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The Effect of Family Structure on
Adolescents in Saudi Arabia:
A comparison Between Adolescents from
Monogamous and Polygamous Families

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Abstract:

This study investigated the effects of family structure on 13-18 year-old adolescents in Saudi Arabia. Comparisons were made between adolescents from polygamous and monogamous families in psychological well-being (self-esteem, satisfaction with life, depression), bullying and victimization. A series of investigations assessed the effects of family structure and several demographic variables on adolescents' psychological well-being and behaviour. Also, the mediating role of parent-adolescent relationships measured by parent-adolescent bonding and father availability was investigated.

A systematic review of previous research established that few studies had investigated mediating variables, such as demographic variables. In the first study, comparisons were made between 98 adolescents from polygamous and monogamous families. Results found that adolescents from polygamous families reported more problems in their psychological well-being, bullying and victimization than adolescents from monogamous families.

The aim of the second study was to establish the validity of the Parental Bonding Instrument for use with adolescents in Saudi Arabia. The parental bonding instrument was validated for use in Saudi society with 301 participants aged 13-18 years. Results found that the 'care' dimension of the parental bonding instrument was valid for use in Saudi Arabia but the 'overprotection' dimension was not considered to be culturally valid because of different cultural patterns found in Saudi culture.

The third study compared 266 adolescents from polygamous and monogamous families using the validated parental bonding instrument. The results found that adolescents in polygynous families reported lower 'care' scores than those in monogamous families. Also, comparisons by age group and gender found no effects of age or gender for father care, mother care, self-esteem, satisfaction with life, bullying or victimisation. A significant difference was found between age groups for depression.

The fourth study was conducted with 500 adolescents using structural equation modelling to test the role of the parent-adolescent relationship measured by parental bonding on adolescent self-esteem, satisfaction with life, depression, bullying and victimisation. For polygamous families, parental care was a significant mediating variable between adolescent outcomes and the family variables of father availability and the position of the mother as the first or later wife. For monogamous families, although parental care predicted adolescent outcomes, family variables did not affect parental care.

The fifth study was a qualitative analysis of interviews with 30 adolescents and 10 teachers on perceptions of father fairness, family functioning, attitudes toward polygamous marriage and academic achievement. Problems reported for polygamous families were lack of father fairness and family cohesion, emotional and behavioural problems, and poor academic achievement.

In conclusion, this thesis is the first study to investigate the effects of polygamous family structure on adolescents in Saudi society and the first to provide a culturally validated measure of adolescent-parent attachment relationships. It was found that polygamy affects adolescent psychological well-being and behaviour, also adolescents' perceptions of parental care and the fairness with which they feel that their father treats

them have important effects on their relationship with their parents, their sense of well-being and their behaviour. The findings will be valuable for educators, counsellors and psychologists in Saudi Arabia.

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Chapter One

Introduction

The family is an important context for achieving the developmental requirements of children and adolescents (Berk, 2010; Bowlby, 1969/1982; Mitchell & Ziegler, 2012; Rosen, 2016; Upton, 2012; Zahran, 2005). An important feature of the family is its structure. Family structure refers to the composition and relationships of a family (Lamb, 2010; Valsiner, 2000). Many theoretical and research studies have emphasized that type of family structure has inevitable effects on the members of the family, including its children (AL-Krenawi, 2014; Allen & Olson, 2001; Demo, 1993; Olson, 1993; Schmidt, 2000). This thesis focusses on two types of family structure which are based on the social bond of marriage: polygyny (a form of polygamy) and monogamy.

1.1 Polygamous family structure

Many societies practice monogamous marital relationships involving a husband and wife as the basis for the family unit. However, there are societies that permit or even encourage the practice of other types of marriages such as polygamy, either in the form of polygyny or polyandry (AL-Krenawi, 2014; Valsiner, 2000). Polygyny occurs when a man has more than one wife at the same time (AL-Krenawi, 1997; Farahat, 2002) and polyandry occurs when a woman has more than one husband at the same time (Valsiner, 2000). These two types of marriage do not usually occur in the same societies and both create different types of family member relationships (Valsiner, 2000). Polygamous marriage and

family structure are related to the cultural norms for each society that practices polygamy, so the social customs differ from one community to another (AL-Khateep, 2007).

Polygyny is practiced in many societies and is considered the most common form of non-monogamous marriage (AL-Krenawi & Lightman, 2000; Elbedour, Onwueghbuzie, Caridine, & Abu-Saad, 2002). Polygyny legally and widely occurs in 850 societies across the world (AL-Krenawi, Graham & Salem, 1997) and it is accepted in most African communities and some Middle East societies as well. Polygyny is a valid form of marriage in Algeria, Chad, Ghana, Benin, Congo, Gabon, Togo, Tanzania, Saudi Arabia, and Israel (Elbedour et al., 2002). On the contrary, it has been banned in some Islamic countries such as Tunisia, Turkey, and Azerbaijan (Klomegah, 1997). In Saudi society, polygamy is practiced more frequently than in other Middle Eastern societies. Because of cultural values and economic standards many Saudi men can get married to more than one wife (Alkhateep, 2007; Alsharfi, 2009; Yamani, 2008).

Polygyny is a preferable family structure for societies in which economic success depends on the number of offspring (AL-Shamsi & Fulcher, 2005; Elbedour et al., 2002; Kasawneh, Hijazi, & Salman, 2011). Besides economic reasons, other reasons for polygyny include exchange marriage as happens in Bedouin-Arab communities. In this case two males marry each other's sisters (AL-Kobesi, 2001). Another reason is related to increasing the population of a country as occurred in United Arab Emirates (AL-Shamsi & Fulcher, 2005). These reasons link social, personal, and governmental systems for practicing polygyny.

In Islam polygamy is permitted for the following reasons: the first wife is infertile or ill, or she is very busy in her work, also if there is imbalanced number of females versus males

in the society. Also, polygamy might be the suitable solution for spinsterhood which is considered a social problem in many conservative societies such as Cooperation Council Gulf societies (Alhane, 2003; Alkobesi, 2001). However, there is one strict condition which must be met and that is fairness. A husband must be as fair as possible to each of his wives (Alshamsi & Fulcher, 2005). Despite permitting the practice of polygamy in unusual circumstances, Islam encourages monogamy as the family marital structure. The Holy Qur'an says "You will never be able to deal justly between wives however much you desire" (Qur'an, 4:129. Cited in Bewely, 1999). That means the husband cannot generally be fair towards each of his wives either emotionally or physically (Abdu salaam, 1997; Alsamaree, 2002).

In modern times, many men from Arab societies practice polygamy without having any of the proper reasons which had been legislated by the sharia law in Islam. Elbedour, Onwuegbzie, & Alatamin, 2003) reported that the reasons for practicing polygamy in the Middle East and African societies in addition to the religious permission are: (1) the desire to have more children because it gives polygamous men an important social status in the local community, (2) polygamy might be a way for the husband to challenge his wife that he will be able to find a woman who makes him happy and (3) as result of marital conflicts. As a consequence, polygamous men might not be able to provide the necessary care for their children. Also, their families must confront many tough challenges such as economic difficulties, family interpersonal problems, and emotional-psychological disorders for the children or the adolescents (AL-Krenawi, Graham, & Slonim-Nevo, 2002; AL-Seef, 2008; Elbedour, Onwueghbuzie, Caridine, & Abu-Saad, 2002).

Since the last century social science research has paid considerable attention to the monogamous family structure and its impact on children's psychological well-being (Elbedour et al. 2002). The majority of this research has investigated the quality of association between parents (the biological parents) and their children in monogamous families. However, in many societies there are different forms of family structure which have not been as thoroughly investigated, including polygamy. Elbedour et al. (2002) summarized the causes behind ignoring the investigation of polygynous families to two potential reasons. First, polygyny is not recorded as a marital status in most countries which permit the practice of polygyny and second, polygamous marriage is illegal in many countries across the globe. Also, the current researcher believes that there is a third reason which is that polygyny is a sensitive social issue to address in some countries, for example Saudi society. Before discussing research and theory on the effects of family structure and family relationships on adolescent development, the next section will introduce the concept of the family in Saudi Arabia.

1.2 History of the Saudi family.

During the past sixty years the Saudi family has been through numerous changes which were caused by a shift in several aspects such as social values, education systems, and economic factors (AL-Khateep, 2007). Many Saudi sociologists have proposed that there are three stages of historical development of the Saudi family (AL-Shehri, 2013), these stages are related to the most important events which happened and which forced the Saudi family to change to its current situation.

The first stage occurred before the discovery of oil. Saudi people in that era followed the tribal system which organized people's relationships including the family (AL-Aweidy, 2004; AL-Kateep, 1981). The extended family was the prevalent type in that period, it included grandparents, parents, and children. All the family members worked on the farm, which was considered the only source of income. The grandfather played the leading role in the Saudi extended family. He controlled the behaviours of individuals within the family and was responsible for resolving problems related to the family. The oldest members in the family and relatives shared in the raising of children, and responsibilities were given to adolescents from 13 years of age. Almost all the adults in the family were illiterate because of poverty and fewer schools at that time (AL-Kateep, 1981). Women were banned from attending school because of social norms especially in the middle region of Saudi society (AL-Khateeb, 2007). In general, cohesion and adaptability were salient traits for the Saudi family and no specific social or psychological research has been found that investigated the nature of the emotional and behavioural characteristics or the quality of family processes in that era.

Polygynous marriage was widely practiced in that stage (AL-Khateeb, 1981, 2007; AL-Roueejah, 1999). Economic, social, and religious factors were substantial reasons for Saudi men to marry more than one wife during that time (AL-Seef, 2008; Yamani, 2008). Another reason was an increase in the number of widows because of wars, conflict, and the spread of diseases which killed more men than women (AL-Kateep, 1981). From reviewing the sociological and psychological research, there was no particular system to manage polygynous marriages. It was considered a social custom which was encouraged by the society based on economic, social, and religious reasons. Also, as mentioned, there

was no previous research that investigated the positive or the negative effects of polygamous relationships during that time.

The second stage was after the discovery of oil. It was a revolution in Saudi society, everything changed because of an increased standard of living for Saudi citizens. Many aspects had been affected as a result of that economic change, these aspects such as level of education and the family interrelationship (AL-Amar, 2008). A rapid transfer from Bedouin and rural societies to the urbanized society occurred. Beside the higher economic position, an improved educational level helped individuals to be more independent of the tribal system of control (AL-Aweidy, 2004). Consequently, the family was exposed to change in its structure and its processes, from an extended family system to a nuclear family system which included the parents and their children.

This new type of family structure meant that couples confronted several family problems that they had not witnessed before. Many families had non-resident fathers because his work was out of the city. Also, many mothers became workers so the children were taken care of by maids (Estanboly, 1996). Estanboly claimed that mothers' employment and feelings of independence from the man created family conflicts and disruption of family processes. Several studies appeared during that time to describe the reasons for marital problems such as violence and relatives' intervention (AL-Khateeb, 2007; AL-Qurashi, 2005; AL-Roueejah, 1999). Also children and adolescents reported several emotional and behavioural problems (Estanboly, 1996). However, no studies were found that investigated polygamous family structure in that stage, also no research that indicated the rate of polygamous marriage after the economic and social changes in Saudi society. The main research interest was about high divorce rates and marital disputes.

The technology time is the third stage. It is considered an extension of the discovery of oil stage. It is distinguished by the qualitative change in communication and the relationships between family members (AL-Shehri, 2013; AL-Weidy, 2004). Independence became the salient trait for family members which led to the weakening of the family processes, especially parent-children and parent-adolescents relationships. For example, AL-Qurashi (2005) stressed that parents' preoccupation with their friends and their own interests created feelings of loneliness and insecurity for children and adolescents. Also, family conflict became more prevalent among Saudi families because of generational conflicts which had an effect on the cohesion and adaptability of the family (AL-Harbi, 2006; AL-Kateeb, 2007).

Many Saudi researchers have claimed that the Saudi family has been affected by the rapid development of technology (AL-Aweidy, 2004; AL-Shehri, 2013). For instance, AL-Zhrani (2015) found that family cohesion was negatively associated with internet use, also parents who spent a lot of time on computer or smart phone devices had marital problems. In a related study, the highest number of internet users were mostly aged between 11 to 35 years old (AL-Shehri, 2013). Recent research showed that adolescents in modern Saudi families were more likely to have psychological difficulties and experience more loneliness than adolescents who lived in the previous two stages (AL-Aweidy, 2004; AL-Qurashi, 2005).

However, raising of the level of education for the parents has had positive effects on family processes (AL-Wakeil, 2013). Parents have become more skilled at treating children's problems and have tended to involve adolescents more in family decisions (ibid). For this stage some studies have indicated the practice of polygyny as a controversial social

issue (Yamani, 2008), other studies have identified polygyny as one of the reasons for divorce in Saudi society (AL-Seef, 2008).

It is noted that Saudi families have been affected by the changes which have happened throughout the past six decades and family problems have become varied based on the changes in each stage. However, no study has investigated the impact of the polygynous relationship and family structure on children and adolescents which is an important contribution of this study. The next section discusses the effects of family structure on child and adolescent development.

1.3 Family structure and development

There is a recurring suggestion in different psychological, sociological, and anthropological theories that the family structure that provides the optimal environment for bringing up children and adolescents includes two biological parents. This type of family has been associated with psychological well-being and social adjustment (Lansford, Abbey & Stewart, 2001; Stokes, 2003). Also, it has been claimed that biological parents are able to build a stable family structure (Cabrera, Tamis-Lemonda, Bradeley, Hofferth & Lamb, 2001). Conversely, other types of family structure were more likely to be associated with low parent nurturance, inconsistent discipline, and adolescent distress (Ross, 2005). Compared to research on monogamous families, few studies have been conducted on child and adolescent development in polygamous families. However, family problems such as poor cohesion, economic difficulties, father absence, and scholastic maladjustment for children have been found to be more prevalent in polygamous families than two-parent

monogamous families (AL-Krenawi & Slonim-Nevo, 2008; AL-Krenawi, Slonim-Nevo, & Graham, 2006; Elbedour, Bart & Hektner, 2006).

Researchers have found that children and adolescents living in non-traditional family structures (often defined by the researchers as one-parent families) showed poor adjustment, involvement in aggressive and antisocial behaviour, conduct disorders, low self-esteem, scholastic difficulties, sexual activity, and drug usage (Smith, 2001; Sun, 2001). For example, results found that adolescents from single parent, one biological parent, or one step-parent families experienced the above problems (AL-Qurashi, 2005; Elbedour, Onwuegbuzie, Caridine, & Abu-Saad, 2002; Florsheim, Tolan, & Gorman-Smith, 2006). However, child and adolescent outcomes are not always negative. It may depend on the amount of support available from other family members, social agencies, and the cultural context (Arnett, 2012; Berk, 2009).

Family structure is considered important because of its impact on the cohesion, adaptability, and the economic position of the family (Allen & Olson, 2001; Arnett, 2012; Demo, 1993; Demo & Acock, 1996), and these three dimensions were considered to be predictors of family stability (Kramer, Boelk & Auer, 2006; MacLanhan & Sandefur, 1994). Problems in family structure lead to disruptions in the economics, cohesion and adaptability of the family and disruptions to family processes (Allen & Olsen, 2001; Smith, 2001; Stokes, 2003).

Family processes include at least two types of relationships; relationships between parents and parent-offspring relationships. Parent absence and divorce are examples of disruptions to family structure which can affect family processes, specifically parental relationships (Allen & Olson, 2001; Davidson & Cardemil, 2009). Children and adolescents

who live in changed or disrupted family structures often face difficulties in psychological well-being and academic achievement (AL-Muhareeb, 2003; AL-Sharfi, 2009; Amato & Keith, 1991; Azuka-Obieke- 2013; semi-colon. Demo, 1993; Lamb, 2010; Olson, 1986). This reflects the strong interdependence between the family structure and family processes.

However, it should not be assumed that all two-parent families provide stable, happy environments for child development. Poor marital relationships can occur in monogamous as well as polygamous families. Dysfunctional families have been found to be associated with troubled marital relationships (Mack, 2001; Schmidt, 2000). Families in which parents complained about an unbalanced marital relationship experienced emotional, mental, and psychosomatic problems (AL-Shamsi & Fulcher, 2005) which had devastating effects on parent-adolescent relationships and adolescent development (Florsheim et al. 2006). Also, continuous conflict between mother and father has been found to be an important influence on adolescents' psychological well-being (Davidson & Cardemil, 2009; Schmidt, 2000). Finally, family processes have been found to mediate the effects between the type of family structure and emotional, behavioural outcomes for adolescents (Acock & Demo, 1994; Azuka-Obieke, 2013; Demo & Acock, 1996; Kramer, Boelk, & Auer, 2006). For example, an American study by Acock and Demo (1994) reported that adolescent-mother interactions, especially disagreements and conflict, had a strong effect on adolescent well-being. Interestingly, they found that conflict between parents also affected adolescent well-being, but had a weaker effect than adolescent-mother conflicts.

Children and adolescents develop their perceptions and understanding of the family structure and parental roles through the live models represented by their parents (Mack,

2001). Adolescents who lived in intact families and experienced positive family relationships were found to be more likely to have successful marital relationships in the future than adolescents who had negative experiences of family life (AL-Krenawi, Graham, & Jacobson, 2006). The type of parent-adolescent relationship plays a substantial role in determining the psychological and social adjustment of adolescents (Bowlby, 1988; Phares, 2003; Rosen, 2016). Several researchers have found that adolescents with behavioural problems described their relationship with their parents as troubled (Davidson & Cardemil, 2009; Florsheim et al., 2006; Lansford et al.; 2001) and they were more likely to face difficulties in other aspects such as mental health problems, social competence, and school performance (AL-Samraee, 2002; Smith, 2001).

For a long time, researchers held different views about whether the most influential relationship for children was with their mother or father (AL-Muhareeb, 2003; Sun, 2001). Bowlby's (1969) attachment theory emphasized the importance of the mother. Also, many studies stressed that mothers have the most influence on the offspring and fathers have only a marginal influence (Amani, Abro & Mugheri, 2012; Barajas, 2011). On the other hand, researchers considered that the fathers' influence is similar to the mother's influence or might even be more influential when the mother works outside the home (Allen & Daly, 2007; Lamb, 2010). Through the last three decades there is almost a consensus from Arabic social and family researchers that children and adolescents' adjustment depends on positive paternal-offspring bonding (AL-Sharfi, 2009; Elbedour, Onwueghbuzie, Caridine, & Abu-Saad, 2002), and the importance of this relationship during the adolescent stage includes its effects on education (Zahran, 2005). Research on father absence has found father absence to have negative effects on family processes as well as on the offspring (AL-Muhareeb, 2003; AL-Sharfi, 2009). For example, it was reported to affect mothers'

experiences of depression and psychosomatic symptoms (AL-Shamsi & Fulcher, 2005; Stokes, 2003) as well as affecting the development of children and adolescents (AL-Sharfi, 2009; Lamb, 2010). Also, families with absent fathers often had difficult mother-adolescent relationships and the adolescents were involved in antisocial behaviours (AL-Samraee, 2002). Olson (1993) stressed that the more time fathers spent with their family, the more positive consequences for the family and adolescent well-being.

Different types of family structure have been associated with different risk factors such as low income and economic difficulties, e.g., single-parent families (Cain & Coombes-Orme, 2005). Economic difficulties are often associated with problems of poor housing and poor education prospects. Data show that polygamous families often have economic difficulties (AL-Krenawi et al, 1997; AL-Krenawi, Graham & Slonim-Nevo, 2002; AL-Krenawi & Lightman, 2000; AL-Krenawi & Slonim-Nevo, 2008; AL-Shamsi and Flucher, 2005; Elbedour, Onwueghbuzie, Caridine, & Abu-Saad, 2002). Socioeconomic status interacts with family structure and family processes (Florsheim, Tolan, & Gorman-Smith 2006; Lamb, 2010). Non-residential parent, parents' level of education, family income, and the parents' occupation all affect the family's socioeconomic status and are influential factors for family stability (AL-Sharfi, 2009; Lansford et al., 2001 Olsen, 1986; Sun, 2001). Also, a stable economic situation helps to create a coherent family structure and a well-adjusted marital relationship, conversely conflict often appeared in families that have economic difficulties (Mackay, 2005). Family income has been found to be positively associated with psychological well-being and academic achievement for adolescents (Hanson, McLanahan & Thomson, 1997). Conversely, adolescents who experienced family poverty reported internalizing and externalizing disorders and school drop-out (AL-Krenawi & Lightman, 2000; Cabrera, Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000; Riaz, 1996).

Parent education is an important factor that has been related to family structure. For example, polygamous fathers have been found to have lower levels of education (Al-Krenawi et al., 2002). Also parent education has been found to improve family life, relationships and parents' child-care skills (Ermisch & Pronzato, 2010). Active parenthood and close parent-adolescent relationship has been found to be related to positive outcomes, such as higher academic achievement, fewer depressive symptoms, less delinquency, and fewer behavioural problems (Constantine, 2006; Farraji, 2012; Rodenburg, Colonnaesi, & Stams, 2013). Parent occupation is related to all the previously discussed socioeconomic factors. Level of education can determine income level (Falci, 1997; Nazareth, 2012), also working away from home will affect the parent's involvement with the family (AL-Muhareeb, 2003; AL-Roueejah, 1999; AL-Sharfi, 2009). Family breakdown and unemployed fathers can lead to risks to family stability (Rodgers & Pryor, 2001). Financial hardship often prevents parents from providing the developmental requirements for children and adolescents (Mooney, Oliver & Smith, 2009). Emotional and behavioural problems were found to be prevalent among adolescents whose families experienced financial difficulties, including mental health problems, alcohol use, lower educational attainment, and problems with relationships (Mooney, Oliver, & Smith, 2009). Studies of polygamous families have found parental education, parental income, and parental employment to be lower in polygamous than monogamous families (Al-Krenawi et al., 2002; Al-Krenawi & Slonim-Nevo, 2008).

Although some of the research presented in this section has described polygamous families as being disadvantaged, a different view of polygamous families is that they represent the optimal environment to teach social skills. This is because they provide adolescents with more social interaction with people around them. Also adolescents in

polygamous families showed the ability to take responsibility toward their younger siblings (Owuamanam, 1984). Moreover, sometimes adolescents find that they are socially appreciated by the society because they belong to the polygamous family and that has positive reflections on self-concept and personality development (Khasawneh, Hijazi & Salman, 2011). Also, some studies claimed that there were no negative effects of the polygamous family structure on adolescents' mental health (EL-Bedour, Bart & Hektner, 2003; Hamdan, Auerbach & Apter, 2009). More investigation is needed about the negative and positive effects of polygamous family structure on children and adolescents.

In summary, family life is affected by several interacting features, including family structure, family relationships, economic and educational factors. Underlying each of these features is the cultural context in which the family operates.

1.4 The theoretical background

As discussed above, family structure can influence child and adolescent development. In their comprehensive literature review, Elbedour, Onwueghbuzie, Caridine, & Abu-Saad. (2002) discussed several reasons why polygamous family structures might have negative effects on children. These tended to focus on the negative effects on the entire family system and how this might impact on children. This included the effects of polygyny on mothers and how this would affect their children, father absence and emotional distance, as well as financial strains on the family. Also, Cherian (1994) suggested that polygamy weakens the parent-child bond which results in reduced emotional satisfaction and security for the child. However, these factors have not been tested in studies of the effects of polygamy on children (see Chapter Two). Also, research

studies with children and adolescents from polygamous families have made very little reference to developmental psychology theories to explain the effects of polygamy on children.

A major developmental theory that takes cultural context into account is Bronfenbrenner's bioecological systems theory (Bronfenbrenner, 1977, 1989, 1994). Bronfenbrenner argued that human development cannot be understood through one single concept, but rather by interdependent social dimensions and complex systems. According to this perspective, a child's development is shaped by the direct and indirect interactions between the child and the immediate environment which surround him or her. The immediate environment refers to the family, schools, peer group, objects, events, activities which are all influenced by the broader cultural context. In general, this theoretical approach proposed that the child is influenced by the environment and vice versa, the child influences the environment.

Bronfenbrenner's ecological systems theory encompasses four major components (Process, Person, Context, and Time) with the acronym the **PPCT** model (Bronfenbrenner, 1995). **Process** includes all the interactions between the child and the immediate environment, these processes are seen as responsible for child development. For example, parent-child activities and parent guidance to the child about the positive interactions with the immediate environment. For processes to be effective they must occur regularly and over time (Bronfenbrenner, 1995). Regularly occurring processes were referred to by Bronfenbrenner as proximal processes. Bronfenbrenner emphasized that this component is a development from his earlier theory which tended to place most emphasis on context.

The relationship between the child and the parent can be seen as an example of a process relevant to Bronfenbrenner's theory.

Person as concept in this model indicates "the biopsychological characteristics of the developing person" (Bronfenbrenner, 1995, p621) and can be described as a group of cognitive perceptions and the behaviours which have been gained from the family, caregivers, and even the peer group. The person's developmental stages are largely influenced by family relationship and thus reflected in the quality of social relationships for the individual. Furthermore, Bronfenbrenner (1989) stressed that the temperament of the parent and the child impacts on the growth and the development of the child.

Context is considered the most important element in the four components according to Bronfenbrenner's conception of the bioecological system (Bronfenbrenner, 1994). In Bronfenbrenner's earlier writings (e.g., Bronfenbrenner, 1979), the context was described as encompassing five subsystems; microsystems, mesosystems, exosystems, macrosystem, and chronosystems. Each level of the system has interdependent and influential relationships with each other, and each have direct and indirect impacts on the child's development. In what follows a brief explanation is given for each level.

The **microsystem** refers to the influence of the closest persons to the child such as family, school, peers, and neighbours. Bronfenbrenner (1979) stressed that this level has a powerful impact on child development through the direct interactions that happens within the child-parent relationship. This was conceptualized as an inner circle in a set of nested circles of influence. The next layer is the **mesosystem** which comprises the interactions between elements of the immediate environment of the microsystem level. In other words, it focuses on the effects of the connection between two or more systems of the microsystem level. For example, the impact of what is happening at home on school and

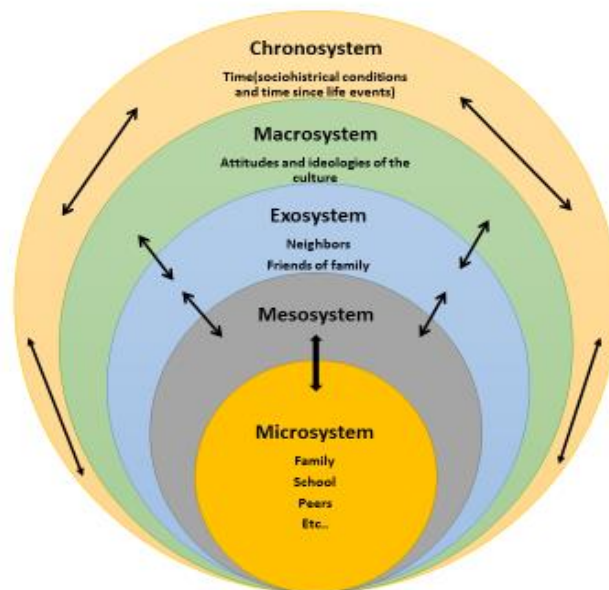
vice versa. The third layer is the **exosystem** which has indirect effects on the child's development. It consists of systems that influence the microsystem and mesosystems, such as social welfare and legal services. An applied example of this is when parents decide to divorce, one of them will be non-resident, thus the child will miss the proximal processes from the absent parent and the parent-teacher interactions will be affected as well. As a result, the child's development is affected. The **macrosystem** is the outer layer and encompasses several aspects which help support and contribute to shaping development, such as cultural characteristics, political upheaval, or economic disruption. For example, in societies that are more liberal towards divorce or towards polygamy, children may be more at risk of living in dysfunctional family structures. The final system is the **chronosystem** which underpins all the other systems and means the continuity in the person characteristics and the environment surrounding him or her. Changes over time could be changes to family structure, socioeconomic status, place of residence, place of work, etc.

The last component of Bronfenbrenner's more recent **PPCT** bioecological systems theory is **time**. Similar to the chronosystem, Bronfenbrenner (1995) pointed out that the time plays a salient role in periods of development. He proposed two principles regarding the role of time in development. He referred to the biological and social changes or events that happen have varying impacts according to the age of the person. For example, parental divorce could be more harmful to children or early adolescents than older adolescents. Also, he proposed that development is shaped by the conditions and events during the historical period in which the person lives. For example, the effects of polygamy on Saudi adolescents is relevant to the particular historical time period in which the research is carried out. The section on the history of the Saudi family in this chapter is very relevant to this principle.

Bronfenbrenner (1994) noted that problems in the developmental systems for children and adolescents can lead to psychological maladjustment and problems with cognitive development. Also, Hong (2012) noted that bullying behaviour is acquired through interactions in the microsystem, such as aggressive interactions with parents and other family members and the school context increases this aggressive behaviour.

Based on the conceptualization from Bronfenbrenner's theory, it can be assumed that children and adolescents from polygamous family structures have negative experiences of interactions between the layers of ecological systems for human development. The disruptions to parent-adolescent relationships, family conflict, and father absence are the features of non-optimal microsystem development risk for development extends to the others of ecological systems.

Figure 1: Bronfenbrenner's theory model for the development of ecological systems.



A second major developmental theory that is relevant to polygamous and monogamous family relationships is Bowlby's attachment theory. Bowlby claimed that infants form attachments with the primary caregiver, these attachments can be secure or insecure (Cassidy & Shaver, 2008). Secure attachment develops when a caregiver responds appropriately to her or his children's needs and this attachment leads to psychological adjustment for adolescents (Ainsworth, 1979). Insecure attachment behaviour occurs when the child is avoidant or ambivalent towards the caregiver and results from unresponsive and inconsistent care (*ibid*). Bowlby and Ainsworth proposed that insecure attachment between the parent and the child is the main cause of mental health problems and personality disorders (Bowlby, 1988; Mitchell & Ziegler, 2012; Rosen, 2016).

Attachment was theorised to be universal and to have evolutionary value (Bowlby, 1969) and therefore relevant to all cultures. Although some cultural variations in attachment behaviours have been found (van IJzendoorn & Kroonenberg, 1988), researchers have concluded that attachment relationships are similar across cultures (Cassidy & Shaver, 2008). Also, researchers have concluded that children in all cultures develop attachment relationships with carers who provide loving and protective care (van IJzendoorn & Sagi-Schwartz, 2008). Therefore, attachment theory can be considered very relevant to research on parent-child relationships in Saudi Arabia.

Attachment theory is concerned with the child's response to the caregiver. Parental bonding is concerned with the parents' contribution to the parent-child relationship as perceived and experienced by the child (Parker, Tupling & Brown, 1979). Parker et al. suggested that parent-adolescent bonding can be optimal, which includes high care and low overprotection or neglectful, which includes low care and low protection. So less care

from parents to their child results in insecure attachment and vice versa. Insecure attachment and careless parenting are disruptions to the parent-child bonding that leads to mental health disorders and behavioural problems not only in childhood but also in adult life (Parker et al, 1979).

