

**PARENT-ADOLESCENT RELATIONSHIP AND
ADOLESCENTS' ADJUSTMENT PROBLEMS:
ADOLESCENTS' VOICES**

By

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DECLARATION

I declare that *Parent-Adolescent Relationship and Adolescents' Adjustment Problems: Adolescents' Voices* is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete bibliography.

..... 23 September, 2013

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ABSTRACT

The purpose of this study is to examine parent-adolescent relationships as perceived by adolescents and its relationship with adolescents' adjustment. In order to measure parent-adolescent relationships psychological control, involvement, parental warmth and communication have been used as variables. Furthermore, self-esteem, school adjustment, substance use and depression are used as measures of adolescents' adjustment outcomes. The study's cross sectional survey design utilized a stratified random sample with structured questionnaires for the collection of quantitative data involving multiple variables that are examined to detect patterns of association and prediction. The participants comprise 809 adolescents (Males = 427 and Females = 382) from four private and government high schools and the average age of participants is 16.8. The participants were randomly selected from Grade Level 9, 10, 11 and 12. Independent t-test, correlation, and regression analyses are used to analyse the data in this research. The results of the independent sample t-test on the perception of adolescents' relationship with their parents showed that male adolescents perceive their mothers and fathers as more psychologically controlling than female adolescents. On the other hand, female adolescents perceive their mothers and fathers as warmer; more involved in their schooling; and engage in a more positive communication than do the male adolescents. In addition, the independent sample t-test also shows that male adolescents exhibit more adjustment problems than do female adolescents. Specifically, male adolescents seem to show more substance use behaviour, have lower self-esteem, more school adjustment problems and a higher depression level as compared to female adolescents. The correlation analysis reveals that there is a significant relationship among the four-parent-adolescent relationship and adolescent adjustment variables. The regression analysis also demonstrates that the four-parent-adolescent relation predictor variables account for adolescent adjustment though their contribution to the prediction was varied by the gender of

the adolescents' parents. This research; however, does not consider father-adolescent communication as a significant predictor to adolescent school adjustment and mother-adolescent communication as a significant predictor to adolescent depression. Theoretically, the present findings provide evidence that positive parent-adolescent relationships can be considered as a relevant protective factor for adolescents. For policy consideration, it is suggested that efforts be made to establish quality after school youth programs to engage adolescents in several mentoring activities, and family based coping programs should be established based on the centrality of the family for better family functioning.

Key Terms: Parent-adolescent relationship; psychological control; warmth; involvement; communication; adjustment; substance use; self-esteem; school adjustment; and depression

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CHAPTER ONE: INTRODUCTION AND ORIENTATION

The research presented here is designed to examine parent-adolescent relationships as perceived by the adolescents and its relationship with adjustment problems among adolescents in private and government schools of Addis Ababa, the capital city of Ethiopia. This introductory chapter presents the background of the study, the statement of the problem, the purpose of the study, research questions, objectives, and the significance of the study. It also presents operational definitions of terms conceptualized for the study and finally organization of the study.

1.1 Background to the Study

The family unit plays a critical role in providing the most amiable atmosphere to adolescents to form their life-style, to achieve their aspirations, values, goals and basic patterns of behaviour. Whether an adolescent develops into a well-adjusted sociable person or a maladjusted individual depends primarily on the family, as it is the basic system an adolescent grows up in. The family in Ethiopian culture, like in many other countries, is the significant primary system that influences an adolescent's development. The basic dyadic relationship between parents and adolescents builds bonds and attachment, which in turn grows stronger throughout the person's life. The close family relationship exerts a great influence over the adolescents' adjustment throughout their life. The quality of the parent-adolescent relationship is therefore a key factor for the wholesome development of the adolescent. A positive and conducive relationship between parents and adolescents allows them the freedom to grow, explore, gain experience and adjust to the developmental challenges they encounter. Population censuses and projections conducted in different years

in Ethiopia have shown that adolescents constitute the highest proportion of the total population. For example, in 2007 the Federal Democratic Republic of Ethiopia Population Census Commission (DREPCC) reported that the total population of Ethiopia was over 73 million (73,918,505) and of this figure, the adolescent population between the ages of 14-20 was over 13 million (13,352,588). According to the Ministry of Youth, Sports and Culture (2004) a large number of adolescents has been exposed to juvenile delinquency, addiction to dangerous narcotics, prostitution, beggary, HIV/AIDS, street life and to similar other social problems. The family is one of the major institutions within which adolescents assimilate cultural values. The objective conditions nonetheless indicate that adolescents in Ethiopia are, at present, not getting the required support from their families. These days a considerable number of adolescents do not have full knowledge of their cultural values; instead they are entangled in a foreign degenerating culture and various adjustment problems (Ministry of Youth, Sports & Culture, 2004). Conducting a research on parent-adolescent relationships in Ethiopia serves as a scientific way to examine the relationship problems in the family and to protect the adolescent from different adjustment problems, which may emanate from poor family relationships. Thus this study aims to find out the association between parent-adolescent relationship and adolescent adjustment in four selected private and government high schools of Addis Ababa, the capital city of Ethiopia.

Adolescence is both an exciting and challenging period for young people and it is characterized by all-rounded transitions in the cognitive, biological and social domains (Berk, 2010; Gouws, Kruger, & Burger, 2008; Steinberg, 2002; Watts, Cockcroft, & Duncan, 2009). Unlike with other developmental periods, adolescence is a critical time of change, which has multiple components that make it challenging for the individual to cope with. While not all researchers agree on a specific definition of adolescence, most concede that high-school-aged

youth are experiencing adolescence and that adolescence is a transition phase from childhood into adulthood (Berk, 2010; Gouws *et al.*, 2008; Watts *et al.*, 2009). Among the various social transition aspects, the change in parent-adolescent relationship is the most important transition during adolescence and this transition in parent-adolescent relationship provide opportunities for growth as well as problems (Berk, 2010; Gouws *et al.*, 2008; Watts *et al.*, 2009). It means that the changing nature of parent-adolescent relationship can impact adolescents' development.

Adolescence is characterized by a change in where and with whom time is spent. This marks the time period when individuals begin to spend more time outside of school with their peers than with their parents (Berk, 2010; Gouws *et al.*, 2008), which gives adolescents the opportunity to meet many new friends of similar ages in school and other contexts. These types of exposure allow adolescents to mix with many different peer groups and often become part of multiple subcultures. As adolescents spend more time with new peers, they develop and accept a new adolescent culture due to pressure from their peer group. This peer pressure usually weakens the parental level of control, makes the adolescent irresponsible and increases the possibility of having adjustment problems (Berk, 2010; Gouws *et al.*, 2008). Hence, the decreasing amount of time adolescents spend with parents and the pressure from deviant peers leave adolescents to enormous challenges that affect their adjustment during adolescence.

Adolescent development is influenced by many factors, of which the family holds a prominent role. Adolescent development is “affected by interplay of genetic, familial, and non-familial influences” (Steinburg & Morris, 2001, p. 89). According to Ecological theory adolescents are actors upon and acted upon by their environment in the forms of different

systems that can frame the time period of adolescence (Bronfenbrenner, 1994). Likewise, the family is considered as one of the micro-system influences as it is one of the systems in which adolescents grow. In addition, Bandura's social learning theory recognises the importance of observing and modelling the behaviours, emotional reactions, and attitudes of others, where parents are one of the prominent figures. It means that adolescents are not dependent only on their own for information and support about the world, which brings parents in to action to socialize their youngsters in an acceptable manner. As a result, it is important to recognize and investigate the various family factors that contribute to adolescents' adjustment.

In the past, adolescence has been characterized as a period of "storm and stress" (Freud, 1958), and the extreme problems in adjustment exhibited by a few have been generalized as normative experiences for all adolescents. However, the instability and pressure of adolescence is neither unanimous nor foreseeable. Most adolescents cope successfully with the developmental demands of this period and do not show extremes of adjustment problems. Generally adolescent adjustment problems relate to behavioural and emotional problems in adolescence. For instance, Arnett (1999) identifies mood disruptions, risk behaviours, and conflict with parents as the three vital features of adolescents' adjustment that may increase during adolescence. Frick and Kimonis (2008) identify two broad dimensions of adolescent adjustment problems, which are externalizing and internalizing behaviour problems. Internalizing problems include issues related to adolescent psychological health, feelings of self-worth, depression, and suicidal ideation. Externalizing problems encompass issues related to conduct disorders, academic performance, delinquency, drug use, and sexual acting out (Frick & Kimonis, 2008). In this study therefore adolescent

adjustment has been measured with four specific internalizing and externalizing adjustment outcome measures, which are self-esteem, school adjustment, substance use and depression.

Given that the transition to adolescence can be stressful most adolescents do however develop into competent adults. It is nevertheless important to investigate the factors that cause variations in adjustment. One factor that is of particular relevance is the parent-adolescent relationship. For instance, Steinberg and Morris (2001) indicated the overall quality of parent-adolescent relationships and the changes that occur in parent-adolescent relationships during adolescence have implications for adolescents' overall adjustment and development. Adolescents' parents provide a context where learning and socialization take place, and apart from other variables, the quality and characteristics of the parent-adolescent relationship have important consequences for adolescent adjustment. Moreover, a good parent-adolescent relationship with opportunities for learning and exploration and one that provides warmth and emotional support will foster healthy growth and development in children (Berk, 2010; Gouws *et al.*, 2008; Watts *et al.*, 2009). However, the challenge during adolescence is that warm, responsive, and involved relationships must be maintained at a time when the asymmetries in power that characterised earlier parent-child relationships are shifting to more equality (Steinberg, 2002). These changes may result in more confrontations between parents and adolescents, which in addition create adjustment problems among adolescents (Steinberg, 2002). The shift to more equality is motivated by the adolescent's development of social and cognitive skills as well as broader contacts with the environment outside the family. Therefore, this study tries to find out the relationship between parent-adolescent relationship and adolescent adjustment.

In the existing literature the term parent-adolescent relationship is described using different family relationship variables and as a result, various types of specific constructs or variables were used in these studies. For example, it has been studied in terms of parenting styles (Baumrind, 1991), emotional closeness or attachment (Bowlby, 1980), the degree of conflict (Berk, 2010; Watts *et al.*, 2009) parental warmth (MacDonald, 1992; Rohner, 2004), psychological control (Barber, 1996; Schaefer, 1965), communication (Barnes & Olson, 1985; Grotevant & Cooper, 1986) and involvement (Epstein, 1991; Grolnick & Slowiaczek, 1994). In this study the constructs of psychological control, involvement, parental warmth and communication are used as variables to measure parent-adolescent relationships. Thus this study seeks to provide more clarity on the development of parent-child relationships in adolescence by examining various relationship variables together, as well as their association with adolescents' adjustment in range of variables like self-esteem, school adjustment, substance use and depression. Hence, the focus of this study is only to examine parent-adolescent relationships in four private and government high schools in the city of Addis Ababa and its relationship with adolescent adjustment. Specifically, this research tries to find out the association among the four-parent-adolescent relationship variables (psychological control, involvement, parental warmth and communication) and adolescent adjustment outcome measures, self-esteem, substance use, school adjustment and depression. The description of the four-parent-adolescent relationship variables and their association with adolescent adjustment is briefly presented in the paragraphs that follow.

Psychological control is a characteristic of parents who pressure their children to behave and think in accordance with parental goals and norms through internally controlling and manipulative means (Barber, 1996). Psychologically controlling parents engage in parenting tactics such as guilt induction, shaming, and conditional approval (Barber, 1996).

Although psychological control may be expressed in a rather subtle and covert fashion, this parenting dimension is thought to have a detrimental impact on children's wellbeing (Barber & Harmon, 2002; Grolnick, 2003). For example, psychological control would frustrate children's need for autonomy (Vansteenkiste, Zhou, Lens, & Soenens, 2005) and as such creates vulnerability to maladjustment and particularly to a number of internalizing problems (Barber & Harmon, 2002).

Parental involvement can be understood in general terms as the parents' dedication and positive attention to the child-rearing process (Grolnick & Ryan, 1989). Moreover, involvement can also be considered in relation to a specific domain, such as that of education, which is related both to academic performance and perceived academic competence. In this research parental involvement in relation to a specific domain that is parents' home involvement in their adolescents' education was investigated. Parental involvement has been found to be positively associated with a range of positive outcomes, including academic success (Pomerantz, Moorman, & Litwack, 2007), reduced levels of exposure to community violence (Gorman-Smith, Henry, & Tolan, 2004), fewer conduct problems in school (Brookmeyer, Fanti, & Henrich, 2006), increased self-esteem (Christenson, Rounds, & Gorney, 1992), greater perceived competence (Grolnick & Slowiaczek, 1994) and it also leads to more positive school attitudes, higher aspirations, and other positive behaviours (Epstein, 1992).

Parental warmth is a core component of an adaptive parent-child relationship, and refers to emotional nurturance and affectionate care-giving expressed by a parental figure towards the child (MacDonald, 1992). Studies indicate that parental warmth is associated with reduced adolescent psychological problems, including less antisocial behaviour and

substance use (Johnson & Pandina, 1991; Pettit, Bates, & Dodge, 1997). Additionally, studies that have examined the relation between parental acceptance and rejection and psychological adjustment among children and adults have invariably found that rejected individuals, regardless of their gender, culture, race, or socioeconomic status, show more negative personality traits and overall psychological maladjustment than do accepted children (Rohner & Khaleque, 2002; Rohner, 2004). In the same way, cross-cultural and within culture studies have provided evidence of worldwide correlations between parental rejection and other mental health problems including anxiety and insecurity, depression, borderline personality disorder, substance use, and behavioural problems such as conduct disorder and delinquency (Rohner & Britner, 2002).

Communication is generally regarded as a central important feature in the parent-child relationship and it is particularly significant when children reach adolescence and begin to establish a clearer sense of their own identity and their ability to make decisions for themselves. According to Barnes and Olson (1985), when parent-adolescent communication is good, the family is closer, more loving and more flexible in solving family problems. To support this view, Grotevant and Cooper (1986) demonstrate that communication helps the adolescent to clarify his/her position within the family and to learn to be sensitive to the ideas and feelings of others. Parent-child communication is as a result a potentially modifiable protective factor of adolescent substance use (DeVore & Ginsburg, 2005; Kafka & London, 1991) and school based aggression (Lambert & Cashwell, 2003). Moreover, research also shows a positive relationship between parent-adolescent communication and self-esteem (Jackson, Bijstra, Oostra, & Bosma, 1998; Lanz, Iafrate, Rosnati, & Scabini, 1999).

It can therefore be surmised that, a poor parent-adolescent relationship has complex implications for adolescent adjustment and it complicates adolescents' developmental process within various dimensions, which ultimately affects the adolescents' identity and psychosocial adjustment. Consequently, the adolescents' relationships with their parents, coupled with the complex transitions in the cognitive, biological and social domains affect adolescents' adjustment positively or negatively. Given these links between the parent-adolescent relationship and adolescent adjustment, it is important to find out the association between potential parent-adolescent relationship variables and adolescent adjustment across different outcome measures.

1.2 Statement of the Problem

The period of adolescence creates distance and conflict in the parent-adolescent relationship as the family system adjusts to the physical and social changes that are taking place (Steinberg, 2002). Regrettably, our understanding of what makes a good or poor relationship in the family is often very limited and inconsistent (Cummings, Goeke-Morey, & Papp, 2003). We also know that adolescents and parents learn new patterns of interaction that will facilitate this change in the family's structure, but past research has neither studied all the family relationship variables nor the four parent-adolescent relationship variables considered in this study together. In support of considering different variables together to measure a general construct like parent-adolescent relationship, Steinberg, Mounts, Lamborn, & Dornbusch (1991) have shown that examining the independent associations of discrete parenting practices with adolescent adjustment is especially relevant. Accordingly, it is worthwhile to pursue research on why some adolescents maintain better relationships with their parents and adjust well than others who seem to have more conflict in their relationships with their parents and experience more adjustment problems. To achieve this end, this study

incorporates psychological control, involvement, parental warmth and communication as variables or constructs to measure parent-adolescent relationships. Furthermore, it includes self-esteem, substance use, school adjustment and depression as measures of adolescents' adjustment. Hence, the focus of this study is to examine the parent-adolescent relationships binary, using four different aspects or characteristics of relationships indicated above and to explore the possible relationships they have with the four adjustment measuring variables considered in this study.

1.3 Purpose of the Study

This study examines the parent-adolescent relationship as perceived by the adolescents, exploring relational adjustments among adolescents and their parents. With the purpose of describing or measuring parent-adolescent relationships, this study has considered four variables or characteristics of relationships that are psychological control, involvement, parental warmth and communication. In addition, this study has used self-esteem, substance use, school adjustment and depression as adjustment measures. The input regarding parent-adolescent relationship and adolescent adjustment was acquired from the adolescents using different self-report measures.

Thus the findings from this study provide information pertaining to the changing nature of parent-adolescent relationships during adolescence and its relationships with adolescent adjustment. The findings have implications for family therapists who work with families with troubled adolescents, social workers, counsellors, high school teachers, and juvenile court workers. Such findings can provide these professionals with information about the inter-play of the different aspects of parent-adolescent relationships and their contribution to good family functioning and healthy adolescent development.

1.4 Research Questions

The purpose of this study is to examine the parent-adolescent relationship by studying different contributing variables of family relationships together and to identify their relationships with adolescent adjustment. Hence this study seeks to respond to the following general research questions:

1. How do adolescents describe their relationship with their mothers based on the different aspects or characteristics of the relationship, which are psychological control, communication, involvement and warmth?
2. How do adolescents describe their relationship with their fathers based on the different aspects or characteristics of the relationship, which are psychological control, communication, involvement and warmth?
3. How do adolescents describe their adjustment problems with regard to school adjustment, self-esteem, substance use and depression?
4. What is the relationship between the mother-adolescent relationship variables and the adolescents' adjustment problem variables?
5. What is the relationship between the father-adolescent relationship variables and the adolescents' adjustment problem variables?

In addition this study also attempts to find solutions to the following specific research questions:

6. Does the mother-adolescent relationship predict adolescents' adjustment?
7. Does the father-adolescent relationship predict adolescents' adjustment?
8. Is there a gender difference in the perceptions of adolescents' relationship with their mothers and fathers?

9. Is there a gender difference in the perceptions of adjustment problems between male and female adolescents?

1.5 Objectives of the Study

In view of the foregoing research questions, this study's general objectives are to:

- describe adolescents' relationships with their mothers based on the different aspects or characteristics of relationships, which are psychological control, communication, involvement, and warmth
- describe adolescents' relationships with their fathers based on the different aspects or characteristics of relationships, being psychological control, communication, involvement, and warmth
- describe adolescents' adjustment problems using measures of school adjustment, self esteem, alcohol, drug use, and depression
- identify any relationship between mother-adolescent relationships and adolescents' adjustment problems (school adjustment, self esteem, alcohol, drug use, and depression)
- identify any relationship between father-adolescent relationships and adolescents' adjustment problems (school adjustment, self esteem, alcohol, drug use, and depression)

Subsequent to the aforementioned the study's specific objectives are:

- to predict adolescents' adjustment by using mother-adolescent relationship characteristics
- to predict adolescents' adjustment by using father-adolescent relationship characteristics

- to identify gender differences in adolescents' perceptions of their relationship with both parents
- to identify gender differences in perceptions of adjustment problems between male and female adolescents

1.6 Significance of the Study

This study was designed to provide the first empirical study in Ethiopia to examine a group of parent-adolescent relationship indicator variables together and to determine their association with adolescent adjustment in various aspects. The main importance of this study is to identify family relationship variables that strongly relate to the adjustment of adolescents who are attending their high school studies at private and government schools in the city of Addis Ababa. The dearth of research in Ethiopia on parent-adolescent relationship, adjustment problems relating to family relationship and the increasing numbers of adolescents with various adjustment problems following their transition to adolescence have all meant that intervention goals have depended on program objectives based on western studies. This 'one size fits-all' approach has not augured well because of context and instrumentation (Stevenson & Black, 1995). This study is therefore significantly designed to provide some input relevant to the Ethiopian context.

In the same way, school counsellors and teachers, counsellors from youth programs, religious settings and other Non-Government Organizations may be able to plan effective intervention goals to run programs for adolescents exhibiting adjustment problems by utilizing the findings of this study. Non Government Organizations may utilize the findings of this study as a basis for new programmes or to strengthen the approach of existing youth programmes to enhance program effectiveness.

Policy enactment on programs to help families that have problems in fostering healthy family relationships and also on those programs that help adolescents with adjustment problems may be also informed by the findings of this study. Findings of the effects of the various parent-adolescent relationship variables considered in this study for healthy adolescent adjustment can enable local government and District Councils to plan and support agencies whose intervention strategies are based on local data and relevant findings from this study.

Finally, this study was designed to provide a contextual balance to the existing literature on various parent-adolescent relationship variables affecting adolescents' adjustment. It was intended to lay the ground for further academic exploration as well as to increase dissemination of findings through peer reviewed publications, seminars and national counselling workshops, specifically within the Ethiopian social scene.

1.7 Operational Definition of Terms

- Adolescence is generally referred to as the second decade of the life span, is a developmental period that is characterized by numerous transitions. As individuals go through these significant changes, they gradually progress from the immaturity of childhood to the maturity of adulthood (Gouws *et al.*, 2008). Adolescent in this study refers to participants from four private and government high schools within the chronological age range of 14 to 19 years, which corresponds to the period of adolescence.
- Parent-adolescent relationship refers to the four relationship dimensions such as psychological control, involvement, parental warmth and communication.

- Psychological control is characteristic of parents who pressure their children to behave and think in accordance with parental goals and norms through internally controlling and manipulative means (Barber, 1996, & Grolnick, 2003).
- Parental warmth refers to emotional nurturance and affectionate care giving expressed by a parental figure towards the child (MacDonald, 1992).
- Parental involvement is defined as parents' dedication to help their children in their schooling, which includes: participating in school activities, personal involvement (child's affective environment), and cognitive/intellectual involvement (Grolnick & Slowiaczek, 1994).
- Communication can be described as relatively concrete behaviours, which are open to observation and description. It focuses upon behaviours such as discussion, open expression of affection, nagging and readiness to listen (Barnes and Olson, 1985; Grotevant & Cooper, 1986).
- Adjustment: adjustment refers to an individual's affective, cognitive, perceptual, and motivational dispositions for responding to actual and observable behaviours in various life conditions (Hartos & Power, 2000). Adjustment problems are understood as adolescents' problems that interfere with the ability to adapt to the social expectations and demands. Adolescent adjustment in this study was measured operationally by scores of the four scales of the adolescent adjustment variables, which are self-esteem, substance use, depression and school adjustment.

- Self-esteem is defined as the value or worth placed on the self and behaviour. It is the way in which people perceive and value themselves or the degree to which a person feels their ideal self is congruent with their actual self (Coopersmith, 1967; Rosenberg, 1989).

- Substance use in this study was measured operationally by scoring adolescents' alcohol, tobacco and other drug use (Parker & Benson, 2004).

- Depression in adolescents can be described in eight dimensions: affective manifestations like depressed or irritable mood; loss of interest; cognitive dysfunction including inability to think or concentrate; vegetative manifestations like insomnia, loss of appetite or loss of weight; psychomotor manifestations like agitation or retardation; negative cognitions like feelings of worthlessness or inappropriate guilt; existential concerns like recurrent suicidal thoughts and fatigue or lack of energy (American Psychiatric Association, 2000).

- A student's school adjustment can be described as the cognitive, social-emotional and behavioural adaptations made towards the demands of a classroom (Perry & Weinstein, 1998). In this study information on adolescents' general feelings towards their school, school work, average academic grade and conduct remark from head teachers, which is reflected on their report card were used to measure adolescents' school adjustment.

1.8 Organization of the Study

- Chapter One describes the basic concepts of parent-adolescent relationship and adjustment problems.

- Chapter Two consists of the theoretical framework, literature review describing parent- adolescent relationships and adolescent adjustment problems in detail.

- Chapter Three outlines the specific research design, procedures, sample and sampling technique, the instruments used, the validity and reliability of the instruments, ethical considerations and data analysis.

- Chapter Four discusses the analysis of the collected data and evaluations of the results in relation to each research question.

- Chapter Five presents a conclusion of the results, elaborates on the significance of the research results in relation to the study's objectives and addresses the study's implication for theory, direction for future research, policy and practice.

CHAPTER TWO: REVIEWING THE LITERATURE

The study described here is designed to examine the relationship between parent-adolescent relationships and the adjustment of adolescents. This chapter presents a review of the literature regarding adolescence, theories of parent-adolescent relationships, parenting style, parent-adolescent relationship variables, and adolescent adjustment variables. Each of the variables included in the study is discussed with reference to the existing body of knowledge and their theoretical foundations.

2.1 Adolescence

Adolescence, which is generally referred to as the second decade of the life span, is a developmental period that is characterized by numerous transitions. As individuals come across these significant changes, they gradually progress from the immaturity of childhood to the maturity of adulthood (Berk, 2010; Gouws *et al.*, 2008; Santrock, 2004; Watts *et al.*, 2009). It is difficult to define the phase of adolescence in terms of chronological age, however; it is generally accepted that it starts between the ages of 11 to 13 years and it usually ends between the age-ranges of 17 to 22. This period can be also sub divided into early (11 to 13), middle (14 to 17) and late (18 to 22) adolescence (Gouws *et al.*, 2008). It is extremely important to understand the changes that occur during the adolescents' development. Thus the following paragraphs describe the three sets of primary changes that occur during the period of adolescence, which are: biological changes, changes in cognitive abilities, and transitions in social roles and relationships.

The first change is biological or physical associated with maturation into adult reproductive capability and usually termed as puberty. A rapid growth resulting in increases in height and weight, the development of primary sex characteristics, the development of secondary sex characteristics, changes in the quantity and distribution of fat and muscle, and changes in the circulatory and respiratory systems that lead to increased stamina for physical activities, onset of menstruation for girls and the deepening of the voice and the occurrence of the first ejaculation for boys are some of the common manifestations of puberty (Steinberg, 2002;Watts *et al.*, 2009). Corresponding to these biological changes, adolescents also experience significant advances in their cognitive abilities.

Adolescents develop the ability to think abstractly, can engage in hypothetical-deductive reasoning and also experience improvements in their meta-cognitive skills (Berk, 2010; Gouws *et al.*, 2008; Steinberg, 2002; Santrock, 2004; Watts *et al.*, 2009). Specifically, they are able to develop hypotheses and then systematically deduce, or conclude, and able to employ strategies to assist them in remembering information and to explain to others the cognitive strategies that they are utilizing. Adolescents also experience gains in their information processing abilities, such as advances in both selective and divided attention, increases in working and long-term memory, and an increase in the speed of information processing (Berk, 2010; Santrock, 2004; Watts *et al.*, 2009). This increased ability to monitor one's own thoughts and feelings can lead to adolescent egocentrism, or an intense preoccupation with the self. In line with their cognitive development adolescents display two types of egocentrism that are referred to as the personal fable and the imaginary audience (Berk, 2010; Santrock, 2004; Watts *et al.*, 2009). Personal fables are adolescents' beliefs that their own experiences are unique. These personal fables can cause adolescents to engage in risky behaviours because they adopt a belief that certain negative events that happen to others

could not possibly happen to them. Imaginary audience is the other type of egocentrism, which refers to adolescents' belief that their behaviours are the focus of everyone else's concern and attention (Berk, 2010; Santrock, 2004; Watts *et al.*, 2009).

Adolescents also experience significant changes in their social relationships with individuals such as parents and peers. Contrary to the common stereotypes of “storm and stress” in parent-adolescent relationships, the majority of adolescents report having respect for their parents as individuals, feeling close to their parents, and feeling loved and supported by them (Berk, 2010; Gouws *et al.*, 2008; Steinberg, 2002; Santrock, 2004; Watts *et al.*, 2009). However, adolescence does represent a period of change in relationships and daily interactions with family members. For example, adolescents and their parents tend to engage in frequent disagreements over day-to-day issues such as household chores and clothing (Berk, 2010; Gouws *et al.*, 2008; Steinberg, 2002; Watts *et al.*, 2009). In their quest for greater autonomy, adolescents generally become more assertive in expressing their opinions and negotiating during discussions with their parents. In most families, adolescence signifies a movement away from asymmetrical patterns of interaction between parents and children to interactions in which adolescents and parents function on a more equal level (Steinberg, 2002). Thus adolescence is the period when this change in parent-child interactions first occurs and this phase of development is a particularly stressful time for the entire family.

In addition to social transitions in the family context, adolescents also show transitions in their social relationships with peers. As individuals approach adolescence they spend significantly more time with peers. Overall, adolescents' experiences within the peer group provide opportunities for identity exploration, the development of autonomy, and the socialization of appropriate sexual behaviour (Berk, 2010; Gouws *et al.*, 2008; Steinberg,

2002; Santrock, 2004; Watts *et al.*, 2009). Family relationships are altered as the process of differentiation begins to take place and adolescents rely more on peers, seek increased independence, and are less willing to see themselves as part of a hierarchy that is headed by their parents. As a result, the parent-adolescent relationship experiences increased conflict and decreased closeness (Berk, 2010; Gouws *et al.*, 2008; Steinberg, 2002; Santrock, 2004; Watts *et al.*, 2009). However, a decrease in closeness does not relegate the parent-adolescent relationship to one without importance. In support of this, past research indicates that family relationships remain important throughout adolescence and in a family where there are poor or negative relationships peer influence surges and leaves the adolescents at greater risk of adjustment problems (Berk, 2010; Gouws *et al.*, 2008; Steinberg, 2004; Steinberg & Morris, 2001). The feeling of invulnerability that is characteristic of adolescents' thinking at this time leave them more prone to various adjustment problems.

Along with the general trend toward greater independence and with less time under adult supervision, adolescents encounter new and potentially risky situations with which they have little or no experience to make good decisions. For example, attachment to deviant peers grows and peer pressure to engage in misbehaviour becomes a large component of the threat that comes during this stage of life (Steinberg, 2004). Thus, adolescence today is unfortunately not only a period of preparation for and transformation to adulthood, but has become a period in which adolescents increasingly face many challenges for which they are not prepared. A good parent-child relationship is found to be effective in protecting adolescents from the adjustment problems they encounter in this developmental phase. In support of this Cummings (1995) emphasized parents' need to adopt a protective role in nurturing adolescents who are being faced with ever-increasing pressure to perform, conform, and successfully negotiate the rapid emotional, physical and cognitive changes so typical in

the transition to adolescence. Hence, not having adequate supportive structures and resources predisposes the adolescent to engage in negative behaviours as a means of coping. The individuation process is generally considered as a critical component of adolescence, it is still incumbent upon parents to provide and enforce parameters within which their children may develop through a good parent-adolescent relationship. Even if the extent of actual disruption in parent-adolescent relations is not as great as one might expect given stereotypes about this period of life, researchers (Cummings, 1995; Fletcher, Steinberg, & Williams-Wheeler, 2004) stressed the importance of stable parent-child relationships as a protective factor for adolescent adjustment problems. Therefore it is important to continue investigating parent-adolescent relationships and adolescent adjustment by taking into account multiple variables or characteristics of parenting behaviours. The next section presents a brief description of theoretical perspectives of parent-adolescent relationships and of adolescent adjustment.

2.2 Theoretical Perspectives of Parent-Adolescent Relationships

The developmental construction views share the belief that as individuals grow up they acquire ways of relating to others. There are two main variations within this view, one of which emphasizes continuity and stability in relationships throughout the life span and the other emphasizes discontinuity and change in relationships through the life span (Santrock, 2004; Watts *et al.*, 2009). The prevalent perspective mostly assumes that the adolescent's physical, cognitive, and social maturation produces inherently unstable relationships. The implications of this instability varied from one theoretical perspective to another, the common focus being the relative turbulence of relationships during adolescence relative to those of childhood. Recent models emphasize continuity and the enduring nature of bonds

made-up between parents and adolescents. It means that functional properties of parent-adolescent interactions continue despite the changes in the content and form of interactions.

