffelfinger, Mrakotsky et al., 2002; Digdon & Gotlib, 1985).

The findings presented within study indicate that a developmental approach is useful in understanding adolescent’s depressive symptoms. Within the context of gender and developmental stage, adolescent’s symptom presentation was significantly related to their mental age. This indicates that as a child develops, their experience of depression changes in important ways. These differences can complicate both the diagnosis and treatment of depression in adolescence. By increasing the knowledge of how depressive symptoms change across the course of adolescent’s developmental level, earlier diagnosis of depression in adolescents can be made and the best treatment options can be selected. The data
presented in the current study suggests that knowing an adolescent's development level is important for early and accurate diagnosis and treatment decisions.

This study has several limitations. First, as mentioned earlier, MA is an incomplete proxy for developmental level, which could have limited the power of the study. Subsequent research should focus on replication of this study, using both MA and a broader measure of developmental level, either in an outpatient or community sample. Therefore, these findings must be accepted with caution until they are replicated and validated. It would also be interesting to identify if these findings generalize to other stages and other psychiatric disorders. It is probable that the relationship between developmental level and symptomatology could be universal and extend past depressive disorders. Equally important would be to investigate the role and interaction of socialization with developmental level and depressive symptoms.

Another direction for future research would be to investigate, keeping in view the present scenario, why feelings of guilt, worthlessness/hopelessness and suicidality are less frequent, even in adolescence. The study may be replicated by having additional measures of developmental level, though the current study has used psychometrically sound measure of mental age. Although the data presented in this study quantitatively describes the presence or absence of depression in adolescents, it cannot fully convey the extent of the distress that depression can cause to the child and their family. Equally important would be to investigate the role and interaction of socialization with developmental level and depression.