Insecure attachment is associated with mental health problems for children and adolescents. Symptoms of anxiety and depression were reported in adolescents who perceived insecure attachment toward their parents (Constantine, 2006; Rodenburg, Colonna, Stams, 2013). Also, insecure attachment is a risk factor for the development of bullying behaviour or being a victim of bullying during adolescence (Koiv, 2012; Williams & Kennedy, 2012).

Although there is much research on attachment between mother and child, there is a growing body of research on father-child attachment. Father absence has been found to affect father-child attachment (Williams & Kelly, 2005). For example, Williams and Kelly found that fathers who did not live with their adolescent children were less involved in parenting behaviours than fathers who lived at home. Also, less secure attachment between adolescents and their fathers was reported by those not living with their fathers. Williams and Kelly also found that father-adolescent involvement and attachment were related to externalizing problems and behavioural problems at school.

The importance of father-child relationships, including attachment, are highlighted in studies of Saudi families with absent fathers (through divorce or death). These studies have found father absence to have a negative effect on the psychological well-being of children, including behavioural problems and bullying (AL-Aumar, 2008; Aldarmeki, 2001; Almuhareb, 2003; Alseef, 2008; Alsharfi, 2009). Father absence is a risk factor for children

and adolescents in polygamous families, especially for children of the first wife in Arabic contexts. Father absence plays a role in some behavioural problems such as aggression, addiction, and sexual behaviour problems among adolescents from polygamous families (AL-Samaree, 2002). Father absence is more likely to occur in polygamous marriages (AL-Krenawi & Graham, 1999; AL-Shamsi & Fulcher, 2005; Elbedour, Onwueghbuzie, Caridine, & Abu-Saad, 2002; Riaz, 1996). Thus children in polygamous families may lose the important role of the father in the upbringing of his children. Studies have shown a strong association between fathers' absence and mental health problems, delinquent behaviours, and academic failure for children and adolescents (AL-Muhareeb, 2003; Benjamin, 2003), and father's absence has negative effects on gender identity and social roles for the sons (AL-Sharfi, 2009; Hetherington, 1986). Many of the previous research studies found problems related to polygamous families, such as couple conflict, family conflict, and father absence which may affect attachment relationships.

Saudi society is patriarchal; a father is responsible for setting the moral and social standards for his children and the absence or inadequate role of any paternal authority in the home is evident in the behaviour of adolescents (AL-Khateep, 1981). Therefore, father absence is very important in this cultural context. Polygamous men often spend a lot of time away from the family or avoid their children's needs (AL-Shamsi & Fulcher, 2005). For example, AL-Seef (2008) suggested that polygamy is the first cause for divorce in Riyadh province as divorced women reported that they chose divorce because their ex-husbands did not care about them or their children after they married another woman. Father absence and lack of care for the children reported by AL-Seef (2008) may affect attachment relationships.

According to Bowlby's theory children develop Internal Working Models based on the quality of the attachment relationship they form with their parents (Bowlby, 1982). Internal Working Models are the basis on which children form their self-concept and feelings of self-worth, their interactions with people and their environment. Children who perceive that they have been neglected may develop poor internal working models of themselves which could cause them to suffer from low self-esteem, emotional and behavioural problems, and frustration at the caregivers' neglect (Almuhareb, 2003; Alsamaree, 2002). Children and adolescents in polygamous families may be more at risk from developing negative internal working models.

1.5 Developing and testing the postulated theoretical models

As discussed above, the polygynous family structure provides a different environment for development compared to the monogamous family structure. It carries many of the challenges and risks which could negatively affect children and adolescents' development. Because polygynous relationships are not practiced in all societies and not enough research has been found about its effects, this study will be a new addition to the research about this type of family structure in a particular society, which is Saudi society.

The hypotheses for this thesis were organised into a proposed model to explain the psychological effects of important features of family structure on Saudi adolescents. Theories that have influenced the development of the thesis are Bowlby's attachment theory and Bronfenbrenner's ecological theory, both of which can be applied across cultures. Other influences on the thesis are the previous research summarised in this chapter and reviewed in Chapter Two. Finally, the researcher's knowledge of the Saudi

culture and the researcher's experiences and observations as a school counsellor in Saudi Arabia have been a major influence.

The first feature of the proposed model is the family structure. Two types of family structure were compared; polygamy and monogamy. It is supposed that monogamous families represent a supportive context for children and adolescents' development. Bronfenbrenner (1994) claimed that two-parent families can be a suitable environment for development in childhood and adolescence when conditions of socioeconomic status and healthy parent-child relationship are stable. In contrast, 'non-traditional' families may present more development risks for children and adolescents (Evans, 2006). An important variable associated with family structure is parent availability and this has been related to positive developmental outcomes for the child (Evans, 2006). Also attachment theory stressed that effective family structure helps to create the secure attachment style toward the parents which leads to a balanced personality in later adult life (Constantine, 2006). Therefore, it can be assumed that Saudi polygamous families are more likely to have risk factors which affect family life such as father's absence, economic difficulties, and family conflicts which are expected to cause troubled parent-adolescent relationships, and thus adolescent development will be affected. Family structure is not a simple variable and it is associated with several demographic variables such as parent education, parent occupation, father availability, family size, position of wife, and income. So the proposed models will include demographic variables that are important for polygamous and monogamous families in Saudi culture.

An important feature of this thesis is the role of the parent-child relationship. Both attachment theory and Bronfenbrenner's PPCT theory emphasised the important role of

the parent-child relationship in social-emotional development (attachment theory) and in the process of development (PPCT theory). It is proposed that adolescents in polygamous families will have different perceptions of their relationships with their parents than adolescents in monogamous families. This will be measured through parental bonding. As discussed previously, parental bonding is concerned with the parents' contribution to the parent-child relationship as perceived and experienced by the child (Parker et al, 1979). Disruptive effects for parenting-adolescent bonding have been related to the prevalence of marital distress in polygamous families (Elbedour, Bart, & Hektner, 2007; AL-Krenawi & Slonim-Nevo, 2006). Conflict between wives, tension, and jealousy are types of interrelationships in such families which can disrupt the parent-adolescent relationship (Elbedour, Bart, & Hektner, 2003) and as result of the continued conflict adolescents have been found to be the scapegoat (Crosson-Tower, 1998). Therefore, adolescents' perceptions of their relationship with their parents and their experiences of care or neglect are expected to be different in monogamous and polygamous families. Also, experiences of the parent-adolescent relationship are expected to affect adolescent well-being. So the parent-adolescent relationship is seen as a mediator between family structure and adolescent well-being.

The dependent variables were chosen through the researcher's experience as counsellor in some Saudi schools where it was noted that adolescents who come from polygamous families had mental health problems such as symptoms of depression, also low self-esteem, and dissatisfaction with life, in addition to bullying behaviour. Also, many of the previous research studies have made links between polygamous marriage and developmental risks for children and adolescents. For example, considerable research has demonstrated the high occurrence of marital conflict in polygamous families (AL-Krenawi,

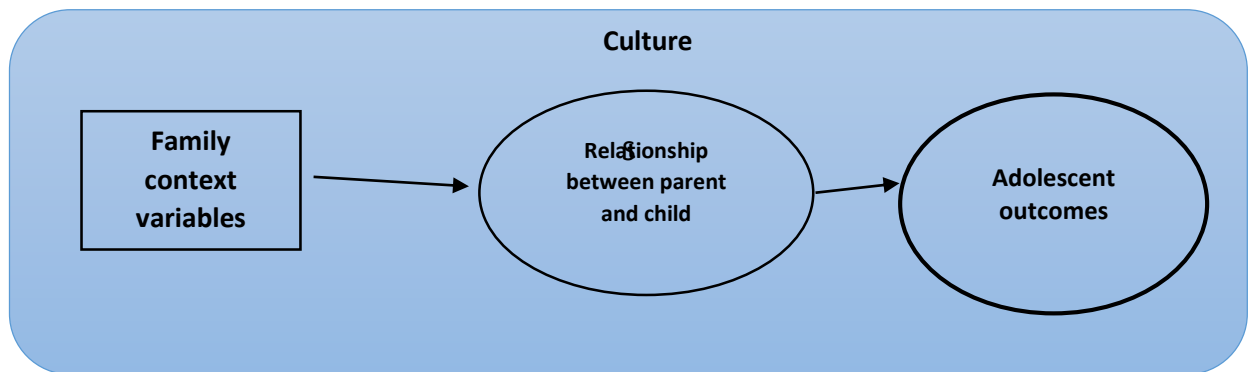
1998; Elbedour, Bart & Hektner, 2000) which leads to other problems such as violence between the individuals in the family, externalizing disorders for children and adolescents such as aggressive and antisocial behaviour (AL-Samraee, 2002; ElBedour, Onwueghbuzie, Caridine, & Abu-Saad, 2002). In previous studies there was not a complete consensus about the impact of polygamy on self-esteem and depression for adolescents and this will be discussed in more detail in Chapter Two. Also, marital distress is prevalent in polygamous families (Slonim-Nevo & AL-Krenawi, 2006; Elbedour, Elbedour, Bart, Hektner, 2007). Depression symptoms and suicidal thoughts were shown among adolescents who experienced marital distress between their parents (Katz & Gottman, 1993). So self-esteem, dissatisfaction with life and depression will be investigated alongside the mediating variable of parent-adolescent bonding. Also, in previous research, insecure parent-child relationships were found to be a risk factor for the development of bullying behaviour and being a victim of bullying during adolescence (Koiv, 2012; Williams & Kennedy, 2012) and bullying among adolescents from polygamous families had been observed in practice. Therefore, bullying and victimization of bullying were included as dependent variables. In summary, the dependent variables were measures of psychological well-being (positive and negative), that is self-esteem, satisfaction with life and depression, bullying and victimization.

A simple version of the proposed model is represented in Figure 2. Family structure provides a family context that can have negative or positive effects on development for the individuals as it impacts on the quality of parent-child relationship. For instance, dysfunctional family structure has negative effects on parent-child relationship and the developmental outcomes will be affected. So the parent-child relationship is seen to mediate the effects of family structure on adolescent outcomes. Also, the cultural aspect

plays a salient role for the type of family structure and the roles of the parents within the family. For example, polygamous relationship is a different type of family structure that changes the parents' roles and relationships between the members in the families that may carry positive or negative effects on children's development.

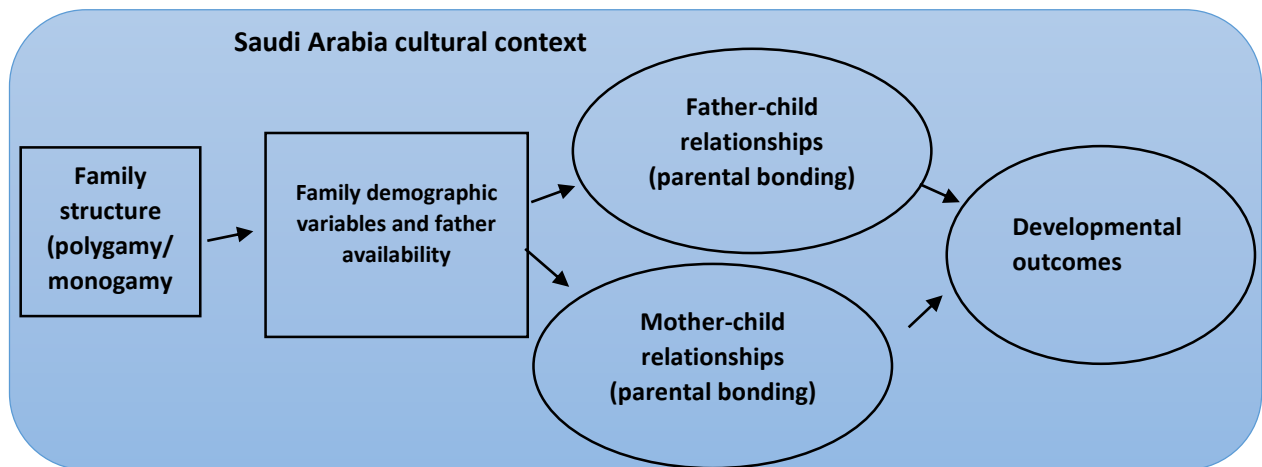
Figure 2

Representation of effects of family structure on adolescents (first version)



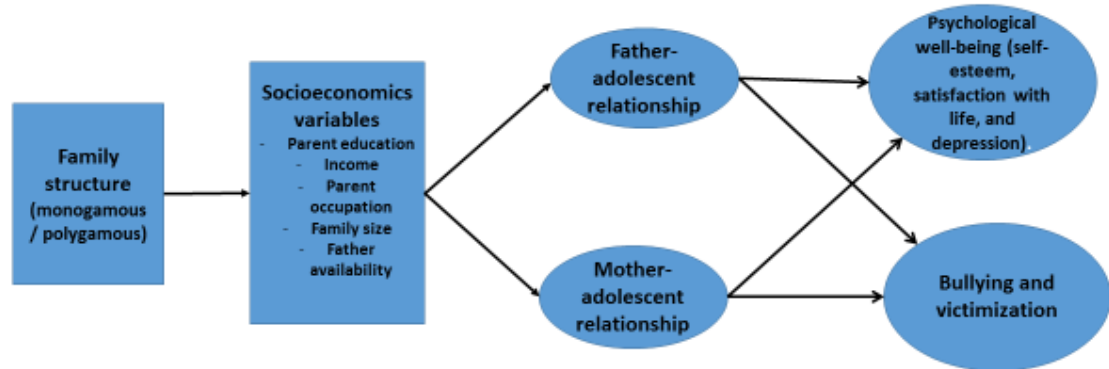
As discussed above, family structure is not a simple variable. It is associated with demographic variables and the availability of parents. In Saudi culture the role of the father is important and the availability of the father is reduced in polygamous families. The types of variables associated with family structure and the role of father availability are shown in Figure 3. Also, Figure 3 conceptualises the parent-adolescent relationship in terms of parental bonding (drawing on attachment theory).

Figure 3: Representation of the effects of family structure on adolescents (second version)



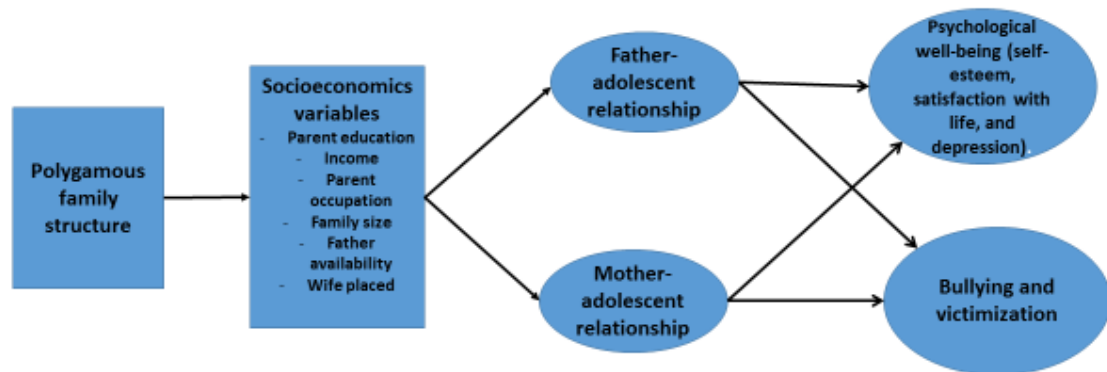
As the role of the father in Saudi culture is important and the research on parent-child relationships has investigated mother-child relationships separate to father-child relationships (see sections 1.3 and 1.4), so the father-adolescent relationship and mother-adolescent relationship were separated in the proposed model. This is shown in Figure 4 and Figure 5. Through the literature review, the socioeconomic variables were chosen from the previous research that had addressed those variables in the societies that have practiced polygamy. The research had included parent education, parent occupation, father availability, family size, position of wife, and income. For the current study, the models included all these socioeconomic variables which have expected effects on the parent-adolescent relationship within polygamous and monogamous families in Saudi society. The mediating variable is parent-adolescent bonding and psychological well-being with bullying and victimization are the dependent variables. The final theoretical models were designed as follows:

Figure 4: the model for adolescents from polygamous and monogamous families



An important variable that is present in polygamous families but not in monogamous families is the position of the wife in the marriage, that is, whether she is the first wife, second wife or a later wife. In the Saudi cultural context, the first wife loses status and the husband's attention when a second or third wife enters the polygamous marriage. Therefore, a different model was proposed for polygamous families that included the place of the wife in the family (shown as 'wife placed'). This is shown in Figure 5.

Figure 5: the model for adolescents from polygamous families.



1.6 Aims of the study

Polygamous family structure needs more thorough investigation about its impact on children and adolescents. This project is considered an important step in the research on the polygamous family structure that operates in Saudi Arabian society. The overarching aim of this study is to investigate the effects of polygamy on adolescents in Saudi Arabia by comparing adolescents from polygamous and monogamous families. The main variables of interest are parental bonding, psychological well-being, depression, bullying, and victimization. It is suggested that differences between adolescents from monogamous and polygamous marriages can be explained by parental bonding and the quality of the parent-adolescents relationship. Therefore, it is expected that parental bonding will serve as a mediating variable.

Five studies were conducted to reach the final models which provide explanations for the effects of polygamy on Saudi adolescents. Each study contains particular aims and hypotheses, also each study develops from the previous study.

The first study aimed to establish the suitability of the instruments for use with Saudi adolescents and to find out whether there were significant differences between adolescents from polygamous and monogamous families in the dependent variables (self-esteem, satisfaction with life, depression, bullying, and victimization).

The second study focussed on finding a culturally suitable measure of the parent-adolescent relationship. Before testing out the differences between polygamous and monogamous families in the quality of parent-adolescent relationship, the researcher conducted the validation for the Parental Bonding Instrument for the Saudi society because there is no available PBI Arabic version. Therefore, the aim of the second study was to provide a suitable instrument to assess the nature of parental-adolescent relationships for the study sample.

In the third study, the validated PBI was used to identify whether there were significant differences between adolescents from polygamous and monogamous families in the parent bonding variable using the care subscale. Also, gender and age differences were investigated for parental bonding and the dependent variables.

The aim of the fourth study was to investigate differences between the two types of family structure in demographic variables, parental bonding, and the dependent variables. Another important aim was to test the theoretical models for this project of the proposed relationships between the variables.

The aim of the fifth study was to investigate the aspects that were not assessed by the previous studies. The qualitative method was used in this study to extract more details and deeper information about the impact the polygamous family structure using qualitative analysis of interviews.

The following points summarise the aims of the studies (chapters) of this thesis:

Study 1

(1) Assess the suitability of the research instruments for the sample.

(2) Investigate differences between the participants from the two types of family structure (polygamy and monogamy) in the following variables: demographic variables (parental education, parental income, parental employment, number of siblings, father availability), psychological well-being (self-esteem, satisfaction with life), depression, and bullying.

Study 2

(1) Validation of Parental Bonding Instrument (Parker, Tupling, & Brown, 1979), to Arabic version.

Study 3

(1) Investigate the differences between the participants from polygamous and monogamous families in parental-adolescents bonding by using the parental bonding instrument (PBI) after it was validated on Saudi adolescents.

(2) Investigate gender differences in parental bonding and the dependent variables (self-esteem, satisfaction with life, depression, bullying, and victimization).

(3) Investigate differences between younger and older adolescents in parental bonding and the dependant variables (self-esteem, satisfaction with life, depression, bullying, and victimization).

Study 4

(1) Investigate the differences between polygamous and monogamous families in demographic variables (parent education, parent occupation, father availability, income, number of siblings, family size).

(2) Investigate differences between the polygamous and monogamous families in parent-adolescent bonding.

(3) Investigate the differences between polygamous and monogamous families in the dependent variables (self-esteem, satisfaction with life, depression, bullying and victimization).

(4) Test the models of the study for polygamous and monogamous families combined and separately.

Study 5

(1) Conduct interviews with adolescents, counsellors and teachers. Interviews will allow the adolescents from polygamous families to talk about their lived experiences of being a son or daughter in a polygamous family. Also, information from other sources such as counsellors and teachers will make the data more comprehensive.

(2) Identify the academic achievement of adolescents from polygamous and monogamous families through the interviews with teachers and counsellors in the schools.

1.7 Hypotheses

The study attempted to test the following hypotheses:

- (1) There will be significant differences between the adolescents of monogamous and polygamous marriages in the quality of the father-adolescent relationship.
- (2) There will be significant differences between the adolescents of monogamous and polygamous marriages in the quality of the mother-adolescent relationship.
- (3) There will be significant differences between the adolescents of monogamous and polygamous marriages in psychological well-being (e.g., self-esteem, satisfaction with life).
- (4) There will be significant differences between the adolescents of monogamous and polygamous marriages in rates of depression.
- (5) There will be significant differences between the adolescents of monogamous and polygamous marriages in bullying behaviour and victimisation.
- (6) The quality of the adolescent-father relationship will predict adolescent well-being, depression, bullying behaviour and victimization.
- (7) The quality of the adolescent-mother relationship will predict adolescent well-being, depression, bullying behaviour and victimization.
- (8) The parent-adolescent relationship will mediate between the effects of demographic variables related to family structure and adolescent outcomes.

1.8 Importance and originality of the research

The importance of the study comes through the following contributions.

- (1) It is the first study to investigate the effects of polygamous family structure on adolescents in Saudi society.
- (2) The results of this study will provide important information about the impact of polygamous family structure on adolescent's mental health in Saudi society.
- (3) The study will investigate the impact of polygamous relationships on adolescents through several aspects (parental-adolescent bonding, psychological well-being, bullying behaviour and academic achievement).
- (4) It is the first study to investigate the effect of polygamous families on bullying/victimization among adolescents (boys and girls).
- (5) It is the first study to validate the use of the parental bonding instrument for adolescents in Saudi Arabia.

The following chapters of the thesis will illustrate the scientific steps which have been taken to investigate the effect of family structure on adolescents, and it will start with a systematic review chapter that evaluates previous research on the effects of polygamous family structures on children and adolescents.

Chapter Two

Systematic review of previous research

2.1 Introduction

The focus of this review is on the most common form of plural marriage, polygyny – i.e. one husband with more than one wife. Most research on polygyny has focussed on the adults rather than the children in the family, particularly the wives. Research on the effects of polygyny on women has found detrimental effects on the mental health of wives (Abbo et al., 2008; Al-Krenawi & Graham, 2006; Shepard, 2013). Also, limited research on husbands in polygynous marriages has found that polygyny can be detrimental to husbands (Al-Krenawi, Slonim-Nevo, & Graham, 2006). As outlined in Chapter 1, research and reviews on children in polygynous families have hypothesized that family structure is important for child and adolescent development (Berk, 2010; Bowlby, 1969/1982; Rosen, 2016). Among the various family structures experienced by children, polygynous family structures have received less research attention from psychologists. Some researchers have emphasized the potential benefits to children in large polygynous families, such as the availability of numerous role models (Swanson, Massey, & Payne, 1972; Valsiner, 1989). Others have reported large variations in children's experiences, both positive and negative (Kilbride & Kilbride, 1990; Valsiner, 2000). However, much of the research has identified negative outcomes for children, including academic as well as psychological outcomes, such as internalizing problems, externalizing problems, and mental health problems (Al-Krenawi,

Graham, & Slonim-Nevo, 2002; Al-Krenawi & Slonim-Nevo, 2008; Al-Shamsi & Fulcher, 2005; Elbedour, Onwuegbuzie, & Alatamin, 2003).

This chapter presents a systematic review of recent available evidence that has been published over a period of twenty-two years. A systematic review method was used because it minimizes reviewer bias. In comparison to more traditional review methods, the systematic review method is used to identify research studies systematically according to a set of criteria. It has become a distinguished approach for many scientists and researchers in preference to the traditional reviews and commentaries because it uses formulated questions, identifies relevant studies, appraises their quality and summarizes the evidence by use of explicit methodology (Khan, Kunz, Kleijnen, & Antes, 2003).

Although there have been systematic reviews of the effects of polygyny on women (Shepard, 2013) and a comprehensive review on the effects of polygamy on children (Elbedour et al., 2002), there is a lack of systematic reviews of primary research that focusses on the effects of polygyny on child development. The objective of this chapter was to carry out a systematic review and critically examine studies on the effects of polygyny on children and adolescents.

2.2 Method

Procedures for systematic reviews were followed as outlined by Booth, Papaioannou, and Sutton (2012), Gough, Oliver, and Thomas (2012) and the Evidence for Policy and Practice Information and Coordinating Centre (2007, retrieved May 2014).

2.2.1 Information sources and search strategy

The search strategy involved finding relevant articles published between 1994 and 2016. The following search limiters were set; date published (1994–2016), source type (academic journals) and language (English). Electronic databases relevant to the topic were searched, including African Journals Online, Applied Social Sciences Index and Abstracts (ASSIA), BioMed Central, also PsychArticles and PsychInfo (through EBSCO). Keywords used were ‘polygamy’, ‘polygyny’, ‘child’, ‘children’, ‘adolescent’, ‘adolescence’. Terms were used singly and in combination. Also, authors known to have published relevant papers were searched through electronic networks for academics and electronic search engines. Hand searches of the reference lists of key articles were searched for additional papers.

2.2.2 Inclusion and exclusion criteria

Peer review was used as minimum quality criteria, so only peer-reviewed academic papers were included. Consequently, books, theses, conference papers and unpublished papers were not included. Papers were included for full screening if they met the following criteria: the research must include polygynous families and/or polygynous marriages where there is one husband and multiple wives, the research should report on children and/or adolescents aged 18 years and younger. Data obtained from children and adolescents or data about children and adolescents (reported by significant adults such as parents or teachers) should be reported independently or be extractable. Papers should be written in the English language and published between 1994 and 2016. Also, research methods used in the research papers should be focussed on psychological variables, primary data collection using quantitative methods and/or qualitative methods, comparative studies

that used family type/family structure as an 'independent' variable. Exclusion criteria were as follows: studies of wives or husbands only (not including children), studies of adults (older than 18 years), secondary data analysis, papers not including psychological variables (i.e. child growth, child mortality rates, etc.), papers that did not include comparisons between family types, review papers, papers published before 1994, papers not in English.

2.2.3 Study selection

Initial searches yielded 111 abstracts for potential review. Duplicates were removed. After reading through the abstracts for inclusion criteria and visually scanning the method and results sections for evidence of extractable data about children or adolescents in polygynous families, the number of papers remaining for reading was 19. Additional searches of electronic networks, search engines and hand searches of reference lists by the author yielded a further three articles. Four papers were excluded due to insufficient information about the sample, research design or procedures. Five papers were removed because they did not include a comparison between polygynous families and other family types (e.g. monogamy, polyandry). A total of 13 papers were reviewed. Initial searches, inclusion and exclusion decisions were carried out by the researcher independently and the supervisors independently checked the research.

2.2.4 Data extraction

The following information was extracted from papers selected for review and entered into a spreadsheet: author, publication date, country or culture of the sample,

research design, participant information (e.g, gender, age range, parental education, income and employment), sample size, data collection tool used (e.g, questionnaire, interview schedule, clinical test, etc.), dependent variables measured, and main findings.

For this review, the quality assessment and risk of bias focussed on the relevance of methods to the culture, including the psychometric properties reported. It was noted the type of translation reported in cases of research using psychological tests and instruments that were not developed locally, for example whether back-translation was used. Also, it was noted the controls included in the research design and the limitations of the research.

2.3 Results

A total of 13 studies were reviewed. All of the studies included in the review compared polygynous families with monogamous families using quantitative methods and inferential statistical analyses.

2.3.1 Cultural context and demographic variables

Research included in the review was conducted in a limited range of countries and cultures (see Table 2.1). The most frequently occurring culture was Bedouin-Arab and Arab Muslim (n=10). Others were United Arab Emirates (n=1), South Africa (n=1) and Nigeria (n=1). The age range of children was between 6 and 18 years. All of the papers included males and females in the sample.

Although the majority of the studies provided some background information about the cultural and economic context of polygyny for the study population, information about the specific sample was not always reported. Comparisons between parental education and income or employment were carried out in 7 of the 13 studies. Statistically significant differences for fathers' education were found in 5 studies, with lower levels and/or fewer years of education found for polygynous fathers than monogamous fathers (Al-Krenawi et al., 2002; Al-Krenawi & Lightman, 2000; Al-Krenawi & Slonim-Nevo, 2008; Elbedour, Bart et al., 2003; Hamdan et al., 2009). Two studies found no significant differences in fathers' education between polygynous and monogamous families (Bamgbade & Saloviita, 2014; Elbedour, Hektner et al., 2003). The remaining six papers did not report the fathers' education history separately.

Maternal education was reported as being lower level and/or fewer years in monogamous than polygynous families in three studies (Al-Krenawi et al., 2002; Al-Krenawi & Slonim-Nevo, 2008; Hamdan et al., 2009). One paper reported that none of the mothers had attended school (Al-Krenawi & Lightman, 2000). The remaining nine papers did not report the mother's education.

Three studies reported that family income and/or parental employment was lower in polygynous than monogamous families (Al-Krenawi et al., 2002; Al-Krenawi & Slonim-Nevo, 2008; Hamdan et al., 2009), two reported no differences in the range of occupations (Al-Krenawi & Lightman, 2000; Bamgbade & Saloviita, 2014) and the remaining eight papers did not report extractable information to compare family income/occupation. This lack of consistency in reports of parental education and income creates difficulties for proposing these as influential variables for child and adolescent outcomes.

Table 2.1. Comparisons between polygynous and monogamous families: authors, cultural settings, participant characteristics and sample size.

Authors and cultural setting	Participant characteristics and sample size
Al-Krenawi, Graham, and Ben-Shimol-Jacobsen (2006), Bedouin Arab (Negev, Israel).	145 school students (mean age=17 years), 57 'older' participants (mean age=61.3 years), 68 participants from polygynous families.
Al-Krenawi et al. (2002), Arab Muslim (Israel)	19 from first of 2 wives in polygynous families (mean age 12.79 years); 82 from monogamous families (mean age 13.01 years).
Al-Krenawi and Lightman (2000) Bedouin Arab (Negev)	73 children from senior of 2 wives in polygynous families, 73 children from monogamous families, age 8–9 years.
Al-Krenawi and Slomin-Nevo (2008) Bedouin Arab (Negev, Israel)	178 of first of 2 wives in polygynous families, 174 from monogamous families, age range 13–15 years.
Bamgbade and Saloviita (2014) Nigeria (Yoruba, Igbo, Hausa)	50 children from polygynous families, 156 from monogamous families, 12–15 years.
Cherian (1994) South Africa, Xhosa	114 children from polygynous families, 881 children from monogamous families, age 13–17 years.