2.2.1 Maturational Models

Maturational Models accredit the destabilization of parent-adolescent relationships to varying features of adolescent maturation. For example psychoanalytic theorists such as Freud (1958) once posited the assumption that hormonal changes at puberty give rise to undesirable Oedipal urges that foster impulse control problems and anxiety, as well as rebelliousness and distance from the family. Other psychoanalytic theorists such as Erikson (1968) emphasize adolescent autonomy striving and ego identity development. These later models converge on the dual conflict that awareness of parental imperfection and psychic unrestraint drive a wedge between parents and children and that inner turmoil produced by adolescent hormonal fluctuations intensifies relationship difficulties. While this account implies increased conflict and reduced closeness accompanied by maturational changes, it also makes the assertion that close relationships can be re-established in late adolescence and young adulthood.

Evolutionary views also emphasize the role of puberty in altering relationships but propose that change processes stem from physical and cognitive advances that enable adolescents to separate from the family in order to seek friends elsewhere. Increased conflict within the family and diminished closeness to parents are considered as an inevitable result of this individuation process (Berk, 2010; Gouws *et al.*, 2008; Steinberg, 2002; Watts *et al.*, 2009). Although evolutionary views specify ways for the reestablishment of parent-child closeness among young adults, it may be that parental investment in offspring and the warmth experienced in earlier periods provide a foundation of positive affect and regard that

enables both parties to transcend the difficulties of adolescence (Santrock, 2004; Steinberg, 2001; Watts *et al.*, 2009).

Other maturational models give cognitive development a more vital role in parent-adolescent relationships changes. In these accounts advances in abstract and complex reasoning foster more shaded appreciation of interpersonal distinctions and an increasingly reciprocal view of parent-child relationships (Berk, 2010; Gouws *et al.*, 2008; Steinberg, 2002; Santrock, 2004; Watts *et al.*, 2009). Moreover adolescents become more likely to assume equal power in their interactions with parents and consider certain issues as matters of personal choice, even though previously they were under parental jurisdiction (Berk, 2010; Santrock, 2004; Watts *et al.*, 2009). Thus parents' reluctance to transform the hierarchical relationships established in childhood into more egalitarian ones creates conflict and limits closeness, prompting renegotiation of familial roles in adolescence (Collins, 1995). According to social psychological theory physical and cognitive maturation are sources of constraints and demands for adolescents and also recognises that changes in parents often play a role in the altered interactions with adolescents (Santrock, 2004; Watts *et al.*, 2009).

2.2.2 Models of Relationship Continuity and Transformation

The emphasis in this view is on the role that early parent-child relationships play in constructing a basic way of relating to people throughout the life span. Thus this model focuses on forces for stability and change within the dyad, rather than on the impact of individual change on the dyad. In this extreme form, this view states that the basic components of social relationships are laid down and shaped by the security and insecurity of parent-infant attachment relationships in the first year or two of a child's life. The most common example in this model is attachment theory, which emphasizes strong emotional ties

between parents and adolescents. According to Bowlby (1980) one important assumption of attachment formulations is that adolescents and parents with a history of sensitive, responsive interactions and strong emotional bonds facilitate adaptation during the transitions to adolescence. As a result, parents and children work mutually to continue the relationship in a consistent manner with cognitive representations derived from their history of interactions with their parents (Bowlby, 1980).

Attachment in adolescence is distinctive from attachment in earlier relationships, both behaviourally and cognitively. For example, Allen and Land (1999) argue that strong emotional ties to parents may be observed in subtle and very private ways, including friendly teasing and small acts of concern, as well as in more obvious forms of interdependence such as shared activities with fathers and self-disclosure to mothers. Furthermore, cognitive advances in adolescence make possible an integrated, overarching view regarding experiences that involve care giving, caretaking and confidence in the availability of significant others. Consequently, whereas younger children view attachment in relation to more specific parent-child relationships, adolescents are increasingly attuned to both the similarities and the differences between relationships with parents, other significant adults, friends, and eventually romantic partners and offspring (Allen & Land, 1999). The functions of secure relationships for adolescents are similar to those for infants. During the period of infancy a secure parent-child relationship facilitates exploration of the immediate environment. In the same way, a secure parent-child relationship during adolescents provides a sense of confidence to adolescents in exploring the environment outside their family, which includes the formation of new relationships with peers and other adults (Santrock, 2004; Watts *et al.*, 2009). Thus the construction of new relationships during adolescence is influenced by close relationships with parents since these relationships function as models

that are carried forward over time. As a result, the nature of parent-adolescent relationships does not depend only on what happens in the relationship during adolescence. It means that adolescents' relationships with parents over the long course of childhood are carried forward to influence, at least to some degree, the nature of their current relationships.

In close relationships individuals are interdependent and they engage in frequent, strong, and diverse interconnections maintained over a long time. According to Reis, Collins, and Berscheid (2000) in an interdependent relationship, partners engage in mutually influential exchange and share the perception that their connections are reciprocal and enduring. Participants internalize these enduring interconnections and organize them into mental schemas that shape expectations concerning future interactions (Reis *et al.*, 2000). Adolescents' increasing cognitive abilities make them to question the rules of reciprocity and communication that govern interactions with their parents. For adolescents to have a positive interaction with parents, they need to have autonomy in their relationship. Regarding this Steinberg (2001) indicates that greater autonomy offers adolescents the opportunity to influence interactions with parents on the basis of perceived relationship costs and benefits. Though, increased conflict may occur in poor quality relationships, along with a decline in closeness, as adolescents express a growing dissatisfaction with unequal treatment and unfavourable outcomes (Steinberg, 2001). In addition, Collins (1995) posits that the interactions between parents and children are mediated by cognitive and emotional processes associated with expectancies about the behaviour of the other person. Thus high-quality relationships, however, may change little or may even improve as participants build on mutually beneficent patterns of exchange and attempts to adjust for past inequities.

2.3 A Theoretical Perspective for Understanding Adolescent Adjustment

This study considers Bandura's social learning theory as providing a broadband explanation for both desirable and undesirable behavioural outcomes (Bandura, 1986). Social learning theory includes a broad range of theory and practice in learning and change and covers both cognitive and behavioural approaches. In this regard, social learning theory assumes that psychological and environmental factors combine to influence the development of specific behaviours.

Social learning theory emphasizes the importance of attending to and modeling the behaviours, cognitions and emotions of others. This theory also sees an interactive process between cognitive, behavioural, and environmental influences (Ward & Gryczynski, 2009). There are three principles that help define social learning theory. Firstly, observational learning is achieved when the modeled behaviour is structured or organised and then practiced symbolically, and then explicitly acted out. The modeled behaviour is coded into words, labels or images and retention of that behaviour occurs. Secondly, the adoption of the modeled behaviour is strengthened when the outcomes of that behaviour are seen as important to the individual or lead to a desirable and expected outcome. Thirdly, the modeled behaviour is more likely to be integrated by the observer when the model has characteristics similar to the observer, there is a cognitive-behavioural connection with the model, the model is admired by the observer, and the behaviour that is adopted has practical or functional value (Ward & Gryczynski, 2009).

Social learning theory considers four requirements for learning and modeling behaviour. The first is attention to the modeling events in the environment and the characteristics of the observer to attend to those events (emotional, perceptual set, arousal

level). Next is retention, which is the cognitive component involving remembering what one is observing, coding, organising and rehearsing at the cognitive level. Then the ability to reproduce or copy the behaviour that includes observing the self re-producing behaviour and feedback of the accuracy of that reproduction occurs. Finally, motivation or behavioural consequence that justifies wanting to adopt the behaviour, which includes self-reinforcement (Ward & Gryczynski, 2009).

Social learning theory recognises the importance of observing and modelling the behaviours, emotional reactions, and attitudes of others. It is based on the idea that we cannot only rely on ourselves for information about the world and how we should behave in it (Bandura, 1986). Bandura's model states that people observe what is going on around them and then interpret a meaning of those behaviours (Bandura, 1986). Applied to the present study, social learning theory suggests that adolescents interpret the messages that their parents give or show them via their parenting behaviours which can alter the adolescents' cognitions and behaviours in a positive or negative way. For example, if a parent is showing low or no caring (warmth) for the adolescent, the adolescent may feel uncared for or rejected and may show signs of sadness or depression. Excessive psychological control by a parent may also cause the adolescent to feel as if they cannot do what they like to do, and therefore the adolescent may develop a poor self-concept. One of Bandura's principles states that an observer is more likely to adopt modelled behaviour if the modeller has an admired status, as many parents do to children growing up to adolescence. In the same way Steinburg and Morris (2001) considered parents as still influential in the lives of adolescents and they serve as a role model for adolescents to imitate the habits and behaviour of their parents. Consequently, this study focuses on how parental behaviours as expressed through their relationship with adolescents correlate with adolescents' adjustment in terms of level of self-

esteem, substance use, depression and school adjustment. Parenting behaviours are used now to conceptualize parent-adolescent relationships, which include adolescent perceptions of their mothers' and fathers' psychological control, warmth, involvement and communication.

2.4 Conceptualizing Parent-Adolescent Relationships

The relationship that adolescents form with their parents is some of the most crucial relationships they form throughout their lives. In previous studies of parent-adolescent relationships, it has been established that many sub-constructs contribute to the overarching idea that the relationship between parents and adolescents continues to exist. While some studies focus on the construct of parent-adolescent relationships as a whole, other researchers study the relationship quality between the dyads using specific constructs. As a consequence, the term parent-adolescent relationship was described using different family relationship variables or characteristics and as a result, different types of constructs or variables were used in the family relations research. For example it was studied in terms of parenting styles (Baumrind, 1961, 1991), emotional closeness or attachment (Bowlby, 1980), the degree of conflict (Berk, 2010; Watts *et al.*, 2009), parental warmth (MacDonald, 1992; Paulson, Hill, & Holmbeck, 1991; Rohner, 2004), psychological control (Barber, 1996; Barber & Harmon, 2002; Schaefer, 1965), communication (Barnes & Olson, 1985; Grotevant & Cooper, 1986) and involvement (Epstein, 1992; Grolnick & Ryan, 1989). For the purpose of this study psychological control, involvement, parental warmth and communication were used as variables or characteristics to conceptualize parent-adolescent relationships. Most of the specific parent-adolescent relationship variables or parenting characteristics studied in the previous literature are based on the different parenting styles, which were originally developed by Baumrind's continuous work (1967; 1978; 1991). Thus before discussing the

four different variables or characteristics used in this study it is wise to look briefly at the different parenting styles and their implications for the adjustment of children in general.

2.4.1 Parenting styles

Parenting styles have been described as a set of parents' behaviours, which form an atmosphere of parent-child interactions across situations. According to Baumrind (1966; 1967; 1978; 1991) there are three broad typologies of parenting styles, which are authoritative, authoritarian and permissive. These styles tend to differ along the dimensions of warmth and control. According to Hart, Newell, and Olsen (2003) warmth refers to the degree to which parents display involvement, responsiveness, and support. Moreover warm, supportive parenting involves behaviours that are physically and emotionally affectionate, approving, loving and caring. On the other hand, control includes the demands or expectations parents place upon or hold over their children and the degree of monitoring present in parenting processes. By considering the three parenting styles Hart, Newell, and Olsen (2003) identified three important features that differentiate them which include: support shown to a child aimed at forming an emotional connection with the child, behavioural control of the child aimed at promoting mature behaviour, and autonomy granting aimed at fostering self-reliance.

Authoritative Parenting: authoritative parents have a tendency of both high control and high responsiveness and warmth to their children; have clear expectations; rules are firm and rational, and ways of discipline is consistent (Baumrind, 1966). These parents also openly discuss any problems or actions that may arise in relation to the child and exhibit firm control when necessary. Besides authoritative parents aim to teach rules of conduct, outline boundaries, and foster responsibility through teaching correct principles. In doing so they

employ consequences for problematic behaviour though it is more of positive reinforcement than harsh punishment (Baumrind, 1991). Hence, this parenting style offers a balance between high nurturance and high control, in addition to, clear communication about expectations for the child.

Research has documented that adolescents of authoritative parents show various positive development. For instance they have higher self-esteem, are socially confident and competent (Baumrind, 1978), are self-reliant, have greater respect for their parents, performed better in school, had better relations with peers, and showed less experimentation with alcohol and drugs (Baumrind, 1991), display increased academic performance (Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987), engage in fewer acts of deviant behaviour and more positive behaviour (Avenevoli, Sessa, & Steinberg, 1999; Baumrind, 1991), and exhibit lower levels of stress and fewer incidences of substance abuse (Avenevoli *et al.*, 1999). It can be seen from the above research that adolescents who perceive their parents to be authoritative are better adjusted than adolescents with authoritarian, permissive or neglecting parents.

Authoritarian Parenting: These parents combine high control with lower levels of warmth that allows for strong parental command over their child, leaving minimal input of the child in decisions or rationales (Baumrind, 1991). Authoritarian parents are “obedience and status-oriented, and expect their orders to be obeyed without explanation” (Baumrind, 1991, p. 62). This shows that the communication is one way and the child is not permitted to express his/her views or opinions. As a result, an authoritarian parent is demanding and unresponsive to the emotional needs of the child, as well as being controlling, and detached. In addition to high control and demand, authoritarian parents show little warmth,

involvement, support, or emotional commitment to their child (Baumrind, 1991). During adolescence past research shows that adolescents of authoritarian parents have low self-esteem, low sociability, moodiness, obedience, high stress, substance abuse and apprehensiveness (Avenevoli *et al.*, 1999; Darling & Steinburg, 1993). These researches indicate that adolescents of authoritarian parents do show various adjustment problems.

Permissive Parenting: These parents show high levels of warmth (which is displayed through overindulgence), low levels of control, non-demanding and avoidant of controlling behaviour or outlining boundaries in the children's environment (Baumrind, 1991). In most cases permissive parents give the child extensive autonomy, corroborated by high parental support, in the hopes of creating close relationships with their children and these parents often surrender to the demands of their child (Baumrind, 1991). Bad behaviour of the child is seldom acknowledged or corrected by parents and rules are either not enforced or are not clearly communicated. As a result, children of permissive parents are often left to regulate their own activities, behaviour, and emotions at a young age. While positive outcomes of permissive parenting may include close parent-child relationships, greater self-esteem, and more autonomy (Herz & Gullone, 1999), this parenting style often fosters more serious problems in adolescence such as drug use and deviant behaviour (Baumrind, 1991), and lower academic achievement, tend to lack verbal and behavioural control, be more aggressive, and have difficulty following school rules (Dornbusch *et al.*, 1987). Like authoritarian parents adolescents of permissive parents show various externalized adjustment problems though they demonstrate close relationships with parents, greater self-esteem, and more autonomy.

The different parenting styles discussed above provide a background for complex parenting attitudes and values; however, the main objective of this study is to identify specific parenting practices that can be directly assessed. Parenting styles are stable and complex of attitudes and beliefs that form the context in which parenting occurs. In contrary, parenting practices are defined as specific goal-directed behaviours through which parents perform their parental duties and they can be directly assessed with high reliability (Darling & Steinberg, 1993). In addition, examining the independent associations of the different specific parenting practices in relation to adolescent adjustment is especially relevant (Steinberg, Mounts, Lamborn, & Dornbusch, 1991). As a result, the next four sub-sections present the four parenting practices used to measure parent-adolescent relationships in this study, which are psychological control, parental warmth, involvement and communication.

2.4.2 Psychological Control

Psychological control refers to parenting behaviours that hinder children's thoughts and feelings, and has been characterized as excessive use of manipulative parenting techniques, such as guilt-induction, shaming, and love withdrawal (Barber, 1996). The construct of psychological control was originally identified by Schaefer (1965) using a factor analysis on a wide range of parenting behaviours as an important dimension of the quality of parenting styles. According to Schaefer (1965 p. 554), "psychologically controlling parents were experienced by their children as being intrusive, overprotective, possessive, directive, and controlling through guilt." Schaefer also hypothesized that the covert and intrusive methods used by psychologically controlling parents thus hinder healthy development of the child.

Barber (1996) defines psychological control as “socialization pressure that is nonresponsive to the child’s emotional and psychological needs (but instead) stifles independent expression and autonomy” (p. 3299). Similarly, Barber and Harmon (2002, p. 152) describe psychological control as “parental behaviours that are intrusive and manipulative of children’s thoughts, feelings, and attachments to parents.” In addition, Smetana and Daddis (2002, p. 563) define psychological control as “parents’ attempt to control the child’s activities in ways that negatively affect the child’s psychological world and thereby undermines the child’s psychological development.” Moreover, Adams and Laursen (2007) described parental psychological control as a stifling of social and psychological maturation in the form of encouraging (or discouraging) independent thinking or self-discovery, or manipulation of adolescents to satisfy parental goals. Thus from these definitions it can be inferred that psychological control have implications to healthy development of the child as it contradict with the child’s need for autonomy.

Psychological control is expressed through different ways of parental strategies. For example, Barber and Harmon (2002) identified three parental tactics, which include guilt-induction, contingent love or love withdrawal and instilling anxiety. Guilt-induction refers to the use of guilt inducing strategies to pressure children to comply with a parental request. Contingent love or love withdrawal refers where parents make their attention, interest, care, and love contingent upon the children’s attainment of parental standards. Instilling anxiety refers to the induction of anxiety to make children comply with parental requests; and invalidation of the child’s perspective, which pertains to parental constraining of the child’s spontaneous expression of thoughts and feelings (Barber & Harmon, 2002). Hence, both covert parenting characteristics (indirect control of the child, intrusiveness, and hostility) as well as explicit parenting characteristics (manipulative, constraining, excessive parental

expectations, and affective punishment) are intrinsic to psychological control (Barber & Harmon, 2002).

According to Self-determination theory (SDT) psychological control represents an instance of controlling socialization either externally or internally and in such socialization process children will feel like they have no choice but to think or feel in ways that are imposed by their parents (Vansteenkiste, Simons, Lens, Soenens, & Matos, 2005). In the socialization process parents induce internal contingencies in children through the use of guilt-induction, shaming or love withdrawal, which have the potential to regulate behaviour (Assor, Roth, & Deci, 2004; Vansteenkiste *et al.*, 2005). Children who experience their parents as internally controlling would want to avoid the behaviour all together and feel an internal urge to engage in the requested behaviour at the same time. As a result, such an internally conflicting and controlled regulation is assumed to create vulnerability towards maladaptive patterns of development in the child. The imposition of psychological control on the child results in a lack of healthy interaction with others, creates limited opportunities to develop a sense of personal efficacy, and interferes with the development of a stable identity (Ryan, Deci, Grolnick, & La Guardia, 2006).

In line with the parenting style definition, control represents both behavioural control and psychological control. According to Barber, Olsen, and Shagle (1994) behavioural control focuses on rules, restrictions, and awareness of children's activities and behaviours. The most important distinction to be made is that behavioural control regulates behaviours that the parent views as inappropriate, whereas psychological control regulates thoughts and ideas. It is important for parents to maintain some degree of control over children and adolescents, and behavioural control is typically viewed as a positive form of control.

A common psychological control strategy, love withdrawal, is one way of socialization of children used by many parents and has many negative consequences. For example, Maccoby and Martin (1983) suggested that the parents who use excessive psychological controlling techniques expose their child to various adjustment problems, which include lack of social competence, lack of spontaneity, external moral orientation, low motivation for intellectual performance, low self-esteem, and external locus of control. Similarly, Barber *et al.* (1994) found that, when entering behavioural control and psychological control as simultaneous predictors of adolescent problem behaviours, behavioural control was uniquely negatively predictive of externalizing problems, and psychological control was uniquely positively predictive of internalizing problems. The positive relation of psychological control to internalizing problems appeared more reliable even when controlling for the effects of other parenting dimensions, such as support and behavioural control (Barber, Stolz, & Olsen, 2005). Psychological control was thought to be particularly linked to a vulnerability to internalizing problems because this parenting dimension would interfere with the establishment of a secure, stable, and positive sense of self and thus put adolescents at risk for low self-esteem and depressive symptoms (Barber & Harmon, 2002).

Existing research also indicates the use of psychological control as a parental tactic results in many internalized behaviours. In this regard Soenens, Vansteenkiste, Luyten, Duriez, and Goossens (2005) examined the role of maladaptive perfectionism in the relation between perceived parental psychological control and both self-esteem and depression. In line with our hypotheses, evidence was found for the mediating role of maladaptive perfectionism. In addition, they examined the unique contribution of psychological control in predicting severity of depression, self-esteem and maladaptive perfectionism in comparison

to other parenting style dimensions and parents' own maladaptive perfectionism. The results showed significant convergence between mothers' and daughters' maladaptive perfectionism, psychological control was found to predict daughters' perfectionism in addition to their mothers' perfectionism. Finally, psychological control predicted severity of depression, self-esteem and maladaptive perfectionism in addition to other parenting dimensions (responsiveness and behavioural control). Similarly, Garber, Robinson, and Valentiner (1997) also reported a positive association between psychological control and internalizing problems.

A number of studies have also provided indirect evidence for the competence-undermining effect of psychological control. For instance, experimental work of Vansteenkiste *et al.* (2005) examined whether framing early adolescents' learning activity in terms of the attainment of an extrinsic versus intrinsic goal and communicating these different goal contents in an internally controlling versus autonomy-supportive way affect performance. Both conceptual and rote learning methods of adolescents were assessed. The result confirmed that extrinsic goal framing and internal control undermine conceptual (but not rote) learning, even in comparison with a control group. In addition, the study indicated that the positive effect of intrinsic goal framing on conceptual learning was mediated by task involvement, whereas the positive effect of autonomy-supportive communication style on conceptual learning was mediated by relative autonomous motivation.

Likewise, Aunola and Nurmi (2004) investigated the extent to which mothers' psychological control predicts their children's mathematical performance during the transition from preschool to primary school. A sample of 196 children whose age was between 5–6 years old at baseline was followed up 6 times to measure their performance in

mathematics over a 3-year period from preschool to 2nd grade. The results indicated that a high level of psychological control exercised by mothers predicted their children's slow progress in mathematics.

In a sample of 158 academically at-risk adolescents Soucy and Larose (2000) examined whether adolescents' perceptions of attachment security and behavioural and psychological control as experienced in family and mentoring contexts are predictive of their adjustment to college. Adolescents with an age range between 16-20 years old completed questionnaires twice before and after they participated in a mentoring program. The analysis showed that paternal control was predictive of adolescent adjustment to college. Moreover, the relationship was found to be stronger for adolescents who reported having high levels of security in the relationship with their mother, and psychological control by both parents appeared to be a significant determinant of academic achievement. The result of this study is in line with Conger, Conger, and Scaramella (1997) who also obtained negative associations between psychological control and direct assessments of academic competence.

There is also some research that suggests an association between psychological control and adolescents' self-esteem. For instance, Bean and Northup (2009) examined several key parenting variables (psychological control, psychological autonomy, and acceptance) in predicting self-esteem among Latino adolescents using structural equation modelling analyses. Data were obtained from the Youth and Family Project, a school-based, self-report survey of 2,214 high school-age youths from 9th- to 12th-grade in West Texas public school districts. Nested models were tested and parental acceptance variables were omitted from the model and group gender comparisons were examined. The analysis showed that maternal psychological autonomy and paternal psychological control were found to be

significant predictors of Latino boys' self-esteem, whereas psychological autonomy and control (paternal and maternal) were all significantly related negatively to self-esteem among Latino girls. Similarly, Leondari and Kiosseoglou (2002) examined the association between parental psychological control and parental attachment; and the differential and combined effects of these two constructs on indices of psychological well-being, namely, self-esteem, positive or negative affect, and personal and interpersonal efficacy. The sample included 319 adolescents, of which 142 were males and 177 were females with an age range of 15 to 22. The analysis revealed that both psychological control and attachment predicted self-esteem, and there was some indication that psychological control exercised by mothers had a stronger influence on self-esteem. Additionally, Bean, Bush, McKenry and Wilson (2003) examined the relationships between adolescent functioning (self-esteem and academic achievement) and parental support, behavioural control, and psychological control in European American and African American adolescents. Results of hierarchical regression analyses indicated that supportive behaviours of African American mothers toward their adolescent children positively predicted both self-esteem and academic achievement. Psychological control was significantly related to adolescent self-esteem in both the models of paternal parenting (African American and European American) and maternal parenting (African American). This study provides support for the methodological value of examining the parenting dimensions independently as opposed to combining them to form parenting styles. Kernis, Brown, and Brody (2000) also showed that perceived psychological control does not only relate to lower self-worth, but also to stronger day-to-day fluctuations in self-worth. As a consequence, such unstable self-esteem signals that children's self-worth is fragile, presumably because it depends upon children's capacity to meet pressuring external and internal contingencies.

Parents' use of conditional regard to socialize children also generates affective problems though the desired behaviours are internalized. In support of this assumption Assor *et.al* (2004) examined behavioural and affective outcomes of college students' perceptions of their mothers' and fathers' conditional regard using a differentiated conception of internalization provided by self-determination theory. The result indicates that adolescents who have received conditional regard in areas of emotion control, prosocial behaviour and academic achievement were found to relate to introjected internalization, behavioural enactment, variations in self-esteem, perceived parental disapproval, and resentment of parents. Thus parents' use of conditional regard to socialize children may promote not only an immediate display of the desired behaviours but also internalization of the behavioural regulation. However, it also seems that this internalization may be accompanied by negative influences, diminished self-esteem, and ambivalence toward the parents. The result suggested that use of conditional regard as a socializing practice can promote enactment of the desired behaviours but does so with significant affective costs.

Research also conducted to see the role of different dimensions of parenting and adolescent adjustment. Regarding this Doyle and Markiewicz (2005) assessed the contributions of three dimensions of parenting (psychological control, warmth, and behavioural control), marital conflict, and attachment style (anxiety and avoidance) to adjustment from early to middle adolescence in a sample of 175 adolescents. Adolescents were requested to report their perception of parenting practices, attachment styles, school grades, self-esteem, and internalizing and externalizing problems in two separate occasions over a period of 2 years. The result shows that greater reported parental psychological control was associated both with more internalizing problems 2 years later and with increases in internalizing problems over time. Moreover, psychological control was the only aspect of

parenting to make a unique contribution to internalizing problems, and accounted for most of the variance in outcomes attributable to parenting. That is, psychological control was the most important parenting influence on adolescents for internalizing problems. However, parental warmth was associated with decreases in externalizing symptoms and increases in self-esteem over time, the latter mediated by attachment security. Unfortunately, this study did not find association between parental psychological control and adolescent school achievement, in contrast to other researchers (Steinberg, Elmen, & Mounts, 1989) who have found negative association between parental psychological control and achievement.

In a school-based survey of 692 European-American and African-American adolescents Krishnakumar, Buehler, and Barber (2003) examined adolescents' perceptions of inter-parental conflict (through monitoring, maternal acceptance, psychological control and conflict) and youth problem behaviours. The findings indicated that inter-parental conflict was associated positively with adolescents' problem behaviours in all the samples. For European-American families, inter-parental conflict was linked with youth externalizing problem behaviours through lower levels of parental monitoring, maternal acceptance, and higher levels of parent–youth conflict, and with internalizing problem behaviours through higher levels of maternal psychological control and parent–youth conflict.

Using symbolic interaction, Plunkett, Henry, Robinson, Behnke, and Falcon (2007) developed a research model that proposed adolescents' perceptions of parental support and psychological control would be related to adolescents' depressed mood directly and indirectly through self-esteem. They tested the model using self-report questionnaire data from 161 adolescents living with both of their biological parents. The results demonstrate that both the fathers' and mothers' models showed significant direct paths. Specifically, a negative path

from adolescent self-esteem to depressed mood for both girls and boys and a positive path from parental psychological control to depressed mood for boys. In addition, a negative direct path from fathers' support to girls' depressed mood was evident. Indirect associations were also identified from psychological control to self-esteem to depressed mood for girls. These results support the potential for decreasing the risk of depressed mood in adolescents within interventions involving parents as significant others with whom interactions help create meaning.

In an effort to identify parenting practices that can affect the adjustment of Mexican-American youth, Sher-Censor, Parke, and Coltrane (2011) examined parents' promotion of psychological autonomy and parents' psychological control as perceived by Mexican-American early adolescents, and explored their associations with adolescents' adjustment in the context of acculturation. In 5th grade, 134 (54.5% female) Mexican-American adolescents reported on their acculturation level and the parenting practices of their mothers and fathers. In 5th and 7th grade, adolescents also reported on their depressive symptoms, number of delinquent friends, and self-worth. The results indicate that perceptions of promotion of psychological autonomy and of psychological control were positively interrelated. However, psychological control was associated negatively with adolescents' well being; whereas psychological autonomy associated positively with adolescents' well being. Controlling for baseline adjustment in 5th grade, perceptions of more promotion of psychological autonomy and of less psychological control in 5th grade predicted fewer depressive symptoms 2 years later. Perceptions of more promotion of psychological autonomy in 5th grade also predicted having fewer delinquent friends in 7th grade. In addition, perceptions of more promotion of psychological autonomy predicted higher self-worth only among less acculturated adolescents. Sher-Censor *et al.* (2011) concluded that

promotion of psychological autonomy and psychological control may play a role in children's wellbeing during early adolescence.

In a longitudinal study of 109 families Galambos, Barker, and Almeida (2003) examined the relative influence of three parenting behaviours (support, behavioural control, and psychological control) and deviant peers on trajectories of externalizing and internalizing problems in early adolescence. The analyses showed that parents' higher levels of psychological control when coupled with behavioural control related with higher levels of internalizing problems among early adolescents. A combination of both high behavioural and psychological control indicates a coercive situation has developed in which parents react to a misbehaving child by resorting to all available control. Consequently, a combination of high psychological and behavioural control indicates that parents are over managing adolescents in a way that is developmentally inappropriate and intrusive.

There is also research that shows a relationship between psychological control and externalized problems, including aggression, defiance, delinquency, and risky behaviours. For example Barber (1996) surveyed 933 fifth and eight graders as part of a 4-year longitudinal study. The surveys were administered in school, and included measures of psychological control and delinquency. The results indicated that parental use of psychological control is a significant predictor of youth behavioural problems. Similarly, Finkenauer, Engels, & Baumeister (2005) collected cross-sectional data from 1,359 Dutch school children, aged 10-14 to determine if and how parenting behaviours are related to emotional and behavioural problems during adolescence. Finkenauer and colleagues indicated that child reports of parental use of psychological control were positively related to child-reported delinquency and aggression. In addition, Thompson, Hollis, and Richards

(2003) examined data from the 1970 British Cohort study in order to test the relationship between authoritarian parenting attitudes and child conduct problems. The sample included 16,151 individuals born during one week in 1970 in England, Scotland, and Wales. The participants were followed up at the ages of 5 and 10. The results showed a positive relationship between authoritarian parenting beliefs assessed at age 5 and child conduct problems at ages 5 and 10 (Thompson, Hollis, & Richards, 2003).

In a longitudinal study of 433 Dutch adolescents De Kemp, Scholte, Overbeek, and Engels (2006) investigated the main and interaction effects of parenting dimensions (i.e., support, monitoring, and psychological control) and best friend delinquency on adolescent delinquent behaviour. The structural equation modeling analyses revealed that adolescents' delinquent behaviour influenced their best friends' delinquency but not vice versa. Moreover, higher levels of parental support and monitoring, as well as lower levels of psychological control are associated with decreased levels of adolescent delinquency.