Eapen, Al-Gazali, Bin-Othman, and Abou-Saleh (1998) United Arab Emirates	199 children from polygynous and monogamous families (numbers of each not specified), mean age 9.9 years, age range 6–15 years.
Elbedour, Bart, and Hektner (2000) Bedouin Arab (Negev)	95 adolescents from polygynous families, 140 from monogamous families, age not reported, school grades 10–12.
Elbedour, Bart, and Hektner (2003) Bedouin Arab	84 from monogamous families, 114 from polygynous families (number of wives ranged from 2 to 4), mean age 15.9 years.
Elbedour, Bart, and Hektner (2007) Bedouin Arab (Negev, Israel)	Study 1=210 respondents; 114 from polygynous families and 96 monogamous families, mean age=15.9 years. Study 2=182 respondents; 68 from polygynous and 114 from monogamous families, age 13.5–18.5 years
Elbedour, Hektner et al. (2003) Bedouin Arab (Negev, Israel)	129 respondents from monogamous families and 83 from polygynous families (2 wives), age not reported, school grades 10–12.
Elbedour, Onwuegbuzie et al. (2003) Bedouin Arab (Negev, Israel)	102 children from polygynous families (2 wives) and 153 from monogamous families, age range 8–13 years, mode=9 years,

Hamdan, Auerbach, and Apter (2009) Bedouin Arab (Negev, Israel)	239 adolescents from polygynous families, 219 adolescents from monogamous families, age 11–18 years.
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2.3.2 Dependent variables

The research papers included in the review investigated a wide range of dependent variables. The dependent variables and the number of studies using each of them was as follows: psychological health and well-being (i.e. mental health symptoms, externalizing problems, internalizing problems, self-esteem), $n=7$ (reported in six papers); academic/educational achievement, $n=7$; and a range of other variables including attitudes towards polygyny ($n=1$), family function/dysfunction ($n=2$), school adjustment ($n=1$), family conflicts ($n=1$), social functioning ($n=1$), father–child relationship ($n=1$), mother–child relationship ($n=1$), corporal punishment ($n=1$), learning disorder ($n=1$), intelligence ($n=1$), family cohesion ($n=1$), exposure to violent events ($n=1$), parent–adolescent conflict ($n=1$). Overall, the most frequently measured dependent variables were those concerned with psychological health/well-being and academic achievement.

2.3.3 Psychological health and well-being outcomes

As can be seen in Table 2.2 children and adolescents from polygynous families had higher levels on a range of psychopathological symptoms than those from monogamous

families in five papers (Al-Krenawi et al., 2002; Al-Krenawi & Slonim-Nevo, 2008; Eapen et al., 1998; Elbedour et al., 2003 2007). This included 'mental health problems', obsessive compulsive symptoms (two studies), paranoid ideation (two studies), depression (two studies), hostility, phobic anxiety, psychoticism, acute affective disorders, externalizing problems, social difficulties, attention problems, and delinquent problems. These symptoms were associated with other variables in three studies: family dysfunction, lower family cohesion and violence in the home. These were reported in Al-Krenawi et al. (2002) and two studies in Elbedour et al. (2007). The number of wives in polygynous families may be important. Children from families with three or four wives (but not two wives) differed from those from monogamous families in the only paper to examine this factor (Elbedour et al., 2007).

However, children and adolescents from monogamous and polygynous families did not differ on 'internalizing problems' (two studies), anxiety (five studies), hostility (two studies) and teacher reports of problem behaviours (Al-Krenawi et al., 2002; Al-Krenawi & Slonim-Nevo, 2008; Elbedour et al., 2003, 2007; Hamdan et al., 2009). Conflicting results were found for depression, with two studies reporting significantly higher levels of depression for young people from polygynous families (Al-Krenawi et al., 2002; Al-Krenawi & Slonim-Nevo, 2008) and two studies reporting no significant differences (Elbedour et al., 2003; Hamdan et al., 2009). Also, conflicting results were found for self-esteem.

Table 2.2. Comparisons between polygynous (P) and monogamous (M) families for mental health variables.

Author	Dependent variables	Main significant findings	Main non-significant findings
Al-Krenawi et al. (2002)	Self-esteem (Rosenberg SE scale, alpha=0.50), mental health symptoms (Brief Symptom Inventory, alpha= 0.77). All tests translated from English to Arabic, back translation not specified.	Respondents from P families had lower self-esteem scores, higher scores for obsessive compulsive symptoms, depression, paranoid ideation and interpersonal sensitivity (all $p<0.05$). The strongest predictor of mental health was family functioning ($p<0.001$). Respondents from P families reported more mental health problems ($p<0.001$), including	No statistically significant differences for General Severity Index, anxiety, hostility, phobic anxiety and psychoticism.
Al-Krenawi and SlominNevo (2008)	Self-esteem (Rosenberg SE scale, alpha=0.81), mental health symptoms (Brief Symptom Inventory, alpha= 0.94). Back-translation used for all instruments.	depression, somatization, and hostility (all $p<0.01$), obsession compulsion, interpersonal sensitivity, phobic anxiety (panic) and psychoticism (all $p<0.001$), and paranoid ideation ($p<0.05$) than those from M families. Significant correlation between DSM-IV disorders	No statistically significant differences found for self-esteem and anxiety.

		(not individually specified)	
		requiring treatment and polygamy ($p<.05$).	
Eapen et al. (1998)	Mood, anxiety, disruptive, conduct, attention, elimination and other disorders (clinical interviews using K-SADS-P following initial screening, reliability and validity for sample not reported). Clinical interviews conducted by local child psychiatrists. Translation not reported.	Adolescents from M families reported lower levels of psychopathological symptoms than adolescents from families with three or four wives, but not those with two wives ($p<0.05$, small effect size).	No statistically significant differences between adolescents from polygynous and monogamous families in self-esteem, anxiety, depression and hostility.
Elbedour et al. (2007)	Self-esteem (Arabic version of Coppersmith SE Inventory, $\alpha=0.69$), mental health: general, anxiety, depression, hostility (Derogates Symptom Checklist, $\alpha=0.72-0.97$; What I Think and Feel ($\alpha=0.91$). Teacher reports of problem behaviours (Achenbach Child Behaviour Checklist, $\alpha=0.58-0.80$).	Family cohesion was significantly associated with more symptoms for adolescents from P than M families ($p<0.01$). Violence in the home was negatively correlated with self-esteem ($p<0.05$) and positively correlated with all psychopathology scales for the P group only ($p<0.01$).	No difference between groups in the relationship between parental education level and symptoms. No statistically significant differences between adolescents from polygynous and monogamous families in teacher reports of problem behaviours and anxiety.

Elbedour et al. (2003)	<p>Back-translation used for all instruments, local professional psychologists checked the cultural validity of the instruments, cultural validity of the instruments described Internalizing behaviours problems: withdrawn, somatic complaints, anxious/depressed. Externalizing behavioural problems: delinquency, aggression, attention problems (Teacher's report form from Achenbach Child Behaviour Checklist, alpha=0.88 for internalizing behaviours, alpha =0.94 for externalizing behaviours). Back-translation used and standardized for use with Bedouin-Arab children.</p> <p>Self-reported behavioural</p>	<p>Higher levels of externalizing problems found in two-wife families than one-wife families ($p<0.001$), although below the clinical range. The more externalizing problems displayed, the more likely the child was to come from a two-wife family ($p<0.01$). Higher levels of attention problems and delinquent problems (both $p<0.001$) in two-wife than one-wife families, although below the clinical range. The more attention problems displayed, the more likely the child was to have come from a two-wife family ($p<0.05$).</p>	<p>No significant differences between children from two-wife and monogamous families in internalizing problems.</p>
Hamdan et al. (2009)	<p>problems (Achenbach Youth Self-Report, alpha=0.91).</p>		<p>No significant differences between adolescents from polygynous and monogamous families for</p>

Anxiety (Revised Children's Manifest Anxiety Scale (alpha =0.88), Depression (Children's Depression Inventory, alpha= 0.82). Back-translation used for all instruments.	any of the dependent variables.
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Adolescents from polygynous families were found to have lower self-esteem than those from monogamous families in one study (Al-Krenawi et al., 2002) and no differences were found in two studies (Al-Krenawi & Slomin-Nevo, 2008; Elbedour et al., 2007).

In summary, there were more statistically non-significant (n=22) than significant differences (n=17) between young people from polygynous and monogamous families reported. However, the differences found were all in the same direction, showing more mental health problems experienced by young people from polygynous families than monogamous families. None of the papers included in the review found more mental health problems experienced by young people from monogamous families when compared to those from polygynous families.

2.3.4 Academic/educational achievement

Table 3.3 shows that academic achievement as measured by examination results or school reports was found to be lower among children from polygynous families than monogamous families in three of the seven studies reporting on this variable (Al-Krenawi & Lightman, 2000; Al-Krenawi & Slomin-Nevo, 2008; Elbedour et al., 2003). This only affected adolescent girls with three or four mothers in one study (Elbedour et al., 2000). Also, no statistically significant differences were found for self-reported academic achievement. Children from polygynous families self-reported lower understanding of academic subjects than those from monogamous families in Bamgbade and Salvia's (2014) research. Cherian's (1994) research reported that corporal punishment negatively affected the academic achievement of children from polygynous and monogamous homes equally, except for girls from polygynous homes.

Table 2.3. Comparisons between polygynous (P) and monogamous (M) families for intelligence, academic achievement, learning disorders.

Authors	Dependent variables	Main significant findings	Main non-significant findings
Al-Krenawi et al. (2002)	Self-reported academic achievement, tna.		No statistically significant differences between children from P and M family
Al-Krenawi and Lightman (2000)	Achievement scores in four school subjects, tna.	Children from M families scored higher than children from P families ($p < 0.01$).	
Al-Krenawi and Slomin-Nevo (2008)	Academic achievement in four school subjects, tna.	Adolescents from P families had poorer school achievement than those from M families ($p < 0.05$).	
Bamgbade and Saloviita (2014)	Academic achievement in national examinations, self-reported difficulties in understanding Mathematics and English, tna.	Children from families reported more difficulties in understanding Maths ($p = 0.001$) and English ($p = 0.037$).	No statistically significant differences in national examination results.

Cherian (1994)	Academic achievement in Department of Education examinations, tna.	Academic achievement of boys in P families were negatively affected by corporal punishment ($p < 0.01$), boys and girls in M families were negatively affected by corporal punishment ($p < 0.01$).	
Eapen et al (1998)	Learning disorders (clinical interviews, tna).		No statistically significant effect of polygamy on learning disorders.
Elbedour et al. (2000)	Achievement scores in four school subjects, alpha=0.75, tna.	Significant interaction between adolescent gender and number of mothers – girls with three or four mothers had the lowest mean score and boys who lived with three or four mothers had the highest mean score ($p < 0.01$) in one school subject.	
Elbedour et al. (2003)	Intelligence (Shortened version of Raven's progressive Matrices, spilt half reliability=0.84, translation not reported).	Respondents from families with two wives had significantly lower intelligence scores than all	No statistically significant differences for teacher ratings

		other respondents ($p < 0.05$).
Elbedour et al. (2003)	Educational achievement in 10 school subjects, tna. Teacher ratings, tna.	Lower overall academic achievement in two-wife families than one-wife families ($p < 0.01$).

tna=translation not applicable

2.3.5 Learning disorder and intelligence

Two studies considered the effects of polygyny on learning disorder and intelligence (Eapen et al., 1998; Elbedour et al., 2003). No statistically significant differences were found between children from polygynous and monogamous households in learning disorder or intelligence (Table 3). However, adolescents from two-wife families had significantly lower intelligence scores than those from three- or four-wife families and those from one-wife families. This was explained by the significantly lower level of fathers' education in this group (Elbedour et al., 2003).

2.3.6 Social problems

Differences were found between young people from polygynous and monogamous families on a range of social problems (see Table 2.4). Compared to adolescents from monogamous

Table 2.4. Comparisons between polygynous (P) and monogamous (M) families for social variables and social problems.

Authors	Dependent variables	Main significant findings	Main non-significant findings
Al-Krenawi et al (2006)	Attitudes towards polygamy (designed and administered in participants' language, alpha= 0.97).	Participants from monogamous families had more positive attitudes towards polygamy than those from P families ($p<0.01$).	
Al-Krenawi et al (2002)	Family functioning/dysfunction (McMaster Family Assessment Device, alpha=0.63, test–retest reliability good, validity good when compared to other measures, back-translation not specified).	Children from polygamous families had higher level of family dysfunction than children from monogamous families($p<0.05$).	
Al-Krenawi and Lightman (2000)	Social adjustment in school (Adjustment to School System questionnaire, translated in consultation with school teachers, good face validity).	Children from polygamous families scored lower than children from M families on adjustment to the school system($p=0.013$) and to the society of other children ($p <0.004$).	No statistically significant differences found between groups on measures of adjustment to class norms. No differences between groups on conflicts between children and

			parents or between parents.
Al-Krenawi and SlominNevo (2008)	Family conflicts (Family Conflict Questionnaire, translation not applicable, good face validity).	children from P families reported more conflicts with their siblings than children from M families ($p < 0.01$).	No differences found for relationships with their mother.
Elbedour et al. (2007)	Relationships with friends (back translation, $\alpha = 0.89$). Family functioning (McMaster Family Functioning, back translation). Father-child relationship ($\alpha = 0.71$, back-translation used). Mother-child relationship ($\alpha = 0.84$, back-translation used).	Adolescents from P families reported poorer relationships with friends than those from M families ($p < 0.01$), poorer family functioning ($p < 0.01$), poorer relationships with their father ($p < 0.001$).	
	Family cohesion (Cohesion subscale of Moos Family Environment Scale, $\alpha = 0.63$, back-translation). Exposure to violent events (Assessment of Children's Exposure to Violent Events, $\alpha = 0.80-0.84$, back-translation used).	Adolescents from M families reported higher perceptions of family cohesion ($p < 0.01$) and more violence in their schools ($p < 0.01$) than adolescents from P families.	

Elbedour et al. (2003)	Parents adolescents conflict.	No significant differences in number of conflicts or conflict management style between respondents from P and M families.
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families, adolescents from polygynous families reported higher levels of family dysfunction (Al-Krenawi et al., 2002; Al-Krenawi & Slonim-Nevo, 2008), lower family cohesion (Elbedour et al., 2007), worse relationships with their father (Al-Krenawi & Slonim-Nevo, 2008), more sibling conflicts (Al-Krenawi & Lightman, 2000), worse relationships with friends (Al-Krenawi & Slonim-Nevo, 2008) poorer adjustment to the school system and to the society of other children (Al-Krenawi & Lightman, 2000). No differences were found in adjustment to classroom norms, conflict management style, conflicts between children and parents (Al-Krenawi & Lightman, 2000; Elbedour et al., 2003) or conflicts between parents (Al-Krenawi & Lightman, 2000). Also, young people from monogamous families reported that they experienced more violence in school (Elbedour et al., 2007) and held more positive attitudes towards polygyny than those from polygynous families (Al-Krenawi et al., 2006). In summary, there were more problem areas for participants from polygynous families than monogamous families; however, there were several similarities.

2.3.7 Mediating variables

Although parental income and education were identified as important and potential mediating variables by studies included in this review, only five studies investigated potentially confounding variables and mediating variables directly. For example, Al-Krenawi, Graham, & Slonim-Nevo. (2002) investigated the role of father's education, socioeconomic status and family functioning associated with polygyny using Multivariate Analysis of Variance (MANOVA) and regression analysis. They found that polygyny affected their participants' mental health indirectly through its association with father's education and socioeconomic status. Also, they reported that family functioning was the best predictor of mental health for their sample of adolescents. Using regression analysis, Al-Krenawi and Slonim-Nevo (2008) found that family function mediated the effects of family structure on children's peer relations, self-esteem, and mental health. They suggested that polygyny in itself is not detrimental to children, but what is important is how well-functioning the family is. Also, they found that economic status was a significant predictor of both family functioning and children's mental health; children fared better in polygynous families whose economic status was good.

Elbedour et al. (2000) found gender differences in academic achievement of children from polygynous families—with boys scoring higher than girls in one of the four academic subjects they tested. Elbedour et al. (2003) found no significant effects of family structure, parental sanguinity and father's education on adolescents' intelligence scores. However, when they calculated the cumulative effects of the risk factors of family structure, parental relatedness and father's education, they found a significant correlation

between these risk factors and intelligence scores. Adolescents with all three risk factors had lower scores than those with zero, one or two risk factors. This implies that it is only when polygyny was combined with low levels of parental education and closer relatedness between parents that the detrimental effects were seen on intelligence scores. Elbedour et al. (2007) found that family cohesion and violence in the home were correlated with more mental health variables for adolescents from polygynous than monogamous families.

2.3.8 Quality assessment

Quality characteristics of the comparison studies can be found in Tables 2–4. The majority of studies (n=8) used previously published psychological measures that were originally devised for use in other cultural settings. Authors reported psychometric properties relevant to the sample (such as internal consistency) in seven of these eight studies. Also, evidence of cultural relevance and/or validity reported in previous published research was highlighted in three of these studies. In three studies, at least one of the instruments had been designed by the authors for the specific sample being studied; psychometric properties reported included face validity and internal consistency. In the studies that used pre-existing measures originally designed in other languages, back-translation was clearly specified in four studies. In two studies, the process of translation was carefully described but it was not stated clearly whether back-translation had been used. In the remaining two studies, the process of translation was not reported.

Sampling biases and limitations discussed by the authors included in this review were as follows. Random selection of participants was difficult in these studies because of the requirement for a specific type of sample; hence sampling of participants varied across

studies, including random sampling from all high schools in the area (Elbedour et al., 2000), random sampling (Al-Krenawi & Slonim-Nevo, 2008; Elbedour et al., 2003, 2007) stratified random sampling (Cherian, 1994; Eapen et al., 1998), random selection of schools only (Al-Krenawi & Lightman, 2000; Elbedour et al., 2000), random selection of school classes (Bamgbade & Saloviita, 2014) and convenience sampling (Al-Krenawi et al., 2002, 2006; Elbedour et al., 2003; Hamdan et al., 2009). Variables that were controlled or included as an independent variable included the number of wives in polygynous families and the position of the respondent in the family (e.g. child of the first wife) (Al-Krenawi et al., 2002; Al-Krenawi & Lightman, 2000; Al-Krenawi & Slonim-Nevo, 2008; Elbedour et al., 2003, 2007; Hamdan et al., 2009).

2.4 Discussion

Most of the research included in this review supports the view that polygyny has detrimental effects on children and adolescents. When compared to children from monogamous families, children or adolescents from polygynous families had a variety of problems such as mental health disorders, scholastic difficulties and social problems. However, there were several similarities found, including self-esteem, anxiety, depression, hostility, teacher reports of problem behaviours, learning disorders. None of the studies included in this review reported benefits of polygyny for children and only one study found more negative outcomes for children from monogamous families. This is in contrast to earlier research (e.g. Owuamanam, 1984; Swanson et al., 1972), not included in this review, that suggested potential benefits of polygyny to children's social functioning.

Several studies in this review reported that socioeconomic status in polygynous families tended to be lower than in monogamous families as indicated by parental education, parental income and parental employment. In these studies, father's educational and income levels were seen as factors that predispose men to marry more than one wife, consequently compounding the economic strains on the family (e.g. Al-Krenawi & Slonim-Nevo, 2008; Al-Krenawi et al., 2002). Lower levels of parental education, employment and income can be seen as indicators of financial stress which in itself can have detrimental effects on children's well-being in monogamous as well as polygynous families (Duncan & BrooksGunn, 2000; Elbedour et al., 2002). However, few researchers investigated these potential mediating variables. Those that did investigate mediating variables found that polygyny had an indirect effect on children's outcomes through the mediating variable of family economic status and that children's outcomes were improved in polygynous families whose economic status was good (Al-Krenawi et al., 2002; Al-Krenawi & Slonim-Nevo, 2008). The role of socioeconomic status in relation to the negative effects of polygyny on children and adolescents needs further investigation.

Elbedour, Bart, William, & Hektner. (2003) commented that research on the effects of polygyny on children and adolescents is limited by an over-reliance on the single factor of family structure in the design of research studies. Although the majority of studies included in this review followed this type of research design, some investigated potential mediating variables. In addition to the effects of paternal education and income discussed above, family functioning (Al-Krenawi & Slonim-Nevo, 2008), family cohesion and violence in the home (Elbedour et al., 2007) were found to influence children's peer relations, self-esteem, and mental health. Al-Krenawi and Slonim-Nevo (2008) suggested that polygyny in itself is not detrimental to children, but what is important is how well-functioning the family

is. Also, Elbedour et al. (2003) reported on the detrimental effects of accumulated risk factors associated with polygyny, such as parental relatedness and low levels of parental education. These findings led them to conclude that family structure alone is inadequate for explaining the effects of polygyny on children and that there is a need for further research that will evaluate the effects of mediating and moderating factors within the family. For example, other potential mediating variables that need further investigation include the extent of the father's involvement with the family, the amount of time he spends with the family, and whether parents experience any negative effects of polygyny.

Further research is needed on whether boys and girls are affected differently. Among the few studies that found gender differences, Cherian (1994) found that boys and girls in polygynous families were affected differently by corporal punishment, Elbedour et al. (2000) found gender differences in achievement in one academic subject and AlKrenawi et al. (2006) found gender differences in attitudes towards polygyny. As the experience of polygyny is different for men and women, it would be interesting to determine the extent of gender differences in the experiences of polygyny during childhood.

Although the age range of participants included in this review ranged from 6 to 18 years, comparisons between children of different ages or between children and adolescents was given little attention. Elbedour et al. (2000) suggested that detrimental effects of polygyny might be more noticeable in childhood and disappear as children get older. This review provided no evidence to support this suggestion. The few studies that focussed on younger children (e.g. Al-Krenawi & Lightman, 2000) found a similar pattern of results to those of adolescents. Given the paucity of cross-sectional studies comparing age

groups or longitudinal studies considering effects over time that the impact of polygamy across the course of development requires further empirical attention.

Family size and the position of the mother within the family is an important variable affecting women in polygynous relationships (Shepard, 2013). To what extent it affects children is relevant to this review. Some of the studies included children of first wives in two-wife families which controls for family size but could limit the ability to generalize to the wider range of children in polygynous families (Al-Krenawi & Lightman, 2000; AlKrenawi & Slonim-Nevo, 2008; Al-Krenawi et al., 2002). Other studies did not control for family size or family position of the mother. Only two studies included family size or position of the mother in the family as a variable (Elbedour et al., 2003, 2007). Given that the position of the mother in the family can affect her status and psychological well-being (AlKrenawi & Slonim-Nevo, 2008; Al-Shamsi & Fulcher, 2005), the effects of this variable on children need more careful study.

Limitations of this review were as follows. The studies included in the review used a range of different tests and scales making it difficult to draw any strong conclusions about specific effects or to conduct a meta-analysis. All of the research included in this review was cross-sectional. It is not known whether children had problems before the father married again or developed them afterwards. Longitudinal research is needed to address this issue.

Also, the cultural context is important, how widely polygyny is practised in the community and how well it is accepted may influence the type of effects on children. Previous authors (e.g. Elbedour et al., 2002) have stated that the effects of any polygamous family stressors on child outcomes will be ameliorated in communities where the practice

of polygamy is permitted and/or valued. The majority of studies included in the review were conducted in Arab and Muslim communities. Polygyny is permitted in Islamic Shariah law under particular conditions, such as infertility and ill health of the wife, and also where there is a high rate of single women and widows (Al-Krenawi, 2014; AlShamsi & Fulcher, 2005; Rehman, 2007). There is an expectation that the polygynous father must be fair with his wives and children in order to have a positive impact on family members (Bewley & Bewley, 1999). As this review focussed on children, the extent to which fathers were able to achieve the expectations of fairness and the extent to which this would affect child outcomes needs further investigation or review.

An important limitation of this review is that the majority of the studies (10 out of 13) were conducted in the same local culture, Arab-Bedouin society. Comparisons between the 2 studies from sub-Saharan Africa and those from the Arab cultures (10 Bedouin Arab and 1 UAE) found that paternal education and occupation tended to be lower in polygynous than monogamous families in the majority of Arab studies but not in the sub Saharan African studies. Also, polygamy had negative effects on academic achievement among the Arab studies. This was less evident for the studies from other cultural contexts. For example, the Nigerian school students from polygamous families reported more difficulties in mathematics and English but this did not appear to directly affect their exam results. No differences were found for exam results in the Nigerian sample of students from monogamous and polygamous families. The South African study reported interactions between family structure, gender, and corporal punishment in their effects on academic achievement. There is a need for future studies to include a wider range of cultural contexts, in Africa, Asia and the GCC (Gulf Cooperation Council) countries. This will allow

for comparisons of important variables, such as family economics, parental education levels, religion, cultural traditions, attitudes, and acceptability in the community.

From the review of previous studies there is no consensus about the impact of the polygamous family structure on adolescents' psychological well-being, especially regarding self-esteem and depression. Also, no study researched the impact of polygamy on satisfaction with life, bullying, and victimization. Moreover, there is a lack of testing the mediating variables which may have impact on developmental outcomes for adolescents. The current study will address these gaps in the research.

In conclusion, the research included in this review found that polygyny has a wide range of detrimental effects on children. However, similarities between children in polygynous and monogamous families should not be overlooked. Given that polygyny is permitted in many countries and cultures, further research is needed on the effects of this type of family structure on children. In particular, further investigation of the role of mediating variables, both positive and negative, is needed.

Chapter Three

General Methods

3.1 Methodological approach

This thesis employs a quasi-experimental design. This type of method attempts to compare participants who differ on a categorical variable (e.g., family type) (Ary et al., 1996). Through casual comparative research a researcher tries to determine the causes of observed differences in behaviour. In other words, the researcher investigates the main cause behind the differences between the groups (Abu- Allam, 2004).

3.2 Participants

For all studies in this thesis, the participants were school students in elementary and secondary schools in Riyadh city for the academic years 2014 and 2015. The students were boys and girls aged between 13 and 18 years old. Students were from four schools, two boys' schools and two girls' schools.

Participants were sampled by using two types of selection. Participants from polygamous families were selected through teachers' and school counsellors' identification. Adolescents from monogamous families (in the same age ranges as those from polygamous families) were sampled randomly from school registers.

The number of girls and boys as well as the mean ages can be seen in Table 3.1. The educational level of the participants was 354 intermediate school students (age range 13-18 years) and 341 secondary school students (aged 16- 18 years).

Table 3.1

Mean age and number of participants in each study.

Family type	Polygamous				Monogamous				Total			
	Gender	Male	Female	Sub-total	Male	Female	Sub-total	Mean age (SD)	Mean age (SD)	Sub-total		
Study 1		35	14	49	36	13	49	15.54 (1.49)	14.88 (1.18)	15.47 (1.48)	15.07 (1.29)	98
Study 2		70	86	156	87	58	145	15.12 (0.21)	15.36 (0.34)	15.17 (1.15)	15.13 (1.12)	301
Study 3		64	66	130	81	55	136	15.16 (1.23)	15.03 (1.12)	15.35 (1.22)	15.16 (1.15)	266
Study 4		111	122	233	128	139	267	16.04 (1.02)	16.53 (1.24)	16.74 (1.33)	16.18 (1.03)	500
Study 5		7	8	15	5	10	15	17.02 (1.003)	17.14 (1.02)	17.01 (1.002)	17.34 (1.02)	30

3.3 Ethical Issues

The Saudi Ministry of Education encourages and supports psychological and educational research which provides important results for educators. The researcher obtained permission from the Saudi Cultural Attaché and from the Saudi Ministry of Education for boys' and girls' schools. The questionnaires were administered in

intermediate and secondary boys' and girls' schools with cooperation from the counsellors at the schools.

Informed consent: An explanation of the research was provided in writing to teachers, parents and participants. An opportunity for asking questions was included. Consent was obtained from the Ministry of Education, the school authorities and parents. The counsellors and teachers asked the participants for their consent and told them that they do not have to participate if they do not want to and that they do not have to complete all the questions if they do not want to. Participants were informed that the questionnaires were not related to school work, their teachers would not read what they say and that there are no right or wrong answers.

Confidentiality: Participants were identified by a participant code number. No names or other personal identifiers were recorded on the questionnaire sheets and interviews. School and parental consent was kept separate to the questionnaire sheets and interview records.

Beneficence and Non-maleficence (risk assessment): Schools were asked for their permission for the research to be carried out. School counsellors were consulted regarding the research. Participants were asked to give information freely. Any sign of the participant wishing to withdraw was noted and acted upon (e.g., asked whether the participant is comfortable, wishes to continue, or wishes to withdraw from the study), all the participants completed their responses. Parents and participants were made aware of their right to

withdraw their participation or data from the study. Data could be withdrawn up to two weeks after the final testing had been carried out by contacting the researcher through the school and providing the participant code number. No participant withdrew, however; four questionnaires were excluded because were not completed.

In Saudi Arabia, schools are segregated by gender, so the researcher enlisted the counsellors and the teachers who are qualified to carry out the data collection from the participants. The school were asked for a suitable room for completing the questionnaires that were administered with more privacy and quiet. The principal investigator obtained permission for working in schools, equivalent to the UK DBS clearance as well as obtaining the UK DBS clearance. The school received copies of all information handed out to parents and children. During the study, the researcher found that some students had serious problems, so he informed the school counsellors to provide a suitable counselling program to be implemented.

3.4 Materials

3.4.1 Demographic questionnaire

The demographic information collected included level of education of the parents, the number of wives for polygamous families and the position of the adolescent's mother in the family (first wife, second wife, etc), number of siblings, parents' occupation, income, father availability, and family size. All the demographic information was collected in each study except the family size variable was not included in the first study (chapter 4).

The education of the parents was determined through four levels which were: Illiterate, less than secondary school, secondary school, Bachelor degree, and graduate degree. The 'Mother placed' variable was determined by the position of the participant's mother in the polygamous family (first, second, third or fourth wife). The polygamous family structure is limited to four wives according to the Islamic sharia law and the civil law in Saudi society.

Number of siblings and family size variables were calculated through the number of family members (siblings and half siblings), and included the parents. Father availability was assessed by the number of days per week the father was with his family at home, and parent occupation was coded into two categories; employment or unemployment. Finally, the income variable was arranged into four ranks to determine the standard of living; from 3000 SR to 5000 SR which represents the limited income, from 5000 SR to 8000 SR for less than the average income, and 8000 SR to 10000 SR for the average income, and 10000 SR and more for the high income.

All the demographic information questionnaires were administered before the psychological well-being and bullying questionnaires.

3.4.2 Instruments

Five questionnaires were used to assess three aspects of psychological well-being and two types of behavioural problems. All the questionnaires were suitable for the age and developmental stages of the participants and for participants in Saudi society, except the Parental Bonding Instrument (PBI). The PBI was validated for Saudi society by the researcher in a separate study (chapter 5). The following criteria were used to determine suitable instruments for data collection. They should be suitable for the ages of participants, they should be widely used, they should have good psychometric properties, and they should be suitable for use in Saudi Arabia or provide a new instrument for use in Saudi society (e.g. validation of PBI).

Parental Bonding Instrument (PBI)

The Parental Bonding Instrument assesses the quality of relationship between parents and adolescents. There are two versions, one relevant to the father and one relevant to the mother. The original copy of the measure is “retrospective” meaning that adults over 16-years-old respond on the items for how they remember their parent’s treatment during their first 16 years. The measure was developed by Parker, Tuplin and Brown (1979). It has two subscales; ‘care’ which consists of 12 items (with scores ranging from 0-36) and overprotection which includes 13 items (with scores ranging from 0-39). There are four response categories; very like, moderately like, moderately unlike, and very unlike. Not all items are scored in the same direction (Parker et al., 1979).

The measure has been validated for different languages, such as a Japanese version (Kitamura & Suzuki, 1993), Brazilian Portuguese (Huack, Schestatsky, Terra, Knijnik, Sanchez, & Ceitin, 2006), and Pakistani version (Qadir et al., 2004), the validation of this measure to an Arabic version is one of the important contributions of this thesis.

Psychological Well-Being instruments

Three measures were used to assess the mental health variables of self-esteem, satisfaction with life, and depression. All the three measures have been validated on Saudi society and high values were reported for their psychometric properties.

Self-esteem (SE)

The Rosenberg Self-Esteem Scale is the most widely used self-esteem measure by many researchers. It has been translated to more than 53 languages including Arabic (Sabry & Fakhroo, 2012), that reflect the reliability and validity of the scale. It was developed by Rosenberg (1975) and it consists of ten items about beliefs toward the self. Rosenberg described it as a favourable or unfavourable attitude toward the self (Rosenberg, 1965). Respondents are expected to rate how much they agree with each item on a four-point scale; strongly disagree, disagree, agree, strongly agree. The scale contains positive items (1, 2, 4, 6, 7), and negative items (3, 5, 8, 9, 10). Items are scored as 3, 2, 1, or 0 for the negative items and 0, 1, 2, or 3 for the positive items. The total scores of all items is then calculated to extract the degree of self-esteem.

Satisfaction with life (SWLS)

The satisfaction with life scale was developed to assess the satisfaction of people with their life in general, not satisfaction with specific subjects in their life such as health or finance, but whether they are generally satisfied with life. The scale was developed by Diener, Emmons, Larson and Griffin (1985). It consists of 5 short items scored on a 7-point scale. The scale points are 7 (strongly agree), 6 (agree), 5 (slightly agree), 4 (neither agree nor disagree), 3 (slightly disagree), 2 (disagree), 1 (strongly disagree). Scores were interpreted as follows; 5-34 highly satisfied, 25-23 high, 22-20 average score, 19-15 slightly below average in life satisfaction, 14-10 dissatisfied, 9-5 extremely dissatisfied. The Arabic version of the SWLS was validated by Abdallah (1998).

Depression

This is a subscale from the Depression Anxiety and Stress Scale (DASS21) developed by Lovibond and Lovibond (1995). It consists of 14 items to assess dysphoria, hopelessness, devaluation of life, self-depression, lack of interest/involvement, anhedonia, and inertia. The entire scale was validated to Arabic version by Taouk and Lovibond (1996). The responses were determined through numbers to indicate how much the statement applied to the participants, 0= Never, 1= sometimes, 2= often, and 3= almost always. The scoring was calculated by summing the scores of the items. AL-Gelban (2007) used this scale in Saudi society to investigate the prevalence of depression, anxiety, and stress among adolescent school boys.

Bullying and Victimization instruments

Bullying is one of the aggression forms, it occurs when a person is exposed continuously to negative behaviour which causes pain, it comes from inequality between persons, the first one is called a bully and the other is called a victim (Smokwski & Kopasz, 2005; Abu-Ghazal, 2009). This measure contains two subscales, bullying behaviour and being a victim of bullying. It was developed for Arabic culture by Abu-Ghazal in Jordan (2009). Abu-Ghazal (2009) developed the scales with a sample of 978 adolescents from elementary and secondary schools aged 13- 18 years old. He based 23 items on previously published measures (Austin & Joseph, 1996; Kerbs, Rollin, & Potts, 2001; Mynard & Joseph, 2000; Olweus, 1996) and he added 11 items that were specific to Arabic culture. In the final version the bullying behaviour scale consists of 34 items, scored on a 5-point scale and the victimization scale contains 30 items, also scored on a 5-point scale. The five responses for each item were 1= Never, 2= Almost never, 3= Sometime, 4 = Almost always, 5 = Always. The items assess bullying and victimization through four dimensions, physical, verbal, social, and other property. High Cronbach alpha values were reported (.92 for bullying and .93 for the victimization).

Table 3.2 shows the instruments used in each study. The Parental Bonding Instrument was included in Study 2 and Study 3. All 5 measures were used in Study 4.

Table 3.2

The instruments used in the studies

Test	Study 1	Study 2	Study 3	Study 4	Study 5
Demographic information	✓			✓	
Parental Bonding		✓	✓	✓	
Self-Esteem	✓	✓	✓	✓	
Satisfaction With Life Scale	✓		✓	✓	
Depression	✓	✓	✓	✓	
Bullying	✓	✓	✓	✓	
Victimization	✓	✓	✓	✓	
Interview					✓

3.5 Procedures

After permission to collect the data was given by the Saudi authorities and the University ethics committee, the research proceeded as follows. The students were selected from 8 schools in Riyadh city for the first, second, third, and fifth study using two schools for each study. For the fourth study (main sample 500 students) the students were

selected from four schools in Riyadh city two schools for boys and the other two schools for girls. For each study, the researcher spent one week to explain the project to the principals, teachers, and the counsellors. Also, the information and consent sheets were sent to the parents.

3.5.1 Procedures for the boys' schools

After consent was given by students, parents, and teachers, the researcher administered the questionnaires in the schools with the help of teachers and counsellors. A time in the morning was agreed and the school prepared a suitable room for completing the questionnaires. There were distances between the sets of students so that they could not read each other's questionnaires. The students from polygamous and monogamous families answered the questionnaires in the same room. The researcher explained any ambiguous point for the students during the data collection. Before and after completing the data collection, the researcher explained the aims of the study to the participants again and their right to withdraw from the study at any time up to 14 days after completing the questionnaire. Five students needed immediate intervention from the counsellors in the schools according to their scores in the questionnaires and the researcher urgently informed the schools.

3.5.2 Procedures for the girls' schools

The researcher was not able to access girls' schools because the social norms in most provinces in Saudi society ban women from talking about private matters with men who are strangers. The researcher contacted the female principals and counsellors by TVEC

to explain how to administer and collect the data from the female participants. One advantage of this was that the female counsellors were familiar with the questionnaires and their major is psychology. A similar procedure was followed as in the boys' schools.

3.6 Statistical methods used

The researcher used mixed methods, quantitative and qualitative. The quantitative analysis of the questionnaires used Chi-Square, Man-Whitney U test, t-test, two-way ANOVA, regression, and Structural Equation Modelling. The interviews were analysed using the qualitative method of thematic analysis.

Chapter Four

Study 1: Comparisons between polygamous and monogamous families for demographic variables, adolescent well-being and bullying/victimization

4.1 Introduction

This study was designed to compare adolescents from polygamous and monogamous families on a range of measures of psychological well-being and behaviour. Chapter One and the literature review in Chapter Two reported that most of the previous research found differences between children and adolescents from polygamous and monogamous families in mental health and behaviour. Lower self-esteem was reported for those from polygamous families by Al-Krenawi, Graham, & Slonim-Nevo (2002). Also, depression was found to be higher among children from polygamous families than monogamous families by Al-Krenawi et al. (2002) However, no differences in self-esteem or depression were found by other researchers (Elbedour, Bart, & Hektner, 2007). These inconsistent results found in the previous research need further investigation. Also, the previous research has not investigated the effects of polygamy on children and adolescents in Saudi Arabia.

In Chapter Two differences were found between young people from polygynous and monogamous families on a range of social problems, although there were similarities also. Behavioural problems and conflicts were reported by Elbedour et al. (2003, 2007) and Al-Krenawi and SlominNevo (2008) but Hamdan et al. (2009) found no differences in

behavioural problems. Further research is needed on behaviour problems. Also, the previous research has not investigated bullying and victimization in polygamous families and bullying has not been investigated in Saudi Arabian schools.

Chapter One and the systematic review reported in Chapter Two highlighted the differences between polygamous and monogamous families on a range of demographic variables that could, in themselves, influence adolescent well-being and behaviour. For example, previous research reported that economic difficulties, uneducated parents, and unemployed parents have negative effects on adolescents in polygamous families (AL-Krenawi, Graham, & AL-Krenwai, 1997; AL-Krenawi, Graham, & Slonim-Nevo, 2002; AL-Shamsi and Fulcher, 2005), but Elbedour, Bart, William, & Hektner. (2003) reported no effects. Family problems such as poor cohesion, economic difficulties and father absence were found to be more prevalent in polygamous families (AL-Krenawi & Slonim-Nevo, 2006; AL-Krenawi et al., 2008; Elbedour et al., 2006), which leads to the expectation that the polygamous family structure may be a risk factor for adolescent development.

Also, this chapter examines the suitability of the psychological measures for the Saudi participants. In Chapter Three the cultural relevance of each of the measures was briefly discussed with respect to previous research. This chapter adds the assessment of internal consistency of the measures for the sample.

Therefore, this first study will investigate the effects of polygamy on the adolescents (girls/boys) through comparing two types of family structure (polygamous/monogamous) in Saudi society. Adolescents from polygamous families will be compared to those from monogamous families in the following variables: self-esteem, depression, bullying, and bullying-victimization. Also, this study will serve as a pilot study to find out the suitability of the study instruments for the sample.

4.1.1 Research aims

The aims of this study were to investigate:

- (1) The suitability of the research instruments for the sample.
- (2) Differences between the participants from the two types of family structure (polygamy and monogamy) in the following variables: demographic variables (parental education, parental income, parental employment, number of siblings, father availability), psychological well-being (self-esteem, satisfaction with life), depression, and bullying.

4.1.2 Hypotheses

The hypotheses are as follows:

1. There will be significant differences between the adolescents of monogamous and polygamous marriages in psychological well-being (e.g., self-esteem, satisfaction with life).
2. There will be significant differences between the adolescents of monogamous and polygamous marriages in rates of depression.
3. There will be significant differences between the adolescents of monogamous and polygamous marriages in bullying behaviour and victimization.

4.2 Methods

4.2.1 Participants

Participants were 98 students, 71 boys and 27 girls; 49 students were from polygamous families and 49 from monogamous families in Riyadh. The mean age for participants was 15.25 years old and the age range was 13 – 18 years. Participants were sampled by using two types of selection. Participants from polygamous families were selected purposively, through teachers' identification. Adolescents from monogamous families were sampled randomly from school registers.

Table 4.1

Age and gender of participants

Gender	Polygamy	Monogamy	Total	Age (years)	
				mean	SD
Male	35	36	71	15.47	1.48
Female	14	13	27	15.07	1.29
Total	49	49	98	15.37	1.44

4.2.2 Materials

The following set of materials/test instruments were used. The information sheets and debrief sheets for teachers, parents and participants, as well as consent forms are described in Chapter Three. The demographic questionnaire asked questions about father's income/occupation, number of siblings, whether child of first or second wife, and time spent with father. Other questionnaires were the Rosenberg Self-Esteem scale (Rosenberg, 1979), the Satisfaction with Life scale (Diener, Emmons, Larsen, & Griffin, 1985), the Bullying questionnaire (Abu- Khazal, 2009), depression questionnaire (Lovibond & Lovibond, 1985). These materials have been described in Chapter Three. All questionnaires have been published and validated for use with Arab adolescents. All materials prepared in English were translated and back-translated into Arabic for use in Saudi Arabia.

4.2.3 Procedure

The participants were selected from two schools from Riyadh city, one school for boys and a school for girls. The researcher spent one week to explain the aims of the study for the principals, teachers, and students. Also, the researcher explained the questionnaire instructions to students.

All questionnaires were piloted first on a small group of 15 Saudi adolescents (with parental consent) to check for comprehension, the amount of time needed and the procedures. No changes were made at this stage.

After the researcher received the consent forms from the parents, principals, and students data collection took place on October 2014.

For the girls' school, the researcher had a meeting with the principal and the counsellors to explain all the instructions. The data were collected the next day .

4.2.4 Ethics

The ethics of this study were approved by the University of Lincoln School of Psychology Research and Ethics Committee and AL-Baha University and were described in Chapter Three.

4.3 Results

The first section of the results compared the scores for the adolescents from polygamous and monogamous families, boys and girls, on the demographic variables. The second section presented the psychometric properties of the instruments for the sample. This was done by calculating the Cronbach alpha and Pearson correlations to show the internal consistency. The third section compared adolescents from polygamous and monogamous families, boys and girls, on the dependent variables. Also, participants from the first and second wife among polygamous families were compared.

4.3.1 Comparisons of demographic variables

Parental education

Table 4.2

Educational levels of fathers and mothers in polygamous (polyg) and monogamous (monog) families

Education levels	Father			Mother		
	Polyg (n)	Monog	Total (n)	Polyg (n)	Monog (n)	Total (n)
0 Illiterate	18	4	22	25	20	45
1 Less than high	15	17	32	12	14	26
2 High school	4	17	21	7	6	13
3 Bachelor	11	11	22	5	9	14
4 Graduate	1	0	1	0	0	0
Subtotal	49	49		49	49	
Total			98			98

Table 4.2 shows a higher number of polygynous fathers who were not school educated (illiterate) than monogamous fathers. However, there were a similar number of fathers who had less than high school education and undergraduate education in both polygynous and monogamous families. For the high school education level there were more monogamous fathers. These differences were statistically significant; $\chi^2 (4) = 18.08$, $p = .001$.

Interestingly, there is no substantial difference in the rate of mothers' illiteracy in polygamous and monogamous families. Also there is convergence in the numbers for the

mothers' education levels, although more mothers in monogamous relationships than polygamous relationships had undergraduate certificates (Table 4.2). However, these differences were not statistically significant; $\chi^2 (3) = 1.929, p > .05$.

Parental employment and income

The Chi-Square test has revealed there were not differences between the polygynous fathers and monogamous fathers for employment (see Table 4.3).

Table 4.3

Number of polygynous and monogamous parents employed and unemployed

Employment	Father			Mother		
	Polyg (n)	Monog	Total (n)	Polyg (n)	Monog (n)	Total (n)
Unemployed	2	3	5	43	38	81
Employed	47	46	93	6	11	17
Total			98			98

Table 4.3 shows that there was no difference between the fathers in the number employed for the two types of families. The majority of fathers from polygamous and monogamous relationships had work; $\chi^2 (1) = 0.211, p > .05$. Also, Table 4.3 shows that the number of mothers' employed in polygamous and monogamous families are similar; $\chi^2 (1) = 1.779, p > .05$. Monogamous families had higher incomes than polygamous families. This difference was statistically significant; $U (N1 = 49, N2 = 49) = 892.0, p = 0.02$.

Number of siblings

Adolescents from polygamous families had more siblings (mean = 10.79, SD = 3.44) than those from monogamous families (mean = 5.92, SD = 2.73). This difference was found to be statistically significant using an independent t-test; $t(96) = 7.758, p < 0.001$.

Father availability

Adolescents from polygamous families reported that their father was present in the home for fewer days (mean = 3.55 days, SD = 2.06) than those from monogamous families (mean = 6.41 days, SD = 1.39). An independent t-test found that this difference was statistically significant; $t(96) = 8.027, p < 0.001$

4.3.2 Psychometric Properties of the Instruments used to measure the Dependent Variables for this Sample

Self-esteem

Internal consistency was measured by Cronbach's alpha = .72 for the Self-Esteem scale. Correlations between each item and the total score were all statistically significant ($p = 0.001$) and remained significant after applying Bonferroni corrections ($p = 0.05/10 = 0.005$). Internal consistency for this measure was considered satisfactory (see Appendix 1, Table A1).

Satisfaction with Life

Cronbach's alpha for this measure was .74. Also, correlations between each item and the total score were all statistically significant ($p = 0.001$) and remained significant after applying Bonferroni corrections ($p = 0.05/5 = 0.01$). Internal consistency for this measure was considered satisfactory.

Depression

Cronbach's alpha for the depression scale was .87. Correlations between each item and the total score were all statistically significant ($p = 0.001$) and remained significant after applying Bonferroni corrections ($p = 0.05/14 = 0.003$). Internal consistency for this measure was considered good (see Appendix 1, Table A3).

Bullying

For the bullying questionnaire, the internal consistency shown by Cronbach alpha was .96. Correlations between each item and the total score were all statistically significant ($p = 0.001$) and remained significant after applying Bonferroni corrections ($p = 0.05/34 = 0.001$). Internal consistency for this measure was considered good.

Victimization (of bullying)

For the victim of bullying questionnaire, the internal consistency shown by Cronbach alpha was .97. Correlations between each item and the total score were all statistically significant ($p = 0.001$) and remained significant after applying Bonferroni corrections ($p = 0.05/30 = 0.001$). Internal consistency for this measure was considered good.

4.3.3 Comparisons of dependent variables between adolescents from polygamous and monogamous families

A series of two-way between subjects analysis of variance tests was used to analyse the effect of family structure (2 levels: polygamous, monogamous) and gender (2 levels: male, female) on self-esteem, satisfaction with life, depression, bullying and victimization. Higher scores indicated higher self-esteem, more satisfaction with life, more depression, more bullying and more victimisation.

Self-esteem

Figure 4.1 shows that the mean scores for the adolescents from monogamous families were higher for Self- Esteem. A significant effect for family structure was found; $F(1, 94) = 8.097, p = .005$, partial eta squared = .66. The effect of gender was not significant; $F(1, 94) = 2.916, p > 0.05$. There was no significant interaction between family structure and gender, $F(1, 94) = .033, p > 0.05$.

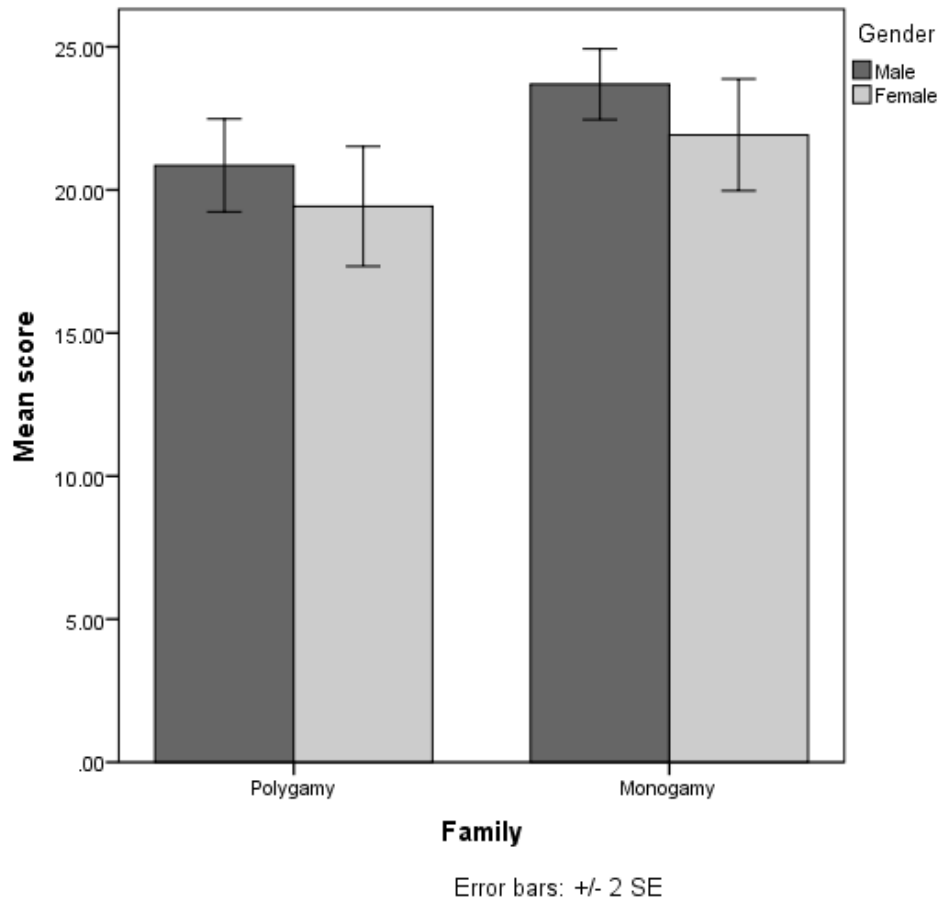


Figure 4.1

Mean Self-Esteem scores for adolescents from polygamous and monogamous families (maximum possible score = 30)

Satisfaction with life

The overall mean scores showed that the participants had between average and high satisfaction with life (see Chapter 3). However, adolescents from monogamous families were more satisfied with life than adolescents from polygamous families (see Figure 2); $F(1, 94) = 3.975, p < 0.05$, partial eta squared = .76. There was no significant

difference between boys and girls; $F(1, 94) = 2.245, p > 0.05$, and no significant interaction;

$F(1, 94) = .394, p > 0.05$.

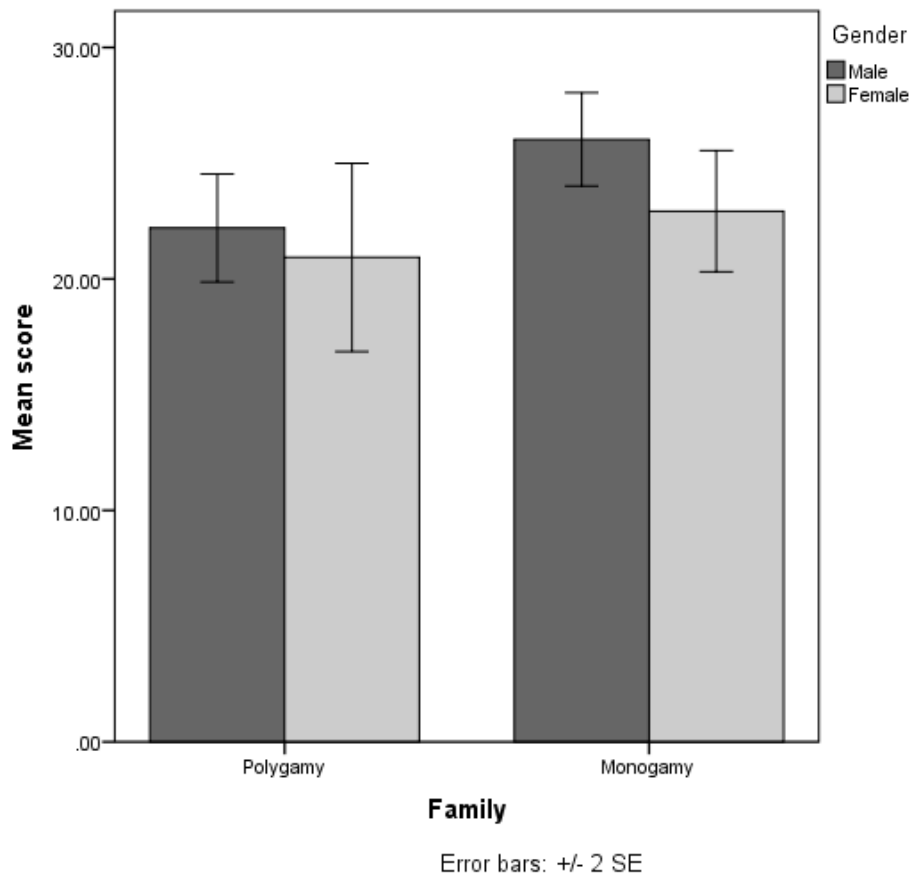


Figure 4.2

Mean Satisfaction with Life scores for adolescents from polygamous and monogamous families (maximum possible score = 35)

Depression

There was a significant difference between participants from polygamous and monogamous families in depression scores; $F(1, 94) = 32.136, p < 0.001$, partial eta squared = .78. Adolescents from polygamous families had higher depression scores than those from

monogamous families (see Figure 3). There was no significant difference between boys and girls; $F(1, 94) = 1.704$ $p > 0.05$, and no significant interaction; $F(1, 94) = .018$ $p > 0.05$.

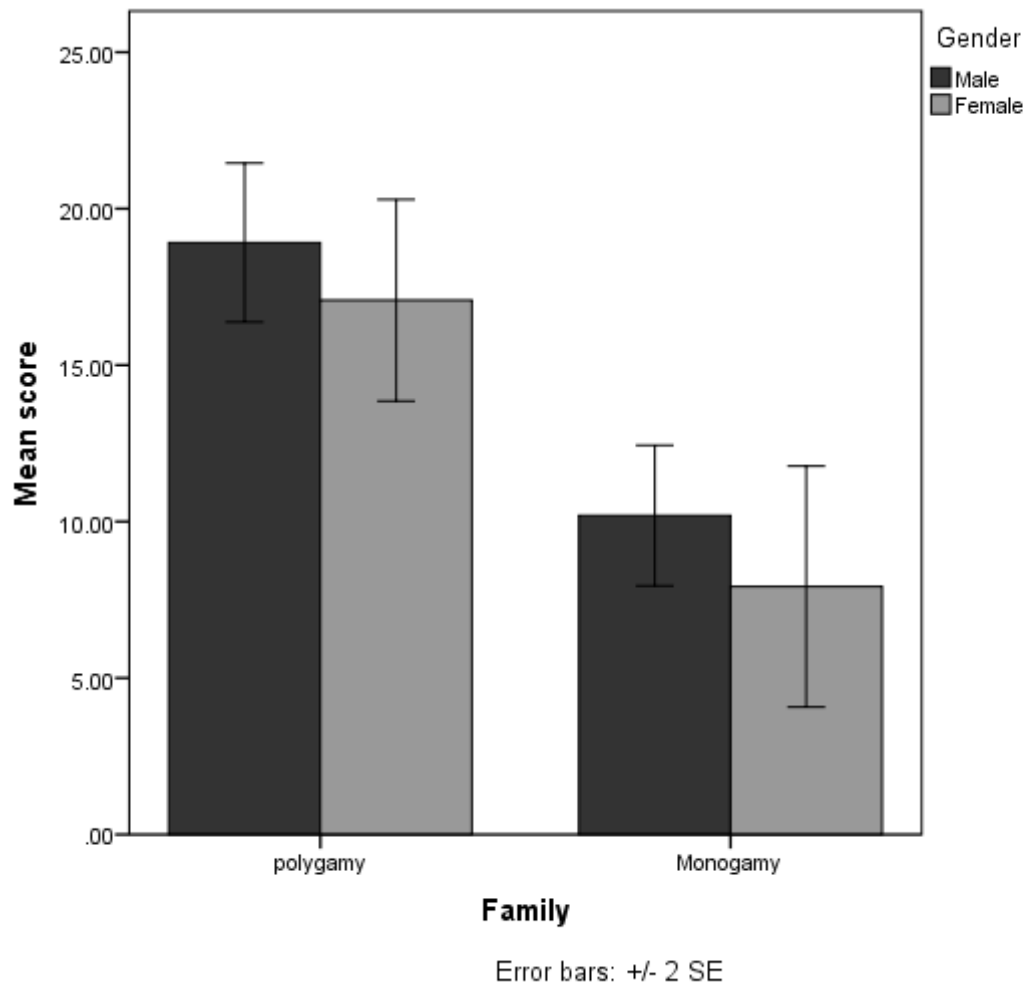


Figure 4.3

Mean Depression scores for adolescents from polygamous and monogamous families (maximum possible score = 42)

Bullying and victimisation

Adolescents from polygamous families reported higher mean scores for bullying than adolescents from monogamous families (see Figure 4.4); $F(1, 94) = 29.175$ $p < 0.001$, partial eta squared = .65. Also, girls had higher scores than boys; $F(1, 94) = 9.924$, $p = 0.002$.

There was no significant interaction; $F(1, 94) = 2.004, p > 0.05$. For victimization (see Figure 4.4), the main effect of family structure was significant; $F(1, 94) = 12.587, p < 0.001$, partial eta squared = .67. Participants from polygamous families reported more victimization than those from monogamous families. The effect of gender was significant; $F(1, 94) = 4.722, p < 0.05$. Girls had higher scores than boys. There was no significant interaction between family structure and gender; $F(1, 94) = .043, p > 0.05$.

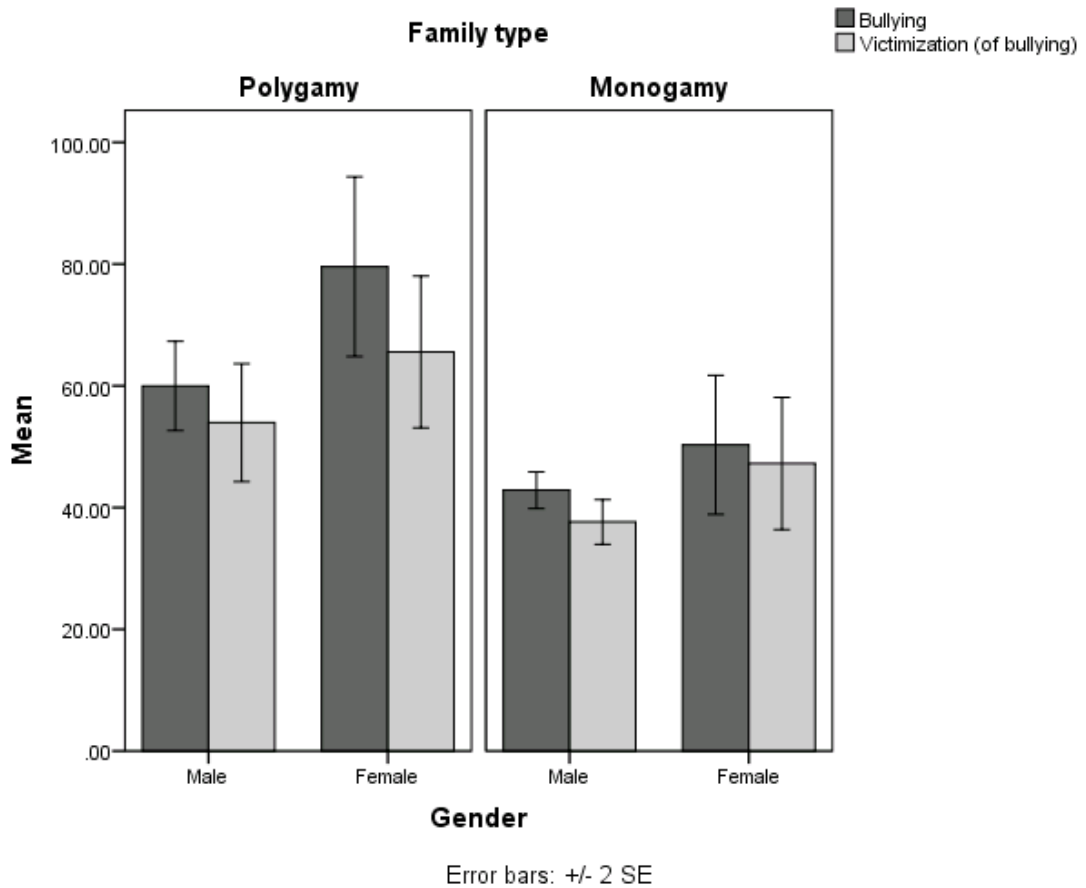


Figure 4.4

Mean scores for bullying and victimization for boys and girls in polygamous and monogamous families (maximum possible score for bullying = 170 and for victimisation = 150).