In the same way, Rogers, Buchanan, and Winchell (2003) conducted a longitudinal and cross-sectional analysis to examine the association between adolescent perceptions of parental psychological control and adolescent internalizing and externalizing symptoms across mother/daughter, mother/son, father/daughter, and father/son dyadic relationships. The sample consisted of 306 sixth- and seventh grade students, 287 mothers, and 115 fathers, interviewed at two points in time one year apart. The cross-sectional data demonstrate that fathers' psychological control predicted higher adolescent reported internalizing both for boys and for girls only when mothers also were perceived as high in psychological control. Similarly, but only among girls, fathers' psychological control predicted higher externalizing only when mothers also were perceived as high in psychological control. Furthermore,

longitudinal analyses demonstrate that adolescents with higher internalizing symptoms at one time are especially likely to perceive parents as using psychological control one year later; earlier psychological control did not predict later internalizing. However, longitudinal analyses indicate that higher psychological control at one time predicts higher externalizing one year later.

In conclusion psychological control is detrimental to children's development because psychological control inhibits children's ability to develop the psychological mechanisms needed to express independent thoughts and ideas. The research reviewed above showed that parental use of psychological control is linked to both internalizing problems (such as depression, anxiety, low self-esteem, social withdrawal, passivity and guilt) and externalizing problems (such as aggression, defiance, delinquency and other risk behaviours) in adolescents, although internalising problems are reported more often in the psychological control literature discussed above.

2.4.3 Parental Warmth

Parental warmth has been identified as an important dimension of parenting in the existing literature of parent-child relationship. For example, Schaefer (1965) found a dimension of warmth-hostility, ranging from high affection, positive reinforcement, and sensitivity to the child's needs and desires on one end, to rejection and hostility on the other end. In another perspective Bowlby (1980) used the term attachment and holds that children have instinctive behaviours that draw the caregiver into close physical proximity and form an attachment. These behaviours are shaped over generations to insure that parents are closer to the child in order to provide nurturance and care to protect the child from any anticipated danger. Again Maccoby and Martin (1983) interpret warmth as indicating a dimension

ranging from acceptance, responsiveness, and child-centeredness to its opposite. Similarly Paulson, Hill, and Holmbeck (p. 277, 1991) note that warmth can be understood as the degree to which “a positive, benevolent attitude permeates childrearing” and includes several beneficial components such as self-disclosure, expression of affection, and closeness. Furthermore, MacDonald (1992) considers warmth as a main component of an adaptive parent-child relationship, and refers to emotional nurturance and affectionate care giving expressed from a parental figure to the child. MacDonald also concluded that warmth and affection in the family evolved as an independent system of motivation, which was distinct from the process of attachment that prevents harm or loss. Thus rather than simply a behavioural contingency system at play, warmth, then, provides positive social reward that drives parent and child behaviour over the course of their relationship (MacDonald, 1992).

According to the parental acceptance–rejection theory (Rohner, 2004) parental warmth refers to the quality of the affection between parents and their children. Parental warmth is considered as a continuum ranging from parental acceptance to rejection. Acceptance is affection, care, or love that parents can feel and express toward their children. Parental affection can be expressed physically through kissing, hugging, and caressing, or verbally through praising, complimenting, or making positive comments to or about one’s child. In contrast, rejection is the absence or significant withdrawal of these feelings and behaviours, and the presence of a variety of physically and psychosocially hurtful behaviours and affects. Rejection is observed by hostility and aggression, indifference and neglect, or undifferentiated rejection. Additionally, Rohner states that children’s perception of parental warmth is universally, directly, and positively associated with the seven personality and behavioural dimensions of psychological adjustment that are associated with the perception

of parental warmth such as hostility, aggression, and passive aggression; dependence; self-esteem; self-adequacy; emotional responsiveness; emotional stability, and worldview.

There are cross-cultural studies that have sought to investigate the relationship between children's perception of parental warmth and their psychological adjustment. For instance, Khaleque and Rohner (2002) conducted a meta-analysis of 43 studies that investigated this relationship using the Child and Adult Parental Acceptance-Rejection Questionnaire (PARQ) and the Child and Adult Personality Assessment Questionnaire (PAQ). The sample consisted of 7,563 respondents from African American, Asian American, Hispanic American, and European cultural groups in the United States of America. Of the studies analysed, 28 involved children, ages 6 through 19, who reported their current perception of parental warmth and 15 involved adults, ages 21 through 89, who reported their retrospective perception of parental warmth. The analysis revealed that children who perceived their parents as warm reported higher levels of psychological adjustment than those who perceived their parents as less warm, regardless of differences in age, culture, ethnicity, gender, race, and other such defining conditions. The effects of perceived maternal warmth and paternal warmth, when controlling for demographic variables, revealed that adolescents who perceived their mothers/fathers as warm reported higher levels of psychological adjustment than those who perceived their mothers/fathers as less warm. They also concluded that the variance in adolescents' psychological adjustment could be accounted for by mothers' (32%) and fathers' (26%) behaviours when controlling for adolescents' age and parents' length of marriage.

In another study, Cournoyer, Sethi, and Cordero (2005) examined the relationships among perceptions of mothers'/fathers' warmth and psychological adjustment using a sample of 108 adolescents with age ranging from 17 through 28. The adolescents indicated their perceptions of maternal/paternal warmth using the Mother and Father versions of the Adult PARQ/Control and the Adult PAQ. A correlation analysis revealed a significant positive relationship between perceived maternal/paternal warmth and psychological adjustment. Adolescents, who perceived their mothers/fathers as warm, reported higher levels of psychological adjustment as compared to those, who perceived their mothers/fathers as less warm. Similarly, Kim (2005) also conducted a study to examine the relationship between perceptions of maternal/paternal control and perceptions of maternal/paternal warmth using a sample of 106 adolescents, ages 11 through 14. A correlation analysis, using data from the entire study sample, revealed a significant negative relationship between perceived maternal/paternal control and perceived maternal/paternal warmth, indicating that adolescents who perceived their mothers/fathers as controlling also tended to perceive their mothers/fathers as less warm. For these participants, perceived maternal/paternal control was significantly and positively associated with perceived maternal/paternal hostility and aggression and maternal/paternal undifferentiated rejection.

In line with the above studies Lila, Garcia, and Garcia (2007) also examined the relationship between perceptions of maternal/paternal warmth and psychological adjustment using a sample of 234 children whose ages ranged from 7 to 13. Children completed the Mother and Father versions of the Child PARQ and the Child PAQ. A hierarchical regression analysis revealed that when controlling for demographic variables, children who perceived their mothers/fathers as warm reported higher levels of psychological adjustment than those who perceived their mothers/fathers as less warm. Results of this analysis

revealed that approximately 36% of the variability in children's psychological adjustment could be accounted for by both perceived maternal and paternal warmth, when controlling for gender, age, and social class. Moreover, Rohner, Kean and Cournoyer (1991) conducted structural equation modelling analysis of a sample of 349 adolescents whose age range from 9 through 16. They suggest that the level of parental rejection is more crucial for child outcome, than how the rejection is expressed. Thus children with anxiety, conduct or depressive disorders all have parents that they themselves or researchers perceive to be rejecting in some way towards their children. This means that children who experienced lack or low warmth perceived themselves to be, the more impaired in their psychological adjustment.

Researchers that examined the relationship between maternal warmth and adolescent depression have consistently found a negative relationship between warmth and depression. For example, in an attempt to determine whether there is a relation between maternal characteristics and the tendency to self-handicap in young adolescents Greaven, Santor, Thompson, and Zuroff (2000) conducted a study in sample of 141 adolescents and their mothers. They explored the association between adolescents' age, tendency to self-handicap, and levels of adolescent dysphoria in relation to their mothers' parenting styles (caring and overprotection) and maternal stress. Results showed that girls with mothers high on caring self-handicapped less, independent of how dysphoric girls were and that maternal care moderated the relationship between self-handicapping and dysphoria in boys.

Using a cross-sectional design, Heaven, Newbury, and Mak (2004) conducted a study to predict adolescent-reported delinquency and depression from a range of adolescent and parental characteristics among a sample of Australian high school students. The sample

comprised 276 students and 274 biological parents of these adolescents. The characteristics measured were adolescent reports of their personality and perceptions of parental bonding as well as parental reports of their own parenting styles and personality. Results indicated that adolescent personality scores were the strongest predictors of the outcome measures, although fathers' personality and parenting styles predicted adolescent adjustment. That is, higher parental care or warmth is related to lower rates of adolescent depression and delinquency.

Likewise Rey (1995) also conducted a study to investigate the association between perceptions of parenting and specific adolescent disorders. The sample comprised of 362 referred adolescents with major depression, dysthymia, oppositional disorder, conduct disorder, attention deficit disorder with hyperactivity, separation anxiety and other anxiety disorder. The results confirmed that perceived lack of maternal care is associated with a diagnosis of depression, not only in adults but also in adolescents. However, the ratings of maternal care only explained 5% of the variance in the diagnosis of major depression. Similarly, using parental rejection as an indicator of low parental care Robertson and Simons (1989) also found that perceived parental rejection directly affected adolescent depression such that, adolescents who feel rejected by their parents are more likely to be depressed than adolescents who do not feel rejected by their parents. As a result, it can be concluded that parental care was significantly related to adolescent depression or depressive symptoms, such that low parental warmth was associated with higher rates of adolescent depression.

In an attempt to investigate the occurrence and co-occurrence of depressive symptoms and conduct problems in the context of parenting behaviours Ge, Best, Conger, and Simons (1996) studied a sample of 897 African American children and their primary caregivers using a multi-informant, longitudinal design. They assessed parenting behaviours and changes in children's symptom levels in 2 occasions. The results indicated that parenting behaviours differed significantly according to a child's symptoms; that is, when a child exhibited no depressive or conduct problems, depressive problems only, conduct problems only, or co-occurring depressive and conduct problems. Specifically, children whose symptoms increased over time reported increases in hostility, harsh and inconsistent parenting and decreases in warmth and involved parenting.

In addition, McFarlane, Bellissimo, and Norman (1995) assessed the relationship between parental style, family functioning and adolescent well-being in a sample of 801 grade 10 students in 11 high schools. Results indicated that both parents' parenting style produces significant correlations with both family functioning and depression in adolescents. Moreover, the result indicates that family functioning is independent of family composition, but rather is related to parental style. Hence, mother and father care, defined in this study as warmth, affection, empathy and reciprocity, was negatively associated with adolescent depression.

A longitudinal study of DeHart, Pelham, and Tennen (2006) examined the association between various parenting practices and implicit self-esteem in a sample of 219 University students over three occasions. The first study showed that adolescents who reported that their parents were more nurturing reported higher implicit self-esteem compared with those whose parents were less nurturing. Secondly, children who reported that their parents were

overprotective also reported lower implicit self-esteem. Finally, the result revealed that mothers' independent reports of their early interactions with their children were also related to children's level of implicit self-esteem. As a result it can be concluded that parental warmth is associated with better feelings about the self and higher levels of self-esteem.

The provision of warmth by parents has also been shown to be effective in preventing children from externalizing behaviour. For example, Feinberg, Button, Neiderhiser, Reiss, and Hetherington (2007) assessed whether latent genetic factors and measured parent-child relationships interact in predicting adolescent antisocial behaviour and depression in a total of 720 families with at least 2 children, 9 through 18 years old. A home based questionnaire and observational measures of adolescent outcomes and environmental moderators (parenting), and a latent variable behaviour genetic analytic model were used. The result indicates that there is interaction of genotype and both parental negativity and low warmth predicting overall antisocial behaviour, as well as aggressive and nonaggressive forms of antisocial behaviour, but not depression. Moreover, genetic influence was greater for adolescent antisocial behaviour when parenting was more negative or less warm.

In a similar longitudinal study Vazsonyi, Pickering, and Bolland (2006) examined the protective effects of parenting processes on measures of adolescent adjustment in a sample of 2,867 high-risk, poor African American adolescents. Parenting processes accounted for 26 to 37% in health-compromising behaviours and 16 to 24% of the total variance in violent behaviours over time for male adolescents. Specifically, both parental warmth and consistent disciplinary practices accounted for a significant amount of the variance in both health compromising behaviours and violence perpetration for each adolescent subgroup. In another study, Marcus and Betzer (1996) also indicated that adolescents who have a strong

affective bond with their parents are more likely than their less attached peers to accept parental rules and regulations and to consider the parents' reactions when the temptation to commit an antisocial act presents itself.

In cross-sectional study from 1359 boys and girls aged 10–14 years Finkenauer *et al.* (2005) investigated whether parenting behaviours are directly or indirectly (through building self-control) associated with emotional (depression, stress, low self-esteem) and behavioural (delinquency, aggression) problems among adolescents. Their findings indicated that young adolescents with low levels of problems (both emotional and behavioural) perceived their parents to be emotionally supportive and low in psychological control. Hence, Finkenauer *et al.* (2005) findings suggest that adolescents who grow up in supportive, nurturing families where parents are emotionally involved, responsive to their children's needs, and interested in their children's lives are less likely to develop problem behaviours than adolescents who grow up in distant, conflictive families where parents are uninvolved, neglectful, or rejecting. Fletcher *et al.* (2004) also attempted to further examine the effects of three different parenting behaviours (parental monitoring, parental warmth and parental control) on adolescents externalizing problems in a samples of 2568 European American adolescents. Fletcher and colleagues determined that parental monitoring and warmth both contributed to children's report of how much knowledge parents really have about their activities. This knowledge was, in turn, related to both substance abuse and delinquency. Some studies (Hays, 2001; Wright & Cullen, 2001) have looked at general parental warmth and communication, and parental monitoring in association with adolescent externalizing behaviour. These studies have shown that parental control is more effective with the addition of warmth and support in controlling externalizing behaviour. In general, parents who are warm and supportive are likely to have children that disclose more to them about their whereabouts and activities.

The relative importance of gender in expression of warmth (maternal and paternal warmth) in relation to antisocial behaviour has yielded mixed findings. For example, Noom, Dekovic, and Meeus (1999) have found that both maternal and paternal warmth are similarly related to lower levels of antisocial behaviours, whereas in other researchers (Grant *et al.*, 2000) only paternal warmth appeared to serve such a protective function. Other findings indicated that the relative importance of father and mother expression of warmth seemed to depend on the adolescents' gender. Regarding this, in a study with middle school students Marcus and Betzer (1996) reported that involvement in antisocial behaviours was associated only with paternal warmth for boys and with both maternal and paternal warmth for girls. Among high school students Jackson and Foshee (1998) found that association of father and mother responsiveness with self-reported involvement in violent behaviours was stronger for females than for males. Pettit, Bates, and Dodge (1997) reported that warmth predicted better adjustment (higher academic performance) for girls than for boys, and better adjustment (lower externalizing scores and higher social skilfulness scores) for African American children than for European American children. They also concluded that warmth has special significance for children's developing school capabilities because it provides a foundation on which children develop positive views of themselves and their competence. Formoso, Gonzales, and Aiken (2000) found that parental warmth operates as a protective factor against depression and misconduct for adolescent females, but as a risk factor for males. Werner and Silbereisen (2003) found that for adolescent females, but not males, family cohesion and closeness with fathers was associated with contact with deviant peers.

The above review of research shows the importance of warmth on adolescents' healthy adjustment in various areas. As a result, warmth prevents adolescents from both internal and external behavioural problems though there are mixed research findings over the effect of maternal and paternal warmth to male and female adolescents' adjustments.

2.4.4 Parental involvement

The term parental involvement is frequently used in the literature to describe a number of different parenting activities or parenting practices. For example, Epstein (1995) has developed an ecological framework of parent involvement consisting of six types of involvement, ranging from more proximal to more distal types. The six types of involvement are: parenting, communicating, volunteering, learning at home, decision making, and collaborating with the community. According to Epstein (1995) most conceptions of parent involvement with young children included the following types of involvement: parenting; communicating; volunteering; and learning at home. Epstein (1995) further defines learning at home as a "means of encouraging, listening, reacting, praising, guiding, monitoring, and discussing, not teaching school subjects" (p. 705).

Other researchers like Fan and Chen (2001) who studied parent involvement in Chinese families, have given emphasis to the dimensions of control, supervision, monitoring, and helping, which reflect ideas of a parent's responsibilities regarding children's academic achievement. Moreover, Grolnick and Slowiaczek (1994) have defined parent involvement as "the dedication of resources by the parent to the child in a specific domain." Their multidimensional model of parent involvement includes the following categories: parent behaviour (participating in school activities), personal involvement (child's affective environment), and cognitive/intellectual involvement (exposing the child to cognitively

stimulating activities). The authors stated that parental participation influences the child's achievement not through skill building, but through its impact on school-related attitudes and motivation. According to Vandergrift and Greene (1992) there are two key aspects that interact together to make up the concept of parental involvement. One of these is a level of commitment to parental support, which includes such things as encouraging the student, being sympathetic, reassuring, and understanding. The other element needed is a level of parental activity and participation, such as doing something that is observable.

As a result, parental involvement in children's schooling includes a wide variety of actions parents take for the benefit of children's success at school. These parental behaviours have been found to be positively associated with a range of positive children outcomes, including academic success (Pomerantz, Moorman, & Litwack, 2007), reduced levels of exposure to community violence (Gorman-Smith, Henry, & Tolan, 2004), fewer conduct problems in school (Brookmeyer, Fanti, & Henrich, 2006), increased self-esteem (Christenson, Rounds, & Gorney, 1992), greater perceived competence (Grolnick & Slowiaczek, 1994) and leading to more positive school attitudes, higher aspirations, and other positive behaviours (Epstein, 1992).

From an ecological perspective Tan and Goldberg (2009) examined parental involvement in school and educational activities at home in relation to elementary school-aged children's adjustment to school and grades. A total 91 fathers and mothers participated in a survey study assessing the levels of parental involvement (direct at school site, homework, extracurricular educational activities, and interpersonal involvement) and their relationship to children's grades and to parental reports of children's anxiety about, and enjoyment of school. The results showed that fathers and mothers made independent, unique

contributions to their children's academic lives. Additionally, partial support was found for both the transactional and interactional models of parents' school involvement on children's grades and adaptation to school. Interaction in terms of the analyses of parental school involvement and child outcomes revealed more significant associations for mother-son and father-daughter relations than for the gender congruent mother-daughter and father-son associations.

Research has examined the role that parental involvement has on children's academic performance. For example, Khajepoura and Ghazvini (2011) studied the association of various parental involvement activities and academic achievement in a sample of 200 boy students in Tehran. The results from parental involvement questionnaire and academic performance grades are used as a source of data. In general, the results indicated that those who did the self-report survey, went to the parent class, or were involved in more home-type involvement (such as checking child's programming, talking with child at home about classroom, lessons and friend topics, or engaging in educational activities outside of school) had children that performed better in different kind of areas of the parental involvement questionnaire or had better grades.

Using the structural equation model Dumont, Trautwein, Ludtke, Neumann, Niggli, and Schnyder (2012) examined whether parental homework involvement mediates the relationship between family background and educational outcomes such as academic achievement and academic self-concept. The sample comprised of 3185 grade 8 students who described their parents' involvement in the homework process. Results showed that perceived parental support and perceived parental competence to help with homework were positively related to academic outcomes. In addition, there were small associations between

some aspects of parental homework involvement and family background variables; parental homework involvement did not mediate the relationship between family background and educational outcomes.

Parental involvement in their children's lives can have a lasting impact on their well-being since involved parents convey to their children that they are interested in their development and well being. Regarding this assumption, Hango (2007) investigated the mediating role of the social capital produced by greater parental involvement on the harmful effects of less financial capital. The results suggested that parental involvement does matter, but it depends on when involvement and economic difficulty are measured, as well as type of involvement and parent gender. Moreover, both father and mother interest in school at age 16 have the largest direct impact on education. Similarly other researchers also noted positive effects for more immediate outcomes of parental involvement in adolescence, such as, relationships with parents (Flouri and Buchanan, 2002), educational test scores (McNeal, 2001) and behaviour (Sacker, Schoon, & Bartley, 2002).

In a two-year longitudinal data from 204 adolescents and their parents Ary, Duncan, Duncan, and Hops (1999) conducted a study on the development of problem behaviours with an extension of the Patterson *et al.* (1992) model of development of antisocial behaviour in children. The model generalized the development of a wide range of problem behaviours during later adolescence such as antisocial behaviour, high-risk sexual behaviour, academic failure and substance use form a single problem behaviour construct. The study result suggests that families in which there were high levels of conflict and low positive family relations were more likely to develop a social context that includes inadequate parental monitoring, have low levels of parent-child involvement, and associations with deviant peers.

In another study Kuperminc, Darnell, and Alvarez-Jimenez (2008) examined students' sense of school belonging and teacher expectations for students' academic attainment as mediators of the link between parent involvement and academic adjustment. The sample consisted of 195 adolescents of which 58% were female and the average age was 13.8 years. The results showed that parent involvement contributed indirectly to adolescents' adjustment by contributing to the students' sense of belonging to their school and teachers' expectations for students' academic attainment. However, links between parent involvement and academic adjustment were stronger for high school than middle school students.

Achievement in school is considered as a critical prerequisite for subsequent academic and vocational success as a result, a lot of researchers have tried to identify the factors that contribute to school achievement. For example, Karbach, Gottschling, Spengler, Hegewald, and Spinath (2013) investigated the incremental validity of perceived parental involvement in the prediction of academic achievement over general cognitive ability. They investigated school achievement in the domains of German and Math in a sample of 334 adolescents between the ages of 10 and 14. The assessment of parental involvement included the dimensions autonomy supporting practices and emotional responsiveness as well as achievement-oriented control and structure. Autonomy support and emotional responsiveness are types of parental involvement that generally refer to parents' willingness and ability to take their children's perspective and respond to their needs. In contrast, control and structure refer to excessive control and pressure on children to complete assignments as well as to clear and consistent guidelines, rules, and expectations regarding learning and schoolwork. The results showed that general cognitive ability was the strongest predictor of achievement in both domains. While autonomy support and emotional responsiveness had no predictive value over general cognitive ability, high levels of achievement-oriented control

and structure were detrimental to academic success (Karbach *et al.*, 2013). This research also provides evidence for the significance of parental involvement in their children's achievement in school.

Studies of the effect of parental involvement on students' achievement in a variety of contexts can provide valuable insights into how the relationship between parental involvement and students' achievement may depend on specific local contexts of education and family. Drawing on the theoretical perspectives derived from the social capital model, Nguon (2012) investigated the effects of three types of parental involvement on students' achievement. Datasets drawn from a student questionnaire of 1551 tenth-grade students and their parents were used to investigate the determinants and the effects of parental resourcing on students' achievement in comparison to other types of home-based and school-based involvement. Multiple regression analyses found a statistically significant relationship between school-based involvement and students' achievement. The relatively high level of school-based involvement by parents may reflect the interests that parents have in school to which they provide support, suggesting that parents have a great sense of ownership of the school in which their children are enrolled. However, home-based involvement was not significantly associated with students' achievement. Similarly, Taylor and Lopez (2005) examined the relation of family management practices in areas of family routine and parental expectations for academic achievement, with adolescents' school achievement and problem behaviour. The participants were 96 male and 104 female African American adolescents and their mothers. The findings revealed that students from homes that were more organized and structured tend to have higher grades and are more likely to avoid problem behaviours in school than adolescents from family environments that were less managed and organized. Moreover, students in more routine homes were more likely to attend school regularly and

pay attention in class. Finally, mothers' involvement in schooling through the transmission of their expectations was positively associated with the adolescents' grades and school attendance.

Methodological issues such as differences in the operational definition of the variables or the measurement instruments used across existing studies of parental involvement make it difficult to compare outcomes. For example, in one study parental involvement referred to school-related or academic behaviours by the parents at home, and used an 8-item scale that assessed the frequency with which parents involved themselves in such activities (Dinh, Roosa, Tein, & Lopez, 2002). In another study conducted by Edy and Chamberlain (2000) parental involvement was defined as "family management" behaviours utilized by parents such as setting firm limits, giving consequences for negative behaviours and "close supervision of youth activities and whereabouts" (p. 861). Still another study used a six-item Parental Monitoring Scale, which measured the extent to which parents or guardians know "where and with whom the youth are and in what activities they are engaging" (Li, Stanton, & Fiegelman, 2002, p. 50).

In spite of the differences in conceptual or operational definitions and measurement of parental involvement, most research findings discussed above are primarily in agreement with each other suggesting that parents who are involved in their children's education contribute positively to better adolescent adjustment.

2.4.5 Parent-Adolescent Communication

Communication is a central feature of all forms of interaction and it occurs in a wide variety of ways between persons. For example, Fogel (1993) defines communication as a

shared way of perceiving and knowing each other, which can itself change and develop in the course of time. Others (Barnes & Olson, 1985; Grotevant & Cooper, 1986) view communication as a more restricted way and see it in terms of relatively concrete behaviours, which are open to observation and description. It focuses upon behaviours such as a discussion, open expressions of affection, nagging and readiness to listen.

Olson, Russell and Sprenkle (1983) view communication as one of three major dimensions in their Circumplex Model of Marital and Family Systems. They consider communication a facilitating dimension in that it assists movement of families on the aspects of cohesion and adaptability. They maintained that communication is the means families use to share changing preferences, needs, and feelings and thus positive communication facilitates movement to different levels of family organization. Hence, not having adequate communication skills or negative communication is believed to reduce the family system's ability to change levels of cohesion and adaptability (Olson et al., 1983).

According to Grotevant and Cooper (1986) communication within the context of the family seems to be particularly important during adolescence and when children begin to establish a sense of identity. It may also be the case that families which function in this way help the adolescent to establish a clearer sense of personal identity. They also indicated that communication helps the adolescent to clarify his/her position within the family, to learn to be sensitive to the ideas and feelings of others; it encourages both a feeling of individuality and a feeling of connectedness. Correspondingly, Noller and Callan (1990) pointed out that good communication and negotiation within the family help to increase the adolescent's sense of independence.

Existing research suggests that communication in the family provides an environment in which adolescents can learn good behaviours that enable them to deal with various situations effectively and also to find constructive solutions to their problems. For example, based on children's self-reports, Cohen, Richardson, and LaBree (1994) suggested that the amount of time parents spend with their children and the frequency of parent-child communication are both associated with reduced risks for tobacco onset and alcohol use in the past month. Grover (1998) also indicated that through verbal communication parents influence children's tobacco and alcohol use by directly expressing their feelings and concerns about substance use and other unacceptable behaviours to their them. Due to the strong association between parent-child communication and substance use, enhancing parent-adolescent communication has become a target in substance use interventions for adolescents.

In another study, with a sample consisted of 983 adolescents from four public schools Esteyez, Musitu, and Herrero (2005) investigated the role of adolescents' interactions with both parents and teachers in the relationship between violent behaviour/victimization at school and adolescent psychological distress (depression and stress). These researchers showed that victimization was associated with negative father-adolescent communication, which mediated a part of the influence of victimization on distress. Moreover, violent behaviour negatively influenced communication with parents and interaction with teachers, which in turn, was related to poor psychological adjustment.

In a sample of 4746 adolescents Ackard, Neumark-Sztainer, Story, and Perry (2006) examined adolescents' perceptions of mother-child and father-child connectedness, with a focus on valuing parental opinions and perception of parental communication and caring, and

associations with behavioural and emotional health. The findings showed that the majority of girls and boys reported valuing their parents' opinion when making serious decisions and believing that their parents cared about them. Yet, one fourth of the girls and boys felt unable to talk to their mother about problems, and over half of the girls and one third of the boys felt unable to talk to their father. In addition, adolescents who reported as though their mother cared very little or not at all about them reported particularly high prevalence rates of unhealthy weight control behaviours, suicide attempts, low self-esteem, and depression. As a result, Ackard and colleagues stressed that adolescents' perceptions of low parental caring, difficulty talking to their parents about problems, and valuing their friends' opinions for serious decisions were significantly associated with compromised behavioural and emotional health.

In another study Beatty, Cross, and Shaw (2008) assessed the impact of an in-home parent-directed drug education intervention on parent-child communication about tobacco and alcohol. A total of 1201 parents of 10-11-year-old children trained in five self-help intervention communication sheets containing information and activities designed to encourage parents to talk with their 10-11-year-old child about issues related to smoking cigarettes and drinking alcohol. The results indicated that intervention-group parents communicated with their children, involved the child during the discussion and addressed the topics identified as being protective of children's involvement in tobacco and alcohol. In addition, the duration of talks about alcohol was longer than for parents in the intervention-group. Beatty *et al.* (2008) thus concluded that pre-adolescence is a critical time to implement prevention programs given the likelihood of engaging in the risky use of tobacco and alcohol increases during teenage years. In addition, they indicated that social factors other than those associated with parenting play a role in determining a child's risk for initiation of tobacco and

alcohol use; however, parents have a significant influence on their children's decisions about these issues.

Parent-adolescent communication could be a mediating factor that explains how other family characteristics influence adolescent smoking and drinking. In support of this assumption Tobler and Komro (2010) investigated the characteristics of various paths of parental monitoring and communication among a sample of urban adolescents and examined the effects of these patterns on alcohol, cigarette and marijuana use. They identified four trajectories of parental monitoring and communication, which were high, medium, decreasing, and inconsistent. Moreover, relative to those with high monitoring/communication, adolescents in the decreasing and inconsistent trajectories were at significantly greater risk for previous year and current substance use behaviour. The results support the role of parents in preventing drug use during early adolescence and stress the need for improved and consistent parental monitoring and communication as a successful target for prevention. Likewise, Bandi, Cokkinides, Westmaas, and Ward (2008) also suggested that parental communication, by clearly expressing non-smoking expectations, may have significantly increased adolescent cigarette smokers' readiness to quit. Other researchers (Spoth, Redmond, Hockaday, & Yoo, 1996) also pointed out that family factors such as weak affection in parent-adolescent bonds, a lack of family support and communication are related to adolescent alcohol abuse.

In addition, Ackard, Neumark-Sztainer, Story, & Perry (2006) examined the association between adolescents' perceptions of parent-child connectedness (parental communication and caring) and behavioural and emotional health in a sample of 4746 students in public schools. The results indicated that the majority of girls and boys reported

valued their mothers' and fathers' opinion when making serious decisions and believed that their parents cared about them. Yet, one fourth of the girls and boys felt unable to talk to their mother about problems, and over 50% of girls and one third of boys indicated that they were unable to talk to their father. Furthermore, perceived low parental communication and caring were associated with unhealthy weight control, substance use, suicide attempts, body dissatisfaction, depression, and low self-esteem. Consequently, Ackard *et al.* (2006) concluded that adolescents' positive perceptions of parent-child relationships were significantly associated with healthy development of all adolescents. In another study, DeVore and Ginsburg (2005) explored recent developments in the literature regarding parenting practices and adolescent development, with a focus on parenting style, parental monitoring, communication, and supervision. They demonstrated that parental monitoring, open parent-child communication, supervision, and high quality of the parent-child relationship deter involvement in high-risk behaviour.

In an attempt to examine the link between perceptions of parent-child communication and school-based aggressive behaviour Lambert and Cashwell (2003) conducted a study in a sample of 100 preadolescents (aged 10 to 13 years) in two public schools. The results indicated that communication between mothers and daughters, mothers and sons, fathers and daughters, and fathers and sons were found to be quantitatively different. It appears that although both girls and boys in this sample reported better communication with their mothers than with their fathers, the discrepancy between communication patterns with mothers and fathers were stronger for girls than for boys. Moreover, the results indicated that preadolescents' perceptions of effective parent-child communication were negatively correlated with school-based aggression.