Differences within polygamous families: Comparisons between children of first and second wife

Data from the sample of participants from polygamous families was separated from the data from the monogamous families and data for children from first and second wives was compared using independent t-tests. Gender differences were not calculated due to the small sample size. No significant differences were found for any of the dependent variables (see Table 4.4). No differences in demographic variables were expected, however, there was a significant difference in father availability. Fathers spent more days with the family of the second wife (mean = 4.03 days, SD = 2.06) than the family of the first wife (Mean = 2.90, SD = 1.92). This did not reach statistical significance; $t(47) = 1.955, p = 0.049$.

Table 4.4

Self-esteem, satisfaction with life, depression, bullying, and victimization scores for participants from first and second wife in polygamous families.

Variable	Children of first wife		Children of second wife		$t(df=47)$	P
	Mean	SD	Mean	SD		
Self-esteem	20.52	4.66	20.39	4.58	0.098	> 0.05
Satisfaction	21.14	8.94	22.35	15.33	0.592	> 0.05
Depression	18.05	7.48	18.64	6.95	0.287	> 0.05
Bullying	62.62	23.00	67.78	26.43	0.715	> 0.05
Victimization	54.09	26.58	59.64	28.41	0.695	> 0.05

4.4 Discussion

The results of this study found that polygynous fathers were less educated than monogamous fathers, in addition to having a lower income which often makes family life more difficult. Previous studies (AL-Krenawi, Graham & AL-Krenawi, 1997; AL-Krenawi et al., 2002; AL-Krenawi & Lightman, 2000; AL-Krenawi & Slonim-Nevo, 2008; AL-Shamsi & Fulcher, 2005), have shown that polygamous parents have lower education levels than monogamous parents, also; polygamous parents struggled more with economic difficulties which had negatively affected their family life. However, there was no significant difference for mothers in level of education which differs to some of the previous research studies (AL-Krenawi et al., 1997; AL-Shamsi & Fulcher, 2005).

In comparison to adolescents from monogamous families, lower self-esteem was found among adolescents from polygamous families. This supports Riaz (1996) who found that adolescents from polygamous families reported lower scores for self-esteem. Also AL-Krenawi et al. (2002) found that adolescents from polygamous families suffered from negative beliefs toward themselves. Also, lower scores for satisfaction with life were found among the participants from polygamous families than monogamous families. AL-Krenawi et al. (2006) found that adolescents from polygamous families have negative attitudes toward practicing polygamy because of family conflicts and mental health problems. This negative attitude might explain the lower satisfaction with life scores found in this study.

Researchers found adolescents from polygamous families were more depressed when compared with their peers from monogamous families (AL-Krenawi, Graham, & Slonim-Nevo, 2002; AL-Krenawi et al., 2008). The results of this study support these

previous research studies. However, research by Elbedour et al. (2007) and Hamdan et al. (2009) did not find significant differences between the groups. The differences might be explained by the different variables investigated in previous research such as academic achievement (AL-Krenwai et al., 1997; AL-Krenwai & Lightman, 2000; Elbedour, Bart, William, & Hektner, 2003), and family functioning (AL-Krenwai & Slonim-Nevo, 2006). The outcomes from these studies showed that the polygamous families have poor family functioning which was related to poor outcomes of children from polygamous families. Further research is needed to investigate these findings and whether other mediating variables affect self-esteem and depression differences.

This study was one of the first to examine the association between the polygamous family structures and bullying. The results indicated there is association between polygamy and bullying among adolescents, both for girls and for boys. Interestingly, the study found that girls from polygamous families reported higher rates of bullying than those from monogamous families and higher rates than boys, also. Higher rates of victimization were found for girls than boys from polygamous and monogamous families.

One of the main limitations of this study is that the sample size was not large enough to investigate the effects of mediating variables, such as family income, family size, family conflicts, and father absence. Elbedour, Onwueghbuzie, Caridine, & Abu-Saad. (2002) stated that research on the effects of polygamy on children and adolescents tends to rely on family structure as a variable without taking into account other variables such as family relationships. The next three chapters will investigate the role of parental-adolescents relationship and demographic variables in the psychological well-being and the behavioural problems for the polygamous family.

4.5 Conclusion

Through the results of the first study, it can be concluded that the instruments are suitable for the Saudi society and have strong properties as well. Also, the results support the research hypothesis that there will be differences between adolescents from polygamous families and monogamous families in the following variables: psychological well-being, depression and bullying. So it is an important indication that the aims of the PhD research will be achieved. Differences between polygamous and monogamous families were found in demographic variables. It is necessary to investigate the roles of several mediating variables, including demographic variables, on the polygamous families. This thesis will investigate the quality of parent-adolescent bonding as a mediating variable and its impact on psychological well-being, bullying, and victimization for the adolescents. Also, the role of demographic variables related to polygamy will be investigated.

Chapter Five

Study 2: Cultural validation of the Parental Bonding Instrument for Arabic adolescents

5.1. Introduction

The results from chapter four supported the hypothesis that there will be differences between adolescents from polygamous and monogamous families in measures of psychological well-being and behaviour. Also, research reviewed in chapter three highlighted the importance of considering mediating variables to help explain the observed differences between adolescents in relation to family structure. One possible mediating variable is the relationship between adolescents and their parents and whether this differs in monogamous and polygamous families.

The quality of the relationship between parents and children is widely considered to be important for optimal child development and mental health (Bowlby, 1969; Parker, 1983; Phares, 2003; Yoo et al., 2006). As discussed in Chapter One, one of the most influential theories on the quality of parent-child relationships is Bowlby's attachment theory (Bowlby, 1969). Based on attachment theory, the Parental Bonding Instrument (PBI) was designed by Parker, Tupling, & Brown. (1979) and is one of the most widely used instruments to measure parent-child bonding among adolescents. It assesses the quality of relationships between adolescents and their parents during the first 16 years. The measure contains two dimensions 'care' and 'overprotection' or 'control' as perceived by

adolescents. The care dimension includes 12 items and the overprotection dimension includes 13 items. Also, there are two versions, comprising 25 items for mother-child bonding, and 25 items for father-child bonding. Each of the scale items are rated 0 (very unlike) to 3 (very like) producing a maximum possible total score of 36 for the care dimension and 39 for the overprotection dimension.

The PBI has been translated into several different languages and validated for use in a range of different countries and cultures. For example, it has been translated and validated for Dutch, French, Greek, Japanese, Urdu, Chinese and Persian speakers (Arrindell, Hanewald, & Kolk, 1989; Behzadi & Parker, 2015; Kitamura & Suzuki, 1993; Liu, Li, & Fang, 2011; Mohr, Preisig, Fenton, & Ferrero, 1999; Qadir, Stewart, Khan, & Prince, 2005; Tsaousis, Mascha, & Giovazoliaz, 2012).

The Japanese version of the PBI was validated by Kitamura and Suzuki (1993) through a process of translation to the Japanese language, back translation to the English language, and analysis of the factor structure. Also, they examined the association of scores on corresponding items for parents and their children. In addition, they investigated the effect of social desirability on participants' responses. The results showed corresponding scores between parents and children, also there were no social desirability effects found for the Japanese version, and the factor loading patterns were similar of the original PBI.

The Brazilian Portuguese version of the PBI was validated by Hauck, Schestatsky, Terra, Knijnik, Sanchez, & Ceitlin. (2006). They used the Conflict Tactics Scales method (CTS2) which comprises three stages; evaluation of conceptual and item equivalence, evaluation of semantic equivalence, and evaluation of operational and functional

equivalence. The results found that the Brazilian Portuguese version of the PBI was extremely suitable for use in Brazil.

An Urdu version of the PBI was validated by Qadir, Stewart, Khan, & Prince. (2005). Qadir et al. used translation and back translation, calculated internal consistency and reliability using Cronbach alpha and a factor analysis to assess the structure of the PBI in Urdu.

From the above studies, it is evident that the PBI has been translated into several languages and is appropriate for use in a range of cultures. However, the original two-factor structure of 'care' and 'overprotection' has not always been replicated. For example, Qadir et al.'s results were found to be consistent with the three-factor structure of Care, Protection – Personal Domain and Protection – Social Domain identified by Cubis, Lewin, & Dawes (1989) and the three factor structure of Care, Denial of Psychological Autonomy, and Encouragement of Behavioural Freedom identified by Murphy & Silka (1997).

In summary, processes of assessing cultural validation used in previous research have involved language translation and back translation, assessing semantic equivalence, face validity, internal consistency and factor analysis. However, few studies have assessed the concurrent validity of the PBI. An exception is Qadir et al. (2005) who assessed concurrent validity of the Urdu version with the clinical interview schedule (CIS-R). They found significant correlations between low care scores and high overprotection scores on the PBI with mental disorders among adult women. Although not specifically assessed for concurrent validity, others have noted correlations between depression and PBI scores (Martin et al., 2004; Narita et al, 2000), between self-esteem and PBI scores (Cheng & Furnham, 2004), and bullying and PBI (Mitsopoulou & Giovazolias, 2013).

From reviewing the psychometric tests available for use in Saudi Arabia, there is a need for advanced measures which assess the quality of the relationship between parents and children. The aim of this study was to validate the PBI for use with Saudi adolescents following the steps used in previous cultural validations. This involved translation to the Arabic language, back translation, assessment of semantic equivalence and face validity, analysis of the internal consistency of the subscales, analysis of the factor structure of the PBI and assessment of concurrent validity. As previous researchers have found significant relationships between PBI scores and depression, self-esteem, and bullying (Cheng & Furnham, 2004; Martin, Bergen, Roeger, & Allison, 2004; Mitsopoulou & Giovazolias, 2013; Narita, Sato, Hirano, Gota, Sakado, & Uehara, 2000), concurrent validity was assessed by correlating the PBI scores with scores for depression, self-esteem, and bullying.

Aims

1. The aims were to assess the usefulness of the PBI for adolescents in Saudi Arabia.
2. To assess the semantic / linguistic equivalence and face validity of the PBI items
3. To assess the internal consistency of the PBI
4. To assess the factor structure of the PBI
5. To assess the concurrent validity of the PBI with other measures assumed to be associated with parental bonding and attachment (e.g., bullying, depression)
6. To assess the construct validity of the PBI items

Cultural validation was done in stages because each of the aims required a different procedure. The methods and results of each stage are presented together.

5.2. Validation Study 1

5.2.1. Stage One: Translation

The PBI items were translated from the English language to the Arabic language using back-translation. The verb tense was changed from the past to simple present tense in English and Arabic languages to be suitable to the targeted sample with an age range from 13 to 18 years old. The translation was done by ten Arabic and English speaking psychologists including the researcher. The items were then translated back into English to check that the original meaning was kept. This process was repeated until a satisfactory translation was achieved. The translators thought that the questionnaire was acceptable for the sample of adolescents and had good face validity.

5.2.2. Stage Two: Linguistic/ semantic equivalence and face validity

A panel of experts was used to assess the translation, the relevance of the items, and the face validity of the instrument for use with the sample of Saudi adolescents.

Sample: Ten Psychologists from Saudi universities were selected to assess linguistic/ semantic equivalence and face validity. The majority of the participants were assistant professors, four counselling psychologists, two clinical psychologists, two developmental psychologists, and two educational psychologists. Table 5.1 shows the specialisms of the ten experts.

Table 5.1

Specialisms of the psychologists participating in the assessment of semantic/linguistic equivalence

Specialism	University
Counselling Psychology	King Saud University
Educational Psychology	King Saud University
Clinical Psychology	AL-Baha University
Clinical Psychology	Kent State University (U.S)
Developmental Psychology	AL-Baha University
Counselling Psychology	AL-Baha University
Counselling Psychology	AL-Baha University
Educational Psychology	AL-Baha University
Developmental Psychology	AL-Baha University
Counselling Psychology	Umm ALQura University

Procedure: The psychologists were given a copy of the PBI in Arabic and asked to rate the suitability, including the language, of each item for the Saudi adolescent sample using a 5-point percentage scale. The scale points were 20 %, 40 %, 60 %, 80 %, 100 % (with 100% as the highest value rating) (AL-Tariri, 1997). The cut-off score of 85% was used for accepting the item as suitable for use with Saudi adolescents. A cut off score 75- 85 is accepted by most psychologists to indicate the suitability of face validity of tests (Cusin, Yang, Yang, & Fava, 2009).

Results

Table 5.2 shows the results of the experts' judgments of the face validity of each PBI item. Mean ratings were high for each item and ranged between 92 and 98. It was concluded that the translation was good and that linguistic equivalence and face validity was achieved.

Table 5.2

Experts' mean scores and standard deviations (SD) for each item on the Care and Protection dimensions

Item	Care		Item	Over protection	
	Mean score	SD		Mean score	SD
1	96	.762	3	98	.916
2	96	.988	7	94	.904
4	92	.888	8	94	1.16
5	94	.924	9	94	1.01
6	94	.811	10	94	.956
11	96	.903	13	96	1.06
12	96	.817	15	94	.922
14	96	.946	19	98	1.008
16	94	.976	20	98	1.014
17	94	.912	21	96	.939
18	96	.974	22	96	1.032
24	96	.983	23	98	1.068

5.3 Validation Study Two: Internal consistency assessment

Participants

Participants for the preliminary assessment of internal consistency were 71 boys and 27 girls from schools in Riyadh. The mean age for participants was 15.25 years old and the age range was 13 – 18 years. All had parental consent to participate.

Materials and procedure

The Arabic translation of the PBI was administered in school (see Chapter Three for general procedures and ethics). The internal consistency of the PBI was assessed by calculating the Cronbach alpha for each subscale of the mother and father versions. Also Pearson correlations were calculated between each scale item and the total score.

Results

Internal consistency as measured by Cronbach's alpha for each dimension of the PBI is shown in Table 5.3. Internal consistency for both the Mother and Father Protection subscales was poor.

Table 5.3

Cronbach's alpha for Care, Protection and Total scale, Mother and Father versions

Dimension	Mother PBI	Father PBI
Care	.84	.87
Protection or control	.52	.52
Total scale	.68	.69

Table 5.4 shows the correlations between each item and the total score for Mother Care, also correlations between each item and the total score for Father Care. All correlations were statistically significant ($p = 0.001$) and remained significant after applying Bonferroni corrections ($p = 0.05/12 = 0.004$). When the Cronbach alpha results and the correlations are considered together, internal consistency for Mother Care and Father Care were good.

Table 5.4

Care Subscale: Correlations between each item and the total score for the Mother Care and Father Care (n = 98)

Items	Mother Care Subscale <i>R</i>	Father Care Subscale <i>R</i>
C 1	.270**	.633**
C 2	.592**	.667**
C 4	.550**	.669**
C 5	.428**	.694**
C 6	.518**	.704**

C 11	.473**	.742**
C 12	.483**	.709**
C 14	.657**	.713**
C 16	.617**	.720**
C 17	.550**	.744**
C 18	.503**	.677**
C24	.678**	.641**

All correlations significant at $p < 0.001$

Table 5.5

Protection Subscale: Correlations between each item and the total score for the Mother

Protect and Father Protect (n = 98)

Items	Mother Protect Subscale	Father Protect Subscale
	<i>R</i>	<i>R</i>
P 3	.588*	.541*
P 7	.603***	.598**
P 8	.564**	.532*
P 9	.604***	.572*
P 10	.549**	.599**
P 13	.416*	.596**
P 15	.527**	.584**
P 19	.490*	.549**
P 20	.600**	.570**

P 21	.481*	.571**
P 22	.581*	.564**
P 23	.471*	.127
P 25	.501*	.589**

* $p = 0.017$, ** $p = 0.002$, *** $p < 0.001$

Correlations between each item and the total score for Mother Protection and Father Protection can be seen in Table 5.5. After applying Bonferroni corrections ($p = 0.05/13 = 0.003$), Item 23 in the Father Protect subscale and Item 3 in the Mother Protect subscale were not significantly correlated with the total score. When the Cronbach alpha results and the correlations are considered together, internal consistency for these subscales was poor. Also, item 23 had a higher mean than the other items for the overprotective dimension in the mother version. For Item 3 in Mother Protect subscale the researcher decided to examine the result of factor analysis for the item.

After inspecting item 23, it was thought that this item had been translated to have a positive meaning in the Arabic version while in the original English language version it has a negative meaning (overprotective or control) between parents and adolescents. In other words, parental monitoring for their children's life in all details is an optimal act according Saudi culture, and not a negative act as implied in the original version. Consequently, the researcher consulted with the team of translators and expert psychologists in order to change the translation to improve the meaning in the Arabic language. This required retesting the internal consistency of the scale again with the revised translation.

5.4 Validation Study Three: Internal consistency replication, factor structure and concurrent validity

Participants

Participants were 156 boys and 145 girls from schools in Riyadh. The mean age for participants was 15.47 years old and the age range was 13 – 18 years. All had parental consent to participate.

Instruments and Procedure

The revised Arabic translation of the PBI was administered in school in a questionnaire pack with measures of self-esteem (Rosenberg, 1979), depression (Lovibond & Lovibond, 1985) and bullying (Abu-Khazal, 2009) which had been previously validated for use in Saudi Arabia and assessed for suitability in Chapter Four. General procedures and ethics were described in Chapter Three. The internal consistency of the PBI was assessed by calculating the Cronbach alpha and Pearson correlations. The factor structure was assessed using factor analysis with principal axis factoring.

Results

Internal consistency replication

The Care dimension showed good internal consistency in both the mother and father scales, whereas the overprotection dimension showed improved internal consistency in both versions. Cronbach's alpha for each dimension is shown in Table 5.6, Correlations between each scale item and the total score (Table 5.7 and 5.8) were all statistically significant after Bonferroni corrections. When the Cronbach alpha results and the correlations are considered together, internal consistencies for Mother Care and Father Care were good and internal consistencies for Mother Protect and Father Protect were improved compared to the validation Stage 3.

Table 5.6

Cronbach's alpha for Care, Protection and Total scale, Mother and Father Versions

Dimension	Mother PBI	Father PBI
Care	.85	.91
Protection or control	.70	.71
Total scale	.69	.70

Table 5.7

Care subscale: Correlations between each item and the total score for the Mother Care and Father Care (n = 301)

Items	Mother Care Subscale <i>R</i>	Father Care Subscale <i>R</i>
C 1	.511	.627
C 2	.591	.720
C 4	.561	.734
C 5	.621	.722
C 6	.657	.727
C 11	.583	.746
C 12	.632	.767
C 14	.684	.680
C 16	.655	.680
C 17	.668	.746
C 18	.583	.647

All correlations significant at $p < 0.001$

Table 5.8

Protection Subscale: Correlations between each item and the total score for the Mother

Protect and Father Protect (n = 301)

Items	Mother Protect Subscale <i>R</i>	Father Protect Subscale <i>R</i>
P 3	.247	.394
P 7	.476	.599
P 8	.410	.384
P 9	.571	.545
P 10	.598	.551
P 13	.466	.411
P 15	.576	.529
P 19	.365	.385
P 20	.552	.538
P 21	.453	.485
P 22	.408	.418

All correlations significant at $p < 0.001$

Factor analysis

A principal axis factor analysis was conducted with varimax rotation on all 25 items for the mother and father versions separately.

For the father version, the Kaiser-Meyer-Olkin measure verified the sampling adequacy and factorability for the analysis, $KMO = .88$ and Bartlett's Test of Sphericity was significant $p < .001$. An initial analysis was run to obtain eigenvalues for each factor. A three factor solution explained 44.9% of the variance (see Figure 5.1 and Appendix Table 1). The eigenvalues for these three factors were 6.851, 2.292 and 2.092. After rotation, items loading on the three factors are shown in Table 5.9. The Care items all loaded on factor 1 (range of loadings 0.49 - 0.72). The Overprotection items were loaded on two factors (range of loadings 0.31 - .57). Factors 2 and 3 represent to two sub-dimensions of the Overprotection scale. Items, 3, 7, 15, 21, 22, 25 indicated Encouragement of Behavioural Freedom and items 8, 9, 10, 13, 19, 20, 23 indicated Denial of Psychological Autonomy (Murphy, Brewin, & Silka, 1997; Qadir et al., 2005).

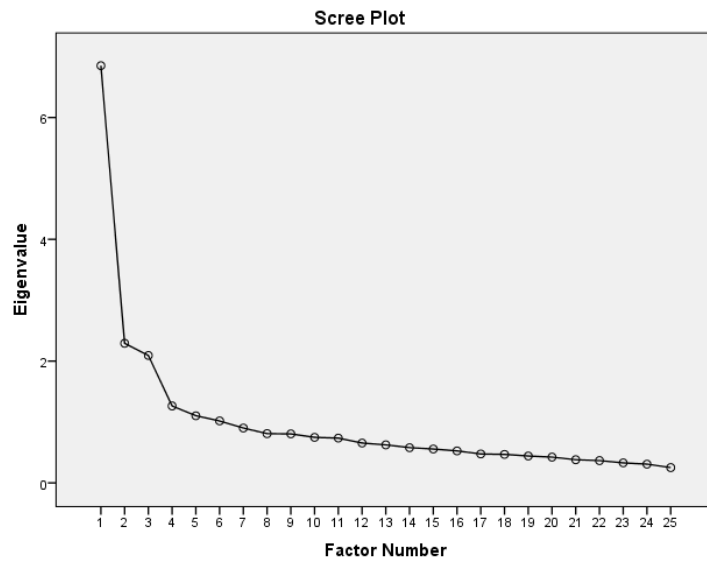


Figure 5.1

Factor analysis scree plot for the father version of the PBI

Table 5.9

Principal axis factor analysis for Parental Bonding Instrument Father version

Items in English language present tense	Factor 1 Care	Factor 2 Encouragement of behavioural freedom	Factor 3 Denial of autonomy
1 Speaks to me in a warm and friendly voice	.495		
2 Does not help me as much as I need	.727		
3 Lets me do things I like doing		.492	
4 Seems emotionally cold to me	.687		
5 Appears to understand my problems	.671		
6 Is affectionate to me	.595		
7 Likes me to make my own decisions		.572	
8 Does not want me to grow up			.328
9 Tries to control everything I do			.469
10 Invades my privacy			.505
11 Enjoys talking things over	.679		
12 Frequently smiles at me	.669		
13 Tends to baby me			.345
14 Does not seem to understand what I need	.654		
15 Lets me decide things for myself		.561	
16 Makes me feel I'm not wanted	.651		
17 Can make me feel better when I am upset	.646		
18 Does not talk with me very much	.592		
19 Tries to make me dependent on him			.525

20 Feel I cannot look after myself if he is not around		.501
21 Gives me as much freedom as I want	.640	
22 Lets me go out as often as I want	.558	
23 Is overprotective of me		.442
24 Does not praise me	.645	
25 Lets me dress in any way I please		.315

For the mother version, the Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, $KMO = .85$ and the Bartlett's Test of Sphericity was significant ($p < .001$). An initial analysis was run to obtain eigenvalues for each factor in data. A three factor solution explained 39.1% of the variance and the eigenvalues for these three factors were 5.477, 2.326 and 1.996 (see Table 3). After rotation, items were loading on three factors (see Table 4), except items 3 and 25. Similar to the father version, the Care items all loaded on factor 1 (range of loadings 0.46- 0.64). Care items 1, 5, 11, 12, 15, 17 were loaded negatively on factor 2 (the overprotection Encouragement of Behavioural Freedom factor). The Overprotection items were loaded on two factors (range of loadings 0.30 - .67). Factors 2 and 3 represent two sub-dimensions of the Overprotection scale. Similar to the father version, items 7, 15, 21, 22, loaded on factor 2 (indicating Encouragement of Behavioural Freedom), and items 8, 9, 10, 13, 19, 20, 23 loaded on factor 3 (indicating Denial of Psychological Autonomy) (Murphy, Brewin, & Silka, 1997; Qadir et al., 2005). Items 3 and 25 were not loaded on any of the factors of the Overprotection scale.

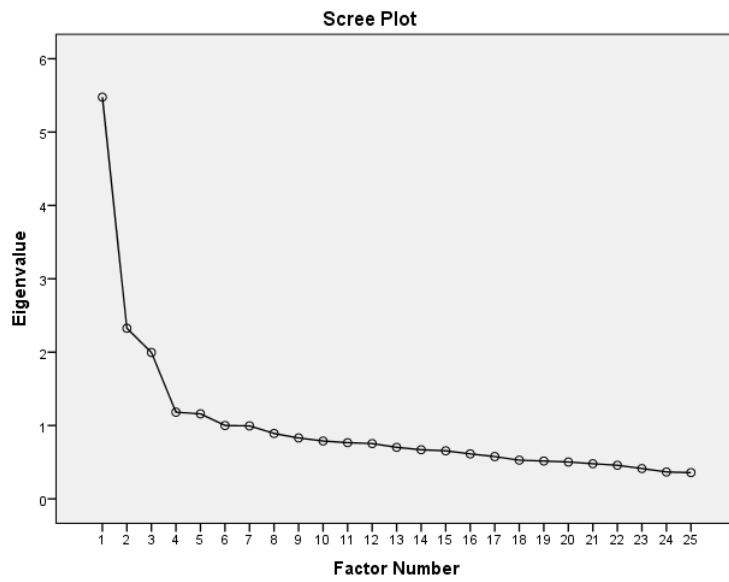


Figure 5.2

Factor analysis scree plot for the mother version of the PBI

Table 5.10

Principal axis factor analysis for Parental Bonding Instrument Mother version

Items in English language present tense	Factor 1	Factor 2	Factor 3
	Care	Encouragement of behavioural freedom	Denial of autonomy
1 Speaks to me in a warm and friendly voice	.388	-.342	
2 Does not help me as much as I need	.531		
3 Lets me do things I like doing			
4 Seems emotionally cold to me	.570		
5 Appears to understand my problems	.461	-.404	
6 Is affectionate to me	.551	-.413	
7 Likes me to make my own decisions		.451	
8 Does not want me to grow up	-.466		.353
9 Tries to control everything I do	-.622		.535
10 Invades my privacy	-.570		.522
11 Enjoys talking things over	.420	-.445	

12 Frequently smiles at me	.546	-.358	
13 Tends to baby me	-.546		.446
14 Does not seem to understand what I need	.622		
15 Lets me decide things for myself		.568	.307
16 Makes me feel I'm not wanted	.642		
17 Can make me feel better when I am upset	.549	-.352	
18 Does not talk with me very much	.466		
19 Tries to make me dependent on him	-.531		.376
20 Feel I cannot look after myself if he is not around	-.551		.511
21 Gives me as much freedom as I want		.671	
22 Lets me go out as often as I want		.489	
23 Is overprotective of me	-.549		.492
24 Does not praise me	.637		
25 Lets me dress in any way I please			

Concurrent validity

A statistically significant negative correlation was found between mother care scores and depression scores; $r(301) = -.532, p < .001$. Higher scores for depression were associated with less mother care. Also, there was a positive correlation between mother overprotection scores and depression scores; $r(301) = .275, p < .001$. Higher scores from depression were associated with higher mother overprotection. A statistically significant correlation was found between mother care and self-esteem scores; $r(301) = .528, p < .001$. Higher scores for self-esteem were associated with higher mother care. Also, there was a negative correlation between mother care scores and bullying scores; $r(301) = -.394, p < 0.001$. Victimization of bullying was negatively correlated with mother care scores; $r(301) = -.469, p < 0.001$. Higher scores for bullying and victimization were associated with lower mother care scores. Correlations between mother overprotection scores, bullying and victimization were nonsignificant after applying Bonferroni corrections.

For father care, statistically significant negative correlations were found between father care scores and depression scores; $r(301) = -.587, p < 0.001$. Higher scores for depression were associated with less father care. Self-esteem scores were found to be significantly correlated with higher father care scores, $r(301) = .600, p < .001$. Higher scores for self-esteem were associated with higher scores for father care. Furthermore, higher bullying scores were found to be negatively correlated with low father care scores, $r(301) = -.431, p < 0.001$. Also, higher victimization scores were negatively correlated with low father care scores, $r(301) = -.435, p < 0.001$.

Father overprotection was negatively correlated with self-esteem; $r(301) = -.256, p < 0.001$. Higher scores for father overprotection were associated with lower scores for self-

esteem. Also, there was a significant correlation between father overprotection scores and depression scores, $r(301) = .238, p < 0.001$. Higher scores for father overprotection were associated with higher scores for depression. Overprotection was significantly correlated with bullying; $r(301) = .166, p = 0.004$ and victimization; $r(301) = .208, p < 0.001$. Higher scores for bullying and victimization were associated with higher scores for father overprotection.

5.6 Discussion

To the best of our knowledge this is the first study to report a psychometric analysis of the PBI in the Arabic language. The validation of the PBI for use in Saudi Arabia is an important addition to Arabic psychometrics. This validation followed similar techniques used in previous research undertaking validation to other languages (Hauck et al., 2006; Kitamura & Suzuki, 1993; Qadir et al., 2005). These steps were translation, back translation, reliability / internal consistency, factor analysis and concurrent validity assessment. In this validation, the verb tenses for all items were changed to the present simple tense so that it would be suitable for adolescents aged 13-18 years in Saudi society.

The results showed the feasibility of the PBI only for the care dimension. The validity of the protection dimension is poor for the Saudi version of the PBI, especially for the mother version. The internal consistency of the protection dimension was poor in the preliminary study due to item 23 ('was overprotective of me') and item 3 ('Let me do things I liked doing'). Although this improved in the replication study, the correlations for these items were low. The factor analysis showed poor construct validity for the mother version of the protection dimension.

The causes for the poor validity of the protection subscale can be related to cultural values. The items for the overprotection dimension in the original PBI assessed two factors; encouraging freedom and denying human autonomy. Items 3 and 25 which are about encouragement of behavioural freedom did not fit the rotated factor matrix. In western societies, where the PBI was developed, adolescents (boys and girls) have more freedom and independence to administer their life issues. Also, there are no strict social rules which force them to be obedient to their parents as there are in Saudi society. In the validation of the Pakistani version (Qadir et al., 2005), the internal consistency for items 13, 21, 22, 23 and 25 which belong to the overprotection dimension revealed no significant correlations. The items had been affected by social norms. In the Pakistani culture and Urdu language item 23 tends to be perceived as a positive feature of parenting. In contrast, in the original version, this item tends to be perceived negatively as denying freedom. The cultural similarity between Pakistani and Saudi society supports the validation problems found for the protection dimension.

For the concurrent validity, the results of the correlation between PBI scores and depression scores support Parker et al. (1979). They showed that PBI was associated with neurotic depression in adult life, when the scores were lower for care and higher for overprotection. Also, lack of affection (less care) correlated with psychological problems in adult life such as mental illness and personality disorders (Hauck, Schestatsky, Terra, Knijnik, Sanchez, & Ceitlin, 2006). The results also support Kitamura and Suzuki (1993) who found that depression was correlated with mother overprotection. For bullying, the results support Mitsopoulou and Giovazolias (2013), also Williams and Kennedy (2012) and Koiv's (2012) studies which found an association between affectionless parenting and bullying/victimization among adolescents.

The properties of PBI found in this validation study have found that it will be a suitable instrument for investigation of the quality of relationship between parents and adolescents in Saudi society. The internal consistency for the care dimension was good and it had the strongest factor loadings. Although the internal consistency for the overprotection dimension was improved after correcting the translation and the conceptual equivalence, the factor loadings of the items were inconclusive. PBI validation is an important step to enrich the Arabic psychological library with diversified instruments. However, cultural patterns have a clear impact on the overprotection dimension which raises concerns about implementing this sub-scale in Saudi society.

The results from this chapter and Chapter Four provide a good basis and suitable instruments for further investigation of the effects of family structure on Arabic speaking adolescents from polygamous and monogamous families.

Chapter Six

Study 3: Effects of adolescent age, gender and family type on parental bonding, psychological well-being and bullying/victimisation

6.1 Introduction

Adolescence is considered to be an important period of development (Zahran, 2005). Parent involvement in the upbringing of their adolescents and building a healthy parent-adolescent relationship is expected to lead to psychological and social adjustment for adolescents (Upton, 2012). The quality of the parent-adolescent relationship is an important factor determining how the adolescent's adult life will be (Bowlby, 1988; Mitchell & Ziegler, 2013; Parker et al., 1979). Berk (2010) stated that the quality of the parent-child relationship is the single most consistent predictor of mental health throughout adolescence.

Numerous researchers have emphasised the extremely important role of parental bonding for healthy development, especially in adolescence (AL-Muhareeb, 2003; AL-Sharfi, 2009; Sun, 2001). Several psychological problems are thought to result from troubled parent-adolescent bonding. For example, feeling insecure, low self-esteem, and depression were reported for early adolescents who have disrupted bonding with their parents (Aminah, 2012; Barakat, 2000). Also, adolescents who had an unhealthy

relationship with one of the parents were reported to be more likely to be involved in violence, sexuality, and substance abuse (Benjamin, 2003; Falci, 1997; Jonson, 1993).

The parent-adolescent relationship is one of the family processes affected by family structure (Falci, 1997). Theorists who take the successful family structure perspective argue that family structure influences the couple's relationship and their mental health, and then affects children's psychological well-being (McLanahan & Sandefure, 1994). An alternative view (Acock & Demo, 1994) is that family processes affect children and adolescents' personalities regardless of the type of family structure. Cohesion and effective communication between the members of a family are important factors for family stability (Olson, 1986), and a harmonious relationship between the couple is a salient indication of family functioning. In other words, a high level of harmonious parent relationship and low conflict lead to intact parent-adolescent bonding and consequently higher well-being for children and adolescents. It is expected that the relationship with the father will be different for children and adolescents from polygamous families when compared to those from monogamous families. One of the reasons being that fathers are likely to spend less time with their children in polygamous families. There are very few studies on the parent-adolescent relationship among polygamous families and further research is needed in this area.

This study will investigate the differences between adolescents from two different family structures, polygamous and monogamous families with regards to the quality of parent-adolescent bonding. The 'Care' dimension of the PBI validated for use in Saudi society (see chapter five and AL-Sharfi & Pfeffer, 2016) will be used to measure the quality

of the parents-adolescent relationship. The 'Protection' dimension was not included because of poor cultural validity reported in Chapter Five.

In addition, the model proposed in Chapter One includes the adolescent variables of age and gender. Chapter Two reported that very few studies have compared the effects of polygamy on adolescents or children of different ages. Another aim of this study is to compare adolescents of different age groups (early and late adolescence). As adolescents grow and develop they may rely less on their parents for their well-being and models of behaviour (Berk, 2010). However, from an Arabic culture perspective, parents continue to be important throughout adolescence and adulthood (Al-Sharfi, 2009). From a Western culture perspective self-esteem has been found to increase during adolescence (Cole, Maxwell, Martin, Peeke, Seroczynski, Tram, & Maschman, 2001), however, most of the research on self-esteem among Arab adolescents has not compared age differences, so it is difficult to predict for this sample. Depression has been found to increase between childhood and adolescence but differences between younger and older adolescents are not clear (Berk, 2010). Obermeyer, Bott and Sassin (2015) stated that there are very few studies of adolescent depression or satisfaction with life among Arab adolescents. Obermeyer, Bott, & Sassin (2015) reported more frequent rates of depression and anxiety for Arab girls than boys. However, Al-Krenawi, Graham, & Slonim-Nevo. (2002) did not find a relationship between gender and depression for their sample of Arab 13 year-olds in the Negev region. Also, no gender differences were found for bullying behaviours in a sample of Arab adolescents in Israel (Heiman & Olenik-Shemesh, 2016). Gender was included in the first study reported in Chapter 4, however the results could have been affected by having too few girls in the sample. This study will compare differences between boys and girls using a larger sample.

6.1.1 Research aims

The aims of this study were to investigate:

- (1) differences between the participants from polygamous and monogamous families in parental-adolescents bonding using the parental bonding instrument (PBI).
- (2) differences between boys and girls for parental bonding.
- (3) differences between boys and girls in the dependent variables (self-esteem, satisfaction with life, depression, bullying, and victimization).
- (4) differences between early adolescents and late adolescents in parental bonding
- (5) differences between early and late adolescents in the dependant variables (self-esteem, satisfaction with life, depression, bullying, and victimization).

6.1.2 Hypotheses

The hypotheses are as follows:

1. There will be significant differences between the adolescents of polygamous and monogamous families in parental bonding for the care dimension.
2. There will be significant differences between boys and girls in parental bonding for the care dimension.

3. There will be significant differences between boys and girls in self-esteem, satisfaction with life, depression, bullying, and victimization.
4. There will be significant differences between early and late adolescents in parental bonding.
5. There will be significant differences between early and late adolescents in self-esteem, satisfaction with life, depression, bullying, and victimization.

6.2 Methods

6.2.1 Participants

Participants were 266 students, 145 boys and 121 girls; 130 students were from polygamous families and 136 from monogamous families in Riyadh city (see Table 6.1). The mean age for the participants was 15.55 years old and the range ages from 13 to 18 years old. Participants were sampled by using two types of selection; participants from polygamous families were selected purposively, through teachers' identification. Adolescents from monogamous families were sampled randomly from school registers. Participants were divided into two age groups; early adolescence (13 – 15 years, n = 131) and later adolescence (16 – 18 years old, n = 135).

Table 6.1

Gender of participants

Gender	Polygamy N	Monogamy N	Total
Male	64	81	145
Female	66	55	121
Total	130	136	266

6.2.2 Materials

The 'Care' dimension of the validated parental bonding instrument (Chapter 4, AL-Sharfi & Pfeffer, 2016) was used. Also, other questionnaires were the Rosenberg Self-Esteem scale (Rosenberg, 1979), the Satisfaction with Life scale (Diener, Emmons, Larsen, & Griffin, 1985), the Bullying questionnaire (Abu- Khazal, 2009), depression questionnaire (Lovibond & Lovibond, 1985), information and debrief sheets for teachers, parents and participants as well as consent forms. Further details can be found in Chapter Three.

6.2.3 Procedure

The participants were selected from three schools from Riyadh city, two schools for girls and a school for boys. The researcher spent one week to explain the aims of the study for the principals, teachers, and students. Also, the researcher explained the questionnaire instructions to students. The time of data collection was divided to two periods, first 20 minutes to carry out the PBI and later 20 minutes for the psychological wellbeing and

bullying/victimization questionnaires. After the researcher received the consent forms from the parents, principals, and students, that data collection took place in August 2015. For the girls' school, the researcher had a meeting with the principal and the counsellors to explain all the instructions. The data were collected the next day .

6.2.4 Ethics

The ethics of this study were approved by the University of Lincoln School of Psychology Research and Ethics Committee and AL-Baha University and were described in Chapter Three.

6.3 Results

A series of Three-Way between subjects Analysis of Variance tests used to analyse the effect of family structure (2 levels: polygamous, monogamous) and gender (2 levels: male, female) and age stage (2 levels: early and late adolescence) on parental bonding, self-esteem, satisfaction with life, depression, bullying and victimization. All SPSS ANOVA tables can be found in Appendix 3 tables 1-7.

Comparisons for the Parental Bonding Instrument

Figure 1 and Figure 2 show that the mean scores for adolescents for polygamous families on the Father Care and Mother Care scales of the Parental Bonding Instrument were lower than the mean scores for adolescents from monogamous families. The

differences between males and females, and between younger and older adolescents were small.

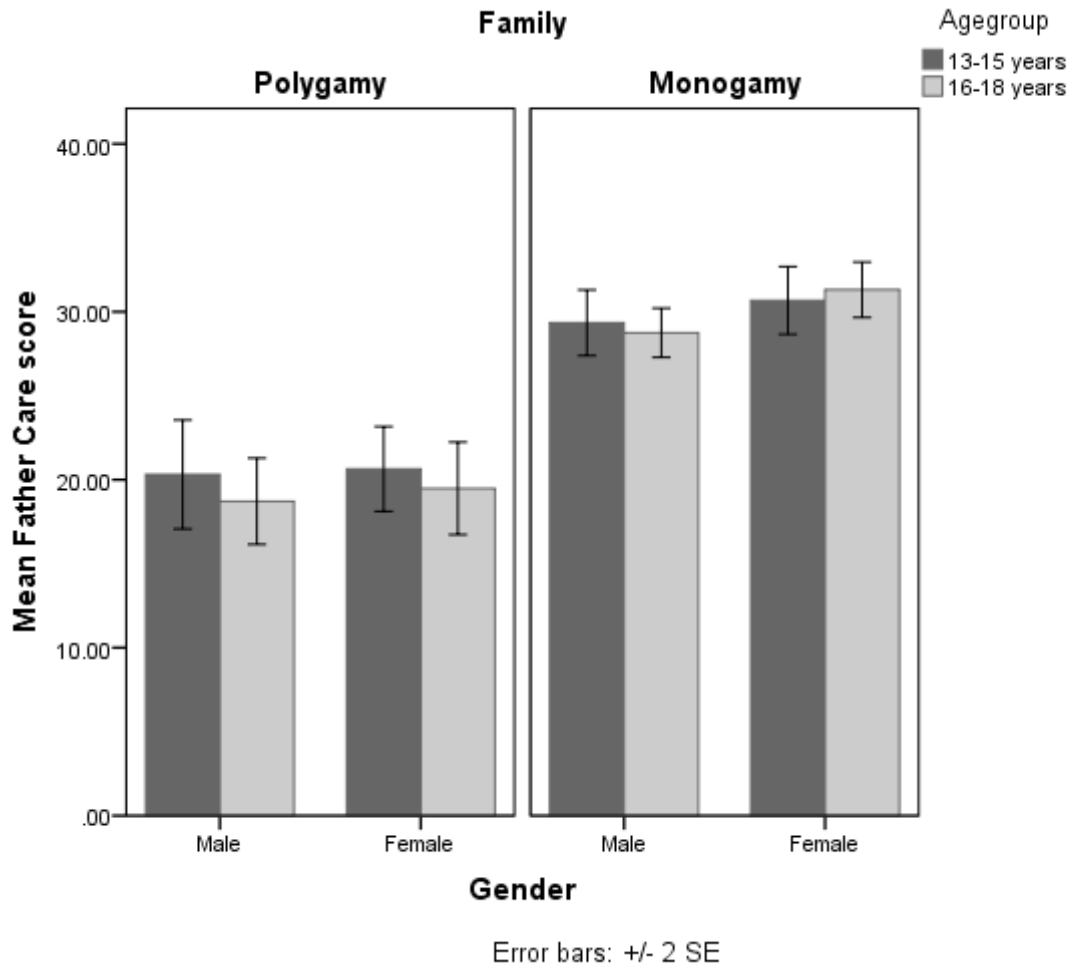


Figure 6.1

Mean scores on the Father Care subscale of the PBI for adolescents from polygamous and monogamous families comparing age group and gender

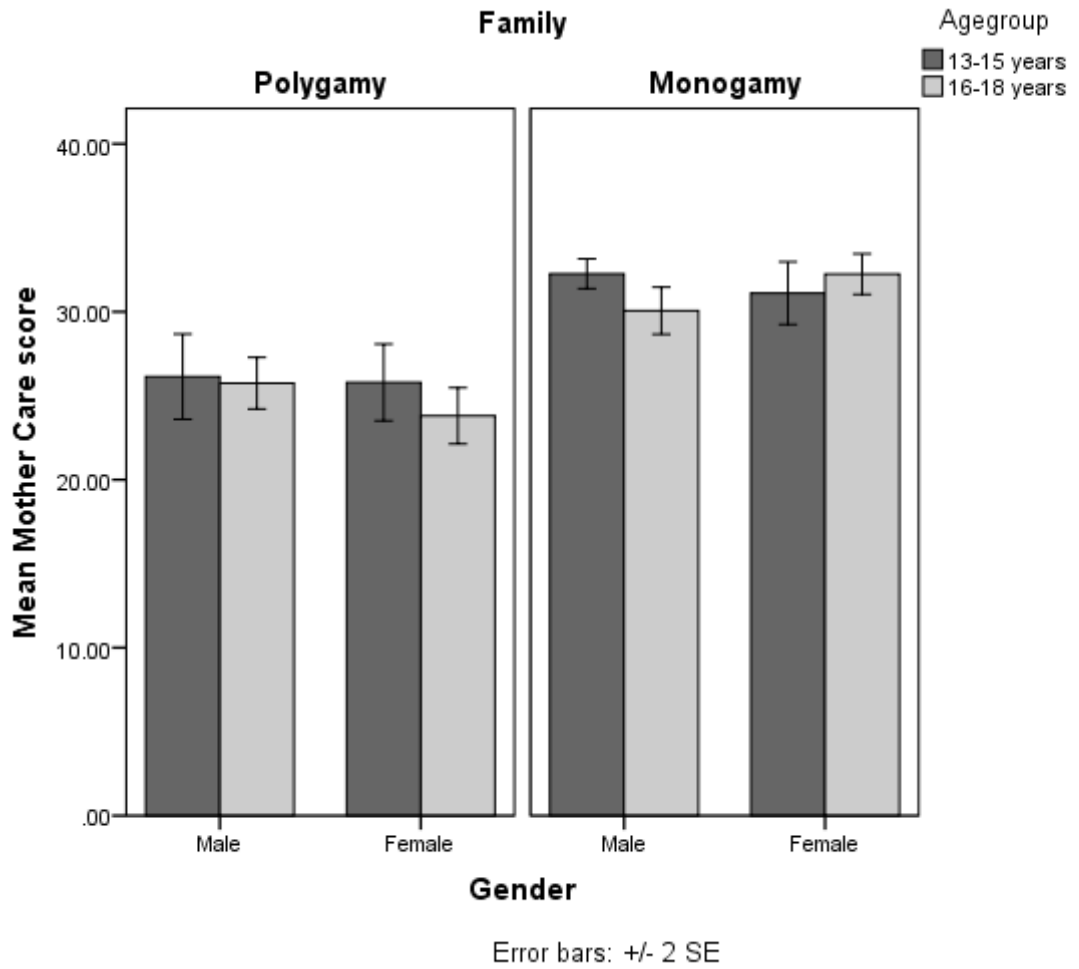


Figure 6.2

Mean scores on the Mother Care subscale of the PBI for adolescents from polygamous and monogamous families comparing age group and gender

For Father Care, significantly lower scores were found for participants from polygamous than monogamous families; $F(1, 258) = 155.247, p < 0.001$, partial eta squared = .381. No significant difference was found between boys and girls $F(1, 258) = 2.367, p > 0.05$. No significant difference was found between older and younger adolescents; $F(1, 258) = 2.220, p > 0.05$. There were no significant interactions between any of the variables.

For Mother Care, significantly lower scores were found for participants from polygamous families than from monogamous families; $F(1,262) = 90.699, p < 0.001$, partial eta squared = .26. There was no statistically significant effect of gender; $F(1,262) = .296, p > 0.05$. Also, no significant effect was found for age group, $F(1,262) = 1.529, p > 0.05$. There were significant interactions for family, gender, and stage; $F(1,262) = 4.002, p < 0.05$, partial eta squared = .015. Post hoc t-tests with Bonferroni corrections found younger males from monogamous families had higher scores than older males from monogamous families; $t = 2.435, df = 79, p = 0.017$. However, this was found to be nonsignificant after applying Bonferroni corrections ($p = 0.05 / 14 = 0.004$).

Self-esteem comparisons

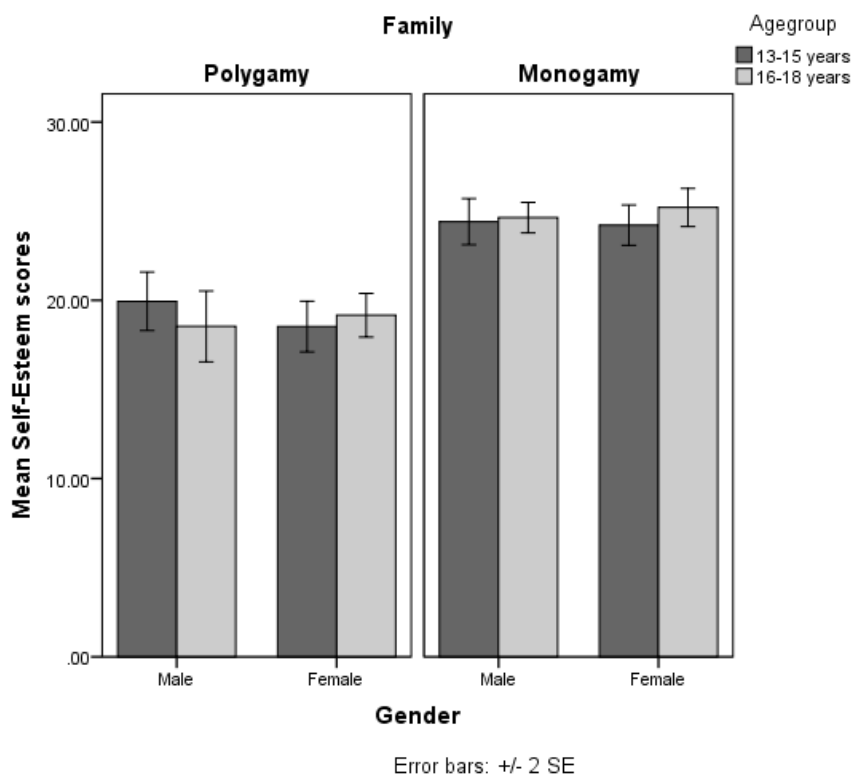


Figure 6.3

Mean Self-Esteem scores for adolescents from polygamous and monogamous families comparing age group and gender

Self-esteem scores were significantly higher for adolescents from monogamous families than polygamous families (see Figure 6.3); $F(1, 258) = 1.36.660$, $p < 0.001$, partial eta squared = .346. There was no significant difference for boys and girls, $F(1, 258) = 0.48$, $p > 0.05$. There was no significant effect of age group, $F(1, 258) = 0.54$, $p > 0.05$, and also no significant interactions.

Satisfaction with Life comparisons.

Figure 6.4 shows that satisfaction with life scores were higher for adolescents from monogamous families than those from polygamous families; $F(1, 258) = 102.441, p < 0.001$, partial eta squared = .284. There was no significant difference for boys and girls, $F(1, 258) = 3.488, p > 0.05$. There was no significant effect of age group, $F(1, 258) = 1.346, p > 0.05$, and also no significant interactions.

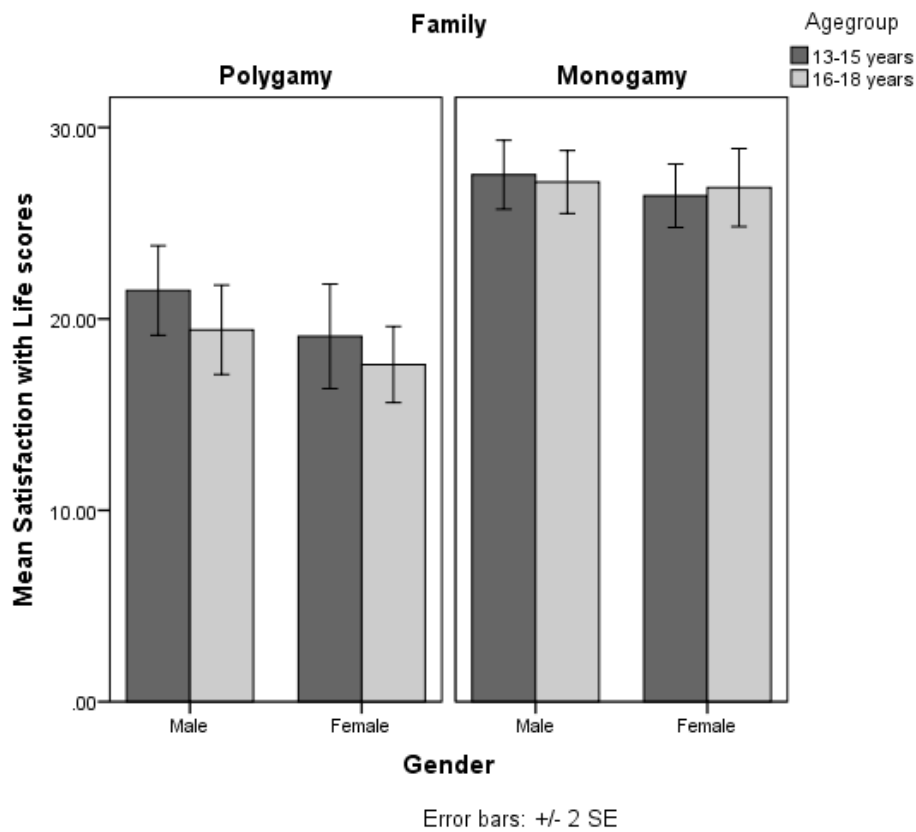


Figure 6.4

Mean Satisfaction with Life scores for adolescents from polygamous and monogamous families comparing age group and gender

Depression scale comparisons

Figure 6.5 shows that depression scores were higher for adolescents from polygamous families than those from monogamous families; $F(1, 258) = 179.336, p < 0.001$, partial eta squared = .410. There was no significant difference for boys and girls, $F(1, 258) = 1.163, p > 0.05$. Older adolescents scored higher than younger adolescents and this difference was significant, $F(1, 258) = 3.898, p = 0.049$, partial eta squared = .015. There were no significant interactions.

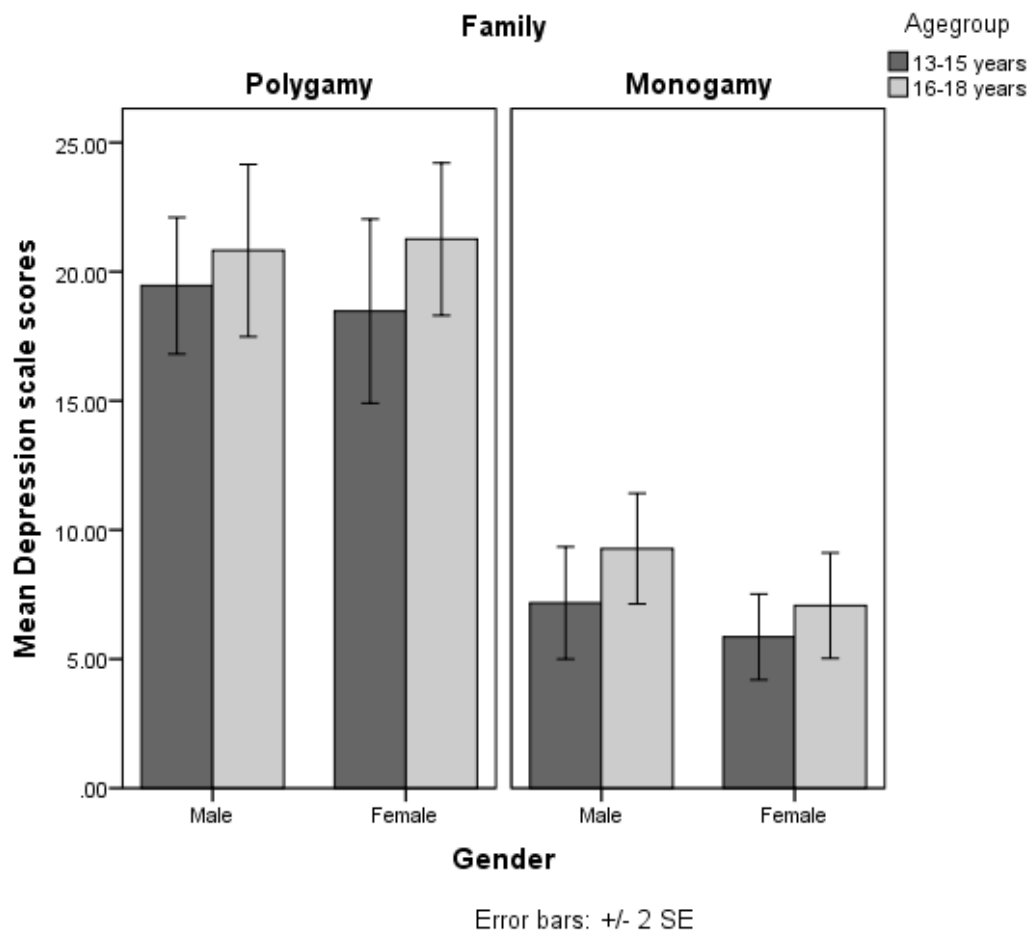


Figure 6.5

Mean Depression scores for adolescents from polygamous and monogamous families comparing age group and gender

As the age difference was significant, further analyses using independent t-tests were carried out to analyse this age group difference in more detail. Comparisons were made between age groups overall, for monogamous and polygamous families separately and for males and females separately. For the overall sample $t(264) = 0.70, p > .05$; for polygamous families $t(126) = 1.331, p > 0.05$; for monogamous families $t(136) = 1.738, p > 0.05$; for boys $t(142) = 0.114, p > 0.05$; for girls $t(120) = 0.833, p > 0.05$.

Bullying scale comparisons

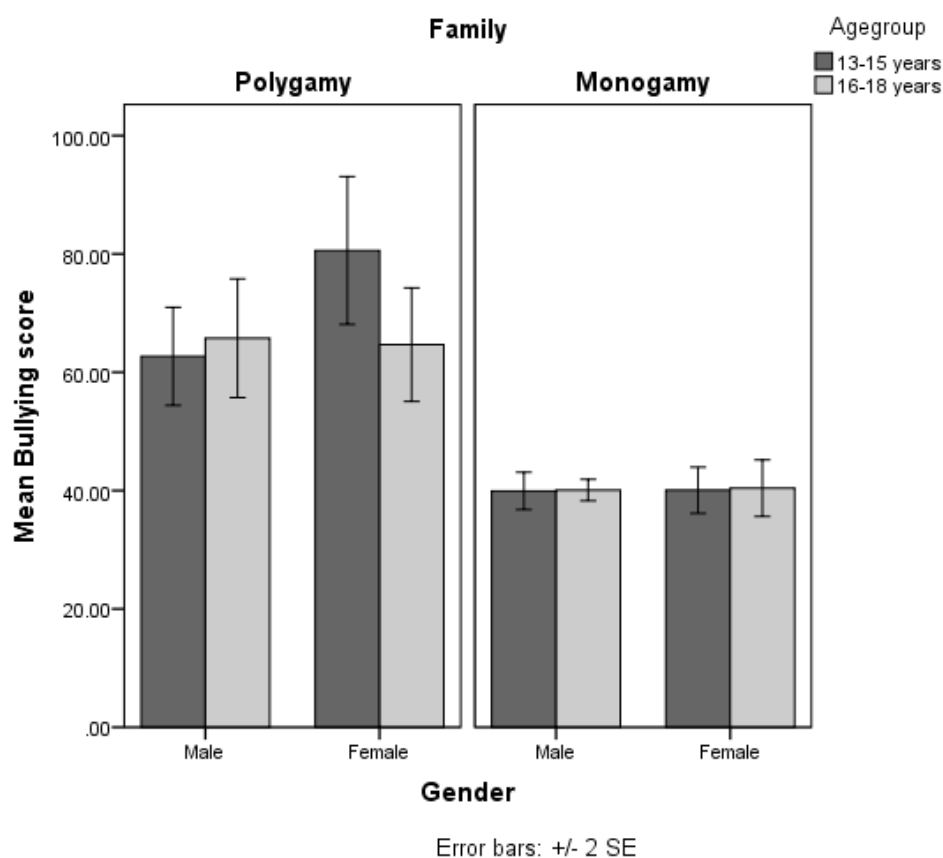


Figure 6.6

Mean bullying scores for adolescents from polygamous and monogamous families comparing age group and gender

Figure 6.6 shows that bullying scores were higher for adolescents from polygamous families than those from monogamous families; $F(1, 258) = 114.884, p = 0.001$, partial eta squared = .308. There was no significant difference for boys and girls, $F(1, 258) = 2.680, p > 0.05$ and no significant age differences, $F(1, 258) = 1.370, p > 0.05$. It is interesting that Figure 6.6 shows that girls from polygamous families scored higher than any other group

(similar to results of Chapter Four), however, there were no statistically significant interactions.

Victimization scale comparisons.

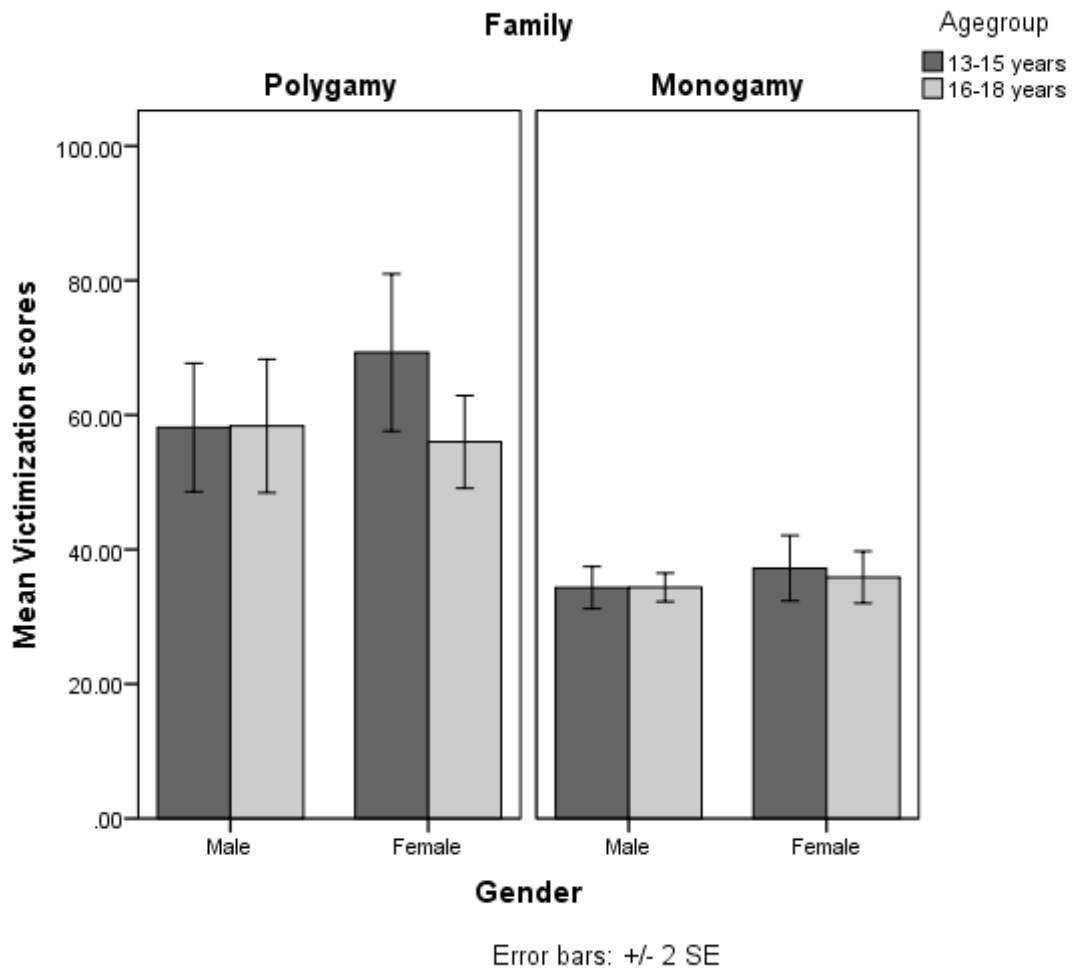


Figure 6.7

Mean victimization scores for adolescents from polygamous and monogamous families comparing age group and gender

Figure 6.7 shows that victimization scores were higher for adolescents from polygamous families than those from monogamous families; $F(1, 258) = 96.891, p = 0.001$, partial eta squared = .273. There was no significant difference for boys and girls, $F(1, 258) = 1.683, p > 0.05$ and no significant age group difference, $F(1, 258) = 2.006, p > 0.05$. Although Figure 6.7 shows that girls from polygamous families scored higher than any other group (similar to results of Chapter Four), there were no statistically significant interactions.