In another study of 1,719 adolescents whose age ranged from 10 to 13 Stevens, De Bourdeaudhuij, and Van Oost (2002) examined the perception differences between children and their parents on family functioning and child-rearing practices. The findings revealed important perception differences between children and their parents, with parents holding up a more positive picture of their family. Moreover, on all aspects of family functioning and childrearing, children presented a less positive picture compared to their parents. Specifically, children were found to report less emotional bonding and less warmth, they felt less attached, and reported fewer opportunities to express feelings, less organization within the family, less control and discipline, less involvement within the social environment and opinions directly, and personal relationships with their parents. Stevens *et al.* (2002) also indicated that bullies in particular describe their family as less cohesive, had more conflict, and less organized and controlled. Moreover, the results reveal lower scores on expressiveness, social orientation, and attachment within this group.

In a longitudinal study Loeber, Drinkwater, Yin, Anderson, Schmidt, and Crawford (2000) assessed the stability of several family interaction events and attributes (physical punishment, communication, supervision, positive parenting, and parent–child relationship) for a large sample of male adolescents and their primary caretakers. The findings demonstrated the relative stability of different forms of family interactions; these family interactions change with age, and also showed that family interaction patterns differ among various parental risk groups. In addition mean correlations were highest for poor communication and bad relationship between the boy and the parent. Thus, the relative stability of poor communication and a bad relationship between the parent and child contributed to the child's misbehaviour.

There is research that also shows the association between parent-adolescent communication and self-esteem. For example, Lanz *et al.* (1999) conducted a research to verify whether there are some differences in parent-child communication and in adolescent self-esteem among adoptive, separated and intact non-adoptive families and to investigate the extent to which parent-child communication is related to adolescent self-esteem in the three types of families in a sample of 450 adolescents aged between 11 and 17 years. The findings revealed that adolescents from separated families have more difficulties in their relationships with both the mother and the father than their peers, and that adoptive children showed more positive communication with their parents than biological children. Furthermore, it was found that male and female adolescents' self-esteem was related to positive communication with both parents in intact non-adoptive families.

Similarly, Jackson *et al.* (1998) examined adolescents' views of communication with their parents in relation to measures of family satisfaction, adolescent decision-making and disagreement with parents, and to measures of self-esteem, well-being and coping. The results provide some support for the psychometric qualities of the Parent- Adolescent Communication Scale (PACS) and suggest that good family communication is associated with satisfaction within the family and with lack of disagreement between adolescents and parents. In addition the results indicated that there was a positive association between family communication and adolescent self-esteem, certain aspects of adolescent well-being and type of coping strategy employed.

Parent-adolescent communication has also been defined as openness, which includes disclosure or discussion of thoughts, feelings, and viewpoints and it predicts the amount of disclosure that exist between adolescents and parents. In this regard Daily (2006) stated that

adolescents who perceived their parents as accepting or responsive, open, warm and uncritical in communication are more likely to engage in disclosure with them and to increase communication within them. In contrary Daily (2006) found that if an adolescent expects parents to be unresponsive, they are more likely to avoid communicating with parents more often or all together. Dailey also reported that both sons and daughters perceived mothers as more responsive and open than fathers. In the same way, Updegraff, Madden-Derdich, Estrada, Sales, and Leonard (2002) found data in their study that opportunities to communicate openly with parents, such as expressing beliefs, ideas, and view points as well as discussing problems honestly is very beneficial for the adolescent. In general it can be said that adolescents who perceive their parents as critical and block communication are less likely to be open with parents about serious issues in their lives.

Communication patterns and frequency between parents and adolescents also show variations. Accordingly, Noller and Callan (1990) indicated that parent-adolescent communication in general has shown that conversations between the two groups occur rarely and patterns also vary. They suggested that communication patterns differ between mothers and fathers, with adolescents talking more with and disclosing more to mothers than fathers. Moreover, adolescents perceived mothers as more open, understanding, willing to listen and interested in the day-to-day problems adolescents face. Barnes and Olson (1985) also reported that mother-adolescent communication as more open and positive than father-adolescent communication. As result, it can be concluded that mother-adolescent communicate occurs in a wider range of subjects in a positive manner than father-adolescent communication.

In both middle childhood and adolescence, Collins and Russell (1991) further indicated that mother-child relationships, in contrast to father-child relationships, were characterised by more frequent interaction and more involvement in care-giving and everyday tasks, whereas father-child relationships, especially father-son relationships, were characterized more by play and other recreational activities and with interactions associated with instrumental goals. Moreover, these researchers showed that mothers are equally as likely as fathers to discuss school performance and future career goals, and they are more likely than fathers to discuss achievement goals with their daughters.

According to Steinberg, Barnes and Olson (1985) pubertal maturation and age differences are associated with intensification of differences in perceived parental acceptance and child compliance and communicativeness and in actual and perceived reciprocity and contentiousness in both mother-child and father-child interactions. To the extent that greater distance occurs, however, it takes a somewhat different form for mothers than for fathers. Although father-child interactions are characterised by less overt contentiousness than mother-child interactions, it is also the case that offspring generally perceive that interactions with fathers provide less reciprocity and fewer opportunities for intimacy than interactions with mothers (Barnes & Olson, 1985) and report greater feelings of responsibility for reciprocating caring and emotional support with mothers than with fathers (Youniss & Ketterlinus, 1987). It can be observed here that the simultaneous increase in perturbations in ordinary modes of interaction, continuing positive needs for intimacy and mutuality are significant aspects of change in mother-adolescent relationships during the transition to adolescence.

The research discussed above considers parent-adolescent communication as an important variable in their relationships and it appears to contribute to the levels of disclosure adolescents partake in. Adolescents also learn these patterns early and without openness in communication, talking with parents about their concerns is not likely. Lack of positive communication leaves adolescents in a difficult situation and unable to handle various adjustment problems they may encounter at home or outside. In general the research shows that positive communication between parents and adolescents foster their self-esteem, reduce the likelihood of occurrence of depression and substance use behaviour.

2.5 The Role of Gender in Parent-Adolescent Relationships and with Adolescent Adjustment

Gender is an important variable to consider when examining associations between parent-adolescent relationships and adolescent adjustment outcomes. Hence, examining how adolescents' relationships with their mothers and fathers differentially predict their adjustment may be helpful in understanding these differences. In this regard, Collins & Russel (1991) focused on the main effect of parents' gender in relation to parent-adolescent relationships and adolescents' outcomes but also alluded to the need to examine variation by adolescent gender. On the other hand Bogenschneider and Pallock (2008) noted the importance of examining variation by parents' gender and the interaction between parents' and adolescents' gender.

Due to the importance of the role of gender (parents' and adolescents') in associations between parent-adolescent relationships and adolescent adjustment, some research examined the unique and differential effects of maternal and paternal parenting on

adolescent adjustment. For example Stolz, Barber, and Olsen (2005) found that compared to the mother's level of support, the father's support was a stronger predictor of social initiative for boys and girls whereas mother's knowledge of boys' activities more strongly predicted lower levels of later antisocial behaviour than did father's knowledge. Moreover, Stolz *et al.* (2005) found that the stronger effects for fathers' parenting were evident for boys' lowered problem classroom behaviour and problem peer association but not girls'. In another study Dumka, Gonzales, Bonds, & Millsap (2009) also found that the father's level of warmth more strongly predicted boys' lowered problem classroom behaviour than the mother's warmth. Similarly, Videon (2005) also reported that mother-adolescent relationships predicted lowered depressive symptoms over time for girls but not boys.

In contrary, other studies concluded that gender matters little in understanding parenting and adolescent adjustment. For instance, Caples and Barrera (2006) did not find evidence for the moderating effect of adolescent gender in the association between degrading parenting, avoidant coping, and adolescent internalizing symptoms. This study was limited, however, to mothers and a focus on one aspect of parenting (over-control and degrading parenting behaviours). In another study, the association between parental knowledge and delinquent behaviour was consistent across boys and girls (Laird, Pettit, Bates, & Dodge, 2003). However, other researchers also indicated family or parental support as a variable for the gender difference in effect of parent-adolescent relationship on adolescent adjustment. For example, Horwitz, Hill, and King (2011) have suggested that girls are more likely to seek social support and vent feelings than boys, whereas boys have been found to use more avoidance coping than girls. Similarly, Kobus and Reyes (2000) also suggested that girls were more likely than boys to seek support from family, particularly from mothers. Thus

these researchers concluded that girls are more likely than boys to use support from parents to overcome various adjustment problems.

In general, these findings suggest that positive relationships with both parents are important for psychological well-being and lowered problem behaviour but also that some unique effects of maternal and paternal parenting behaviours exist, particularly when examining associations between relationship variables across adolescent outcomes. Hence, the question of whether father-adolescent or mother-adolescent relationships differentially impact boys' and girls' adjustment is unclear. Moreover, few studies specify whether maternal or paternal relationships are more important or a stronger predictor across all adolescent outcomes but the available literature does suggest that gender is an important variable to include when examining parent-adolescent relationships and adolescent adjustment. The next sections discuss the four adjustment variables considered for the present study and their relationships to the parent-adolescent relationships variables discussed above.

2.6 Adjustment Problems

Adolescence generally is considered to be a period of the lifespan involving complex changes in adolescents' cognitive, psychological and social domains. In the course of these rapid and continuous changes, adolescent adjustment problems have also been found to increase during the period of transition to adolescence (Crockett & Silbereisen, 2000). Of the social domains, adolescents' relationship with their parents is one of the crucial factors that determine adolescents' healthy adjustment in a positive or negative manner (Cicchetti & Rogosch, 2002). The term adjustment refers generally to the relationships that any organism establishes with respect to its environment and it usually refers to social or psychological adjustment. Psychological adjustment is defined as an individual's affective, cognitive,

perceptual, and motivational disposition to respond in various life conditions (Frick & Kimonis, 2008). Adjustment problems are understood as adolescents' problems that interfere with the ability to adapt to the social expectations and demands. In the current study adolescent adjustment is measured in terms of four specific variables, which are self-esteem, substance use, school adjustment and depression.

Many theoretical models have been developed to explain the association between family interactions and adolescent adjustment. One perspective relevant to the present study is social learning theory, (Bandura, 1986), which proposes that children learn behaviour by observing and modelling their parental behaviour. To date, most family interaction studies provide cross-sectional, longitudinal, and experimental data to support the parent main effect perspective. In the end, numerous studies provide support for the association between various parent-adolescent relationship variables and adolescent adjustment in different aspects of adolescent development (Arbona & Power, 2003; Adamczyk-Robinette *et al.*, 2002; Ackard *et al.*, 2006; Barber & Harmon, 2002; Brookmeyer *et al.*, 2006; Feinberg *et al.*, 2007; Thompson *et al.*, 2003; Vansteenkiste *et al.*, 2005). Thus the following section briefly describes the four adolescent adjustment outcome variables, which are self-esteem, substance use, school adjustment and depression and also tries to present the association they have with the parent-adolescent relationship variables discussed in the previous sections.

2.6.1 Self-esteem

One of the important concepts during adolescence is self-esteem and it is considered as basic to understand the adolescent's behaviour. According to Coopersmith (1967) self-esteem consists of the evaluation that an individual makes and upholds with regard to himself/herself. That means it expresses an attitude of approval or disapproval and indicates

the extent to which an individual believes himself/herself to be capable, significant, and worthy. In addition, Coppersmith indicates that the attention an individual receives from other people and the degree of acceptance and respect s/he feels have a role in self-esteem development. High self-esteem makes an individual much more effective, happy, successful, and confident when interacting with the environment. Accordingly, an individual's self comprised of abstraction that the individual develops about the attributes, capacities, objects and activities one possesses and pursues, which is significantly associated with personal satisfaction and effective functioning (Coopersmith, 1967). The quality of parent-child relationships determines the existence of positive self-esteem development. Coopersmith considers parental egocentricity, isolation, discrimination, indifference, criticism, lack of respect, admiration and warmth as some parenting behaviours that influences self-esteem development.

According to Rosenberg (1989) self-esteem is a positive or negative attitude toward a particular object, namely the self. Rosenberg describes a positive attitude towards the self by feelings of respect and worthiness while lack of respect, unworthiness and a feeling of being inadequate towards oneself characterize low self-esteem. According to Rosenberg (1989) there are three objectives that motivate the development of self-esteem. The first objective includes desiring to achieve a particular goal or attempting to win social approval. As a second objective, confirmations of the self-picture and testing self-hypotheses are the goals of the presenting self. Thirdly, conformity to norms that means presenting oneself in certain culturally prescribed ways that can provide approval from society. Rosenberg (1989) also considers social support as an important factor for the formation of self-esteem during adolescence and also found that adolescents' relationship with their parents support the development of self-esteem. Specifically, while acceptance and encouragement facilitate

development of self-esteem, negative responses of significant others undermine the development of self-esteem in the adolescent (Rosenberg, 1989).

According to Bartholomew (1990) people's implicit self-evaluations are presumably formed through interactions with significant others and they develop a sense of self on the basis of how other people treat them and interact with them. It means that individuals with low self-esteem have repeatedly experienced perceived interpersonal rejection in contrast to most people with high self-esteem that have experienced many subjectively successful or non-rejecting interpersonal relationships (Bartholomew, 1990). Parents especially mothers appear large in the psychological landscapes of most children. For example, according to attachment theory people develop beliefs about the self on the basis of the responsiveness and sensitivity of their parents in childhood. Over time, how parents respond to infants apparently becomes internalized into working mental models, which are a set of conscious and unconscious beliefs for organising information about the self in relation to other people (Bowlby, 1980). It means that repeated interpersonal experiences within the family form the basis for mental representations of the self in relation to others.

Throughout the lifespan, self-esteem is influenced by interpersonal relationships in a variety of contexts of which the parent-adolescent relationship holds a significant role. For instance, Joubert (1991) examined the relationships that fathers' and mothers' interactive disciplinary behaviours have with college students. They used the Coopersmith self-esteem inventory scores, Social Desirability scale scores, and their retrospective perceptions of their parents' fairness in a sample of 134 adolescents. The analysis revealed that sons with higher scores in self-esteem reported that their mothers were fairer, had more interest in their activities, and were less likely to use verbal put-downs (abuse). In contrast, daughters with

high self-esteem reported that both of their parents were more interested in their activities, used praise more often, and refrained from verbal abuse. Moreover, daughters who reported their fathers as being stricter had lower self-esteem scores. Finally, both sons and daughters who perceived their parents as being fairer also saw them as being more interested, having used praise more often, and having been less likely to have used verbal abuse. Similarly, among adolescents, Killen and Forehand (1998) found that there were direct paths to global self-esteem from adolescents' specific self-perceptions and mothers' positive communication. Specifically, those adolescents who report positive communication with their mothers do have higher levels of self-esteem as compared to adolescents who report negative communication.

The family is the major social system where adolescents are brought up and where various interpersonal experiences take place through the various forms of parenting practices, which affect the development of self-esteem. In support of this assumption for example, Steinberg and Morris (2001) found that children from authoritative parenting style homes, where parents provide their children with love and emotional support, as well as clearly defined rules for what is considered appropriate behaviour have higher implicit as well as explicit self-esteem. Another perspective on parenting style posits that nurturance and over protectiveness are the two primary parenting dimensions. Similarly, Ryan and Deci (2000) considered the dimension of excessive control, which may undermine children's ability to take full credit for their accomplishments also result in lower self-esteem. Moreover, they conceive that growing up in a supportive family allows for healthy development in different aspects such as self-esteem, which also enhances the adolescent's general wellbeing.

Arbona and Power (2003) examined the relation of mother and father attachment to self-esteem and self-reported involvement in antisocial behaviours among 1,583 high school students from African American, European American, and Mexican American ethnic groups. The attachment dimensions of anxiety and avoidance were examined using self-report scales. Their findings indicated that securely attached adolescents from the ethnic groups had a more positive sense of self-esteem and reported less involvement in antisocial behaviours than their less securely attached peers.

In general the previous discussion of the different parent-adolescent relationship variables there is enough research that have documented association between the four parent-adolescent relationship variables and adolescent self-esteem. For example, research demonstrates a negative association between psychological control and self-esteem (Assor *et.al*, 2004; Barber *et al.*, 1994; Bean & Northup, 2009; Bean *et al.*, 2003; Leondari & Kiosseoglou 2002). Other researchers also found a positive association between self-esteem and warmth (Cournoyer *et al.*, 2005; DeHart *et al.*, 2006; Khaleque & Rohner, 2002; Rohner, 2004; Lila *et al.*, 2007); self-esteem and involvement (Christenson, *et al.*, 1992; Grolnick & Slowiaczek, 1994); and self-esteem and communication (Ackard *et al.*, 2006; Jackson *et al.*, 1998; Lanz *et al.*, 1999).

Gender is one crucial factor that explains changes in self-esteem during the early adolescent years. For example Carlson, Uppal, and Prosser (2000) indicated that girls consistently experience sharper declines than boys in their levels of self-esteem. Similarly, Quatman and Watson (2001) investigated gender differences in global self-esteem and eight domains of self-esteem among adolescents from 9th, 10th and 12th grade students. Their study showed that boys achieved higher in global self-esteem scores than girls did. In addition,

boys scored significantly higher than girls in six domains of self-esteem (personal security, home/parents, attractiveness/physical appearance, personal mastery, psychological reactivity/permeability, and athletics) while the remaining two domains (perception of peer popularity and academics) exhibited no significant differences between males and females. Stein, Newcomb, and Bentler (1996) suggested that boys and girls diverge in their primary source of self-esteem, with girls being more influenced by relationships and boys being more influenced by objective success. During adolescence, an agent orientation predicted heightened self-esteem for males but not for females, whereas a communal orientation predicted heightened self-esteem for females but not for males (Stein, *et al.*, 1996).

Therefore from the theoretical definition of self-esteem discussed above and the various research reviewed it can be concluded that various parenting behaviours influence the development of self-esteem during adolescence. In addition the review also shows that male adolescents do have higher self-esteem as compared to their female counter parts.

2.6.2 Substance use

Within the literature concerning adolescents who use drugs, and indeed within the field of substance use generally, little agreement exists regarding terminology that denotes substance use behaviour. Therefore, the following definitions are meant to reflect consensus that does exist in the literature. “Alcohol” refers to beverages with ethanol as their psychoactive ingredient, and includes beer, wine, and spirits. “Drug” is a considerably broader term, as it subsumes alcoholic beverages, and also includes nicotine, illicit drugs such as marijuana, hashish, psychedelics and cocaine, as well as prescription and non-prescription drugs. “Substance” is the broadest of the three terms, subsuming both alcohol and drugs. The term “use” denotes the wilful intake of alcohol, drugs and other substances

that have a psychoactive effect on the body, thereby altering one's thinking, feelings, perceptions and behaviour. The term "use" is not meant to suggest psychological need (addiction), impaired control over the amount consumed and notable or habitual interference with normal life functioning. Instead, "use" may describe, for example, taking an occasional drink, or experimentation, such as adolescents drinking alcohol or smoking marijuana for the first time.

Adolescent alcohol and tobacco use can lead to addiction, health, emotional, school related problems and low social competence (Parker & Benson, 2004). Added to the immediate personal and social costs of adolescent drug abuse, the World Health Organisation (2002) rated tobacco and alcohol consumption as two of the ten leading causes of death, the consumption of tobacco and alcohol continues to increase over time, with the greatest increase occurring in developing countries. There are multiple reasons for the youth to begin engaging in alcohol consumption or other substance using behaviours. For example Mayeux, Sandstrom, & Cillessen (2008) found that perceived popularity early in high school careers was predictive of increased alcohol use for both boys and girls later in their high school careers. Moreover, Ennett *et al.* (2008) stated that attributes of family, peer, school, and neighbourhood contexts predict substance use during the adolescent years. Consequently, in this study attributes or factors of parenting behaviour in relation to adolescent substance use is discussed.

Parents not only remain a primary source of socialization in general throughout childhood and early adolescence but act in specific ways to influence healthy behaviour development. For example, parents act as enforcing rules and punishment against both experimental and regular use of alcohol, tobacco, and other drugs, thus adolescents from

families with a low tolerance of experimental drug use, after controlling for all other factors, were less likely to use drugs (Scheer, Borden, & Donnermeyer, 2000). In support of the importance of family variables on adolescent substance use Scheer *et al.* (2000) also indicated that parents are a source of communication about substance use, thus they represent individuals to whom a young person can talk about smoking, drinking, and using other drugs and thereby influence future use of drugs. In line with this Vakalahi (2001) also stressed that the family environment possesses substantial potential to influence adolescents' substance use since parents provide the basis for adolescents' early conceptions of self. Moreover, relationships and interactions among family members provide the atmosphere for role modelling and reinforcement of adolescent behaviour. Hence, individuals who mature within a supportive framework are less likely to use substances regularly or experience problems related to substance use (Vakalahi, 2001).

Another important family variable that influences adolescents' substance use is family functioning. It refers to the emotional qualities of the family system and the emotional bonds between family members, which include attachment, commitment, affection, encouragement, and family support (Foxcroft & Lowe, 1991; Miller, 1997). Families reporting high levels of support may be characterized by not only positive emotional attachment but also by overall positive family functioning. In contrary, negative associations have been demonstrated between family support and deviant behaviour, symptoms of depression, and substance use (Wills, Vaccaro, & McNamara, 1992). Furthermore, there are studies that have shown inverse relationships between family functioning and adolescent substance use outcomes such as age at first use, average quantity used, and frequency of substance use. For example, Hellandsjø Bu, Watten, Foxcroft, Ingebrigtsen, and Relling (2002) found a significant relation between level of family support or functioning and age of alcohol debut.

Additionally, age of the first alcohol intoxication shared the same relation; that is, adolescents reporting poorer family functioning escalated alcohol use to intoxication at an earlier age than their counterparts endorsing greater family functioning. In the same way, Resnick *et al.* (1997) demonstrated significant inverse associations between family functioning and cigarette, alcohol, and marijuana use in a sample of 12,118 adolescents. More specifically, adolescents experiencing closeness within their families exhibited less frequent substance use. Thus these studies suggest an inverse relationship between family functioning and adolescent substance use such that adolescents experiencing greater family functioning delay substance use and following initiation, use fewer substances and engage in less frequent substance use than adolescents from less functional families.

In order to find out the contribution of various family variables Jackson (2002) investigated the relationship between adolescent substance use and parenting behaviours. He identified parenting behaviours that included parental care, warmth, monitoring, discipline, decision-making, parental monitoring and support, a positive parent-child communication and parent-child relationship as contributing variables to adolescent substance use behaviour. In addition Jackson (2002) showed that adolescents who were brought up in an authoritative parenting condition were less likely to reject parental authority than adolescents who were exposed to authoritarian parenting. Rejection of parental authority was in turn associated with higher alcohol use. O'Byrne, Haddock, and Poston (2002) conducted a study with 816 adolescents, which examined parental warmth and intimacy in relation to adolescents' level of tobacco smoking. They indicated that parental warmth and intimacy (care) were not related to adolescent tobacco smoking experimentation, but were significantly related to adolescent smoking initiation. Moreover, they reported that for every point of decrease in warmth and intimacy, the likelihood of the adolescent being a current smoker increased by

5%. Parenting style does seem to have a relationship with adolescent alcohol and tobacco use, although the specific parental behaviours and the direction of the relationship are still unclear. Likewise, Adamczyk-Robinette, Fletcher, and Wright (2002) studied 156 eight grade adolescents. In a self-report questionnaire these adolescents reported on their perceptions of parents' warmth, structure, and psychological autonomy granting and their own levels of tobacco use. They reported that higher levels of authoritative, measured by warmth, involvement, control and autonomy, were associated with lower levels of tobacco use. According to Adamczyk-Robinette *et al.* (2002) adolescents with authoritarian parents are likely to show higher levels of obedience and conformity, but appear to have poorer self-concept than other adolescents.

Cohen and Rice (1997) examined how children and their parents rate their parenting styles, and how this rating is associated with academic achievement, alcohol, and tobacco use. They surveyed students and their parents in two public school districts. A total of 386 matched parent-child pairs from eighth and ninth-grade students were analyzed for parent and student classification of parents as authoritative, authoritarian, permissive, or mixed parenting styles. Child tobacco and alcohol use was associated with child perception of lower authoritative, and higher permissiveness while parent perception of parenting style was not associated with child substance use. This study provides further evidence that parenting styles and adolescents' perceptions of them are associated with child achievement and substance use. In this study it was difficult to determine whether child or parent perception of parenting style is more accurate; however, child perception was more strongly associated with grades and substance use than was parent perception.

In a longitudinal study Mounts (2002) conducted a study on a sample of 300 grade nine students and their best friends. Confirmatory factor analysis of the Parental Management of Peers Inventory indicated that the 4-factor structure provided a good fit to the data. Significant differences in adolescents' perceptions of parental management of peers occurred across 4 parenting style groups. Structural equation modelling was used to examine the relation among 5 aspects of parental management of peers and adolescents' Time 1 drug use, friends' Time 1 drug use, and adolescents' Time 2 drug use. The parental management styles of monitoring, guiding, prohibiting, and supporting all had significant paths in the model, whereas neutrality was not significant. Multiple group comparisons were used to examine whether parenting style moderates the relation between parental management of peers and the drug use outcomes. Specifically, Mount (2002) concluded that adolescents with lower alcohol and tobacco use have parents who are responsive to their children's needs, are warm and also engage in a positive communication with their children in various matters. However, Radziszewska, Richardson, Dent, and Flay (1996) did not find a similar relationship between parenting style and male adolescent alcohol use. They studied 3,993 adolescents who were ninth graders and found that adolescents from unengaged parents were the most likely to smoke compared to those reporting permissive, authoritative or autocratic parents.

Family bonding is also another important variable in the study of adolescent substance use. For instance, Crawford and Novak (2002) suggested that adolescents who spend substantial amounts of time with their parents drink less because their opportunities for engaging in drinking activities are restricted. They also indicated that peers were more influential than parents in shaping adolescents' patterns of alcohol consumption, with unstructured peer interaction being an especially powerful predictor of adolescent alcohol use

and binge drinking. They further suggested that gender was a conditioning factor, moderating the effects of parental and peer variables on high school students' drinking. In this regard Steinberg (2002) also suggested that talking about their personal worries and feeling close to their parents leaves children more open to their parents' influence and makes them more likely to have similar attitudes and values. Correspondingly, Bell, Forthun, and Sun (2000) argued that strong bonds with parents promote and reflect the adolescent's adoption of conventional societal norms and values. The internalization of such norms and values, in turn, guards against engagement in deviant behaviours. In this way, parental closeness affects the similarity of drinking levels between parents and their children even in late adolescence. However, there are different patterns of the relationship between parental drinking and closeness at work in explaining adolescent drinking. In this regard, Zhang, Welte, and Wieczorek (1999) indicated that only the father's drinking has a direct effect on adolescent drinking. Although closeness to the mother is a significant protection against adolescent drinking, the mother's drinking has no effect on closeness to the mother. In contrast, the father's drinking has a significant effect on closeness to the father, but closeness to the father has no direct effect on adolescent drinking. Moreover, they found an interaction between the mother's drinking and closeness to mother, which indicated that adolescents whose mothers were heavy drinkers and who have low closeness to their mothers drink more heavily.

Parental support, which includes nurturance, attachment, acceptance, cohesion and love, is also one of the key factors in the literature of parenting practices, which appear to influence adolescent substance use. For instance, Parker and Benson (2004) indicated that supportive parenting is linked to high adolescent self-esteem and positive health and well-being outcomes. In a similar fashion, they suggested that lack of parental support is linked to

adolescent substance use problems and delinquent behaviour (Parker & Benson, 2004). Similarly, Mak and Kinsella (1996) examined the relationships among perceived parental bonding and two common forms of alcohol use and conduct problems. The sample consisted of 158 male and 235 female secondary school students. The result indicated that perceived parental overprotection was found to be predictive of conduct problems only. A hierarchical regression analysis of delinquency scores (with those from alcohol-use items removed) revealed that alcohol misuse was a predictor of conduct problems above and beyond the contributions from various parental bonding and socio-demographic variables. In addition, the results showed that high levels of alcohol use and delinquency involvement were both associated with parental neglect. Other research also indicated that children who are reared in a supportive, nurturing environment are likely to be more receptive to parental monitoring during adolescent years, reduce their affiliation to deviant peers and do not misuse alcohol (Barnes, Reifman, Farrel, & Dintcheff, 2000; Marshal & Chassin, 2000).

Parent-child interactions characterized by a lack of closeness appear to be related to the initiation of adolescent substance use. Conversely, positive family relationships (involvement and attachment) seem to discourage the initiation of substance use and other problem behaviours during adolescence. Regarding this Springer, Parcel, Baumler, and Ross (2006) found that when adolescents reported low parental social support they were significantly more likely to report drug use and other deviant behaviour. A further indication that parent-adolescent relationships play a very strong role in influencing adolescent risk behaviour is evident from research showing that heavy and moderate drinkers report having stronger peer relationships, while abstainers and light drinkers tend to have equally strong relationships with their parents. In line with this other research also pointed out that the adolescent's connection to his/her family and the emotional support received from the family

may exert a protective influence towards refusing problem behaviours that include substance use (Field, Diego, & Sanders, 2002; Hoel, Eriksen, Breideblik, & Meland, 2004). It can be concluded that positive parent-adolescent relationship, which is filled with emotional closeness and involvement act as a protective factor for substance use behaviour.

In addition to parental support, the quality of communication between the adolescent and the parent plays an important role in preventing adolescents from substance use. Parent-child communication refers to the extent to which parents will reason with their children and consider their opinions when giving instructions. According to Ennett *et al.* (2001) parent-child communication is considered to be one of the fundamental ways that parents can influence their children's decisions about tobacco and alcohol use, as it is through verbal communication that parents are able to most directly express their feelings and concerns. When communicating with adolescents, parents most often talk to their children about the negative consequences of alcohol use, strategies for resisting peer pressure for use, encouragement for non use, and rules about use (Ennett *et al.*, 2001). In examining the content of parent-child communication and impact on adolescent substance use, additional important consideration may be the timing of conversations between parents and children. In this regard Ennett *et al.* (2001) suggested that parents should initiate communication about substance use before the onset of experimentation with tobacco and alcohol because waiting may be counterproductive. Likewise, Taylor and Carroll (2001) also indicated that when adolescents report good communication with their parents they consistently score higher on measures of psychological development, behavioural competency, self-reliance, and they report low rates of psychological and social problems. The contribution of mothers' and fathers' communication in reducing adolescent substance use behaviour varies by adolescent gender. For example, Luk, Farhat, Iannotti, and Simons-Morton (2010) investigated gender-

specific variations in the associations between communication with father and mother, cigarette smoking, alcohol drinking and marijuana use in 1308 tenth graders. The results showed that among sons, father communication was protective against marijuana use and mother communication was protective against smoking. However, neither father nor mother communication was protective against substance use by daughters.

The quality of family interaction is also a factor that functions as a protective factor in adolescents' substance use behaviour. In this regard, Lieder and Murielle (2007) conducted a survey to identify the prevalence of substance use and problems with use, and risk and protective factors at different levels of the adolescent's ecology associated with substance use among adolescents. The outcome variables were lifetime use of alcohol, tobacco, marijuana, and five other drugs (inhalants, tranquilizers, cocaine, crack, and ecstasy), and problems with drugs and alcohol. Risk factors included dysregulation, family problems with drugs/alcohol, negative family interactions, school disengagement, peer deviance, and exposure to community violence. Protective factors included a personal belief in God, positive family interactions, parent religiosity, and positive student-teacher interaction. In order to model main and interaction effects of risk and protective factors hierarchical linear regression and logistic regression analyses were used. The results showed that risk factors in multiple domains contributed to substance use and abuse after accounting for age, gender, and family structure. Specifically, qualities of the adolescent, the family, the peer culture, and the community environment each added to an adolescent's risk for substance use and associated difficulties. In addition, negative family interactions predicted cigarette and other drug use as well as problems with alcohol.

Gender is well established as one of the most important correlates of delinquency where male adolescents are more delinquent than female adolescents (Willis, Sandy, & Yaeger, 2000). Research also showed that males use drugs more frequently than females. For example, Opland, Winters, and Stinchfield (1995) examined gender differences among 2,281 drug-abusing adolescents (ages 12 to 18 years) and the result indicated that overall, male adolescents reported somewhat higher usage levels of various drugs than did female adolescents. Similarly, in an attempt to answer gender difference in substance use Katims and Zapata (1993) conducted a study examining gender and the use of specific drugs. They surveyed 2,216 fourth, fifth, and sixth grade Mexican American students to ascertain information pertaining to their use of four specific minor substances: cigarettes, beer, wine/liquor and marijuana. Results indicated that in each grade, males reported a greater use of minor substances than did females. However, while males use significantly more substances in the fourth and fifth grades, those differences virtually disappear in the sixth grade.

Therefore the above research indicates that a number of family factors have associated with adolescents' substance use behaviour. Among familial factors that influence adolescent substance use family support, family interaction, communications, parenting styles, and psychological control have also been found important in influencing adolescents' substance use. The review also showed that male adolescents use substances more than female adolescents.

2.6.3 Depression

Depression is recognised as a significant health issue for adolescents due to its relatively high prevalence in the general population and the fact that mood disorders are associated with substantial morbidity and mortality due to suicide (Kashani & McNaul, 1997). According to the American Psychiatric Association (2000) depression in adolescents can be described in eight dimensions: affective manifestations like depressed or irritable mood; loss of interest; cognitive dysfunction including on inability to think or concentrate; vegetative manifestations like insomnia, loss of appetite or loss of weight; psychomotor manifestations like agitation or retardation; negative cognitions like feelings of worthlessness or inappropriate guilt; existential concerns like recurrent suicidal thoughts and fatigue or lack of energy.

Various family characteristics or parenting behaviours contribute to the occurrence of depression among adolescents. Psychologically controlling strategies, which includes manipulation, guilt induction and expressions of disappointment and shame, is one parenting aspect that contributes to adolescent depression. For example, Mayseless and Scharf (2009) indicated that psychological control undermines normal psychological and emotional development and exposure to these strategies is associated with child internalising problems such as depression and anxiety. In addition, Barber and Harmon (2002) reported cross-cultural evidence that psychological control is consistently detrimental to healthy adjustment. Even in relatively collectivist cultures where less emphasis is placed on individual autonomy, parent psychological control was associated with increased rates of depression and antisocial behaviour in adolescents. Many researchers have also provided evidence by showing that psychological control is related to the child's internalization behaviours, such as anxiety,

depression, self-esteem, and maladaptive perfectionism (Barber, 1996; Laible & Carlo, 2004; Morris, Steinberg, Sessa, Avenevoli, Silk, & Essex, 2002; Soenens *et al.*, 2005).

In addition, to parent's psychological control, perceived communication or messages from fathers and mothers regarding self, the world and the future were important in predicting children's depression. In support of this assumption Liu (2003) using a randomly stratified sample of 454 adolescents examined how perceptions of parenting and family messages are associated with the depressive symptoms. Data on adolescents' personal backgrounds, Children Depression Inventory, Parenting Bonding Instrument, and Family Message Measure was collected. The analysis revealed that higher levels of parental care and low levels of parental indifference were associated with lower depression scores. Moreover, perceptions of positive messages regarding children themselves, their world, and their future were found to negatively associate with depression, whereas negative messages had an opposite effect. Basically, girls' depressive symptoms were more related to maternal messages, and boys' were more related to paternal messages. Similarly, Garber *et al.* (1997) indicated that children learn to value themselves partially from how others view them. Through interpersonal interaction, children acquire information about themselves and others from others, particularly significant others like parents. If the feedback that children receive during their interaction with significant others is persistently negative, negative self-perceptions are likely to form, further increasing their vulnerability to depression.

In another study Brage and Meredith (1994) examined how family strengths, parent-adolescent communication, self-esteem, loneliness, age, and gender interrelate, and how this interaction influences depression in adolescents. The data was collected on a written questionnaire completed by 156 adolescents who were attending public schools. They

developed a causal model to explicate the relationships among the variables hypothesized to affect adolescent depression. Results showed that family strengths did not have a statistically significant direct effect on adolescent depression. Family strengths had an indirect effect on adolescent depression through self-esteem. However, mother-adolescent communication and father-adolescent communication did not have a direct effect on adolescent depression or an indirect effect on adolescent depression through self-esteem. Self-esteem had the strongest total effect on adolescent depression. Gender was significantly related to depression through self-esteem. Furthermore, Stark, Schmidt, and Joiner (1996) investigated how a child's views of self, the world and the future might be affected by parental views of self, world and future by means of parent-child communication. They found a relationship between perceived parental messages about the self, world, and future and children's depressive symptoms, when children's senses of self, world, and future were considered as a mediator. Thus children's daily communication with parents affects their self-regard, which in turn increases their vulnerability to depression. Jaenicke *et al.* (1987) also found that children who often receive verbal criticism from mothers tend to make self-blaming attributions for negative events.

Social support research has compared the roles of family on the emergence of adolescent depression and examined positive and negative effects of the influence that families exert on adolescents. For example, Cumsille & Epstein (1994) investigated the relationships among adolescents' depressive symptoms and self-reported family cohesion, adaptability, satisfaction with family functioning, family structure, and social support received from family and friends. In a sample of 93 families attending family therapy at an outpatient clinic they found that family cohesion and family social support were inversely related to depression. In contrast to nonclinical samples, family characteristics were more

strongly associated with depression among boys than among girls, and social support from friends did not act as a buffer against depression. Moreover, they found that adolescents' levels of satisfaction with the cohesiveness and adaptability in their families were the strongest predictor of depressive symptoms. In strengthening the importance of support, Wisdom and Green (2004) indicated that a strong family support system protects children from depression, and reported family cohesion and satisfaction with family support and functioning by teenagers are associated with lower incidence of reported adolescent depression. Conversely, a chaotic and stressful family environment, poor communication between parents and children, and negative parental attitudes about depression may contribute to the onset of adolescent depression. According to Wills *et al.* (1992) positive functioning has been linked to several areas of adolescent competence such as self-esteem and academic success. Further, negative associations have been demonstrated between family support and deviant behaviour, symptoms of depression, and substance use. Hence, family functioning, characterized in a variety of ways, has also been linked to several positive outcomes and inversely related to negative outcomes for adolescents.

Shiner and Marmorstein (1998) also assessed family functioning of adolescents with a history of depression, taking into account maternal history of depression. The sample consisted of families of three groups of adolescents, which were ever-depressed adolescents with ever-depressed mothers ($n = 37$), ever-depressed adolescents with never-depressed mothers ($n = 42$) and never-depressed control adolescents ($n = 82$). The results indicated that ever-depressed adolescents with ever-depressed mothers described poorer family functioning than did ever-depressed adolescents with never-depressed mothers and controls. Mothers of both groups of ever-depressed adolescents reported family difficulties, particularly in the father-adolescent relationship. Moreover, Sheeber and Sorensen (1998) indicated that

negative patterns of parent-child interactions may have been established very early on, and a repetitive sequence of negative family interactions increases the risk of depression in adolescents. Similar research (Larson *et al.*, 2002) also noted that not having adequate supportive structures and resources predisposes the adolescent to engage in various negative behaviours such as exposure to alcohol, drugs, sexually transmitted diseases, depression and suicidal behaviours as a means of coping. Consequently, these researches stress the importance of having a positive or good interaction between the child and significant others. If parent-child interactions are indifferent and negative, children are likely to encounter greater difficulties when growing up.

Parenting style as a way of socializing children is also found to be an important factor in the emergence of depression among adolescents. For example, Feng *et al.* (2009) investigated the joint contribution (both additive and interactive) of child emotion regulation and parenting to emerging depressive symptoms in preadolescent girls. Measures of emotion regulation included observations of girls' expression of positive and negative emotions during a problem-solving task and maternal report of sadness and anger regulation. The sample consisted of 225 children and their biological mothers. Girls' observed positive and negative emotion during a conflict resolution task with mothers, their ability to regulate sadness and anger, and their perception of parental acceptance and psychological control were assessed at age 9. In addition, depression symptoms were assessed using self-report at ages 9 and 10. The results indicated interactions between child emotion characteristics and parenting in predicting later depression. Specifically, low levels of positive emotion expression predicted higher levels of depressive symptoms in the context of moderate to high parental psychological control. Low levels of sadness regulation were predictive of high levels of depressive symptoms in the context of low to moderate parental acceptance. Thus

the care-giving environment moderates the prospective association between vulnerabilities in emotion regulation and depression.

In general children and adolescents from authoritarian families who are demanding, unresponsive to the emotional needs of the child, controlling, show little warmth, involvement, support, or emotional commitment to their child tend to show higher levels of depression (Avenevoli *et al.*, 1999; Baumrind, 1991; Darling, 1999; Darling & Steinburg, 1993). As a result, most effective parents are those who are warm and involved in their children's wellbeing, provide strict guidelines and boundaries, have the right and suitable expectations about the development of their children, and spice them to develop their own beliefs (Baumrind, 1991).

Gender is one of the factors that explains the occurrence and prevalence of depression among adolescents. For example Pullen, Modrcin-McCarthy, and Graf (2000) indicated that there is nearly an equal number of affected males and females. Other studies of adolescents almost consistently find more depressed females. For example, Peterson, Sarigiani, and Kennedy (1991) tested gender difference in a longitudinal study of adolescents from sixth through twelfth grades. Little depression was evident in sixth graders but by twelfth grade, females clearly experienced more depressed affect and poorer emotional tone than males. Baron and Campbell (1993) evaluated response differences in males and females on the Beck Depression Inventory (BDI) and the Reynolds Adolescent Depression Scale (RADS). Despite controlling for demographic and living condition variables, females consistently scored higher than males throughout adolescence. Similarly, Koenig, Isaacs, and Schwartz (1994) in a study of 397 urban high school students noted that the depression scores of males tended to be low or high while females had more moderate scores. Among boys, all levels of

depression appeared to be associated with loneliness whereas girls with mild to moderate levels still reported spending time with friends. In summary, while many factors play into the gender differences seen in depression, the way in which depression has been defined may have led to a favouring of female responses in depression scales and diagnostic criteria.

The theoretical and empirical literature reviewed above indicated that depression in adolescents is influenced by different family characteristics such as social support, psychological control, parenting style and communication. In addition, the above research has also shown that there is a gender difference in the prevalence of depression where female adolescents are more depressed than males.

2.6.4 School Adjustment

School adjustment is a multidimensional construct that consists of personal and social indicators of the individual's ability to adapt to the school's demands and values, both the internal constraints and the external requirements (Bouffard, Roy & Vezeau, 2005). School adjustment is an important developmental task for adolescents and is thought to be an important contributor to their mental health, social-emotional functioning and have important implications for their later life achievements and transitions (Masten & Coatsworth, 1998). The school adjustment problems includes aspects such as a negative attitude toward teachers and a negative attitude toward the school (Reynolds & Kamphaus, 2004), decreases in school liking, developing a negative attitudes towards school, and increases in school absenteeism (Kochenderfer-Ladd, 2004), and other researchers described it as declines in academic performance and school avoidance (Buhs, Ladd, & Herald, 2006).

Examining successful school adjustment is an important research issue due to the fact that the school environment is one of the earliest and most influential social institutions a child experiences. According to Perry and Weinstein (1998) school adjustment is a multifaceted construct that highlights successful adaptation to school as a product of cognitive-linguistic, socio-emotional, and behavioural abilities. Furthermore, they asserted that successful adjustment to school is needed early to provide a foundation for a successful school career. Perry and Weinstein (1998) argued that school adjustment is truly complex and encompasses academic functioning, social functioning, and behavioural functioning. These researchers posit that the social context of school is comprised of many different characteristics that work together to influence school adjustment. In addition, these authors also acknowledge the important relationships that facilitate pro-social interactions and motivated participation. Perry and Weinstein suggest that literature exploring school adjustment should incorporate representations of school adjustment in its entirety. This includes tapping into varying forms of achievement in addition to standardized tests, such as teacher and self-reports. Moreover, studies of early adjustment to school should include cognitive-linguistic and socio-emotional predictors. In sum, research in the area of school adjustment is somewhat lacking in that many studies chose to narrowly focus on one domain of adjustment and/or utilize only one reporter. This study described school adjustment using adolescents' self-report of their perception towards school and schoolwork, academic achievement and a conduct remark by their head teacher as reflected in the semester report card.

Chen, Liu, and Li (2000) investigated the different roles of paternal and maternal influences on the social, academic and psychological adjustment of 250 Chinese children over a two-year period and they found that paternal warmth significantly predicted social

competence, school adjustment and academic achievement, but maternal warmth did not. Differences in school adjustment were also explored between high achieving and low achieving students. Students with higher exam scores had lower depression scores. One explanation is that academic competence likely generates parental approval, rewarding high performing students for their conformance to societal norms and values. Thus, academic success may be a positive factor in regard to adolescent well-being and school adjustment, although the causal direction in this association may be the opposite, namely that better adjusted adolescents perform better in school.

Studies carried out on Euro-American adolescents of all ages have shown that authoritative parenting is consistently associated with positive developmental outcomes in offspring, which includes school adjustment and academic achievement (Steinberg, Lamborn, Dornbusch, & Darling, 1992), psychosocial competence, and less psychological and behavioural dysfunction (Maccoby & Martin, 1983). These results have demonstrated that a combination of high warmth, acceptance, and involvement together with high strictness corresponds with the optimal school adjustment among Euro-American families with the authoritative parenting style.

Chen, Rubin, and Li (1997) conducted a four-year longitudinal study on maternal acceptance-rejection and children's social functioning and school adjustment in Shanghai, China. The original sample consisted of 480 second and fourth grade children, and the follow-up data were collected from 162 sixth and eighth grade children from the original sample. This study's results suggested that aversive mother-child interactions are associated with maladaptive behaviours in children, and that the negative influence may be reciprocal.

Although higher maternal acceptance was associated with fewer child behavioural problems four years later, it did not predict later social competence or academic adjustment.

Other researchers (Demaray & Malecki, 2002, Estevez *et al.*, 2005) examining the association between family variables and behavioural problems at school showed that a negative family environment characterised by problems of communication between parents and children is an important risk factor for the development of behavioural problems at school during adolescence. Lambert and Cashwell, (2003) pointed out that the quality of communication with parents is closely related to adolescents' behaviour and psychological adjustment; in particular, negative and offensive communication with parents may lead to misbehaviours in children at school. Similarly, Ochoa, Lopez, and Emier (2007) investigated the role of communication with father and mother and family self-concept, the interaction with teachers, and acceptance/rejection by peers in relation to problems of violent behaviour at school during adolescence. The sample consisted of 1,068 students aged 11 to 16 drawn from secondary schools. The statistical analyses carried out showed a direct association between the quality of communication with the father and the adolescent's involvement in violent behaviour at school. It means that adolescents who reported a positive communication with their parents do show lesser conduct problems as compared to those adolescents who reported negative communication with parents.

Farmer *et al.* (2004) found that adolescents who have academic difficulties are more likely to be aggressive and disruptive, to be unengaged in class, and to experience a range of social difficulties. Furthermore, poor educational outcomes such as school failure, school dropout, and reduced rates of postsecondary education have been linked to correlated packages of academic, behavioural, and social risks in early adolescence. In general, the

above researchers indicated that behavioural and social competence support students' academic achievement, while behavioural and social difficulties may contribute to poor academic performance.

Shek (2002) conducted a research study on 229 adolescents with economic disadvantages. They were asked to respond to instruments measuring their perceptions of parental qualities, psychological wellbeing, school adjustment, and problem behaviour. Measures of parental qualities included perceived parenting styles, support and help from parents, and conflict and relationship with the parents. Results showed that positive perceptions of parental qualities were in general related to better adolescent psychological wellbeing (including existential well-being, life satisfaction, mastery, self-esteem, and general psychiatric morbidity), school adjustment (perceived academic performance and school conduct), and problem behaviour (substance abuse and delinquency). Relative to positive maternal parenthood qualities, positive paternal parenthood qualities were found to have stronger positive relationships with measures of well-being and problem behaviour in adolescents with economic disadvantages.

With specific reference to the parent-adolescent dyad, there are several family processes that are intimately related to the development of adolescents. For instance, Amato (1989) suggested that a higher level of support from parents was associated with a higher general competence in adolescents despite the fact that there are different conceptions and assessment methods related to this construct. These include the process of how the parents socialize the child (parenting style), the degree of support and conflict involved (parental support and parent-child conflict), as well as the nature of the relationship between the parents and their children (parent-child relationship). Among the parent-child dyadic

processes, perhaps parenting style can be regarded as a fundamental one (Darling & Steinberg, 1993). Conceptual models on the types of parenting styles and their influences on adolescent development have been put forward (Maccoby & Martin, 1983) and research findings on the relationships between parenting styles and academic achievement (Paulson, 1994) have been accumulated.

Other family characteristics such as involved, supportive, and vigilant parenting that features high levels of instrumental and emotional support along with knowledge of youths' activities and extra-familial relationships promote both cognitive and behavioural self-regulation to enable youths to cope effectively with daily hassles and acute contextual stressors (Luthar, Cicchetti, & Becker, 2000). In this regard, Kim, Brody, and Velma Murry (2003) investigated longitudinal relations between contextual risks (such as maternal age at first birth, per capita family income, maternal education level, family size, maternal employment status, adequacy of money, and adequacy of daily necessities), parenting processes, youth self-regulation, academic achievement, and conduct problems in young adolescents. The data were gathered across 4 years from 139 rural, African American, single mother-headed families with young adolescents with a mean age of 11. The findings indicated that parenting processes that featured high levels of emotional and instrumental support and a thorough knowledge of adolescents' activities along with low levels of repetitive, unresolved conflict were linked indirectly with adolescents' positive outcomes through their association with adolescent's self-regulation. A combination of parent and adolescent variables appears to foster a link that encourages academic achievement and discourages conduct problems during early adolescence.

Demaray & Malecki (2002) investigated the relationship between five broad sources of perceived social support (parent, teacher, classmate, close friend, and school) and maladjustment indicators in a sample of 125 at-risk students in sixth through eighth grade. The results showed that among five sources of support (parent, teacher, classmate, close friend, and school), only parent and classmate support are significant individual predictors of clinical maladjustment and emotional symptoms, only parent support significantly predicts personal adjustment, and parent and teacher support significantly predict school maladjustment. Furthermore, they suggested that, for this particular sample of middle school students, higher level of parent support is strongly related to almost all of the positive outcomes they experience.

Steinberg *et al.* (1989) examined the relationship between three aspects of authoritative parenting (acceptance, psychological autonomy, and behavioural control) and school achievement using a sample of 120 adolescents. The results indicate that authoritative parenting likely facilitates adolescents' academic success; that all three components of authoritativeness studied, parental acceptance, psychological autonomy, and behavioural control, make independent contributions to school achievement; and that the positive impact of authoritative parenting on school success is mediated in part through the effects of authoritativeness on the development of a healthy sense of autonomy and, more specifically, on the development of a healthy psychological orientation toward work. Hence, adolescents who describe their parents as treating them warmly, democratically, and firmly are more likely than their peers to develop positive attitudes toward, and beliefs about, their achievement, and as a consequence, they are more likely to do better in school (Steinberg, *et al.*, 1989).

Similarly, other studies that measured parenting behaviours in terms of parenting styles have also found that an authoritative parenting style is associated with better adolescent school performance. For example Glasgow, Dornbusch, Troyer, Steinberg, and Ritter (1997) studied 2,352 high school students and reported that parenting style has a direct effect on adolescent academic outcome, such that authoritative parenting facilitates adolescent academic success. That is, adolescents reporting parents as indulgent or neglectful earned significantly lower grades than adolescents reporting authoritative parenting. In their study of 3,993 ninth graders, Radziszewska *et al.* (1996) were more specific in reporting that adolescents with unengaged parents had the lowest academic grades. Conversely, in a sample of 7,836 students from grade 9 through 12 Dornbusch *et al.* (1987) reported that authoritarian and permissive parenting was associated with the lowest adolescent academic grades as did Cohen and Rice (1997) in their study of 386 eight and ninth graders. Despite these differences, all studies conclude that authoritative parenting is related to better adolescent academic performance.

Other researchers have examined the relationship of different parental behaviours and adolescents' academic performance. For example, in a national study, Amato and Flower (2002) studied 1,707 adolescents between the ages of 12 and 18 and found that parental support (care) was positively related to adolescent academic grades. This suggests that more parental support was associated with higher adolescent grades. Furthermore, Eccles and Midgley (1989) suggested that family environments characterized by autonomy, support, warmth, and clear structure rather than excessive parental control provided a particularly good developmental fit with early adolescents' needs and thus were instrumental in fostering and maintaining academic motivation, mental health, and achievement. Highly controlling family settings were characterized as providing a developmental mismatch and were

considered to undermine motivation, mental health, and consequently, achievement. Marchant, Paulson, and Rothlisberg (2001) investigated the relations of both family and school contexts on students' academic achievement and explored the mediating effects of students' perceptions of their motivations and academic self-competence. They concluded students' perceptions of parenting style, parental involvement, teaching style, and school atmosphere significantly predicted their school achievement. In general, these studies suggest that higher levels of parental care/warmth and authoritative parenting styles are optimal for higher adolescent academic performance.

A longitudinal study of Joussemet, Koestner, Lekes, and Landry (2004) examined the relations of maternal autonomy support to children's school adjustment in a sample of 379 children. Autonomy support and other parenting dimensions were measured when children were five years old. School measures consisted of teacher-rated academic and social adjustment and achievement in reading and math in grade three. Regression analyses revealed that autonomy support was positively related to grade three adjustments (social and academic) and reading achievement. Maternal emphasis on school performance was positively related to achievement measures but was negatively related to social adjustment. Maternal use of rewards and praise was unrelated to grade three school measures. Finally, supplemental analyses revealed that autonomy support was associated with greater consistency in children's adjustment across social and academic domains as well as higher overall adjustment.

Experiences of autonomy support in the family context can spill over to promote successful adaptation in the school context. For example, Grolnick, Ryan, and Deci (1991) showed that parental autonomy support, as rated by children, was positively associated with

children's self-esteem, sense of competence, and achievement at school. Grolnick and Ryan (1989) further showed that supportive parenting relates to children's adjustment and competence in school even when parent and school measures are assessed separately. Grolnick, Gurland, DeCoursey, and Jacob (2002) also showed that maternal autonomy support was associated with better performance on a homework-like task.

Research on gender differences in school adjustment has portrayed that girls are better adjusted compared to boys. For example, Wang, Chen, Sorrentino, and Szeto (2008) who used a sample of 390 students in their study looked at uncertainty orientation in Chinese children: Relations with school and psychological adjustment. They found that girls had higher scores on academic achievement, distinguished studentship and self-perceptions and lower scores on teacher rated learning problems than boys. Uncertainty orientation was significantly and positively associated with academic achievement, teacher-rated school competence and self-perceptions of competence. It was also significantly and negatively associated with teacher rated learning problems and loneliness. Another research by Kiuru, Nurmi, Aunola, and Salmela-Aro (2009) looked at 1494 adolescents from Finland. They used questionnaires concerning peer relations and adjustment and maladjustment and 360 peer groups were identified and only peer group members were analysed. Results showed that members of adolescents' peer groups resembled each other in terms of school adjustment and maladjustment. Members of girls' cliques resembled each other more in satisfaction with their educational choice and school engagement when compared with boys. This shows that there are gender differences in school adjustment where female adolescents are better adjusted than males.

Farmer, Irvin, Thompson, Hutchins, and Leung (2006) examined the relationship between end-of-year grades and the academic, behavioural, and social characteristics of rural African American youth. Their sample included 392 students from grade seven and eight in two rural middle schools. Their first aim was to explore possible gender differences in the relationship between school grades and school adjustment. The results revealed that generally, girls appeared to have more positive characteristics than boys. They tended to have higher academic grades, higher teacher and peer reported academic competence, higher teacher and parent reported academic orientation, higher teacher and peer reported leadership, higher peer reported pro-social behaviour, higher teacher reported popularity, and higher peer reported social network centrality. However, boys were higher on both teacher and peer assessed aggression.

In summary, the above literature examining parent-adolescent relationship variables and adolescent adjustment suggests that the availability of a good relationship between a child and parent, such as lesser psychological control, warmth, involvement and positive communication affects adolescents' school adjustment. Additionally, the above review also showed gender differences on the perception of school adjustment.

CHAPTER THREE: METHOD

The purpose of this study is to examine parent-adolescent relationships as perceived by the adolescents and its relationship with adolescent adjustment. In order to describe or measure parent-adolescent relationships four aspects or characteristics of relationships were considered in the current study namely psychological control, involvement, parental warmth and communication. Furthermore, self-esteem, school adjustment, substance use and depression were used as measures of adolescent adjustment. This chapter provides a description of the method used in the study. This chapter begins with a presentation of the research design and a detailed account on sampling and sampling characteristics. It is followed by procedures for tests on the research instrument, data collection instruments, pilot study, reliability and validity, data collection and data analysis and statistical procedures. The chapter ends with a brief description of the ethical considerations that were applied for conducting this study.

3.1. Research Design

This study makes use of a cross sectional survey design, which utilized a stratified random sampling method. The benefit of this design is that group differences are identified with regard to different variables (Patten, 2004; Vogt, 2007). It is a quantitative research design, which includes eight questionnaires measuring each construct included in the study and a demographic information form to collect personal information about the participants. A total of 809 adolescents from four private and government high schools participated in this study in the first semester of the 2012 academic year. The independent variables for this study are psychological control, involvement, parental warmth and communication. The dependent variables are self-esteem, substance use, school adjustment and depression. A

Pearson Product Moment correlation, regression analysis and independent t-test were used to analyse the data acquired from the different self-report instruments.

The current study acquired data on parent-adolescent relationship and adjustment from the adolescents' perspective since there is an important difference of perception between children and their parents, with parents holding up a more positive picture of their family. Regarding this, previous studies also reported that parents have in general significantly higher scores on social desirability than do their adolescent children (De Bourdeaudhuij & Van Oost, 2000; Stevens *et al.*, 2002). Since adolescents and parents view their behaviour with each other through different lenses because they have different developmental tasks, adolescents tend to view family interactions as having more conflict mainly due to the transformation toward a more symmetrical and individualized parent-child relationship (De Bourdeaudhuij & Van Oost, 2000; Stevens *et al.*, 2002). Thus the current study assumes that adolescents' reports are more useful than parental self-reports for assisting adolescents in measuring the transition from childhood to adulthood effectively.

Thus the cross-sectional survey design was therefore found to be the most suitable design to answer the following research questions:

1. How do adolescents describe their relationship with their mothers based on the different aspects or characteristics of the relationship, which are psychological control, communication, involvement and warmth?
2. How do adolescents describe their relationship with their fathers based on the different aspects or characteristics of the relationship, which are psychological control, communication, involvement and warmth?

3. How do adolescents describe their adjustment problems with regard to school adjustment self esteem, substance use and depression?
4. What is the relationship between the mother-adolescent relationship variables and the adolescent adjustment problem variables?
5. What is the relationship between the father-adolescent relationship variables and the adolescent adjustment problem variables?

Moreover, the research also aimed to address the following specific research questions:

6. Does the mother-adolescent relationship predict adolescent adjustment?
7. Does the father-adolescent relationship predict adolescent adjustment?
8. Is there a gender difference in the perceptions of adolescents' relationship with their mothers and fathers?
9. Is there a gender difference in the perceptions of adjustment problems between male and female adolescents?

3.2. Population and Sample

The population for this study consists of adolescents who are attending their high school in four private and government high schools of Addis Ababa. The sampling frame thus consists all adolescents who are attending high school in Addis Ababa. The actual list of individuals included in the high school student population, consists of 7,500 students. According to Patten (2004), the quality of the sample affects the quality of the research generalizations; and the larger the sample size, the greater the probability that the sample will reflect the general population. However, sample size alone does not constitute the ability to generalize. Regarding this, Patten (2004) also stated that obtaining an unbiased sample is the main criterion when evaluating the adequacy of a sample. Patten also identified an unbiased

sample as one in which every member of a population has an equal opportunity of being selected in the sample.

Therefore, stratified sampling method was used in this study to help ensure an unbiased sample population. Though random sampling may introduce sampling errors, efforts were made to reduce sampling errors, and thus increasing precision, by increasing the sample size and by using stratified sampling. This stratified random sample ensured that subgroups were represented in the correct proportions. Regarding this Patten (2004) emphasized that the same percentage of participants, not the same number of participants, were drawn from each stratum. Hence, in this study students from each stratum (Grade level) were randomly selected through the use of the randomize function in Microsoft Excel. The population eligible for inclusion in this portion of the study consisted of 7,500 adolescents who are enrolled for Grades 9, 10, 11 and 12 in the academic year of 2012. A formula recommended sample sizes (n) for population (N) with finite sizes, developed by Krejcie and Morgan (1970), was used to determine sample size. For purposes of this study the recommended sample size for a population of $N = 7500$, with a confidence interval of 95%, and a margin of error (degree of accuracy) of 3.5% is 710. However, for the present study a total sample of 809 students from the four Grade levels were included in the study and the sample size is even higher than from the recommended sample.

3.3. Procedure

Data collection for the study started in March 2012 after the completion of the first semester of the academic year 2012 (Academic year in Ethiopian school system begins on the month of September). To begin the data collection process, a written permission was sent to the headmasters of each school participating in the study requesting them to agree to become

part of this research study so that students in their schools could be used as the population of the study. After the headmasters had given their consent for their respective schools to participate in this study, they communicated the purpose of this research to the head teachers of their respective schools, who arranged a meeting for the researcher and the data collectors to meet the students.

Following the discussion with the students the sampling frame was acquired from the schools and the students were stratified by grade level and sex then the total sample was identified. A consent letter was sent to all participants and parents to be signed and after a week each participant was asked to bring the consent form to school. The consent form explains the purpose of the study and participants' rights to privacy, to end their participation at any time. Then the total adolescent population, who gained permission from their parents or guardians, was identified. The participants completed the four questionnaires that assess their relationship with their parents or guardians on the first day and on the next day another four questionnaires asking their adjustment was administered. There were four data collectors in each school administering the survey under the researcher's supervision.

3.4. Data Collection Instruments

Several instruments used in other studies informed the process of adopting and developing the survey instruments. In addition, a thorough examination was made of the theories that were relevant to the research questions in order to identify concepts that had a bearing on parent-adolescent relationship and adjustment measures of adolescents. The survey instruments were also drawn up with the statistical analysis of the data in mind, by considering the significant role of each item, concept or variables that was measured and would play in the final analysis. Thus the instruments for psychological control, warmth, communication, self-esteem and depression were adapted from the existing literature and the

researcher developed instruments for parental involvement, school adjustment and substance use. The instruments used in the present study are all self-report measures. Although the reliability of using self-report measures has been an issue of contention, the finding that people's thoughts and behaviours are affected not from mere reality, but their perception of it provides the basis for using self-report measures in this study. Four of the questionnaires asked for specific factual information concerning adolescents' perceptions of their mother's and father's psychological control, involvement, parental warmth and communication. The other four questionnaires asked adolescents' adjustment in terms of their self-esteem, substance use, school adjustment and depression. The following sections present detailed descriptions of the instruments used in this study and for all the instruments used in this study please see Appendix D.

3.4.1. Demographic Data

This instrument asked for the general information or demographic data of participants. The demographic variables for this study are: grade level, age, gender, and mothers' and fathers education level.