6.4 Discussion

Using the validated PBI is a salient event for the Arabic psychology library as it provides a suitable instrument to assess the parent-adolescent relationship for Arab societies. The results found significant differences between adolescents from polygamous and monogamous families for the Father Care and Mother Care scales of the PBI. This supports the hypothesis. Parental – adolescent bonding is affected by the type of family structure (Acock & Demo, 1994; AL-Khateep, 2007; Falci, 1997). Polygamous family structures include different relationships with family members when compared with monogamous marriages (Elbedour, Salman, Morad, Abu-Bader & Soleman, 2002; Farahat, 2002). Adolescents who live in polygamous families have been found to experience many difficulties as a result of their disrupted relationship with their parents (Elbedour, Onwuegbuzie, Caridine & Abu-Saad, 2002).

The results of this study found that adolescents of polygamous families reported that they receive less care from their parents. Polygynous fathers spend a lot of time away

from the family and polygamous families have been found to complain about father absence which has negative effects on adolescents (Elbedour et al, 2002). Also the tense relationship between the father and his wives in polygamous families may cause the father and mother to show less care toward their adolescents. Mothers in polygamous families face more difficulties than mothers in monogamous families, thus those mothers may have troubled bonding with adolescents as a result of the frustration from dissatisfaction with their marital life (AL-Krenawi & Slonim-Nevo, 2006; AL-Shamsi & Fulcher, 2005). Also, to explain the difficult relationship between fathers and their children in polygamous families, polygamous fathers have been shown to be more controlling of their adolescents than monogamous fathers (AL-Krenawi, Graham & Salem, 1997). Girls and younger adolescents in polygamous families have been found to be more controlled by fathers which reflects the social customs (Zahran, 2005). Also, researchers have found that polygynous fathers are less educated than monogamous fathers (AL-Krenawi & Solnim-Nevo, 2008; AL-Sharfi, 2015). The troubled parent-adolescents bonding in polygamous families reflects the problems experienced by non-intact families in Saudi Arabia. In contrast, adolescents from monogamous families reported higher father and mother care which is an indication of the greater stability that is available in monogamous families. This result supported the hypothesis which expected that polygamous family relationship has negative effects on parent-adolescents bonding.

Also, the results found significant differences between adolescents from polygamous and monogamous families for self-esteem, satisfaction with life, depression, bullying and victimization. This supports the results of the smaller sample reported in Chapter Four. No differences were reported for gender. This agreed with previous research by Al-Krenawi et al. (2002). Bullying behaviour may occur as a negative reaction to troubled

family life (Olweus, 1994), and adolescent bullies have been found to come from disrupted families (Ahmed & Braithwaite, 2004). Adolescents from polygamous families may commit aggression on their friends at school as an expression of dissatisfaction with family life (Faigah, 2009). Although the girls in this sample were found to have higher bullying and victimization scores, which is a similar trend to the results of Chapter Four and Al-Sharfi (2015), however, the results for this larger sample of girls were not statistically significant. No gender differences were found for the other measures which supports previous research by Al-Krenawi et al (2002)

For the age differences, no significant differences were found between younger and older adolescents for parental care, self-esteem, satisfaction with life, bullying, and victimization. A slight age difference was found for depression, with older adolescents scoring higher than younger adolescents. Generally, parents have been found to be more worried about their early adolescents (Zahran, 2005) because of the new changes in their life and the need for guiding them most of time. This could be one reason for the slightly higher depression rates for older adolescents. However, the age group differences were not very strong and disappeared when compared for polygamous and monogamous families separately and for boys and girls separately. Also, Saudi society is from Middle East communities that follow strict education systems to prepare boys and girls for adult life and parents continue to be important throughout adolescence and adulthood (Al-Sharfi, 2009). This would explain the results showing no significant age group differences in these dependent variables.

6.5 Conclusion

The aims of this study were to compare the parent-adolescent relationship between polygamous and monogamous families and to investigate age and gender differences.

Using the culturally validated PBI Arabic version (AL-Sharfi & Pfeffer, 2016), the outcomes of this study found differences between polygamous and monogamous families in the family processes represented by parental-adolescent relationships. Also, the results confirmed the differences between adolescents from polygamous and monogamous families in self-esteem, satisfaction with life, depression, bullying and victimization found from the smaller sample reported in Chapter Four. So the parental – adolescents bonding will be used as a mediating variable in the fourth study to investigate its effect on dependent variables (self-esteem, satisfaction with life, depression, bullying, and victimization). The results of this study and the study reported in Chapter Four found no consistent gender differences. Also, age differences between younger and older adolescents were weak or nonsignificant and this was explained by the cultural context. The next chapter will analyse the relationship between demographic variables, parent-adolescent relationships and the dependent variables (self-esteem, satisfaction with life, depression, bullying, and victimization).

Chapter Seven

Study 4: Relationships between family demographic variables, parent-child relationships and adolescent well-being and behaviour

7.1 Introduction

The results of Study 1 and Study 3 have shown that adolescents from polygamous families are more at risk for developmental problems than adolescents from monogamous families. This supports several studies reported in the research review in Chapter Two (e.g., AL-Krenawi, Graham, & Slonim-Nevo, 2002; AL-Krenwai et al., 2008). Also, the results from Study 3 found that adolescents from polygamous families had lower PBI scores for father care and mother care than adolescents from monogamous families which, according to Parker et al. (1979), means their attachment to their parents is less secure. Insecure attachment is associated with family conflict and father absence which leads to negative effects on psychological well-being and behaviour for children and adolescents (AL-Sharfi, 2009; Constantine et al., 2006).

It was suggested by Constantine (2006) that father absence will affect the parent-adolescent relationship and cause insecure attachment to the parents which leads to problems in psychological well-being and behaviour for adolescents. When adolescents perceive a lack of care, this will result in insecure attachment toward the parents (Rodenburg, Colnesi, & Stama, 2013; Williams & Kennedy, 2012). However, the

relationship between parental care and adolescent development has not been thoroughly investigated in previous research on polygamous families.

Usually in polygamous families the father is not entirely absent but may spend more time with one of the wives and her children than the others. The adolescents receiving less of their father's time may feel that they are receiving less care than adolescents who see their father more often. Adolescents who see their father more often may be the children of the most favoured wife in a polygamous family or they may be children from monogamous families. The effects of the amount of time the father is available for his children in polygamous and monogamous families is expected to affect the adolescents' perceptions of father care. Also, from attachment theory, adolescents' perceptions of parental care are expected to affect their psychological well-being and behaviour.

The amount of time the father gives to each of his wives and their children may impact on the stability of the family. Bronfenbrenner (1994) stressed that family stability is the first support for creating optimal transactions between the ecological systems for child and adolescent development. From the perspective of Bronfenbrenner's theory, optimum development occurs as a result of the positive interactions between the adolescent and the stimuli in each developmental system and depends on successful proximal processes from effective parenting. Disruptions to the parent-adolescent relationship, family conflict, and father absence are features of non-optimal microsystem development. Risks to development may also extend from the other ecological systems. For example, father absence could affect the interactions between parents or between households in polygamous families (the mesosystem) which then affects the mother-adolescent relationship. Children of first wives and later wives in polygamous families may have different experiences of father and mother care which represents interactions in the

microsystem, mesosystem and exosystem. Thus, children and adolescents from polygamous family structures may have negative experiences of transactions between the layers of ecological systems for human development.

Also, the results from Study 1 showed that polygamous fathers were less educated than monogamous fathers, and polygamous families had lower incomes. This was consistent with results of previous studies which found that polygamous parents had lower levels of education and struggled more with economic difficulties which negatively affected their family life (AL-Krenwai, Graham & AL-Krenwai, 1997; AL-Krenwai et al., 2002; AL-Krenawi & Lightman, 2000; AL-Krenawi & Slonim-Nevo, 2008; AL-Shamsi & Fulcher, 2005). This shows that the polygamous family structure is not a simple variable and comparing monogamous and polygamous families is more complex than comparing the number of wives.

It had been found through the systematic review chapter that there is a need to test mediating variables for further investigation about the impact of polygamous relationships on adolescents. Thus, the current study had investigated the parent-adolescent bonding with the care dimension as a mediating variable. The overprotection dimension was excluded because of the poor cultural validity.

The proposed models described in Chapter One suggested that socioeconomic variables affect father and mother care which then affects adolescent psychological well-being and behaviour negatively or positively. To be clear, when the socioeconomic variables provide a stable family situation then parents can provide high care for their adolescents which leads to positive developmental outcomes for the adolescents and vice versa.

7.1.1 Aims of the study

The aims of Study 4 were to investigate:

- (1) Differences between polygamous and monogamous families in demographic variables (parent education, parent occupation, father availability, income, number of siblings, family size).
- (2) Differences between the polygamous and monogamous families in the care dimension of parent-adolescent bonding.
- (3) Differences between polygamous and monogamous families in the dependent variables (self-esteem, satisfaction with life, depression, bullying and victimization).
- (4) Differences between adolescents from first and later wives in polygamous families in father and mother care and the adolescent dependent variables (self-esteem, satisfaction with life, depression, bullying, and victimization).
- (5) To test the models of the study for the entire sample, the adolescents from polygamous families and the adolescents from monogamous families.

7.1.2 Hypotheses

The study attempted to test the following hypotheses:

- (1) There will be significant differences between the adolescents of monogamous and polygamous marriages in the care dimension of the PBI.

(2) There will be significant differences between the adolescents of monogamous and polygamous marriages in psychological well-being (e.g., self-esteem, satisfaction with life).

(3) There will be significant differences between the adolescents of monogamous and polygamous marriages in depression scores.

(4) There will be significant differences between the adolescents of monogamous and polygamous marriages in bullying behaviour and victimisation.

(5) The type of the adolescent-father relationship will predict adolescent well-being, depression, bullying behaviour and victimization.

(6) The type of the adolescent-mother relationship will predict adolescent well-being, depression, bullying behaviour and victimization.

(7) The parent-adolescent relationship will mediate between the effects of demographic variables related to family structure and adolescent outcomes.

7.2 Method

7.2.1 Participants

Participants were 500 students, 239 boys and 261 girls; 233 students were from polygamous families and 267 from monogamous families in Riyadh city (see Table 7.1). The mean age for the participants was 15.55 years old and the age range from 13 to 18 years old. Participants were sampled by using two types of selection; participants from polygamous families were selected purposively, through teachers' identification. Adolescents from monogamous families were sampled randomly from school registers.

Table 7.1

Gender of participants

Gender	Polygamy	Monogamy	Total
	N	N	
Male	111	128	239
Female	122	139	261
Total	233	267	500

7.2.2 Materials

The demographic questionnaire and the 'Care' dimension of the validated parental bonding instrument was used (see Chapter Four, also AL-Sharfi & Pfeffer, 2016). The 'protection' scale was not included because of poor cultural validity (see Chapter Four). Also, other questionnaires were the Rosenberg Self-Esteem scale (Rosenberg, 1979), the Satisfaction with Life scale (Diener et al., 1985), the Bullying questionnaire (Abu- Khazal,

2009), depression questionnaire (Lovibond & Lovibond, 1985), information and debrief sheets for teachers, parents and participants as well as consent forms. Further details can be found in Chapter Three.

7.2.3 Procedure

The participants were selected from four schools from Riyadh city, two schools for girls and two schools for boys. Procedures were described in Chapter Three.

7.2.4 Ethics

The ethics of this study were approved by the University of Lincoln School of Psychology Research and Ethics Committee and AL-Baha University and were described in Chapter Three.

7.3 Results

The results are presented in four sections; the differences in demographics variables, comparison of scores between polygamous and monogamous families, the differences within polygamous families, and the structural equation modelling for testing the models of study.

7.3.1 Comparisons between polygamous and monogamous families in demographic variables.

Table 7.2

Educational levels of fathers and mothers in polygamous (polyg) and monogamous (monog) families.

Education levels	Father			Mother		
	Polyg %	Monog %	Total	Polyg %	Monog %	Total
0 Illiterate	68 (29 %)	15 (.5 %)	83	121 (51 %)	78 (29 %)	199
1 Less than high	71 (30 %)	86 (32 %)	157	65 (27 %)	94 (35 %)	159
2 Secondary	48 (20 %)	78 (29 %)	126	27 (11 %)	40 (14 %)	67
3 Bachelor	35 (15 %)	78 (29 %)	113	20 (.8 %)	47 (17%)	67
4 Graduate	11 (.4 %)	10 (.3 %)	21	0 (0 %)	8 (.2 %)	8
Subtotal	233	267		233	267	
Total			500			500

Table 7.2 shows a higher number of polygynous fathers who were not educated (illiterate) than monogamous fathers. However, there were more monogamous fathers with less than secondary school education. Also, fewer polygamous fathers had secondary school education, and university education than monogamous fathers. These differences were statistically significant; $\chi^2 (4) = 56.78, p < .001$.

Table 7.2 demonstrates the extent of the differences between the mothers in polygamous and monogamous relationships in level of education. Mothers who live in

polygamous families have higher numbers of no education (illiterate) and have lower numbers of the others levels of education as well. These differences were statistically significant, $\chi^2 (4) = 33.828 p < .001$.

Table 7.3

Comparisons between polygamous and monogamous families in father availability

Number of days father available per week	Polygamous families	Monogamous families	Total
Not available	14	0	14
1 day	33	0	33
2 days	31	0	31
3 days	52	2	54
4 days	34	0	34
5 days	38	12	50
6 days	8	17	25
7 days	23	236	259

Table 7.3 shows that fathers from monogamous families were present with their families more than polygynous fathers. Adolescents from polygamous families reported that their fathers were present in the home fewer days in the week. The mean number of

days for polygamous families = 2.87 (SD = 1.65) and for monogamous families = 6.83 (SD = 0.50). This difference was statistically significant; $t(498) = -37.145, p < 0.001$.

Differences between polygamous and monogamous families in family size

Polygamous families had more family members than monogamous families. Polygamous families mean = 12.66 members, SD=3.55. Monogamous families mean = 7.22 members, SD= 2.17. This difference was statistically significant; $t(498) = 20.868, p < 0.001$.

Differences between the polygamous and monogamous families in income

Monogamous families had higher incomes than polygamous families; $U(N1 = 233, N2 = 267) = 15407.500, z = 10.338, p < 0.001$.

Summary of section 7.3.1

The results showed that polygamous and monogamous families differed in education, family size, income and father availability.

7.3.2 Descriptive statistics for self-esteem, satisfaction with life, depression, bullying and victimizations for adolescents from polygamous and monogamous families

Table 7.4 shows the mean scores and standard deviations for adolescents from polygamous and monogamous families. Adolescents from polygamous families scored

lower in self-esteem and satisfaction with life than adolescents from monogamous families. Adolescents from polygamous families also scored higher in depression, bullying and victimization than adolescents from monogamous families.

Table 7.4

	Polygamous		Monogamous		Overall	
	Mean	SD	Mean	SD	Mean	SD
Self-esteem	17.38	3.63	25.91	2.32	21.94	5.21
Satisfaction with life	13.61	4.55	28.50	3.63	21.56	8.48
Depression	25.83	6.38	5.00	4.58	14.70	5.48
Bullying	87.50	25.25	38.02	6.64	61.08	30.50
Victimization	81.10	23.54	32.88	7.23	55.53	29.42

All differences were statistically significant at $p < 0.001$ (see appendix).

7.3.3 Differences between polygamous families of the first wife and later wives

Comparisons were made between polygamous families of the first wife and later wives (second and third wives) for father availability, parental bonding (care scales) and the adolescent dependent variables (self-esteem, satisfaction with life, depression, bullying and victimization). There were 108 first wives in the sample and 125 later wives.

Table 7.5

Father availability

Position of wife	N	Mean number of days father available (SD)
First	108	1.68 (0.99)
Later	125	4.46 (0.92)

Table 7.5 show the differences for father availability in polygamous families, adolescents from later wives reported that their fathers were present in the home more than adolescents from the first wives. This difference was statistically significant; $t(233) = -12,839, p < 0.001$.

Table 7.6

Mean scores and standard deviations for parental bonding (care) for first and later wife families

Position of wife	Adolescent gender	Father Care		Mother Care	
		Mean	SD	Mean	SD
First wife	Male	17.97	8.64	24.66	6.51
	Female	21.09	7.72	22.16	6.12
Subtotal		19.76	8.23	20.18	6.04
Later wife	Male	21.72	7.84	25.21	6.93
	Female	21.92	8.19	21.76	6.04
Subtotal		21.82	7.98	23.48	6.81
Total male		20.12	8.36	25.28	6.39
Total female		21.51	7.94	23.50	6.70
Total		20.87	8.15	21.83	6.49

Table 7.6 shows the difference between the adolescents from the first and later wife for receiving care from the father and mother. This difference was statistically significant; $F(1,229) = 4.592, p = 0.03$. There was no effect for the gender, $F(1,229) = 2.412,$

$p > 0.05$ and no significant interaction between the position of the wife in the family and gender; $F(1, 229) = 1.878, p > 0.05$. Adolescents from first wives reported lower father care. Table 7.6 also shows the difference between the adolescents from first and later wife for mother care. This difference was not statistically significant; $F(1, 229) = 5.62, p > 0.05$. There was an effect of gender for mother care, $F(1, 229) = 4.672, p = 0.03$ and no significant interaction between wife placed and gender; $F(1, 229) = 1.051, p > 0.05$.

Table 7.7

Mean scores for self-esteem, satisfaction with life and depression for adolescents from first and later wives in polygamous families

			Self-esteem		Satisfaction with life		Depression	
Position of wife	Adolescent gender		Mean	SD	Mean	SD	Mean	SD
First wife	Male		16.47	4.36	12.50	4.75	26.20	6.41
	Female		17.15	2.87	12.86	3.60	25.87	5.87
Subtotal			16.84	3.61	12.70	4.14	26.01	6.10
Later wife	Male		18.37	3.83	16.11	4.61	25.56	6.65
	Female		17.78	3.23	13.46	4.66	25.64	6.94
Subtotal			18.07	3.54	14.80	4.80	25.60	6.76
Total male	Male		17.35	4.22	14.18	5.00	25.90	6.50
Total female	Female		17.40	3.02	13.10	4.06	25.76	6.30
Total			17.38	3.53	13.61	4.55	25.83	6.38

Table 7.7 shows there was a difference between the adolescents of the first wife and second wife in self-esteem. Adolescents from later wives reported higher self-esteem than adolescents of first wives. This was statistically significant; $F(1,229) = 18.118, p < 0.001$. There was no gender effect; $F(1,229) = .217, p > 0.05$. Also, there was no significant interaction between the position of the wife in the family and gender; $F(1,229) = .049, p > 0.05$.

There was a difference between adolescents from the first wife and second wife in satisfaction with life (Table 7.7). Adolescents from later wives were more satisfied with life than adolescents from the first wife. This difference was statistically significant; $F(1,229) = 19.431, p < 0.001$. There was a significant difference between girls and boys; $F(1,229) = 6,204, p = 0.01$. There was no significant interaction between position of the wife in the family and gender; $F(1,229) = .098, p > 0.05$.

Table 7.7 shows that there was a significant difference in depression scores between adolescents from the first wife and later wife; $F(1,229) = 23.482, p < 0.001$. Adolescents of the first wife reported more depression than adolescents of later wives. There was no significant difference in gender; $F(1,229) = .016, p > 0.05$. Also, no significant interaction; $F(1,229) = .157, p > 0.05$.

Table 7.8

Mean scores for bullying and victimization for adolescents from first and later wives in polygamous families

Position of wife	of Adolescent gender	Bullying		Victimization	
		Mean	SD	Mean	SD
First wife	Male	86.25	22.47	83.22	19.38
	Female	92.31	23.99	77.31	22.57
Subtotal		89.60	23.43	79.95	21.33
Later wife	Male	81.56	26.13	85.27	23.83
	Female	88.02	28.38	79.88	28.38
Subtotal		84.76	27.32	82.60	26.19
Total male	Male	84.08	24.23	84.17	21.48
Total female	Female	90.56	25.84	78.35	25.01
Total		87.50	25.25	81.10	23.54

For bullying there was no statistically significant difference between the adolescents from first and later wife polygamous families, $F(1,229) = .395, p > 0.05$ (see Table 7.8), no significant difference between boys and girls, $F(1,229) = 2.815, p > 0.05$, and no significant interaction; $F(1,229) = 1.739, p > 0.05$. For victimization, there was no statistically significant difference between the adolescents from first and later wife

polygamous families, $F(1,229) = .490, p > 0.05$. No significant difference between boys and girls, $F(1,229) = 3.760, p > 0.05$, and no significant interaction; $F(1,229) = .529, p > 0.05$ (see Table 7.8).

7.3.4 Using Structural Equation Modelling to test the proposed models

Structural equation modelling (SEM) is identified as a statistical methodology that takes the confirmatory approach to test and analyse a structural theory which is created based on some phenomenon (Byrne, 2010). It has become one of the statistical methods which is increasingly used for social sciences research (Hooper, Coughlan, & Mullen, 2008). It can provide further information about the hypotheses expected by the researchers through the confirmatory relations between the theory variables.

The technique of structural equation modelling depends on describing either diagrammatically or mathematically how the observed and latent variables are related to one another represented in a model (Byrne, 2010). Latent variable is an abstract term for unobserved variables which are represented by the phenomena that is being investigated, and the set of items which measure these phenomena are the observed variables.

For the SEM, the judgment that a model is adequate or inadequate is based on many fit indices which have been developed through the last 30 years. However, it can be a temptation to select the suitable fit indices to accept the model or reject it. In recent years, some experts in structural equation modelling have focused on two or three fit indices to consider whether a model is accomplished or not. For example, Hu and Bentler

(1999) it claimed that is preferable to choose two fit indices to indicate to the best fit such as TLI with SRMR, or RMSEA with SRMR with specified cut off scores. Kline (2005) suggested to include Chi-Square test, RMSEA, CFI, and SRMR. Also, Boomsma (2000) recommended that better fit indices include RSMR, RMSEA, and CFI. In this study, the researcher used the RMSEA and SRMR as fit indices according Hu and Bentler's recommendation. RMSEA is mean root mean square error of approximation, RMR which is abstract for root mean square residual. The cut off scores for these indices were $\leq .09$ for SRMR and $\leq .06$ for RMSEA.

Preparatory steps

The primary steps in the structural equation modelling (AMOS 21) software is completing the normality and the confirmatory factor analysis for each scale in the study. After making sure there was not any missing data for each scale, the normality was calculated and the following table (7.9) demonstrates the range of skewness and kurtosis.

Table 7.9

Range of skewness and kurtosis for each scale

The scales	Range of skewness	Range of kurtosis
PBI father care	From -.85 to -.51	From .81 to -.09
PBI mother care	From -.53 to -1.43	From -.85 to .82
Self-Esteem	From -.46 to 2.58	From -.01 to .41
Satisfaction with Life	From -.32 to -.028	From -1.24 to -.97
Depression	From .25 to .82	From -1.34 to -.58
Bullying	From 1.18 to 1.60	From .03 to 2.41
Victimization	From 1.03 to 1.47	From .02 to 1.54

The cut off score for the Skewness and Kurtosis is ≤ 3 (Field, 2013).

Confirmatory factor analysis

Maximum likelihood was used for each scale to investigate the internal consistency for the items (observed variables). A loading value of .30 was determined as the cut off score to keep the item or remove it (Field, 2013). Table 7.10 show that items of father care were loaded on one factor and have good loading values. Also, mother care items all loaded on one factor

Table 7.10

Maximum Likelihood item loadings for father care and mother care.

Care Items	Father care Factor loading	Mother care factor loadings
1 Speaks to me in a warm and friendly	.61	.48
2 Did not help me as much as I need	.69	.59
3 Seems emotionally cold to me	.70	.60
4 Appears to understand my problems	.72	.53
5 Is affectionate to me	.66	.66
6 Enjoys talking things over	.77	.58
7 Frequently smiles at me	.70	.53
8 Does not seem to understand what I	.62	.59
9 Makes me feel I'm not wanted	.70	.69
10 Can make me feel better when I am	.73	.64
11 Does not talk with me very much	.60	.67
12 Does not praise me	.66	.61

For the self-esteem scale, only the first item was excluded because it had a low loading which was under .30 (Field, 2013). Table 7.11 shows the values of the self-esteem item loadings.

Table 7.11

Maximum Likelihood item loadings for self-esteem.

Item	Factor loading
I feel that I am person of worth	.28*
I feel that I have a number of good qualities	.47
All in all, I am inclined to feel that I am a failure(r)	.64
I am able to do things as well as most people	.46
I feel I do not have much to be proud of (r)	.68
I take a positive attitude toward my self	.54
On the whole, I am satisfied with my self	.57
I wish I could have more respect from my self	.61
I certainly feel useless at times	.81
At times I think that I am not good at all	.75

The Satisfaction with Life Scale had excellent values for item loadings, see table 7.12. Also the depression scale, bullying scale and victimization scales had good loadings (see Tables 7.13, 7.14, 7.15).

Table 7.12

Maximum Likelihood item loadings for Satisfaction with Life.

Items	Factor loading
In most was my life is close to my ideal	.82
The conditions of my life are excellent	.90
I am satisfied with my life	.92
So far I have got the important things I want in life	.85
If I could live my life over, I would change almost nothing.	.83

Table 7.13

Item loadings for the depression scale.

Items	Factor loading
1 I just couldn't seem to experience any positive feeling at all	.78
2 I just couldn't seem to get going	.78
3 I felt that I had nothing to look forward to	.83
4 I felt sad and depressed	.78
5 I felt that I had lost interest in just about every thing	.76
6 I felt I wasn't worth much as a person	.68
7 I felt that life wasn't worthwhile	.74
8 I couldn't seem to get any enjoyment out of the things I did	.74
9 I felt down-hearted and blue	.73
10 I was unable to become enthusiastic about any thing	.78
11 I felt I was pretty worthless	.80
12 I could see nothing in the future to be helpful about	.78
13 I felt that life was meaningless	.80
14 I found it difficult to work up the initiative to do things	.83

Table 7.14

Item loadings for the bullying scale

Items	Factor loading
I refused one of the students' friendship	.74
I neglected one of the students deliberately	.76
I pinched one of the students and pulled his/her hair	.78
I accused one of the students that he /she did things he or she didn't	.77
I made reasons to fight one of the students who is weaker than me and hit him or her	.79
I destroyed one of the students' stuff	.72
I looked at one of the students with sarcasm	.75
I didn't choose one of the students to play with me or with my friends	.70
I looked at one of the students to scare him / her	.70
I insulted one of the students with bad words	.79
I said disturbing comments about one of the students' grades or his/her reading	.77
I said disturbing comments about the body traits of one of the students	.73
I deliberately stole private things from one of the students	.67
I made problems between the students and encouraged them to fight each other	.76
I expelled one of the students from our group.	.73

I twisted one of the students' arm or cornered him/her or punched him under the seat	.76
I fought one of the students with stick , chair, pen,.....etc	.77
I made lies and rumours about some students	.71
I deliberately avoided one of the students	.72
I used power or threat against one of the students to take his/her money	.77
I slapped one of the students	.82
I made one of the students into a joke with others	.75
I incited some of the students to harm other students	.74
I deliberately hid private things for one of the students	.67
I deliberately interrupted one of the students during his/her speaking	.70
I said bad words about one of the students	.77
I pushed one of the students and I sat in his/her seat	.79
I deceived one of the students and I took his/her money	.72
I kicked one of the students with my foot or impeded him/her when passing in front of me	.78
I refused to return stuff that I borrowed from one of the students	.80
I stood in front of one of the students and I took his/her place in the queue	.79
I threw one of the students on the ground	.78
I deliberately didn't listen to one of the students	.80
I exposed the secrets one of the students	.74

Table 7.15

Maximum likelihood factor loadings for the victimization scale

Items	Factor loading
One of the students insulted me	.84
One of the students deliberately left me	.83
One of the students made disturbing comments about my school grades	.83
One of students spoke to me with threats or in a scary way	.80
One of the students looked at me with angry eyes	.81
One of the students screamed and scared me	.79
One of the students pulled my hair to cause me pain	.84
One of the students ignored me when I was speaking	.81
One of the students hit me and impeded me when I passed in front of him/her	.78
One of the students made disturbing comments about my body traits.	.77
One of the students avoided me	.79
One of the students expelled me from his/her group	.76
One of the students exposed my secrets	.76
One of the students prevented me from joining his/her group	.80
One of the students deceived me and took my money	.76

One of the students looked at me with sarcastic eyes	.84
One of the students said bad words to me	.74
One of the students twisted my arm and cornered me	.71
One of the students incited the students against me	.80
One of the students refused to return my stuff to me	.77
One of the students used their power to take my money	.82
One of the students stole my private things	.78
One of the students accused me that I did things I didn't	.79
One of the students slapped me	.79
One of the students said disturbing comments about me and my family	.81
One of the students made up reasons to fight me	.82
One of the students stood in front of me and took my place in the queue	.79
One of the students threw me on the ground and sat on me	.78
One of the students hid my private things	.78
One of the students fought me and hit me by stick, pen, chair etc.	.80

Testing the effect of demographic variables on father and mother care

First regression was calculated through (AMOS version 21) for the entire sample of 500 adolescents to make sure that most demographic variables were related to father and mother care. The results found that father availability and family size were statistically significant as illustrated in Table 7.16, so those two demographic variables will be included as independent variables in the models for the sample of 500. The adolescent variables gender and age were not included in the models, because there were few gender differences and there were no age differences so these seemed to be inconsistent.