3.4.2. Parental Psychological Control Scale

The Chinese Paternal Psychological Control Scale (CPPCS) and the Chinese Maternal Psychological Control Scale (CMPCS) were used in this study to assess adolescents' perception of their parents' level of psychological control (Shek, 2006). This instrument was designed based on Barber's (1996) definitions of psychological control that includes several basic features of psychological control, such as invalidating personal feelings and experiences, constraining verbal expression, personal attack, love withdrawal, and excessive control. The CPPCS and CMPCS are 10-item self-report measures of the participants' perceived psychological control and it was adopted for this study. These items assess the

basic features of psychological control, including invalidating personal feelings and experiences, constraining verbal expression, personal attack, love withdrawal, and excessive control. The items in the scales are rated on a 4-point Likert scale ranging from 1 (*Strongly agree*) to 4 (*Strongly Disagree*) to reflect the correspondence between the item score and the intensity of psychological control. The items in the scale include: "My father (my mother) always wants to change my thoughts. When I disappoint my father (my mother), he (she) will stop talking to me." Reliability in the current sample for parental psychological control scale was $\alpha=.81$. The total score of the items in each scale was used as an indicator of the perceived level of endorsement of traditional parenting beliefs of the parents, with a higher score indicating a higher level of endorsement of the traditional parenting beliefs.

3.4.3. Parental School Involvement

This scale is self-developed and was used to measure the extent of parental school involvement in their children's schooling. It measures the adolescents' perceptions of their mothers' and fathers' involvement with their schooling. The five-point Likert scale ranging from *1-Almost Never* to *5-Very Often* was used. The items on the scale include: "My father/mother discusses my school progress with me," "My father/mother helps me with my home-work when I have difficulty." A total of 10 items are included on this scale and a higher score represents a higher level of involvement and the score can range from 10 to 50. Reliability in the current sample for the parental school involvement scale was $\alpha=.75$.

3.4.4. Warmth scale

The warmth scale is adopted from the Mother and Father versions of the Child Parental Acceptance-Rejection/Control Questionnaire (PARQ/Control; Rohner & Khaleque, 2005) and it is used to assess adolescents' perceptions of maternal/ paternal warmth. The

Warmth/Affection sub-scale is a 20-item self-report measure that asks children to rate the truth of statements pertaining to their mothers'/fathers' warmth towards them. The Warmth/Affection score could range from a low of 20, indicating low levels of perceived maternal/paternal warmth, to a high of 80, indicating high levels of perceived maternal/paternal warmth. It is a four point Likert scale (*Almost Always True = 4, Sometimes True = 3, Rarely True = 2 and Almost Never True = 1*). Sample items include "My father/mother says nice things about me. My father/mother talks to me in a warm and loving way." Reliability in the current sample for parental warmth scale was $\alpha=.79$.

3.4.5. Parent- Adolescent Communication Scale

The Parent-Adolescent Communication Scale (Barnes & Olson, 1982) is used to assess adolescents' perception of their communication with their father and mother. This scale is composed of two sub scales with one that measures the degree of openness in family communication, and the other one assesses the extent of problems in family communication. Each scale is comprised of 10 items. A scale is used along with a 4-point Likert-type scale (*Strongly Disagree = 1, Strongly Agree = 4*). The Open Family Communication Scale includes items such as, "My [mother/father] tries to understand my point of view," "It is easy for me to express all my true feelings to my [mother/father]," and "My [mother/father] is always a good listener." The Problems in Family Communication Scale consists of items such as "My [mother/father] has a tendency to say things to me which would be better left unsaid," "I don't think I can tell my [mother/ father] how I really feel about some things," and "When we are having a problem, I often give my [mother/father] the silent treatment." The score can range from a minimum of 20 to a maximum of 80. Thus a higher score represents better communication between the adolescent and parent. Reliability in the current sample for the parent-adolescent communication scale was $\alpha=.78$.

3.4.6. *Self-Esteem Scale*

Self-Esteem is measured using the Rosenberg Self-Esteem Scale, SES (Rosenberg, 1989). The SES is a 10-item scale that measures global self-esteem with statements related to feelings of self-worth and self-acceptance. Participants responded on a 5-point Likert-type scale from 1 = *Strongly Agree* to 5 = *Strongly Disagree* in terms of their agreement about themselves with a potential range of scores from 10-50. Items were coded so that high scores indicate high self-esteem. The items in the scale include “I feel that I have a number of good qualities. I am able to do things as well as most other people.” Reliability in the current sample for the self-esteem scale was $\alpha=.80$.

3.4.7. *Substance use scale*

This scale is self-developed and was used to measure adolescents’ use of alcohol, tobacco and drugs. The items ask if adolescents use any substance and the frequency of their use in the past. A total of 9 items were included on this scale. The items include questions in “Yes or No” format for the different substances. For example “Have you ever had a drink of alcohol?” and also frequency of intake like “How often do you drink? The response can range from *Never = 0; Once a Month = 1; Once a Week = 2; Every Day = 3*. The other item in the scale asks the number of times adolescents take alcohol, tobacco and drugs in the past six months and the response ranges from *Never = 0; 1 – 4 Times = 1; 5 -9 Times = 2; and Ten Times or More = 3*. Thus the scores can range from 0 indicating no substance use to 21 with highest level of substance use.

3.4.8. *School Adjustment scale*

This scale is also self-developed and used to measure adolescents’ perception of their school adjustment. It measures adolescents’ perceptions of their school in general, academic achievement (average grade point) and also their teacher’s rating of their conduct over the

semester. The participants were requested to rate their general perception towards their school and school work on a five point Likert-type scale (*1 = None of the Time, 2 = A little of the time, 3 = Some of the time, 4 = Most of the time, 5 = All of the time*). The items in this scale include “How often do you feel that you hate school? How often do you skip doing your homework? How often do you feel that you learn a great deal at school?” They also indicate their average grade on the first semester on a five-point scale (Above 85% =1, 75% - 85% =2, 65% - 75% =3, 55% - 65% =4, Less than 55% =5). Adolescents also indicated their conduct information from their report card and it was rated in four points (*Very good =1, good =2, Not bad= 3 and Poor =4*). The score can range from 10 to 49 and a higher score indicates a serious school adjustment problem. Reliability in the current sample for the adolescent school adjustment scale was high ($\alpha=.73$).

3.4.9. Depression scale

The Centre for Epidemiologic Studies Depression Scale (CES-D) is used in this study to assess depression. According to Radloff (1977) this scale has four factors that have subsequently come to constitute independent subscales: depressed affect, positive affect, somatic and retarded activity, and interpersonal difficulties. Participants completed the CES-D, which is a 20-item scale constructed to "measure the current level of depressive symptomatology, with an emphasis on the affective component, depressed mood" (Radloff, 1977, p. 385). Respondents were told that the items constitute a list of ways they may have felt or behaved during the last three weeks and they indicate the frequency of occurrence of each symptom on a 4-point scale. The response scale is as follows: rarely or none of the time (less than 1 day) = 0; some or a little of the time (*1 – 2 days*) = 1; *Occasionally or A Moderate amount of time (3 – 4 days)* = 2; *Most or all of the time (5 – 7 days)* = 3. The items in the scale include “I was bothered by things that usually don’t bother me. I thought my life had been a failure.” The score can range from 0 indicating no depression to 60 with a

high depression index. Reliability in the current sample for adolescent depression scale was high ($\alpha=.75$).

3.5. Pilot Study

The investigator negotiated access to the field by consulting the schools' management to discuss aims, objectives and ethical considerations of the study. Initial permission was sought for conducting the pilot study in two schools, which were part of the study. With permission granted, the investigator contacted the principals of each private and government high school for permission to recruit students for the purpose of running a pilot test of the research instruments. The rationale for the pilot test was to identify ambiguity in the surveys or questionnaires, or in the procedures of administration, as well as in the instructions for the participants. Over all, the pilot test explored means to improve research items, format, and scales. With permission granted, 50 test-participants were recruited, and administered with consent forms and a brief introduction of the study.

The researcher supervised the pilot exercise and was available to explain and clarify items that respondents found difficult to understand. Fifty completed self-report questionnaires were collected and thoroughly reviewed and analysed. Eight typing mistakes identified by the pilot study were corrected in the final version of the questionnaire. Over all, the participants indicated that the items and instruction were easy to understand and that the process of administration was clear and effective. In addition taking the survey exercise on two separate dates reduced the effect of fatigue on the students' side. The pilot test also ensured the reliability and validity of each instrument used in the study.

3.6. Reliability and Validity of the Scales

In order to ensure the reliability of the research instruments the most commonly used type of internal consistency reliability, the Cronbach's alpha, was computed. This measure indicated the consistency of the items in each scales. According to Vogt (2007) Cronbach's alpha (also called coefficient alpha) determines reliability based on internal consistency and provides a good estimate of scale reliability. It is almost the most widely reported reliability statistic and useful estimate researchers use to see whether several items measuring a single construct are correlated. In addition Vogt (2007) indicated that an alpha level of 0.70 or higher is often considered as acceptable for quantitative study and as such the parent-adolescent relationship and adolescent adjustment scales have an acceptable coefficient alpha values, which were analysed for this study.

On top, this study also conducted validity assessment on the research instruments used for this study. According to Vogt (2007) validity refers to the relevance or appropriateness of the design or measure for the question being investigated. Thus in this study one of the most common type of validity assessment, content validity, has been assessed as much assessment of validity depends on expert judgement. The content validity of a measurement scale depends on the extent to which an empirical measurement reflects what it supposed to measure (Vogt, 2007). To address content validity in this study, the researcher has thoroughly reviewed several relevant scales used in previous studies. In addition the researcher tried to obtain opinions of two experts on the measurement instruments used in the study. Additionally, the selection of instruments was guided by a thorough examination of relevant theories with regard to the research questions with reference to appropriate statistical models that would measure the concepts or variables that were used in the research instrument. Since items on the research instrument were generally

based on theory, previous research and modified constructs from existing scales they have face and logical content validity.

3.7. Data Collection

Four schools were randomly sampled from the main listing of private and government secondary schools in the city of Addis Ababa. The private and government schools enrol most of the high school student population in Addis Ababa. Formal written letters to request permission to conduct the main study in selected schools were subsequently given to principals. Additionally, the investigator had a brief discussion on the objective of the study and ethical considerations to be taken with the school principals and requested them to endorse the attached acceptance and approval form for the study to be conducted in their schools. The letters to the principals asking permission and approval to conduct the study in the selected high schools are presented in Appendix A.

With permission granted by the principals, the investigator then solicited the assistance of teachers in the schools and trained them as research assistants for the study. The investigator introduced himself to the teachers (N=4 from each school) as a doctoral research student who intended to conduct a research survey that involves students in their schools to meet the requirement for the doctoral degree at the University of South Africa.

The investigator explained to the research assistants that the study was designed to describe parent-adolescent relationship and its relationship with adolescent adjustment. Standardization of administration of the research instruments to the participating student groups was emphasized. A common instruction on the study was drafted for the research assistants to be read aloud before administering the research instrument to participants. The

investigator assured the research assistants that he will oversee and supervise the entire exercise in the schools and will address issues arising from the exercise.

A total of 1100 parent and student consent forms was distributed to students and 886 were endorsed by parents and students and returned within a period of one week, to indicate willingness to participate in the study. (Please see Appendix B and C for the letters and consent forms to parents and students respectively). Of the total consent forms 886 participants were divided into 16 clusters by the stratified random sampling method. Each cluster was comprised of 50 participants except two that consisted of 56 participants each.

At School “A”, four clusters of participants were settled into respective classrooms under the supervision of the research assistants. Parents’ and students’ consent forms were collected and counted to tally with the number in the class. Issues of ethical concerns on voluntary participation, anonymity and confidentiality were discussed followed by reading aloud the standard code of instructions on the research instrument. The investigator was present in each cluster to inform participants of the aim of the study and to address emanating concerns from participants before administering the research instruments.

Each participating cluster of participants thus, received the standard code of instructions in the same format before responding to the questionnaire. This practice was repeated at School “B”, “C”, and “D” respectively after School “A” completed the exercise and all questionnaires were collected, counted and submitted to the investigator.

The use of participants’ class teachers as research assistants in the same school venue, and during class periods reduced participants’ test anxieties and ensured a conducive and a

more relaxed atmosphere that reflected in the non-withdrawal rate. Participants responded to all items in the survey. The non-discriminatory, generally inclusive participation of respondents of different social and family backgrounds and family background ensured anonymity, which essentially boosted test participation of all participants irrespective of the type of family backgrounds they came from.

At the end of the exercise, the research assistants were given a cash allowance of R1,000 (ETB 2,000) each. However, research participants did not receive honoraria except that they benefited from the knowledge they acquired from the study as well as the study skill workshop presented by the researcher at each school. A special word of acknowledgement and appreciation for their participation was rendered. After the entire exercise ended, the investigator went to the principals of the four schools to render a special word of gratitude for their permission and cooperation in making the study successful.

A debriefing session for participants who may have faced psychological stress due to their participation in the exercise was organized with the help of each school guidance office. The investigator intended to hold a short interview with research participants immediately following their participation in the survey exercise to deal with emotional residuals of the exercise and to promote normal recovery. However, no research participant turned up for the debriefing session, it was assumed that there was no psychological or emotional effect of the survey exercise on participants. With data collected, coding and preparation for statistical analysis using SPSS (Statistical Package for the Social Sciences) data entry procedures was the next on the agenda. The following section presents methods of data analysis and statistical procedures.

3.8. Methods of Data Analysis and Statistical Procedures

This section describes data processing procedures employed in the data analysis. It begins with an examination of data and measurement scale screening, followed by a description of statistical procedures used for data analyses.

Quantitative analysis was conducted using SPSS. The investigator engaged in a coding process after data collection. Coding was done on the questionnaire. Data entry was done on an Excel Spreadsheet and later imported into an SPSS Statistical Product and Service Solutions (2011), version 19 for Windows data matrix so that Microsoft Windows XP computer could be used to manipulate and analyse the data.

All data and measurement scales were screened for accuracy prior to analysis. The data was examined for conformance to parametric requirements and there were no missing responses. The completed survey was examined to ensure that the major demographic constituents (gender, age range, grade, family background) were represented in the study. Further, other checks were undertaken to ensure the accuracy of the data entry process. Analysis of scale ranges indicated that all composite scales were within their theoretical ranges of possibilities. Thus, the data entered was cleaned to eliminate possible errors due to incorrect coding. With discovered errors on the SPSS data matrix, appropriate source questionnaires were located to check and correct errors before proceeding to conduct the data analysis.

Preliminary data analysis included obtaining frequency distributions and descriptive statistics for all variables. Descriptive statistics were primarily used to provide data information on the distribution of research variables. Frequencies were determined on the

following categorical variables; gender, mothers' and fathers' education level, and grade level. For the interval variables adolescent age, psychological control, involvement, parental warmth, communication, self-esteem, school adjustment, substance use and depression, measures of central tendency (mean) and measures of variability (standard deviation) were determined.

Pearson product moment correlations were used to examine the bivariate relationships between the variables in the study. Two independent correlation analyses were conducted for mother-adolescent and father-adolescent variables associations. The first correlation was done on the percentage of adolescent perceptions of their mothers' psychological control, involvement, parental warmth and communication with adolescents' perceptions of their self-esteem, substance use, school adjustment and depression. The second correlation analysis was done on the percentage of adolescent perceptions of their fathers' psychological control, involvement, parental warmth and communication with adolescents' perceptions of their self-esteem, substance use, school adjustment and depression.

A regression analysis was performed for each subset of data in order to answer the principal questions of this research. Four analyses were completed using self-esteem, substance use, school adjustment and depression as the dependent variables and adolescent perceptions of their mothers' psychological control, involvement, parental warmth and communication as the independent variables. The other identified self-esteem, substance use, school adjustment and depression as the dependent variables and adolescent perceptions of their fathers' psychological control, involvement, parental warmth and communication as the independent variables.

Based on the appropriateness, the study used independent samples t-test procedures to determine the possible gender difference between adolescent perceptions of their relationship with their mother/father and their adjustment. This study used statistical procedures of t-test for independent samples as the two samples were independent of one another, as each of them comprised different participants. In conducting the t-test for two independent samples, the two sample means represented by the notation (M) were employed to estimate the value of the means of the populations from which the samples were drawn. If the result of the t-test for independent samples was significant, it indicated that there was a high likelihood that the samples represented groups with different mean scores. Thus, the t-test for two independent samples was the appropriate test to employ for contrasting the means of two independent groups when the values of the population were unknown. The t-test for independent samples was employed with interval/ratio data to see the gender difference in adolescents' perception of their relationship with both parents and adjustment problems. The test of significance for all statistical procedure was 0.05.

3.9. Ethical Considerations

For this doctoral research, the investigator submitted a research protocol that set out in detail the procedure to be followed during the field survey. The protocol highlighted the proposed research design, methodology, written consent forms for parents and explanatory literature in the procedures for ensuring confidentiality, voluntary participation, and anonymity. In addition, information on the objectives of the study and a debriefing session for participants immediately following administration of questionnaires was presented. The study was granted ethics approval by the Research and Ethics Committee of the Department of Psychology.

The permission to conduct the study was obtained from principals of the four schools selected for the study. A written parental consent was obtained from each participant parent or legal guardian and from the adolescents whose age fall above 18 years. The consent form was sent to all parents or legal guardians and adolescents requesting their general consent to participate in the survey.

The consent forms from parents or legal guardians and adolescents were obtained prior to the study. Participants were briefed on the sensitivity of the issue and the need for mutual understanding and respect. Participants were informed that participation is voluntary and that they can withdraw from participation of the research at any time. The initial sessions were used to discuss ethical concerns of the study, informed consent, anonymity, confidentiality and voluntary participation with the adolescents at each school. Furthermore, participants were informed that the data is stored to facilitate analysis and the researcher is the only person who has access to it.

CHAPTER FOUR: RESULTS

The purpose of this study is to examine parent-adolescent relationships as perceived by the adolescents, and its relationship with adolescent adjustment. This chapter presents descriptive statistics of the adolescent's socio-demographic variables, parent-adolescent relationship measuring variables or characteristics and adolescent adjustment variables. It also presents the correlation and regression analysis of the parent-adolescent relationship and adolescent adjustment variables.

4.1 Descriptive Statistics of Adolescents' Socio-demographic Variables

This section presents descriptive statistics of the socio-demographic variables considered for this study. It presents the number of adolescents represented per school, grade level, age, sex, educational level of adolescents' fathers and mothers.

Table 1

Number of Adolescents per School and Grade Level

School	Number of adolescents	(%)	Grade Level	Number of adolescents	(%)
A	133	16.4	9	162	20.0
B	308	38.1	10	176	21.8
C	168	20.8	11	231	28.6
D	200	24.7	12	240	29.7
Total	809	100.0	Total	809	100.0

The distribution of adolescents per school and grade level is presented in Table 1 above. The number of adolescents in each school who participated in this study shows that 133 adolescents constituting 16% of the total sample were selected from school “A”, 308 adolescents constituting 38% of the total sample were selected from school “B”, 168 adolescents constituting 21% of the total sample were selected from school “C”, and 200 adolescents constituting 25% of the total sample were selected from school “D.”

The number of adolescents represented from each grade level shows that 162 adolescents constituting 20% of the total sample were selected from grade 9 students, 176 adolescents constituting 22% of the total sample were selected from grade 10 students, 231 adolescents constituting 29% of the total sample were selected from grade 11 students and 240 adolescents constituting 30% of the total sample were selected from grade 12 students.

The frequency of adolescents represented in each age level is presented Table 2 below. It shows that the number of adolescents whose age was 14 at the time of data collection was 69 constituting 9% of the total sample. The number of adolescents whose age was 15 at the time of data collection was 112 constituting 14% of the total sample. The number of adolescents whose age was 16 at the time of data collection was 171 constituting 21% of the total sample. The number of adolescents whose age is 17 at the time of data collection was 178 constituting 22% of the total sample. The number of adolescents whose age was 18 at the time of data collection was 158 constituting 20% of the total sample. The number of adolescents whose age was 19 at the time of data collection was 85 constituting 11% of the total sample. The number of adolescents whose age was 20 at the time of data collection was 36 constituting 4% of the total sample. Moreover, the average age of adolescents was 16.8

years, $SD = 1.58$. The number of participants for each category of gender shows that 428 were boys constituting 53% of the total sample and 381 were girls constituting 47% of the total sample.

Table 2

Number of Students by Age

Age	Number of adolescents	(%)
14	69	8.5
15	112	13.8
16	171	21.1
17	178	22.0
18	158	19.5
19	85	10.5
20	36	4.4
Total	809	100

The educational level of adolescents' fathers and mothers is illustrated in Table 3 below. Accordingly, the educational level of adolescents' fathers based on their offspring report shows that 45 fathers constituting 6% had no formal education, 73 fathers constituting 9% had less than secondary school education, 168 fathers constituting 21% had gone through secondary education, 170 fathers constituting 21% had a technical or vocational qualification and 353 fathers constituting 44% had a university or college level qualification.

The educational level of adolescents' mothers based on their offspring report indicates that 90 mothers constituting 11% had no formal education, 114 mothers constituting 14% had

less than a secondary school education, 232 mothers constituting 29% had gone through secondary education, 151 mothers constituting 19% had a technical or vocational qualification and 222 mothers constituting 27% had a university or college level qualification.

Table 3

Adolescents' Fathers and Mothers level of Education

Level of Education	Father	(%)	Mother	(%)
No formal education	45	5.6	90	11.1
Less than secondary school	73	9.0	114	14.1
Secondary school	168	20.8	232	28.7
Technical Vocational	170	21.0	151	18.7
University	353	43.6	222	27.4
Total	809	100.0	809	100.0

4.2 Descriptive Statistics of Parent-Adolescent Relationship Variables

This section presents the descriptive statistics of the four mother-adolescent and father-adolescent relationship variables or characteristics as perceived by adolescents. It presents adolescents' perception of their parents' level of psychological control, warmth, involvement and communication. Table 4 below presents group statistics of parent-adolescent variables and Table 9 Appendix E presents an independent-samples *t* test of parent-adolescent relationship variables.

Table 4

Means (M) and Standard Deviations (SD) for Parent-Adolescent Relationship Variables

Variables	Sex	N	M	SD
MPC	M	427	23.7	6.51
	F	382	20.7	5.77
FPC	M	427	27.1	7.66
	F	382	23.6	6.74
MWR	M	427	62.4	11.3
	F	382	68.2	9.44
FWR	M	427	55.2	12.2
	F	382	61.9	10.4
MINV	M	427	24.9	7.99
	F	382	28.1	7.23
FIN	M	427	28.3	8.50
	F	382	31.6	7.68
MCOM	M	427	63.5	13.2
	F	382	68.9	11.4
FCOM	M	427	54.9	13.6
	F	382	60.9	11.4

Note. M denotes male adolescents; F denotes female adolescents

MPC denotes mothers' psychological control; FPC denotes fathers' psychological control; MWR denotes mothers' warmth; FWR denotes fathers' warmth; MINV denotes mothers' involvement; FINV denotes fathers' involvement; MCOM denotes mothers' communication; FCOM denotes fathers' communication

Males' rating of the level of psychological control exerted by their mothers (MPC) averaged ($M = 23.7, SD = 6.51$) whereas girls' rating of the level of psychological control exerted by their mothers averaged ($M = 20.7, SD = 5.77$). Using an alpha level of .05, an independent-samples t test was conducted to evaluate whether males and females differed significantly on the perception of their mothers' level of psychological control (MPC). The test was significant, $t(806.93) = 6.77, p < .001$. The 95% confidence interval for the MPC mean ranged from 2.08 to 3.77. An examination of the group means indicates that male adolescents ($M = 23.7, SD = 6.51$) perceived their mother significantly higher on the level of psychological control than did female adolescents ($M = 20.7, SD = 5.77$).

Males' rating of the level of psychological control exerted by their fathers (FPC) averaged ($M = 27.1, SD = 7.66$) whereas girls' rating of the level of psychological control exerted by their fathers averaged ($M = 23.6, SD = 6.74$). Using an alpha level of .05, an independent-samples t test was conducted to evaluate whether males and females differed significantly on the perception of their fathers' level of psychological control (MPC). The test was significant, $t(806.79) = 7.03, p < .001$. The 95% confidence interval for the MPC mean ranged from 2.57 to 4.56. An examination of the group means indicates that male adolescents ($M = 27.1, SD = 7.66$) perceived their fathers significantly higher on the level of psychological control than did female adolescents ($M = 23.6, SD = 6.74$).

The mean score of males' rating of the level of maternal warmth (MWR) averaged, ($M = 62.4, SD = 11.3$) and the mean score of female adolescents' perception of maternal

warmth averaged, ($M = 68.2$, $SD = 9.44$). Using an alpha level of .05, an independent-samples t-test was conducted to evaluate whether males and females differed significantly on the perception of their mothers' level of warmth (MWR). The test was significant, $t(803.55) = 7.99$, $p < .001$. The 95% confidence interval for the MWR mean ranged from -7.25 to -4.39. An examination of the group means indicates that female adolescents ($M = 68.2$, $SD = 9.44$) perceived their mothers significantly higher on the level warmth than did male adolescents ($M = 62.4$, $SD = 11.3$).

The mean score of males' rating of the level of paternal warmth (FWR) averaged, ($M = 55.2$, $SD = 12.2$) and the mean score of female adolescents' perception of paternal warmth averaged, ($M = 61.9$, $SD = 10.4$). Using an alpha level of .05, an independent-samples t-test was conducted to evaluate whether males and females differed significantly on the perception of their fathers' level of warmth (FWR). The test was significant, $t(804.67) = 8.41$, $p < .001$. The 95% confidence interval for the FWR mean ranged from -8.25 to -5.13. An examination of the group means indicate that female adolescents ($M = 61.9$, $SD = 10.4$) perceived their fathers significantly higher on the level warmth than did male adolescents ($M = 55.2$, $SD = 12.2$).

The mean score of male adolescents' perception of their mothers' involvement (MINV) averaged, ($M = 24.9$, $SD = 7.99$) and female adolescents' perception of their mothers' involvement averaged ($M = 28.1$, $SD = 7.23$). Using an alpha level of .05, an independent-samples t-test was conducted to evaluate whether males and females differed significantly on the perception of their mothers' level of involvement (MINV). The test was significant, $t(806.91) = 5.90$, $p = .003$. The 95% confidence interval for the MINV mean ranged from -4.21 to -2.11. An examination of the group means indicate that female

adolescents ($M = 28.1, SD = 7.23$) perceived their mothers significantly higher on the level of involvement than did male adolescents ($M = 24.9, SD = 7.99$).

The mean score of male adolescents' perception of their fathers' involvement (FINV) averaged, ($M = 28.3, SD = 8.50$) and female adolescents' perception of their fathers' involvement averaged ($M = 31.6, SD = 7.68$). Using an alpha level of .05, an independent-samples *t*-test was conducted to evaluate whether males and females differed significantly on the perception of their fathers' level of involvement (FINV). The test was significant, $t(807) = 5.75, p = .003$. The 95% confidence interval for the FINV mean ranged from -4.39 to -2.15. An examination of the group means indicates that female adolescents ($M = 31.6, SD = 7.68$) perceived their fathers significantly higher on the level of involvement than did male adolescents ($M = 28.3, SD = 8.50$).

The mean score of male adolescents' perception of their communication with their mothers (MCOM) averaged ($M = 63.5, SD = 13.2$); and the mean score of female adolescents' perception of communication with their mothers averaged ($M = 68.9, SD = 11.4$). Using an alpha level of .05, an independent-samples *t*-test was conducted to evaluate whether males and females differed significantly on the perception of their communication with their mothers (MCOM). The test was significant, $t(806.04) = 6.19, p < .001$. The 95% confidence interval for the MCOM mean ranged from -7.05 to -3.65. An examination of the group means indicates that female adolescents ($M = 68.9, SD = 11.4$) perceived their mothers significantly higher on the quality of communication they had with them than did male adolescents ($M = 63.5, SD = 13.2$).

The mean score of male adolescents' perception of communication with their fathers (FCOM) averaged ($M = 54.9, SD = 13.6$) and the mean score of female adolescents' perception of communication with their fathers averaged ($M = 60.9, SD = 11.4$). Using an alpha level of .05, an independent-samples *t-test* was conducted to evaluate whether males and females differed significantly on the perception of the quality of communication with their fathers (FCOM). The test was significant, $t(803.65) = 6.80, p < .001$. The 95% confidence interval for the FCOM mean ranged from -7.71 to -4.25. An examination of the group means indicates that female adolescents ($M = 60.9, SD = 11.4$) perceived their fathers significantly higher on the on the quality of communication they had with them than did male adolescents ($M = 54.9, SD = 13.6$).

4.3 Descriptive Statistics of Adolescent Adjustment Variables

This section presents the descriptive statistics of adolescents' rating of their adjustment in terms of their own perception of substance use, self-esteem, school adjustment and depression. Table 5 below presents the descriptive statistics of the four adjustment variables and Table 10 Appendix E presents the independent-samples *t-test* for the four adjustment variables.

Table 5

Means (M) and Standard Deviations (SD) for Adolescent Adjustment

Variables	Sex	N	M	SD
SU	M	427	1.85	2.47
	F	382	.623	1.59
SE	M	427	24.2	7.74
	F	382	27.7	6.33
SA	M	427	28.6	7.93
	F	382	25.1	7.09
DP	M	427	20.7	6.81
	F	382	17.4	5.85

Note. *M* denotes male adolescents; *F* denotes female adolescents; *SU* denotes substance use; *SE* denotes self-esteem; *SA* denotes school adjustment; *DP* denotes depression

The mean score of male adolescents' substance use (SU) averaged ($M = 1.85$, $SD = 2.47$) and female adolescents' substance use averaged ($M = .623$, $SD = 1.59$). An independent samples t-test was conducted to examine gender differences in the adolescents' perception of the level of substance use. Using an alpha level of .05, an independent-samples t-test was conducted to evaluate whether males and females differed significantly in the level of substance use behaviour (SU). The test was significant, $t(733.93) = 8.45$, $p < .001$. The 95% confidence interval for adolescents' substance use behaviour mean ranged from .94 to 1.51. An examination of the group means indicates that male adolescents ($M = 1.85$, $SD = 2.47$) did show higher substance use behaviour than did female adolescents ($M = .623$, $SD = 1.59$).

The mean score of male adolescents' self-esteem (SE) averaged ($M = 24.2$, $SD = 7.74$) and the mean score of female adolescents' self-esteem averaged ($M = 27.7$, $SD = 6.33$). Using an alpha level of .05, an independent-samples *t-test* was conducted to evaluate whether males and females differed significantly in their level of self-esteem (SE). The test was significant, $t(800.7) = 7.04$, $p < .001$. The 95% confidence interval for adolescents' level of self-esteem mean ranged from -4.45 to -2.51. An examination of the group means indicates that female adolescents ($M = 27.7$, $SD = 6.33$) did score higher on self-esteem than did male adolescents ($M = 24.2$, $SD = 7.74$).

The mean score of male adolescents' perception of their school adjustment (SA) averaged, ($M = 28.6$, $SD = 7.93$), and female adolescents' perception of their school adjustment averaged ($M = 25.1$, $SD = 7.09$). Using an alpha level of .05, an independent-samples *t-test* was conducted to evaluate whether males and females differed significantly in their school adjustment. The test was significant, $t(807) = 6.66$, $p < .001$. The 95% confidence interval for adolescents' school adjustment mean ranged from 2.48 to 4.55. An examination of the group means indicates that male adolescents ($M = 28.6$, $SD = 7.93$) did show higher school adjustment problems than did female adolescents ($M = 25.1$, $SD = 7.09$).

The mean score of male adolescents' level of depression (DP) averaged ($M = 20.7$, $SD = 6.81$), and the mean score of female adolescents' level of depression averaged ($M = 17.4$, $SD = 5.85$). Using an alpha level of .05, an independent-samples *t-test* was conducted to evaluate whether males and females differed significantly in their depression level. The test was significant, $t(805.68) = 7.36$, $p < .001$. The 95% confidence interval for adolescents' depression level mean ranged from 2.40 to 4.15. An examination of the group

means indicates that male adolescents ($M = 20.7$, $SD = 6.81$) did show a higher depression level than did female adolescents ($M = 17.4$, $SD = 5.85$).

4.4 Relationship between the Mother-Adolescent Relationship and Adolescent's Adjustment

In order to determine the relationship between the mother-adolescent relationship variables and the adolescents' adjustment problem variables a correlation analysis was conducted among mother-adolescent relationship variables (psychological control, warmth, involvement and communication) and adolescent adjustment variables (self-esteem, school adjustment, substance use and depression). Table 6 below presents the correlation among mother-adolescent relationship variables and adolescent adjustment variables.

Table 6

Correlation among Mother-Adolescent Relationship and Adjustment Variables

Variables	MPC	MWR	MINV	MCOM
Sig. (2-tailed)	.000	.000	.000	.000
<i>N</i>	809	809	809	809
SU	.641**	-.737**	-.616**	-.668**
SE	-.700**	.842**	.766**	.850**
SA	.591**	-.745**	-.925**	-.683**
DP	.937**	-.705**	-.611**	-.719**

Note. MPC denotes mothers' psychological control; MWR denotes mothers' warmth; MINV denotes mothers' involvement; MCOM denotes mothers' communication; SU denotes substance use; SE denotes self-esteem; SA denotes school adjustment; DP denotes depression

*N denotes total number of sample ** $p < .001$ (2-tailed)*

Adolescents' perception of their mothers' level of psychological control (MPC) found to be significantly correlated with four of the adjustment variables. MPC was positively related with the percentage of adolescent substance use $r(809) = .641, p < .001$; the percentage of adolescent school adjustment problem $r(809) = .591, p < .001$; the percentage of adolescent depression $r(809) = .937, p < .001$; and inversely related to the percentage of adolescent self-esteem $r(809) = -.70, p < .001$.

Adolescents' perception of their mothers' level of warmth (MWR) was significantly correlated with four of the adjustment variables. Specifically, MWR was inversely related with the percentage of adolescent substance use $r(809) = -.737, p < .001$; the percentage of adolescent school adjustment problem $r(809) = -.745, p < .001$; the percentage of adolescent depression $r(809) = -.705, p < .001$ and positively related with the percentage of adolescent self-esteem $r(809) = .842, p < .001$

Adolescents' perception of their mothers' level of involvement (MINV) in education was significantly correlated with four of the adjustment variables. Specifically, MINV was inversely related with the percentage of adolescent substance use $r(809) = -.616, p < .001$; the percentage of adolescent school adjustment $r(809) = -.925, p < .001$; the percentage of adolescent depression $r(809) = -.611, p < .001$ and positively related with the percentage of adolescent self-esteem $r(809) = .766, p < .001$.

Adolescents' perception of their communication with mothers (MCOM) was significantly correlated with four of the adjustment variables. Specifically, MCOM was inversely related with the percentage of adolescent substance use $r(809) = -.668, p < .001$; the percentage of adolescent school adjustment $r(809) = -.683, p < .001$; the percentage of

adolescent depression $r(809) = -.719, p < .001$ and positively related with the percentage of adolescent self-esteem $r(809) = .850, p < .001$.

4.5 Relationship between Father-Adolescent Relationship and Adolescent Adjustment

In order to determine the relationship between the father-adolescent relationship variables and the adolescent's adjustment problem variables a correlation analysis was conducted among father-adolescent relationship variables (psychological control, warmth, involvement and communication) and adolescent adjustment variables (self-esteem, school adjustment, substance use and depression). Table 7 below presents the correlation among father-adolescent relationship variables and adolescent adjustment variables.

Table 7

Correlation among Father-Adolescent Relationship and Adjustment Variables

Variables	FPC	FWR	FINV	FCOM
Sig. (2-tailed)	.000	.000	.000	.000
<i>N</i>	809	809	809	809
SE	-.774**	.831**	.813**	.872**
SA	.673**	-.741**	-.940**	-.740**
SU	.701**	-.731**	-.631**	-.684**
DP	.954**	-.692**	-.638**	-.717**

Note. FPC denotes fathers' psychological control; FWR denotes fathers' warmth; FINV denotes fathers' involvement; FCOM denotes fathers' communication; SU denotes substance use; SE denotes self-esteem; SA denotes school adjustment; DP denotes depression; *N* denotes total number of sample

** $p < .001$ (2-tailed)

Adolescents' perception of their fathers' level of psychological control (FPC) found to be significantly correlated with four of the adjustment variables. Specifically, FPC was positively related with the percentage of adolescent substance use $r(809) = .701, p < .001$; the percentage of adolescent school adjustment problem $r(809) = .673, p < .001$; the percentage of adolescent depression $r(809) = .954, p < .001$; and inversely related the percentage of adolescent self-esteem $r(809) = -.774, p < .001$.

Adolescents' perception of their fathers' level of warmth (FWR) was significantly correlated with four of the adjustment variables. Specifically, FWR was inversely related with the percentage of adolescent substance use $r(809) = -.731, p < .001$; the percentage of adolescent school adjustment problem $r(809) = -.741, p < .001$; the percentage of adolescent depression $r(809) = -.692, p < .001$ and positively related with the percentage of adolescent self-esteem $r(809) = .831, p < .001$.

Adolescents' perception of their fathers' level of involvement in education (FINV) was significantly correlated with four of the adjustment variables. Specifically, FINV was inversely related with the percentage of adolescent substance use $r(809) = -.631, p < .001$; the percentage of adolescent school adjustment problem $r(809) = -.94, p < .001$; the percentage of adolescent depression $r(809) = -.638, p < .001$ and positively related with the percentage of adolescent self-esteem $r(809) = .813, p < .001$.

Adolescents' perception of their communication with fathers (FCOM) was significantly correlated with four of the adjustment variables. Specifically, FCOM was inversely related with the percentage of adolescent substance use $r(809) = -.684, p < .001$; the percentage of adolescent school adjustment problem $r(809) = -.74, p < .001$; the

percentage of adolescent depression $r(809) = -.717, p < .001$ and positively related with the percentage of adolescent self-esteem $r(809) = .872, p < .001$.

4.6 Predicting Adolescent adjustment using Parent-Adolescent Relationship

In order to determine whether mother-adolescent and father-adolescent relationship variables predict adolescent adjustment four different hierarchical regression models were developed and regression procedures were run. All four predictor variables (psychological control, warmth, involvement and communication) were entered in the stepwise analysis for each one of the four adjustment variables (substance use, self-esteem, school adjustment and depression) at the same time. The first model used substance as the dependent variable and mothers' and fathers' psychological control, warmth, involvement and communication as predictor variables in the regression equation (see Table 8.1 below).

Table 8.1

Regression Model 1

Model1	R	R Square	Adjusted		F	Sig.
			R Square	Df		
A	.776 ^a	.603	.601	4	304.939	.000 ^a
				804		
B	.783 ^a	.614	.612	4	319.193	.000 ^a
				804		

Note. a. Predictors: (Constant), MCOM, MINV, MPC, MWR; Dependent Variable: SU

b. Predictors: (Constant), FCOM, FPC, FINV, FWR; Dependent Variable: SU

Using enter method the regression analysis indicated that the model predicted 60% of the variance to adolescents' substance use behaviour ($R^2 = .601$, $F(4,804) = 305$, $P < .001$). It was found that all the predictor variables contributed to the prediction of adolescent substance use behaviour. Specifically, mothers' warmth ($\beta = .411$, $p < .001$), mothers' psychological control ($\beta = .211$, $p < .0005$), mothers' involvement ($\beta = .133$, $p < .001$) and mother-adolescent communication ($\beta = .123$, $p = .001$) significantly predicted adolescents' substance use (see Table 8.1a Appendix E for the contribution of each predictor variable).

While entering fathers' psychological control, warmth, involvement and communication as predictor variables and substance use as dependent variable in the regression equation, the results of the simultaneous analysis indicated that this model predicted 61% of the variance on adolescents' substance use, ($R^2 = .612$, $F(4,804) = 320$, $p < .001$). It was found that fathers' warmth ($\beta = .352$, $p < .001$), fathers' psychological control ($\beta = .286$, $p < .001$), father-adolescent communication ($\beta = .078$, $p = .028$) and fathers' involvement ($\beta = .156$, $p < .001$) significantly predicted adolescents substance use (see Table 8.1a Appendix E for the contribution of each predictor variable).

The second model used self-esteem as dependent variable and mothers' and fathers' psychological control, warmth, involvement and communication as predictor variables in the regression equation. The model is presented in Table 8.2 below.

Table 8.2

Regression Model 2

Model	Adjusted					
	R	R Square	Square	Df	F	Sig.
2						
A	.921 ^a	.849	.848	4	1127	.000 ^a
				804		
B	.931 ^a	.867	.866	4	1308	.000 ^a
				804		

Note. a. Predictors: (Constant), MCOM, MINV, MPC, MWR; Dependent Variable: SE

b. Predictors: (Constant), FCOM, FPC, FINV, FWR; Dependent Variable: SE

Using enter method the regression analysis indicated that the model predicted 85% of the variance of adolescents' level of self-esteem ($R^2 = .848$, $F(4,804) = 1127$, $P < .001$). It was found that all the predictor variables contributed significantly to the prediction. Specifically, mother-adolescent communication ($\beta = .406$, $p < .001$), mothers' warmth ($\beta = .314$, $p < .001$), mothers' involvement ($\beta = .249$, $p < .001$) and mothers' level of psychological control ($\beta = .068$, $p = .001$) significantly predicted adolescents' level of self-esteem (see Table 8.2a Appendix E for the contribution of each predictor variable).

While entering fathers' psychological control, warmth, involvement and communication as predictor variables using enter method in the regression equation, the results indicated that the entire model predicted 87% of the variance of adolescents' self-esteem ($R^2 = .866$, $F(4,804) = 1308$, $P < .001$). It was found that all of the four predictors, father-adolescent communication ($\beta = .393$, $p < .001$), fathers' involvement ($\beta = .244$, $p <$

.001) and fathers' warmth ($\beta = .241, p < .001$) and fathers' psychological control ($\beta = .162, p < .001$) significantly predicted adolescents' level of self-esteem (see Table 8.2a Appendix E for the contribution of each predictor variable).

The third model used school adjustment as dependent variable and mothers' and fathers' psychological control, warmth, involvement and communication as predictor variables in the regression equation (see Table 8.3).

Table 8.3
Regression Model 3

Model	Adjusted					
	R	R Square	Square	Df	F	Sig.
3						
A	.937 ^a	.878	.877	4	1440	.000 ^a
				804		
B	.946 ^a	.894	.894	4	1698	.000 ^a
				804		

a. Predictors: (Constant), MCOM, MINV, MPC, MWR; Dependent Variable: SA

b. Predictors: (Constant), FCOM, FPC, FINV, FWR; Dependent Variable: SA

Using enter method the regression analysis indicated that the model predicted 88% of the variance adolescents' school adjustment problems ($R^2 = .877, F(4,804) = 1440, P < .001$). It was found that all the predictor variables contributed significantly to the prediction of school adjustment problems. Specifically, mothers' involvement ($\beta = .775, p < .001$), mothers' warmth ($\beta = .100, p < .001$), mother-adolescent communication ($\beta = .081, p < .001$) and mothers' psychological control ($\beta = .051, p = .005$) significantly predicted adolescents'

school adjustment (see Table 8.3a Appendix E for the contribution of each predictor variable).

While entering fathers' psychological control, warmth, involvement and communication as predictor variables using enter method in the regression equation, the results indicated that the entire model predicted 89% of the variance of adolescents' school adjustment ($R^2 = .894$, $F(4,804) = 1698$, $P < .001$). It was found that except father-adolescent communication all the three predictor variables contributed to the prediction of adolescent school adjustment. Specifically, fathers' involvement ($\beta = .822$, $p < .001$), fathers' psychological control ($\beta = .093$, $p < .001$) and fathers' warmth ($\beta = .064$, $p = .002$) significantly predicted adolescents' school adjustment. However father-adolescent communication ($\beta = .016$, $p = .438$) did not contribute significantly to the prediction of adolescents' school adjustment (see Table 8.3a Appendix E for the contribution of each predictor variable).

The fourth model used depression as dependent variable and mothers' and fathers' psychological control, warmth, involvement and communication as predictor variables in the regression equation (see Table 8.4 below).

Table 8.4

Regression model 4

Model	Adjusted					
	R	R Square	Square	Df	F	Sig.
4						
A	.947 ^a	.897	.897	4	1755	.000 ^a
				804		
B	.956 ^a	.914	.913	4	2124	.000 ^a
				804		

a. Predictors: (Constant), MCOM, MINV, MPC, MWR; Dependent Variable: DP

b. Predictors: (Constant), FCOM, FPC, FINV, FWR; Dependent Variable: DP

Using enter method the regression analysis indicated that the model predicted 90% of the variance adolescents' depression level ($R^2 = .897$, $F(4,804) = 1755$, $P < .001$). It was found that except mother-adolescent communication, the three predictor variables contributed to the prediction of adolescents' depression. Specifically, mothers' psychological control ($\beta = .826$, $p < .001$), mothers' involvement ($\beta = .109$, $p < .001$) and mothers' warmth ($\beta = .093$, $p < .001$) significantly predicted adolescents' level of depression. Mother-adolescent communication ($\beta = .012$, $p = .523$) did not contribute significantly to the prediction of adolescent level of depression (see Table 8.4a Appendix E for the contribution of each predictor variable).

While entering fathers' psychological control, warmth, involvement and communication as predictor variables using enter method in the regression equation, the results of the analysis indicated that the entire model predicted 91% of the variance of adolescents' depression level ($R^2 = .913$, $F(4,804) = 2124$, $P < .001$). It was found that all

the four predictor variables contributed to the prediction of adolescents' depression level. Specifically, fathers' psychological control ($\beta = .917, p < .001$), fathers' involvement ($\beta = .049, p = .004$), father-adolescent communication ($\beta = .049, p = .008$) and fathers' warmth ($\beta = .04, p = .026$), significantly predicted adolescents' level of depression (see Table 8.4a Appendix E for the contribution of each predictor variable).

The final chapter discusses the results of the statistical analyses that were presented in this chapter and elaborates on the significance of the research findings in relation to the study's objectives. It also addresses the study's limitations, direction for future research, and recommendations for policy and practice in Ethiopian context.

CHAPTER FIVE: DISCUSSION

The study reported here is designed to explore the relationship between parent-adolescent relationship and adolescent adjustment. As this is the final chapter of this research, it focuses on presenting a review of the research objectives and conclusions drawn from the results of the data collected for the study. Furthermore, the discussion relates statistical results to research questions and previous empirical studies with their theoretical expectations. The closing part of the chapter discusses the limitations of the study and also identifies its implications for future research and recommendations for policy and practice in Ethiopian context.

A number of family relationship variables contribute to the differences in adolescent adjustment outcomes in various areas. This study included only four parent-adolescent relationship variables (psychological control, warmth, involvement and communication), which have been repeatedly researched in the existing literature of family relations and adolescent adjustment (Amato & Fowler, 2002; Cicchetti & Rogosch, 2002; Darling & Steinberg, 1993; Fletcher *et al.*, 2004; Steinberg, 2001). Thus, the focus of this study was to examine the association between parent-adolescent relationships and adolescent adjustment as perceived by adolescents from four private and government high schools in the city of Addis Ababa.

Since it is methodologically difficult to include all family relation variables or parenting behaviours, this study only focused on four parent-adolescent relationship variables and also four adjustment outcome variables. This means that it becomes more difficult to

compare such findings and equally difficult to generalize about specific variables that predict specific adolescent adjustment outcomes. It seems a study providing more clarity on the development of parent-adolescent relationships by examining various relationship and adjustment variables that undergo developmental changes has not been undertaken. Yet, the few studies that have been reported appear to adapt different methodologies, apply different instruments, use different variables and different sample sizes which make their findings difficult to compare or generalize the contributing variables that are most significantly associated with adolescent adjustment.

Evidently, no single parent-adolescent relationship variable sufficiently explains adolescent adjustment; many factors and multiple reasons operate together to predict adolescent adjustment outcomes. Appreciating the operation of multiple factors in one study is considered both useful and a methodological strength, which also allows us to compare and generalize the results. The current study therefore has examined four parent-adolescent relationship variables to determine the significance of their relation to four adolescent adjustment outcome measures. The parent-adolescent relationship variables are psychological control, warmth, involvement and communication. In addition, substance use, self-esteem, school adjustment and depression are used as adolescent adjustment measuring variables. The unique contribution of parent-adolescent variables to the prediction of adolescent's adjustment in the four outcome variables was also one reason for conducting this research.

5.1 Discussion of Results

In the analysis section an independent sample t-test, a correlation and a regression analysis are conducted to answer the research questions of this study. Accordingly, the analysis revealed that male adolescents perceived their mothers and fathers as more psychologically controlling than female adolescents. Female adolescents perceived their mothers and fathers as warmer; more involved in their schooling; and engaged in a more positive communication than male adolescents. It means that adolescents' perception of their relationship with their mothers and fathers shows significant gender differences. The t-test analysis is in line with previous studies, which generally indicates that there are variations in the perception of family relationships among each dyad, that is, mothers-male adolescents, mothers-female adolescents, fathers-male adolescents and fathers-female adolescents (Bogenschneider & Pallock, 2008; Horwitz *et al.*, 2011).

Furthermore, the independent sample t-test analysis on the four adjustment variables also showed that male adolescents exhibit more adjustment problems than female adolescents. Specifically, male adolescents use substances more than female adolescents; males had lower self-esteem than females; male adolescents exhibited more school adjustment problems than female adolescents; and male adolescents showed higher depression levels as compared to female adolescents. This finding also suggests that gender is one important correlate of adjustment problems among adolescents and previous research indicated that males use substances more frequently than females (Opland *et al.*, 1995; Katims & Zapata, 1993; Willis *et al.*, 2000) and girls showed lesser school adjustment problems as compared to boys (Wang *et al.*, 2008; Prakash & Coplan, 2007; Kiuru *et al.*, 2009). However, contrary to many previous researches, which indicated that females are more depressed than males (Baron & Campbell, 1993; Peterson *et al.*, 1991; Pullen *et al.*,

2000; Koenig *et al.*, 1994), this research found that the males mean score of depression is higher than females. This inconsistency might be due to the quality of social support adolescents received in their relation with parents. In the current study female adolescents perceive their relations with their parents in a more positive way. Regarding this, research suggested that (Cumsille & Epstein, 1994; Wisdom & Green, 2004) social support is associated with a lower level of depression only among girls and lack of social support is a risk factor for depression in both sexes, but the important sources differ. For boys, lack of social support from peers is a greater risk for depression, for girls, lack of support from the family. On the other hand, under conditions of high stress, boys are protected against depressive affect by social support from peers, and girls by support from family (Cumsille & Epstein, 1994; Wisdom & Green, 2004). For this reason, female adolescents' positive perception of their relationship with parents provide a good opportunity for them to ask for support and solve challenges they encounter in their life.

In contrast to the existing literature, this research found that female adolescents have higher self-esteem than male adolescents. On the other hand, existing literature suggests that female adolescents in general do have lower self-esteem as compared to their male counterpart (Carlson *et al.*, 2000; Dubois, Burk-Braxton, Swenson, Tevendale, & Hardesty, 2002). The inconsistency in this finding can also be explained by female adolescents' perception of their relationship with their parents. Research indicates that the quality of relationship between the parent and the child determines the existence of positive self-esteem development (Bartholomew, 1990; Coopersmith, 1967; Steinberg & Morris, 2001; Rosenberg, 1989). In addition, self-esteem is formed through interactions with significant others (as parents are the main role players) and adolescents develop a sense of self on the basis of how parents treat them and interact with them. Thus, it can be the case that female adolescents' positive

perception of their relationship with parents played a role in their higher self-esteem score. In general the t-test analysis indicates that female adolescents' mean score of their relationship with their parents is greater than male adolescents', which shows that female adolescents perceive the quality of relationship with their parents in a more positive manner than their male counterparts. Moreover, contrary to most existing research female adolescents do show a higher level of self-esteem and a lesser depression rate.

The correlation analysis revealed that there was a significant relationship among the four parent-adolescent relationship and adolescent adjustment variables. Firstly, the results indicated that parents' level of psychological control is positively and significantly related to the percentage of adolescent substance use, the percentage of adolescent school adjustment and the percentage of adolescent depression. In addition, parents' level of psychological control and self-esteem was negatively and significantly related. Accordingly, the higher the level of parents' psychological control; the more adolescents engage in substance use; the more school adjustment problems; the higher the level of depression; and the lower their self-esteem. This study is in line with other research which also reported negative (inverse) relation of psychological control to internalizing and externalizing problems such as: self-esteem (Assor *et al.*, 2004; Barber *et al.*, 1994; Bean & Northup, 2009; Bean *et al.*, 2003; Leondari & Kiosseoglou 2002; Garber *et al.*, 1997; Maccoby & Martin, 1983, Soenens, *et al.*, 2005); substance use (Adamczyk-Robinette *et al.*, 2002; Barber *et al.*, 1994); depression (Barber & Harmon, 2002; Barber *et al.*, 1994; Doyle & Markiewicz, 2005; Garber *et al.*, 1997; Soenens, *et al.*, 2005) and school adjustment (Grolnick & Ryan, 1989; Grolnick *et al.*, 1991; Grolnick *et al.*, 2002; Thompson *et al.*, 2003; Vansteenkiste *et al.*, 2005; Darling & Steinberg, 1993). Therefore, parents' excessive use of psychological control leaves

adolescents to various adjustment problems, as it interferes with an individual need for autonomy and identity development.

Secondly, adolescents' perception of their mothers' and fathers' level of warmth is associated with substance use, self-esteem, school adjustment and depression. Specifically, warmth is negatively correlated with adolescent substance use behaviour, school adjustment and level of depression. However, parents' level of warmth is positively related with adolescents' self-esteem. It means that higher levels of parents' warmth results in a lesser substance use, school adjustment problems, depression and higher self-esteem. This finding is in line with other previous studies, which found significant correlations between adolescents' perception of warmth and level of adjustment. For example, self-esteem (Arbona & Power, 2003; Cournoyer *et al.*, 2005; DeHart *et al.*, 2006; Khaleque & Rohner, 2002; Rohner, 2004; Lila *et al.*, 2007); substance use (Feinberg *et al.*, 2007; Finkenauer *et al.*, 2005; Fletcher *et al.*, 2004; Foxcroft & Lowe, 1991; Hays, 2001; Jackson, 2002; Mak & Kinsella, 1996; Vazsonyi *et al.*, 2006; Wright & Cullen, 2001); depression (Ge *et al.*, 1996; Greaven *et al.*, 2000; Heaven *et al.*, 2004; Liu, 2003; McFarlane *et al.*, 1995; Rey, 1995); school adjustment (Cohen & Rice, 1997; Dornbusch *et al.*, 1987; Eccles & Midgley, 1989; Glasgow *et al.*, 1997; Radziszewska *et al.*, 1996; Steinberg *et al.*, 1989; Steinberg *et al.*, 1992). Therefore, this finding also demonstrates that warmth is related with various dimensions of adolescent development and adolescents' perception of their parents' expression of love and care to them does have implication in their healthy development.

Thirdly, adolescents' perception of their mothers' and fathers' level of involvement in education was significantly correlated with substance use, self-esteem, school adjustment and depression. More specifically, it is inversely related with the percentage of adolescent

substance use; the percentage of adolescent school adjustment; the percentage of adolescent depression; and positively related with the percentage of adolescent self-esteem. This research indicates that adolescents who come from highly involved parents show lesser substance use behaviour, are well adjusted in school, less depressed and have high self-esteem. The findings of this study is inconsistent with other studies, which mainly reported a positive relationship between involvement and school adjustment in various areas (Brookmeyer *et al.*, 2006; Epstein, 1992; Khajehpoura & Ghazvini, 2011; Kuperminc *et al.*, 2008; McNeal, 2001; Nguon, 2012; Pomerantz *et al.*, 2007; Tan & Goldberg, 2009); self-esteem (Christenson, *et al.*, 1992; Grolnick & Slowiaczek, 1994; Rosenberg, 1989; Thomlison, 2002); substance use (Adamczyk-Robinette *et al.*, 2002; Ary *et al.*, 1999; Hango, 2007; Hellandsjø Bu *et al.*, 2002; Sacker *et al.*, 2002) and depression (Ary *et al.*, 1999; Cumsille & Epstein, 1994; Darling, 1999). Despite the fact that most existing literature has mainly documented a positive association between parents' level of involvement and children's school adjustment, this research has also showed that parents' level of involvement is also related to other areas of adolescent development such as self-esteem, depression and substance use.

Finally, adolescents' perception of their communication with mothers and fathers was significantly correlated with substance use, self-esteem, school adjustment and depression. Particularly, positive mother-adolescent and father-adolescent communication were inversely related with the percentage of adolescent substance use; the percentage of adolescent school adjustment problems; the percentage of adolescent depression and positively related with the percentage of adolescent self-esteem. It can be concluded that positive parent-adolescent communication in the family context results in lesser substance use behaviour, lesser school adjustment problems, lower depression level and also brings a high level of self-esteem on

the adolescents. This finding is in line with other researches, which also found a link between parent-child communication and adjustment in different aspects such as: self-esteem (Ackard *et al.*, 2006; Jackson *et al.*, 1998; Lanz *et al.*, 1999); substance use (Cohen *et al.*, 1994; Beatty *et al.*, 2008; DeVore & Ginsburg, 2005; Ennett *et al.*, 2001; Taylor & Carroll, 2001); depression (Ackard *et al.*, 2006; Garber *et al.*, 1997; Jaenicke *et al.*, 1987) and school adjustment (Esteyez *et al.*, 2005; Lambert & Cashwell, 2003). Therefore, the existence of positive communication in the family helps adolescents to overcome various adjustment problems that emanate the stage of adolescence.

The strength of the correlation coefficient can be interpreted as low if it is less than or equals to .39; moderate if it is between .40 and .69; and large if it is greater or equals to .70 (Grimm, 1993). In this research the strength of the associations among mother-adolescent relationship and adolescent adjustment variables are strong, except the relationships between level of mothers' psychological control and school adjustment, mother-adolescent communication and school adjustment and mother involvement and depression which have a moderate correlation. On the other hand the associations among father-adolescent relationship and adolescent adjustment variables are also strong, except the relationships between level of father psychological control and school adjustment, father warmth and depression, and father involvement and depression which are moderately related. In conclusion the above correlation analysis points out that all of the parent-adolescent relationship and adolescent adjustment variables are associated.

The four regression models conducted for both mother and father predictor variables found to be significant models and all the predictor variables contributed to the prediction of adolescents' adjustment. In the first model mothers' and fathers' relationship variables were

independently considered to predict adolescent substance use. The results showed that all the four predicting variables on both cases (mothers' and fathers') contributed significantly to the prediction of adolescent substance use. Specifically, mother-adolescent predicting variables such as maternal warmth, psychological control, mothers' level of involvement and mother-adolescent communication significantly contributed to the prediction of adolescents' substance use behaviour. Similarly, the father-adolescent predictor variables such as fathers' warmth, fathers' psychological control, father-adolescent communication and fathers' involvement significantly contributed for the prediction of adolescents' substance use behaviour. Other research also found that various family factors contribute to the prediction of adolescents' substance use behaviour. For example, psychological control (Finkenauer *et al.*, 2005; Rogers *et al.*, 2003); warmth (Feinberg *et al.*, 2007; Finkenauer *et al.*, 2005; Fletcher *et al.*, 2004; Foxcroft & Lowe, 1991; Hays, 2001; Jackson, 2002; Mak & Kinsella, 1996; Vazsonyi *et al.*, 2006; Wright & Cullen, 2001); parental involvement (Adamczyk-Robinette *et al.*, 2002; Ary *et al.*, 1999; Hango, 2007; Hellandsjø Bu *et al.*, 2002; Sacker *et al.*, 2002) and parent-adolescent communication (Bandi *et al.*, 2008; DeVore & Ginsburg, 2005; Jackson, 2002; Mounts, 2002; Scheer *et al.*, 2000; Spoth *et al.*, 1996; Tobler & Komro, 2010). This finding demonstrates that a positive parent-adolescent relationship, which is characterized by less psychological control, higher level of warmth, involvement and positive communication provides a good atmosphere for role modelling and reinforcement of good behaviour in the adolescent. Hence, adolescents who grow up within a supportive framework are less likely to use substances regularly or experience problems related to substance use.

In the second model the four fathers and mothers predicting variables (psychological control, warmth, involvement and communication) were used to predict adolescents' self-esteem. The results showed that all the four predicting variables on both cases (mothers' and

fathers') contributed significantly for the prediction of adolescent self-esteem. Particularly, both maternal and paternal level of psychological control, warmth, involvement and communication contributed significantly to the prediction of adolescent substance use. In the existing literature there is research that indicates the four family relationship variables studied here, psychological control, warmth, involvement and communication, as important variables that affect adolescents' level of self-esteem. Specifically, research indicated that there is an inverse relationship between parents' level of psychological control and adolescents' level of self-esteem (Galambos *et al.*, 2003; Plunkett *et al.*, 2007; Rogers *et al.*, 2003). Adolescents' perception of parental care or warmth is associated positively with their level of self-esteem (Cournoyer *et al.*, 2005; DeHart *et al.*, 2006; Khaleque & Rohner, 2002). Adolescents' perception of their parents' level of involvement in schooling is also associated positively with their self-esteem level (Christenson, *et al.*, 1992; Grolnick & Slowiaczek, 1994; Thomlison, 2002). In a similar fashion, adolescents' perception of communication with their parents also relates with their level of self-esteem (Joubert, 1991; Killen & Forehand, 1998; Ryan & Deci, 2000). This also shows that the quality of parent-child relationship determines the existence of positive self-esteem development. Consequently, this result indicates that a low level of psychological control; a higher level of parental warmth, involvement and positive communication influences the development of positive self-esteem among adolescents.

In the third model mothers' and fathers' psychological control, warmth, involvement and communication were used as independent variables to predict adolescents' school adjustment problem. The analysis demonstrates that all the four mother-adolescent relationship predicting variables contributed significantly to the prediction of adolescent school adjustment. It means that the maternal level of psychological control, warmth,

involvement and communication account for the prediction of adolescent school adjustment. When we look at father-adolescent relationship predicting variables, only three of these contributed to the prediction of adolescents' school adjustment. Accordingly, fathers' involvement, psychological control and warmth contributed to the prediction of adolescent school adjustment. Nevertheless, father-adolescent communication did not contribute significantly to the prediction of adolescents' school adjustment. Previous research also indicated that various family variables contribute to the prediction of adolescents' school adjustment. For example, there is research that shows the effect of psychological control on students' school adjustment (Aunola & Nurmi, 2004; Finkenauer *et al.*, 2005; Joussemet *et al.*, 2004; Rogers *et al.*, 2003; Shek, 2011). There is also research that demonstrates the effect of warmth on adolescents' school adjustment (Amato & Flower, 2002; Chen *et al.*, 1997; Chen *et al.*, 2000; Kim *et al.*, 2003). Other research also indicated that higher levels of parental involvement have a positive effect on children's school adjustment (Dumont *et al.*, 2012; Karbach *et al.*, 2013; Taylor & Lopez, 2005). There is also research that shows parent-adolescent communication as an important factor contributing to adolescents' school adjustment (Demaray & Malecki, 2002; Loeber *et al.*, 2000; Ochoa *et al.*, 2007; Stevens *et al.*, 2002). On the contrary, this study only considers mother-adolescent communication as a significant factor affecting adolescents' school adjustment. This research does not consider father-adolescent communication as a significant predictor of adolescent school adjustment. The difference in the effect of parent-adolescent communication school adjustment can be due to the level of closeness and openness adolescents have with their mothers and fathers. In both middle childhood and adolescence, research indicated that mother-child communication in contrast to father-child communication is characterised by more frequent interaction and more involvement in care-giving and everyday tasks (Barnes & Olson, 1985; Collins and Russell, 1991). This suggests that communication patterns differ between

mothers and fathers, with adolescents talking more with and disclosing more to mothers than fathers. Therefore this result and existing research have demonstrated that a combination of lower level of psychological control, high warmth, and involvement together with positive communication corresponds with the better school adjustment among adolescents.

In the last model mothers' and fathers' psychological control, warmth, involvement and communication were used as independent variables to predict adolescents' depression. The result showed that except mother-adolescent communication all the three predictor variables contributed significantly to the prediction of adolescents' level of depression. However, the contribution of mother-adolescent communication in the prediction of adolescents' level of depression was not significant. When we look at father-adolescent relationship variables, all of the predictor variables contributed significantly to the prediction of adolescents' depression level. Research also indicated the four parent-adolescent relationship variables have an effect on the adolescents' depression level. For example, psychological control (Galambos *et al.*, 2003; Plunkett *et al.*, 2007; Rogers *et al.*, 2003; Shercensor *et al.*, 2011); warmth (Liu, 2003; Feng *et al.*, 2009; Formoso *et al.*, 2000; Rohner *et al.*, 1991); parental involvement (Amato & Flower, 2002; Chen *et al.*, 1997; Chen *et al.*, 2000; Kim *et al.*, 2003); and parent-adolescent communication (Hango, 2007; Larson *et al.*, 2002) have a significant impact on the adolescents level of depression. In the existing research on the contribution of parent-adolescent communication, the prediction of adolescent depression is studied without considering parents' gender as a factor. However, this research did not consider mother-adolescent communication as a significant predictor for adolescent depression. In general this analysis reveals that higher levels of parental warmth and involvement, positive communication and low levels of psychological control influences the occurrence of depression among adolescents.

Finally, examining how adolescents' relationships with their mothers and fathers differentially predict adolescent adjustment may be helpful in understanding these differences. Accordingly, this research found that father-adolescent relationship variables predicted adolescents' adjustment more than mother-adolescent relationship variables did. Previous research also indicated that maternal and paternal parenting characteristics had differential and unique effects for boys' and girls' adjustment in different areas (Collins & Russel, 1991; Gamble, Ramakumar, & Diaz, 2007; Stolz *et al.*, 2005). In general, the findings suggest that positive relationships with both parents are important for psychological well-being and lowered problem behaviour but also that some unique effects of maternal and paternal parenting behaviours exist, particularly when examining associations between relationship variables across adolescent outcomes.

5.2 Limitations of the Study

As it is with all social science research, this study has limitations and it is important to highlight them. A primary limitation of this study is the site where the survey was conducted. It is located in urban area high schools and they are closely related in terms of students' socio-demographic data and their families' socio-economic status. These similarities do not subtend to the rich array of different demography, culture and social-economic conditions that would have been characteristics of a national representative sample. For example, if the study were to have been conducted in rural sites of the country instead of being confined to urban areas, a more interesting finding reflective of adolescent national sample may have increased the generalizability of the study findings. The contextual nature of this study also requires the use of more practical and objective scales, which necessitates the creation of measures of the selected contextual variables. The issue of validity of the

measures may remain a limitation in spite of efforts to validate the research instrument. Another limitation of the study is that it only used four predictor and four outcome variables in the study of parent-adolescent relationship and adolescent adjustment.

Although, the study sample exhibited rich diversity and much strength due to the sample size (N=809), the 10% passive consent rate was a concern. Passive consent is a research procedure that required parents or guardians to return a refusal form as in a situation where they decide to disapprove their child or ward participation in the study. In this study it is also difficult to ascertain whether the students did as a matter of fact submit the consent forms to their guardians and parents and whether the purported parental refusal was indeed their parents' decision. Admittedly, some participants may have wanted to cover up and deceive on items they considered sensitive with possible outcomes of embarrassment and shame. They therefore deny the actual response options knowingly and select a more acceptable response option. The issue is that of response management. However, items on research instruments were reversed as a methodological design to confound response management.

The data about parent-adolescent relationship and adolescent adjustment was gained from adolescents' self-reports, which makes it difficult to untangle the contribution of method variance to the anticipated relations. It is also possible that the questionnaire format may create further limitations because of the limited response range and the inability to probe further about specific aspects of the relationship, aspects which could very well provide the desired information about how adolescents get along with their parents. Moreover, questionnaires may also permit adolescents to be more uncertain or untruthful in their responses because there is no method of confirming their reports. An improvement to this

design would be to have a qualitative source of data that could be of further value in future investigations. However, as noted earlier by some researchers (De Bourdeaudhuij & Van Oost, 2000; Stevens *et al.*, 2002) the adolescent's perceptions of parent-adolescent relationships are the most influential components of behaviour change. But it is also important to include data on parents' perspectives, attitudes and behaviours as parents are influential in the adolescent life.

To address the limitations of this study, future studies could do comparative investigations of adolescents with proportional sample representations of socio-demographic variables like religious groups, ethnic groups, school system and geographically diversified regions (such as rural and urban settlements) to generalize the research findings. Theoretically, the present findings provide some evidence that positive parent-adolescent relationships can be considered as a relevant protective factor against various adjustment problems for adolescents. More future studies on the association between parent-adolescent relationship and adolescent adjustment studies may be designed using a number of parental variables to determine their relationship to adolescent adjustment during adolescence in various aspects of adolescent development. In addition, longitudinal studies of the effects of parent-adolescent relationship over time span that covers different developmental phases may increase our understanding and knowledge of the parent-adolescent relationship and adolescent adjustment literature. Further research is therefore required to address these limitations. Even though this study may have a number of limitations, it adds to the existing literature on parent-adolescent relationship and adolescent adjustment by analysing sons' and daughters' perceptions of their mothers' and fathers' parenting behaviours separately, by utilizing a large sample size, and by conceptualizing and measuring parent-adolescent relationship and adolescent adjustment using four different aspects of relationship and adjustment.

5.3 Recommendation for Practice in the Ethiopian Context

Considering the Ethiopian context, it may be commendable that professionals who work with a family may have to develop resources for adolescents and parents out of school settings, such as exploring family education programs, community education programs, youth organization and voluntary programs. A thorough program development and implementation of model programs well-funded with youth participation and community collaboration could promote positive emotional wellbeing and reduce family relation problems and increasing adolescent adjustment crises. Considering the need for quality after-school programs for adolescents, government through the Ministry of Youth, Sports and culture in Ethiopia may develop and fund a nationwide after-school program that can engage adolescents in varied activities including peer support programs, sports, entertainment, voluntary works where participation will be monitored and good conduct rewarded with prizes.

The risk of adolescents' poor psychosocial adjustment as a result of experiencing poor family relations involves the relationship between a number and type of risk factors (negative adjustment outcomes) and protective factors (familial resources in terms of positive parent-child relationship). While risk and protective family relations factors affect adolescents, these factors can have a different effect on a person depending on his/her age, gender, ethnicity, religion and the social milieu.

It can be recommended then that there be a program to train teachers, parents, social workers and counsellors, community staff and other youth program workers. The evaluation of such programs' efficacy and periodic staff development will suffice to make this a functioning youth program for Ethiopian adolescents who experience adjustment problems due to family relations and other factors. The Ministry of Youth, Sports and Culture and local

government sectors in each sub-city could assist in allocating funds for the running of such a program.

It is also important to note that family-based coping programs should be established based on the centrality of the family to adolescent functioning. A family based coping program may tap directly into family relations or interactions between family members. Family members may have the opportunity to engage in multiple skill development activities together as a system unit to learn to cope with family relations problems. Activities drawn for family involvement may include free discussion with other family members, and the opportunity to exchange ideas and discuss problems or solve conflicts as family units with the possibility of lending inter family support in the family discussion.

A future consideration is that the Ministry of Youth, Sports and Culture, and local government sectors in each sub-city could encourage social enterprise corporations and Non-Governmental Organizations to establish community centres with library facilities to engage youth in literacy and guide them in the proper use of their time so as to curtail negative peer culture and antisocial activities. When more vocational and technical schools are established both in the urban and rural communities, more adolescents with adjustment problems may engage in the programs these schools offer and train for better careers than straying on the streets in the cities without responsible jobs. Student guidance and counselling office of schools may use findings of this research to reform guidance and counselling services in schools and to draw appropriate family education programmes. The family education programme can be disseminated through the parent-teacher-association meetings to educate parents on how to help their adolescent children showing adjustment problems and on how to cultivate healthy parent-child relationships.

The findings of this study add weight to social work advocacy for national, regional and local governments to identify and affirm the role and significance of positive parent-adolescent relationships in Ethiopia. The government sector through Ministry of Youth, Sports and Culture may facilitate institutional collaborations with family education programs designed specifically for adolescents. The Ethiopian government could encourage various stakeholders working on family and youth development to harmonize the scope of activities to include the provision of youth and family development programmes with counselling services. To this end, the government should set up a committee to promote and oversee family and youth support programmes that are modelled to increase youth protective factors that effectively negotiate youth psychosocial problems and promote healthy family relations. In conclusion, it is common knowledge that society is as strong as its family unit. If the latter is affected, such would impact on the rest of society. Therefore, the need to recognize the centrality of the family unit is urgent. In conclusion one would urge all stakeholders that are working towards the preservation and strengthening of family relations and healthy adolescent development in Ethiopia to work together in nurturing, growing and upholding the pivotal position of the family unit in society using the adolescent phase as the point of focus.

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APPENDICES

Appendix A: Letter to School Headmaster/Headmistress

Dear Headmaster/Headmistress,

As a follow up on the approval of the Ethical Committee psychology Department, University of South Africa to conduct a doctoral research in high school students in Addis Ababa, I write to request permission to conduct a doctoral research with students in your school. I have been approved to conduct a research on “*Parent- Adolescent Relationship and Adolescents’ Adjustment Problems: Adolescents’ Voices*” by the Ethics Committee of the Department of Psychology in the College of Human Sciences at the University of South Africa, South Africa.

I will need the assistance of some teachers in your school to assist in the distribution and collection of parents and students consent forms, and the administration of the questionnaires. I will be present to supervise the exercise and attend to issues that may rise up in the course of the survey exercise.

Ethical considerations of anonymity, voluntary participation and withdrawal will be keenly observed during the period of the survey exercise. The time for answering the questionnaire will hopefully not go beyond two hours. Please, I have attached a consent form for you to complete, sign and return to me. Thank you for cooperation.

Yours sincerely,

Asamenew Demessie

Enc: Headmaster/Headmistress Consent Form

Headmaster/Headmistress Consent Form

I agree__ do not agree__ to allow Researcher (Mr. Asamenew Demessie Bireda) to conduct doctoral research on “*Parent- Adolescent Relationship and Adjustment Problems: Adolescents’ Voices*” in my school.

I agree__ do not agree__ to the use of teachers in my school to assist in this research.

Signature_____ Date _____

School _____

Appendix B: Letter to Parent/Guardian

Dear Parent/ Guardian,

I am a doctoral research student at the University of South Africa. As a requirement towards completion of my doctoral program, I am requested to conduct a research on “*Parent-Adolescent Relationship and Adolescents’ Adjustment Problems: Adolescents’ Voices.*”

The Ethics Committee of the Department of Psychology at the University of South Africa, South Africa, has approved this research. I write to seek your consent to permit your child to participate in the study. The purpose of the study is to examine parent adolescent relationship as perceived by the adolescents and its relationship with adjustment problems among adolescents in Ethiopia. Every student has equal chance of participation in the study and student’s participation will be strictly confidential and anonymous. Also, a student may decide to withdraw from participation at will and with no consequence. Please, complete the attached form and sign to indicate consent for your child/ward to participate in the study.

Sincerely yours,

Asamenew Demessie

PARENT/GUARDIAN CONSENT FORM

I agree__ do not agree__ to allow my child/ward to participate in the study at his/her school.

Name_____

Relationship with the participant_____

Signature_____ Date _____

Appendix C: Letter to Students and Student

Dear Student,

I am conducting a study on “*Parent- Adolescent Relationship and Adjustment Problems*” as part of my doctoral studies at the University of South Africa, South Africa. I am requesting you and several other students to take part in this study, which will be conducted in classrooms in your school. You may use two hours to complete the questionnaire for the study inclusive of instruction time.

You are not required to write your name on the survey response forms and you may decide to stop participation in the exercise at will without any penalty or query from the school teacher or the researcher. Be assured that all responses will be kept very confidential.

Please complete the attached form below if you decide to participate in the study. You may contact me at **0911 939515** for any explanation you may need.

Thank you,

Asamenew Demessie

STUDENT ASSENT FORM

I agree__ do not agree__ to take part in the proposed study to be conducted by Asamenew Demessie. I am aware that my responses will be anonymous and confidential and that I can choose to withdraw from the study at any time without penalty from the research. I agree to seek the final approval of my parent/guardian before actual participation in the study.

Name_____

Signature_____

Date_____

Appendix D: Research Instruments

Instruction: Please complete the following information sheet about you and your parents.

1. Background Information

1. Name of your School: _____
2. Grade _____
3. Your Age: _____ years
4. Please circle your sex:
 - A. Male
 - B. Female
5. Please circle who you live with:
 - A. Mother
 - B. Father
 - C. Both
6. Father's level of education:
 - A. No formal education
 - B. Less than secondary school (Grade 1- 8)
 - C. Secondary school (Grade 9 – 12)
 - D. Technical Vocational
 - E. University
7. Circle on your mother's level of education:
 - A. No formal Education
 - B. Less than secondary school (Grade 1- 8)
 - C. Secondary school (Grade 9 – 12)
 - D. Technical Vocational
 - E. University

2.PARENTAL PSYCHOLOGICAL CONTROL

Instruction: Here are some statements about the way your mother and father controls you. I want you to think about how each one of these fits the way your mother or father treats you. There is no right or wrong answer to any statement, so be as honest as you can. Answer each statement the way you feel your mother or father really is rather than the way you might like her to be by putting an “X” mark on each box next to each item.

NOTE: It is extremely important for you to provide the most accurate answers possible even though you may feel embarrassed or uncomfortable. If you provide incorrect or misleading information to those who are trying to assist you, it will be very difficult to provide you with the help that you are seeking.

<i>Item number</i>	<i>Statement</i>	<i>My mother....</i>				<i>My father...</i>			
		<i>SA</i>	<i>A</i>	<i>D</i>	<i>SD</i>	<i>SA</i>	<i>A</i>	<i>D</i>	<i>SD</i>
1	My father (my mother) always wants to change my thoughts.								
2	My father (my mother) thinks that his (her) thoughts are more important than my thoughts.								
3	During our conversation, my father (my mother) always								

	dominates the conversation and wants me to follow his (her) views.								
4	My father (my mother) always blames me for the problems encountered by my family.								
5	When I disappoint my father (my mother), he (she) will stop talking to me.								
6	When my father (my mother) criticizes me, he (she) always mentions my mistakes in the past.								
7	When my views are different from those of my father (my mother), he (she) reduces his/her friendliness to me.								
8	When I make my father (my mother) unhappy, he (she) will stop talking with me until I please him (her) again.								
9	My father (my mother) wants to control everything in my life.								
10	My father (my mother) always wants to change me to fit his (her) standard.								

3.PARENTAL WARMTH SURVEY

Here are some statements about the way mothers and fathers act toward their children. I want you to think about how each one of these fits the way your mother or father treats you. If the statement is basically true about the way your mother/father treats you then ask yourself, "Is it almost always true?" or "Is it only sometimes true?" If you think your mother or father almost always treats you that way, put an X in the box ALMOST ALWAYS TRUE; if the statement is sometimes true about the way she/he treats you then mark SOMETIMES TRUE. If you feel the statement is basically untrue about the way your mother or father treats you then ask yourself, "Is it rarely true?" or "Is it almost never true?" If it is rarely true about the way she/he treats you put an X in the box RARELY TRUE; if you feel the statement is almost never true then mark ALMOST NEVER TRUE.

Remember, there is no right or wrong answer to any statement, so be as honest as you can. Answer each statement the way you feel your mother or father really is rather than the way you might like her/him to be.

Statement	My Mother...				My father...			
	<i>Almost Always true</i>	<i>Sometimes true</i>	<i>Rarely true</i>	<i>Almost never true</i>	<i>Almost Always true</i>	<i>Sometimes true</i>	<i>Rarely true</i>	<i>Almost never true</i>
1. Says nice things about me.								
2. Talks to me about our plans and								

listens to what I have to say.								
3.Encourages me to bring my friends home, and tries to make things pleasant for me								
4. Makes it easy for me to tell her/him things that are important.								
5. Makes me feel proud when I do well.								
6. Praises me to others.								
7. Talks to me in a warm and loving way.								
8. Says nice things to me when I deserve them.								
9. Is really interested in what I do.								
10. Makes me feel wanted and needed.								

11. Tells me how proud she/he is of me when I am good.								
12. Makes me feel what I do is important.								
13. Tries to help me when I am scared or upset.								
14. Cares about what I think and likes me to talk about it.								
15. Lets me do things I think are important, even if it is inconvenient for her/him.								
16. Is interested in the things I do								
17. Tries to make me feel better when I am hurt or sick.								
18. Lets me know she/he loves me.								
19. Treats me gently and with								

kindness.								
20. Tries to make me happy.								

4.PARENTAL INVOLVEMENT QUESTIONNAIRE

Instruction: Below you will see a list of 10 statements which describe your father or mother's involvement in your education. I want you to think slowly and decide how often each statement occurs between you, your mother or your father. Please put an 'X' mark on your correct option. The options are:

- **Almost never**
- **Rarely**
- **Sometimes**
- **Rather often**
- **Very often**

NOTE: It is extremely important for you to provide the most accurate answers possible even though you may feel embarrassed or uncomfortable. If you provide incorrect or misleading information to those who are trying to assist you, it will be very difficult to provide you with the help that you are seeking.

	My mother...					My father...				
Statement	Almost never	Rarely	Sometimes	Rather often	Very often	Almost never	Rarely	Sometimes	Rather often	Very often
1. My father/mother encourages me to read while I am at home.										
2. When I need help about my home work, my father/mother help me.										
3. My father/mother makes sure that I do my homework.										
4. My father/mother discusses my school progress with me.										
5. My father/mother restricts my leisure activities anytime I made a poor grade.										
6. My father/mother arranges private tutor at home for me.										

7. My father/mother discusses my school progress with my teachers.										
8. My father/mother visits me at school.										
9. My father/mother attends my school's Parent Teacher Association meetings and organized functions of the school such as speech and prize giving days.										
10. My father/mother motivates me to try harder when I make a poor grade.										

5.THE PARENT-ADOLESCENT COMMUNICATION QUESTIONNAIRE

INSTRUCTION: Using the scale below, please indicate how much you agree or disagree with each of the following statements about the communication between you, your mother and father. Indicate your choice by putting an “X” mark on the appropriate box.

Strongly Agree (SA) Agree (A) Neutral (N) Disagree (D) Strongly Disagree (SD)

NOTE: It is extremely important for you to provide the most accurate answers possible even though you may feel embarrassed or uncomfortable. If you provide incorrect or misleading information to those who are trying to assist you, it will be very difficult to provide you with the help that you are seeking.

No	Statement	My mother...					My father...					
		SA	A	N	D	SD	SA	A	N	D	SD	
1	I can discuss my beliefs with my mother/father without feeling restrained or embarrassed.											
2	Sometimes I have trouble believing											

	everything my mother/father tell/s me.										
3	My mother/father is always a good listener.										
4	I am sometimes afraid to ask my mother/father for what I want.										
5	My mother/father has a tendency to say things to me, which would be better left unsaid.										
6	My mother/father can tell how I am feeling without asking.										
7	I am very satisfied with how my mother/father and I talk together.										
8	If I am in trouble, I can tell my mother/father.										
9	I openly show affection to my mother/father.										

10	When we are having a problem, I often give my mother/father the silent treatment.										
11	I am careful about what I say to my mother/father.										
12	When talking to my mother/father, I have a tendency to say things that would be better left unsaid.										
13	When I ask questions, I get honest answers from my mother/father.										
14	My mother/father tries to understand my point of view.										
15	There are topics I avoid discussing with my mother/father										
16	I find it easy to discuss problems with my mother/father.										

17	It is very easy for me to express all my true feelings to my mother/father.										
18	My mother/father nags/bothers me.										
19	My mother/father sometimes insult/s me when angry with me.										
20	I don't think I can tell my mother/father how I really feel about some things.										

6. Self-Esteem Scale (SES)

Instruction: Below is a list of statements dealing with your general feelings about yourself. Please indicate your level of agreement or disagreement by putting an ‘X’ mark on the appropriate option. The options are:

Strongly agree (SA) Agree (A) Disagree (D) Strongly disagree (SD)

NOTE: It is extremely important for you to provide the most accurate answers possible even though you may feel embarrassed or uncomfortable. If you provide incorrect or misleading information to those who are trying to assist you, it will be very difficult to provide you with the help that you are seeking.

No	Statement	SA	A	N	D	SD
1	On the whole, I am satisfied with myself.					
2	At times I think I am no good at all.					
3	I feel that I have a number of good qualities.					
4	I am able to do things as well as most other people.					
5	I feel I do not have much to be proud of.					
6	I certainly feel useless at times.					
7	I feel that I’m a person of worth, at least on an equal plane with others.					
8	I wish I could have more respect for myself.					
9	All in all, I am inclined to feel that I am a failure.					
10	I take a positive attitude toward myself.					

7. SUBSTANCE USE SURVEY

Instruction: Below you are asked to give your genuine response about your experience of using any substance (alcohol, drug and also tobacco) use. In here you will be asked if you use any substance in your life time, how many times you use these substances and also the number of times you have used substances in the past six months. Please circle the letter along your response to each item.

NOTE: It is extremely important for you to provide the most accurate answers possible even though you may feel embarrassed or uncomfortable. If you provide incorrect or misleading information to those who are trying to assist you, it will be very difficult to provide you with the help that you are seeking.

I. Alcohol use (beer, draft, whisky, vodka, etc.)

1. Have you ever had a drink of alcohol?

A. Yes

B. No

2. How often do you drink?

A. Never

B. Once in a month

C. Once in a week

D. Every day

3. How many times did you drink in the past 6 months?

A. Never or 0 times

B. 1 – 4 times

C. 5 -9 times

D. 10 times or more

II. Tobacco use (cigarette, shisha)

1. Have you ever smoked Cigarettes?

A. Yes

B. No

2. How often do you smoke?

A. Never

B. Once in a month

C. Once in a week

D. Every day

3. How many times did you smoke cigarettes in the past 6 months?

A. Never or 0 times

B. 1 – 4 times

C. 5 -9 times

D. 10 times or more

III. Drugs (marijuana, cocaine or even *chat*)

1. Have you ever use a drug?
 - A. Yes
 - B. No

2. How often do you use drugs?
 - A. Never
 - B. Once in a month
 - C. Once in a week
 - D. Every day

3. How many times did you use drugs in the past 6 months?
 - A. Never or 0 times
 - B. 1 – 4 times
 - C. 5 -9 times
 - D. 10 times or more

8. Centre for Epidemiologic Studies Depression Scale (CES-D)

Instruction: Below is a list of some of the ways you may have felt or behaved. Please indicate how often you have felt this way during the past week by putting X mark. Please tell me how often you have felt this way during the past week. The options are:

- Rarely or none of the time (less than 1 day)
- Some or a little of the time (1 – 2 days)
- Occasionally or a moderate amount of time (3 – 4 days)
- Most or all of the time (5 – 7 days)

NOTE: It is extremely important for you to provide the most accurate answers possible even though you may feel embarrassed or uncomfortable. If you provide incorrect or misleading information to those who are trying to assist you, it will be very difficult to provide you with the help that you are seeking.

During the past week...	Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	All of the time (5-7 days)
1. I was bothered by things that usually don't bother me.				

2. I did not feel like eating; my appetite was poor.				
3. I felt that I could not feel better even with help from my family while I am sad.				
4. I felt that I was just as good as other people.				
5. I had trouble keeping my mind on what I was doing.				
6. I felt depressed.				
7. I felt that everything I did was an effort.				
8. I felt hopeful about the future.				
9. I thought my life had been a failure.				
10. I felt fearful.				
11. My sleep was restless.				
12. I was happy.				
13. I talked less than usual.				

14. I felt lonely.				
15. People were unfriendly.				
16. I enjoyed life.				
17. I had crying spells.				
18. I felt sad.				
19. I felt that people disliked me.				
20. I could not "get going."				

9. SCHOOL ADJUSTMENT QUESTIONNAIRE

Instruction: This questionnaire is designed to obtain information on how you feel about school in general, your school work, your academic grade and your teacher's remark on your conduct on this semester. Answer the items in each section as carefully and as accurately according to the instructions in each section.

NOTE: It is extremely important for you to provide the most accurate answers possible even though you may feel embarrassed or uncomfortable. If you provide incorrect or misleading information to those who are trying to assist you, it will be very difficult to provide you with the help that you are seeking.

I. Feeling towards school and school work (put an 'X' mark on your appropriate option)

<i>No</i>	<i>Items</i>	<i>None of the time</i>	<i>A little of the time</i>	<i>Some of the time</i>	<i>Most of the time</i>	<i>All of the time</i>
<i>1</i>	How often do you feel that you hate school?					
<i>2</i>	How often do you enjoy school work and studies?					
<i>3</i>	How often do you put off studies at school until the last					

	minute?					
4	How often do you skip doing your homework?					
5	How often do you study very hard at school?					
6	How often do you feel that you are a good student at school?					
7	How often do you feel that you learn a great deal at school?					
8	How often do you play at school instead of doing your school work?					

9. What is your overall average grade point in your first semester report card?

- a. Above 85%
- b. 75% -85%
- c. 65% - 75%
- d. 55% - 65%
- e. Less than 55%

10. How did your teacher rate your conduct in the report card?

- a. Very Good (A)
- b. Good (B)
- c. Not bad (C)
- d. Poor (D)

Appendix E: T-test and Regression Analysis

Table 8.1a

Main Effects and Interactions Tested to Predict Adolescents' Level of Substance Use

Model 1	Unstandardized		Standardized	T	Sig
	Coefficients		Coefficients		
	B	Std. Error	Beta		
MPC	.073	.011	.211	6.388	.000
MWR	-.083	.008	-.411	-10.555	.000
MINV	-.037	.009	-.133	-4.128	.000
MCOM	-.021	.007	-.123	-3.213	.001
FPC	.084	.010	.286	8.291	.000
FWR	-.065	.007	-.352	-9.193	.000
FINV	-.021	.009	-.078	-2.208	.028
FCOM	-.026	.007	-.156	-3.984	.000

Note. MCOM denotes mother's communication; MINV denotes mother's involvement; MPC denotes mother's psychological control; MWR denotes mother's warmth; FCOM denotes fathers' communication; FPC denotes fathers' psychological control; FINV denotes fathers' involvement; FWR denotes fathers' warmth

Table 8.2a

Main Effects and Interactions Tested to Predict Adolescents' Level of Self-esteem

Model 2	Unstandardized		Standardized	t	Sig
	Coefficients		Coefficients		
	B	Std. Error	Beta		
MPC	-.079	.024	-.068	-3.345	.001
MWR	.212	.016	.314	13.090	.000
MINV	.233	.019	.249	12.503	.000
MCOM	.235	.014	.406	17.160	.000
FPC	-.159	.020	-.162	-8.007	.000
FWR	.149	.014	.241	10.742	.000
FINV	.215	.018	.244	11.703	.000
FCOM	.222	.013	.393	17.139	.000

Note. MCOM denotes mother's communication; MINV denotes mother's involvement; MPC denotes mother's psychological control; MWR denotes mother's warmth; FCOM denotes fathers' communication; FPC denotes fathers' psychological control; FINV denotes fathers' involvement; FWR denotes fathers' warmth

Table 8.3a

Main Effects and Interactions Tested to Predict Adolescents' School Adjustment

Model 3	Unstandardized		Standardized	t	Sig
	Coefficients		Coefficients		
	B	Std. Error	Beta		
MPC	.062	.022	.051	2.788	.005
MWR	-.072	.015	-.100	-4.642	.000
MINV	-.769	.018	-.775	-43.239	.000
MCOM	-.050	.013	-.081	-3.811	.000
FPC	.097	.019	.093	5.153	.000
FWR	-.041	.013	-.064	-3.176	.002
FINV	-.769	.017	-.822	-44.300	.000
FCOM	-.009	.012	-.016	-.776	.438

Note. MCOM denotes mother's communication; MINV denotes mother's involvement; MPC denotes mother's psychological control; MWR denotes mother's warmth; FCOM denotes fathers' communication; FPC denotes fathers' psychological control; FINV denotes fathers' involvement; FWR denotes fathers' warmth

Table 8.4a

Main Effects and Interactions Tested to Predict Adolescents' Level of Depression

Model 4	Unstandardized		Standardized	t	Sig
	Coefficients		Coefficients		
	B	Std. Error	Beta		
MPC	.857	.017	.826	49.142	.000
MWR	-.057	.012	-.093	-4.719	.000
MINV	-.092	.014	-.109	-6.648	.000
MCOM	.006	.010	.012	.639	.523
FPC	.809	.014	.917	56.175	.000
FWR	.022	.010	.040	2.227	.026
FINV	-.039	.013	-.049	-2.924	.004
FCOM	-.025	.009	-.049	-2.676	.008

Note. MCOM denotes mother's communication; MINV denotes mother's involvement; MPC denotes mother's psychological control; MWR denotes mother's warmth; FCOM denotes fathers' communication; FPC denotes fathers' psychological control; FINV denotes fathers' involvement; FWR denotes fathers' warmth

Table 9

Independent Samples Test for Parent-Adolescent Relationship Variables

	T-test for Equality of Means							95% Confidence Interval	
	F	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	of the Difference		
							Lower	Upper	
MPC	12.290	6.773	806.930	.000	2.92386	.43168	2.07650	3.77121	
FPC	20.423	7.033	806.788	.000	3.56157	.50644	2.56747	4.55567	
MWR	31.171	-7.996	803.545	.000	-5.82383	.72835	-7.25353	-4.39413	
FWR	23.563	-8.412	804.668	.000	-6.68906	.79523	-8.25003	-5.12810	
MINV	8.734	-5.904	806.906	.000	-3.16134	.53548	-4.21243	-2.11024	
FINV	8.668	-5.748	806.917	.000	-3.26981	.56889	-4.38648	-2.15314	
MCO	16.820								
M		-6.194	806.041	.000	-5.34989	.86374	-7.04534	-3.65444	
FCOM	27.956	-6.796	803.648	.000	-5.98180	.88016	-7.70948	-4.25412	

**MPC = mothers' psychological control; FPC = fathers' psychological control; MWR = mothers' warmth; FWR = fathers' warmth; MINV = mothers' involvement; FINV = fathers' involvement; MCOM = mothers' communication; FCOM = fathers' communication*

Table 10

Independent Samples Test for adolescent adjustment

T-test for Equality of Means

	F	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
SU	126.745	8.452	733.930	.000	1.22240	.14463	.93847	1.50633
SE	75.235	-7.036	800.700	.000	-3.48212	.49492	-4.45361	-2.51062
SA	12.788	6.658	807.000	.000	3.51508	.52794	2.47878	4.55137
DP	25.052	7.355	805.679	.000	3.27629	.44543	2.40195	4.15064

Note. SU denotes substance use; SE denotes self-esteem; SA denotes school adjustment; DP denotes depression