Table 7.16 Whole sample Regression Weights: (Group number 1 - Default model)

INTERRELATIONS		Estimate	S.E.	C.R.	P
Father care <---	Father education	.001	.018	.045	.964
Father care <---	Availability	.117	.012	9.906	***
Father care <---	Family size	-.016	.005	-2.967	.003
Father care <---	Income	.019	.020	.922	.357
Mother care <---	Father education	-.014	.013	-1.138	.255
Mother care <---	Availability	.050	.008	5.870	***

INTERRELATIONS		Estimate	S.E.	C.R.	P
Mother care <---	Family size	-.013	.004	-3.156	.002
Mother care <---	Income	.023	.015	1.586	.113
Father care <---	Mother Education	.011	.015	.720	.472
Mother care <---	Mother education	-.002	.011	-.204	.838

For the adolescents from polygamous families (n = 233) only father availability and position of wife in the family were significantly related to father and mother care (see Table 7.17).

Table 7.17 Polygamous sample Regression Weights: (Group number 1 - Default model)

Interrelations		Estimate	S.E.	C.R.	P	Label
Father care <---	Father education	.002	.017	.106	.916	
Father care <---	Availability	.093	.011	8.507	***	

Interrelations		Estimate	S.E.	C.R.	P	Label
Father care	<--- Family size	.001	.005	.272	.786	
Father care	<--- Income	.003	.019	.133	.894	
Mother care	<--- Father education	-.014	.012	-1.137	.256	
Mother care	<--- Availability	.034	.007	4.509	***	
Mother care	<--- Family size	-.001	.004	-.332	.740	
Mother care	<--- Income	.012	.014	.908	.364	
Father care	<--- Mother education	.017	.014	1.201	.230	
Mother care	<--- Mother education	.002	.010	.176	.860	
Father care	<--- Wife placed	-.220	.025	-8.872	***	
Mother care	<--- Wife placed	-.145	.022	-6.714	***	

Finally, there were no statistically significant relationships for any demographic variables on father or mother care (see Table 7.18) for the sample of monogamous families (n = 267). So only father availability and family size were included in the models for the participants from monogamous families, that is because these were the demographic variables which have a direct effect on father and mother care for the main sample of 500 students.

Table 7.18 Monogamous sample Regression Weights: (Group number 1 - Default model)

Interrelations		Estimate	S.E.	C.R.	P	Label
Father care	<--- Father education	.001	.018	.045	.964	
Father care	<--- Availability	.117	.012	9.906	.242	
Father care	<--- Family size	-.016	.005	-2.967	.368	
Father care	<--- Income	.019	.020	.922	.357	
Mother care	<--- Father education	-.014	.013	-1.138	.255	
Mother care	<--- Availability	.050	.008	5.870	.704	
Mother care	<--- Family size	-.013	.004	-3.156	.432	

Interrelations		Estimate	S.E.	C.R.	P	Label
Mother care	<--- Income	.023	.015	1.586	.113	
Father care	<--- Mother education	.011	.015	.720	.472	
Mother care	<--- Mother education	-.002	.011	-.204	.838	

Also, the regression weights revealed no significant expectations for a direct effect of the demographic variables on the dependent variables. Thus, the proposed model was supported. Table 7.19 shows interrelations between the variables for the model.

Table 7.19 Regression Weights: (Group number 1 - Default model)

INTERRELATIONS		Estimate	S.E.	C.R.	P
Self-esteem	<--- Availability	-.022	.014	-1.620	.105
Satisfaction	<--- Availability	-.059	.054	-1.103	.270
Depression	<--- Availability	.013	.028	.465	.642
Self-esteem	<--- Family size	-.005	.005	-.934	.350
Satisfaction	<--- Family size	-.032	.019	-1.648	.099
Depression	<--- Family size	.015	.010	1.478	.139
Bullying	<--- Availability	-.065	.083	-.789	.430

INTERRELATIONS			Estimate	S.E.	C.R.	P
Bullying	<---	Family size	.018	.013	1.325	.185
Victimization	<---	Availability	.004	.015	.241	.810
Victimization	<---	Family size	.008	.008	.934	.350

First model: psychological well-being (entire sample)

This models the relationships between variables for the main sample of 500 school students from polygamous and monogamous families. This model includes two demographic variables (father availability and family size), parental bonding (father and mother care) as moderating variables, and the psychological well-being variables (self-esteem, satisfaction with life, and depression) as dependent variables.

First model: father available and family size (Ivs), father and mother care (MVs), and psychological well-being (DVs).

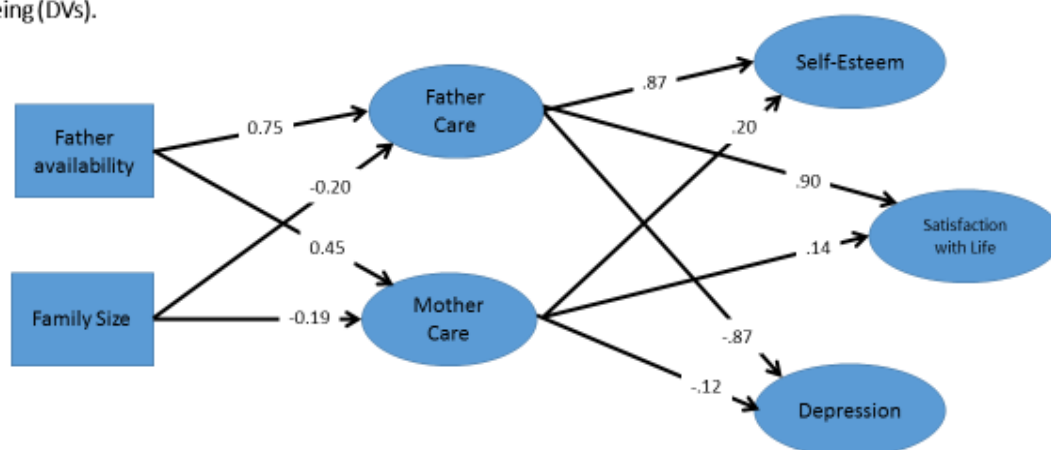


Figure 7.1 First model: father available and family size (IVs), father and mother care (MVs), and psychological well-being (DVs).

The fit indices indicated an acceptable model, where the RMSEA = 0.056 which is \leq 0.06 and the SRMR= 0.052 which is \leq 0.09, so the model agreed with the hypothesis that adolescents' psychological well-being is affected by parent-adolescents' bonding. The figure showed the strong association between father availability with higher father and mother care, implying that makes good parent-adolescents bonding. All the interrelations in the model path are statistically significant (shown by bold lines in the model) and briefly mean

more father availability \rightarrow higher father and mother care \rightarrow higher self-esteem and satisfaction with life, and low depression.

However, mother care has lower correlations than father care but is still significant.

Also family size is statistically significant and associated with parent bonding. It indicates that lower number of family members (family size) leads to higher father and mother care and then higher feelings of self-esteem and satisfaction with life and less depressed.

Table 7.20 first model Regression Weights: (Group number 1 - Default model)

Interrelations			Estimate	S.E.	C.R.	P	Label
Father care	<---	Father Available	.132	.011	12.130	***	
Mother care	<---	Father Available	.052	.008	6.792	***	
Father care	<---	Family size	-.021	.003	-6.159	***	
Mother care	<---	Family size	-.013	.003	-3.987	***	
Depression	<---	Father care	-1.412	.124	-11.396	***	
Satisfaction with life	<---	Father care	2.823	.237	11.903	***	
Self-esteem	<---	Father care	.643	.081	7.973	***	
Depression	<---	Mother care	-.303	.083	-3.656	***	
Self-esteem	<---	Mother care	.229	.051	4.524	***	
Satisfaction with life	<---	Mother care	.701	.155	4.524	***	

Second model: bullying (entire sample)

In this model father availability and family size were included as independent variables, father and mother care are the moderating variables, and bullying behaviour is the dependent variable.

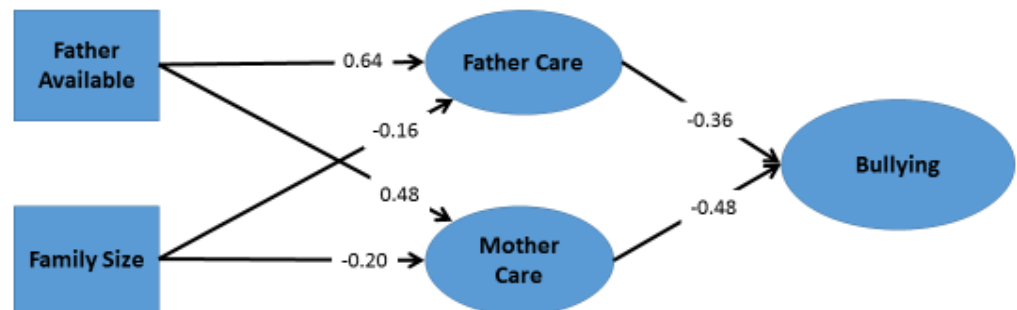


Figure 7.2 Model for bullying behaviour (whole sample)

The fit indices for the model; SRMS= 0.064 and RMSEA= 0.059 indicated acceptable model fit. This supports the hypothesis that bullying behaviour is affected by parent-adolescent bonding which is affected by father availability and family size in monogamous and polygamous families. From the model path it can be seen that high care from father and mother leads to low bullying behaviour (significant), also low family size and more father

availability predicted higher care by father and mother (significant). The interrelations between variables in the model were as follows:

More father availability and low family size → high father and mother care → less bullying behaviour.

Table 7.21 second model Regression Weights: (Group number 1 - Default model)

Interrelations		Estimate	S.E.	C.R.	P	Label
Father care <---	Father Available	.124	.011	11.663	***	
Mother care <---	Father Available	.053	.008	6.784	***	
Father care <---	Family size	-.018	.004	-4.177	***	
Mother care <---	Family size	-.013	.003	-4.128	***	
Bullying <---	Father care	-.661	.088	-7.550	***	
Bullying <---	Mother care	-1.554	.236	-6.590	***	

Third model: victimization (entire sample)

This model included father availability and family size for the independent variables. The moderation variables were father and mother care and victimization was the dependent variable.

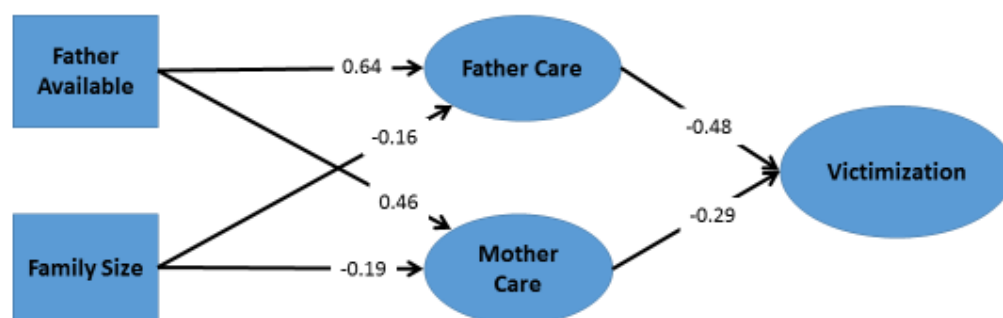


Figure 7.3 Victimization (whole sample)

The proposed model was supported, showing that more father availability and low family size leads to higher father and mother care which is related to a lower likelihood of being a victim of bullying. Model fit indices indicated an acceptable model; SRMR= 0.069 and RMSEA= 0.057. The correlations of the model are explained as more father availability and low family size → high father and mother care → less likely to be a victim of bullying.

Table 7.22 Third model Regression Weights: (Group number 1 - Default model)

Interrelations		Estimate	S.E.	C.R.	P	Label
Father care	<--- Father Available	.125	.011	11.763	***	
Mother care	<--- Father Available	.053	.008	6.827	***	
Father care	<--- family size	-.019	.004	-4.317	***	
Mother care	<--- family size	-.013	.003	-4.033	***	
Victimization	<--- Father care	-1.145	.125	-9.130	***	
Victimization	<--- Mother care	-1.162	.216	-5.384	***	

Fourth model: psychological well-being (polygamous families)

The next three models were calculated for the polygamous families. For the fourth model the independent variables were father availability and place of wife in the family (wife placed), the moderating variables were father and mother care, and the dependent variables were the measures of psychological well-being.

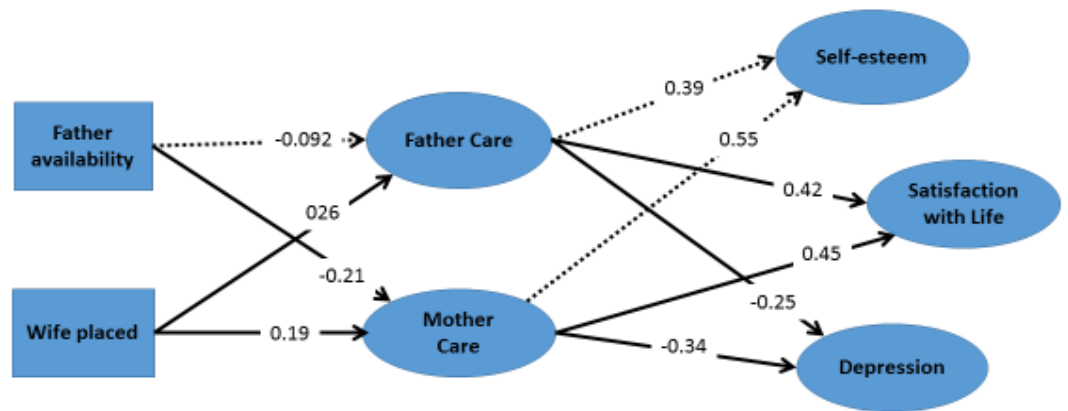


Figure 7.4 Psychological well-being (polygamous families)

The model has good fit indices SRMR= 0.073 and RMSEA= 0.058. That means acceptable model for polygamous families which supports the hypothesis for the effects of polygamous family structure. The path of the model showed statistically significant relationships between the variables (bold lines in the model) except the relationship between father availability and father care (dashed lines in the model). Also the relationships between self-esteem and parental bonding were non-significant. The model for the polygamous group showed correlations between parental care and the satisfaction with life and depression variables although they were low correlations for this group when compared with the models of the main sample and the monogamous group. Low father availability moderately predicted parental bonding as was illustrated through the low

values of the correlation. For the 'wife placed' variable, the later the position of the wife in the family the higher the mother and father care.

Table 7.23. Fourth model Regression Weights: (Group number 1 - Default model)

Interrelations			Estimate	S.E.	C.R.	P	Label
Father care	<---	Wife placed	.182	.053	3.396	***	
Mother care	<---	Wife placed	.121	.047	2.597	.009	
Father care	<---	Father Available	-.019	.014	-1.319	.187	
Mother care	<---	Father Available	-.039	.014	-2.775	.006	
Self-esteem	<---	Mother care	.036	.104	.347	.729	
Satisfaction with life	<---	Mother care	1.076	.263	4.093	***	
Depression	<---	Mother care	-.248	.089	-2.785	.005	
Self-esteem	<---	Father care	.023	.065	.346	.729	
Satisfaction with life	<---	Father care	.921	.221	4.166	***	
Depression	<---	Father care	-.163	.066	-2.465	.014	

Fifth model: bullying (polygamous families)

For the fifth model the independent variables were father availability and position of the wife in the family. Father and mother care were the moderating variables, and bullying was the dependent variable.

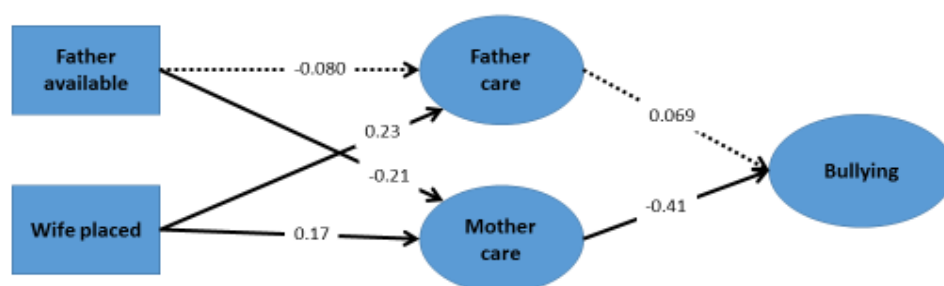


Figure 7.5 The model for polygamous families (bullying)

Father availability was not significantly related to bullying which can be explained by the absence of the father's role for taking care of his adolescents. Mother care was significantly related to bullying behaviour (higher mother care predicted lower rates of bullying). Also father availability and wife placed were significantly related to mother care (bold lines in the model). The later the position of the wife, the higher the mother care, also the less the

father was available the higher the mother care. Fit indices indicated an acceptable model, SRMR=0.059 and RMSEA=0.06. The negative interrelations in this model supported the hypothesis.

Table 7.24. Fifth model Regression Weights: (Group number 1 - Default model)

Interrelations		Estimate	S.E.	C.R.	P	Label
Father care <---	Wife placed	.166	.054	3.081	.002	
Mother care <---	Wife placed	.108	.045	2.378	.017	
Father care <---	Father Available	-.017	.015	-1.143	.253	
Mother care <---	Father Available	-.038	.014	-2.741	.006	
Bullying <---	Father care	.135	.133	1.015	.310	
Bullying <---	Mother care	-.968	.244	-3.965	***	

Sixth model: victimization (polygamous families)

For the fifth model the independent variables were father availability and position of the wife in the family (wife placed). Father and mother care were the moderating variables, and victimization was the dependent variable.

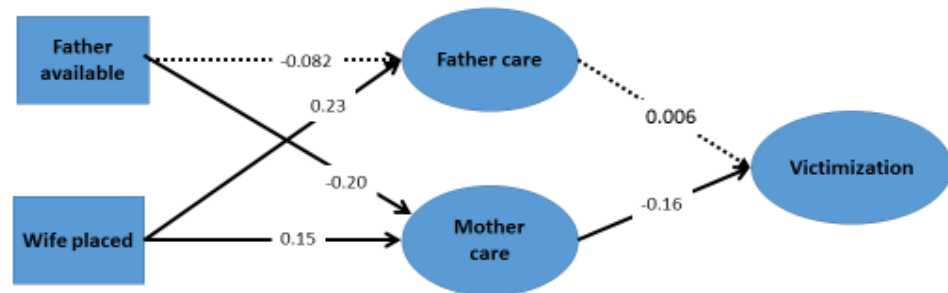


Figure 7.6 The model for polygamous families (victimization)

Father availability and father care were not significant predictors of victimization. Higher Mother care was significantly associated with lower victimization scores. Also, mother care was influenced by the demographic variable wife placed and father availability as well. The later the wife's position in the family, the higher the mother care score. Model fit indices indicated an adequate model despite nonsignificant relations between father care and victimization. $SRMR \leq 0.07$ and $RMSEA \leq 0.057$.

Table 7.25. Sixth model Regression Weights: (Group number 1 - Default model)

Interrelations			Estimate	S.E.	C.R.	P	Label
Father care	<---	Wife placed	.167	.054	3.112	.002	
Mother care	<---	Wife placed	.100	.048	2.100	.036	
Father care	<---	Father Available	-.017	.015	-1.168	.243	
Mother care	<---	Father Available	-.039	.015	-2.627	.009	
Victimization	<---	Mother care	-.464	.224	-2.072	.038	
Victimization	<---	Father care	.016	.188	.083	.934	

Seventh model: psychological well-being (monogamous families)

For the seventh model the independent variables were father availability and family size, father and mother care were the moderating variables, and self-esteem, satisfaction with life, and depression were the dependent variables.

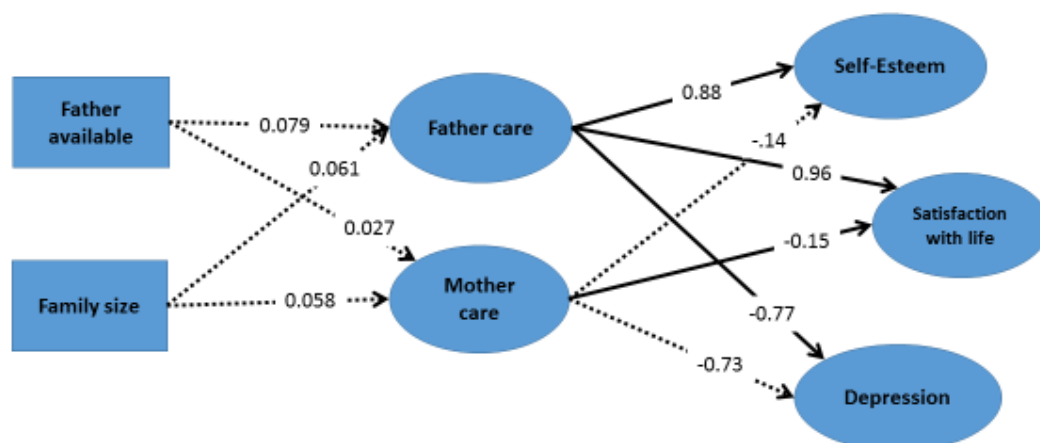


Figure 7.7 The model for monogamous families (psychological well-being)

The interrelations between variables for this model revealed a strong impact for high father care on adolescent psychological well-being for monogamous families. High father care was significantly related to high self-esteem, satisfaction with life and depression (bold lines). Mother care had significant relations with satisfaction with life only. There was no significant association between father availability or family size with parental bonding. The model has acceptable fit indices SRMR=0.032 and RMSEA=0.06.

Table 7.26 seventh model Regression Weights: (Group number 1 - Default model)

Interrelations			Estimate	S.E.	C.R.	P	Label
Father care	<---	Father Available	.033	.028	1.169	.242	
Mother care	<---	Father Available	.009	.024	.380	.704	
Father care	<---	Family size	.006	.006	.901	.368	
Mother care	<---	Family size	.004	.006	.785	.432	
Self-esteem	<---	Mother care	-.244	.147	-1.665	.096	
Satisfaction with life	<---	Mother care	-.665	.331	-2.008	.045	
Depression	<---	Mother care	-.112	.107	-1.042	.297	
Self-esteem	<---	Father care	1.184	.274	4.325	***	
Satisfaction with life	<---	Father care	3.451	.704	4.903	***	
Depression	<---	Father care	-.967	.219	-4.410	***	

Eighth model: bullying (monogamous families)

For the eighth model the independent variables were father availability and family size. Father and mother care were the moderating variables, and bullying was the dependent variable.

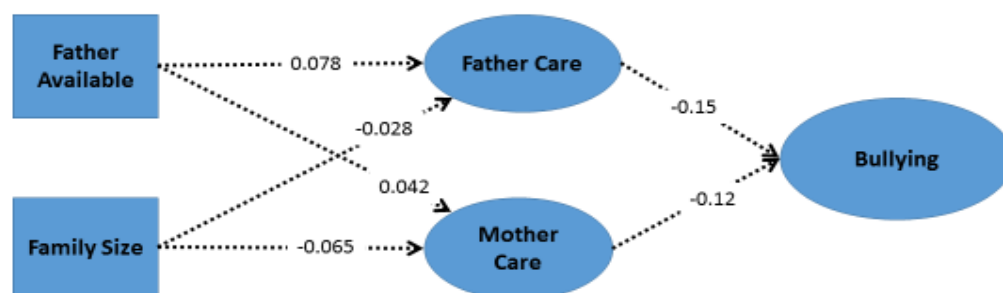


Figure 7.8 The model for monogamous families (bullying)

For this model there were no significant relationships between father and mother care with bullying behaviour. Also father availability and family size were not statistically significantly related with parental bonding. The model has acceptable overall values of SRMR=0.025 and RMSEA=0.056 according Hu and Bentler (1999), despite no statistically significant relationships between the variables.

Table 7.27 eighth model Regression Weights: (Group number 1 - Default model)

Interrelations		Estimate	S.E.	C.R.	P	Label
Father care <---	Father Available	.043	.039	1.098	.272	
Mother care <---	Father Available	.013	.023	.578	.564	
Father care <---	Family size	-.004	.009	-.396	.692	
Mother care <---	Family size	.005	.005	.876	.381	
Bullying <---	Mother	-.068	.047	-1.433	.152	
Bullying <---	Father care	-.049	.026	-1.881	.060	

Ninth model: victimization (monogamous families)

For the ninth model the independent variables were father availability and position of the wife in the family. Father and mother care were the moderating variables, and victimization was the dependent variable

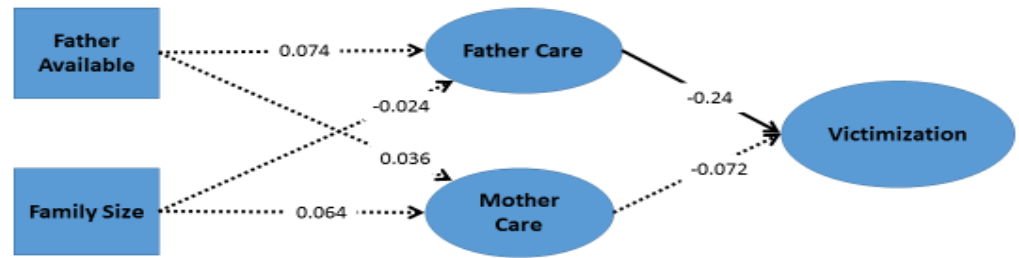


Figure 7.9 The model for monogamous families (victimization)

Higher father care significantly predicted the adolescent was less likely to be the victim of bullying and mother care was not significantly related with victimization. Non-significant relationships were found between father availability and family size with parental bonding. The overall fit indices were; SRMR=0.024 and RMSEA=0.045 which indicates an acceptable model even though only one significant relationship was found.

Table 7. 28 ninth model Regression Weights: (Group number 1 - Default model)

Interrelations		Estimate	S.E.	C.R.	P	Label
Father care	<--- Father Available	.040	.038	1.041	.298	
Mother care	<--- Father Available	.011	.023	.500	.617	
Father care	<--- Family size	-.003	.009	-.344	.731	

Interrelations		Estimate	S.E.	C.R.	P	Label
Mother care <---	Family size	.005	.005	.861	.389	
Victimization <---	Father care	-.274	.089	-3.081	.002	
Victimization <---	Mother care	-.139	.143	-.975	.330	

Table 7.29 Comparison between polygamous and monogamous families through the models.

Interrelations between variables	Polygamous families	P value	Monogamous families	P value
Father care → self-esteem	.39	.072	.88	.000
Father care → satisfaction	.42	.000	.96	.000
Father care → depression	-.25	.005	-.77	.000
Father care → bullying	.069	.31	-.15	.060
Father care → victimization	.006	.93	-.24	.002
Mother care → self-esteem	.55	.014	-.14	.09

Mother care → satisfaction	.45	.000	-.15	.04
Mother care → depression	-.34	.072	-.073	.297
Mother care → bullying	-.42	.000	-.12	.152
Mother care → victimization	-.16	.03	-.072	.330

7.4 Discussion

Using the structural equation modelling is an advanced step for this study that used multiple methodology to analyse the data. It can be seen that the results agreed with the hypotheses of the study. Lower scores for self-esteem and satisfaction with life were found for adolescents from polygamous families compared to those from monogamous families. Also, higher scores for depression, bullying and victimization were found. This supported the results reported in Chapter Four and Chapter Six and studies by Riaz (1996), AL-Krenawi, Graham, & Slonim-Nevo. (2002) and Al-Krenawi et al. (2008). Differences between adolescents from polygamous and monogamous families were found for mother and father care. Higher scores for father and mother care were reported by adolescents from monogamous families, supporting the hypotheses. There were demographic differences between the two groups, consistent with the differences reported with a smaller sample in Chapter Four and those reported by previous researchers (AL-Krenawi & Slonim-Nevo, 2008; AL-Shamsi & Fulcher, 2005).

Also, demographic variables predicted parental care which predicted several dependent variables. This was especially evident for the entire sample of 500 participants. The models for monogamous and polygamous families revealed differences between the groups in the predictors of dependent variables. This may be due to the differences between these two types of families with regards to demographic variables. Also, the results of testing the postulated models agreed with the hypotheses that polygamous family structure has negative effects on adolescents aged from 13 to 18 years-old.

The model for the entire sample found that father and mother care were mediating variables between the demographic variables of father availability and family size and all

the adolescent dependent variables self-esteem, satisfaction with life, depression, bullying and victimization in the directions predicted by the hypotheses. The model illustrated that father availability and lower family size lead to higher father and mother care. Also, higher father and mother care predicted higher self-esteem, higher satisfaction with life, lower depression, less bullying and less victimization. So psychological well-being and behaviour were affected positively by high parental care. This supports research based on attachment theory (Constantine, 2006; Rodenburg, Colonesi, & Stams, 2013).

In order to understand the relationships between variables for polygamous and monogamous families, models were analysed for polygamous and monogamous families separately as well as combined in the larger sample. Differences were found between the main sample models and the others models (monogamous/ polygamous) which may be caused by lower sample sizes (Byrne, 2010).

The models for the polygamous families found that father availability was not associated with father care which does not support predictions from previous research (Rodenburg et al., 2013; Williams & Kennedy, 2012). It can be explained by the lack of father availability in the polygamous families, adolescents rely less on their fathers for their care because they are used to the father not being available. However, father availability still had an important role as it was related to mother care, so it can be argued that father availability is affecting adolescents through the mother. Adolescents whose fathers were less available to them reported higher levels of mother care. The position of the wife in the family was important. Fathers spent less time with the children of the first wife than the children of later wives. Also, the position of the wife in the family was related to mother care; the later wives demonstrated more care than first wives. Mother care was related to

all the dependent variables except self-esteem. Father care was related to satisfaction with life and depression but not self-esteem, bullying or victimization. Mother care interrelations in the models for polygamous families showed the greater responsibility of the mother and her impact on adolescents' psychological well-being.

The models for the monogamous families differed from the models for the polygamous families in the demographic variables (position of the wife was not relevant) and the relationships between variables. Interestingly, mother care was associated only with satisfaction with life. Higher father care was associated with higher self-esteem, satisfaction with life and victimization. This reflects the important effective role of father care in the adolescents' life in monogamous families.

The results reported in this chapter have added to previous research on the effects of family structure on adolescent well-being and behaviour (AL-Krenawi, 2014; Florsheim, Tolan & Gorman-Smith, 2006; Nazareth, 2012). Also, they have replicated the results reported in chapter four and chapter six, which increases the researcher's confidence in the results. The main strength of this study is the addition of mediating variables. Elbedour et al. (2003) commented that research on the effects of polygyny on children and adolescents is limited by an over-reliance on the single factor of family structure in the design of research studies. They stated that research is needed to evaluate the effects of mediating and moderating factors within the family, including demographic variables and family relationships. The models reported in this study have shown that differences between polygamous and monogamous families are complex.

The studies reported in this thesis (chapter four, five, six and seven) have used quantitative methods. All the questionnaires used were suitable for use with adolescents

in Saudi Arabia. However, some aspects of the adolescents' experiences and cultural context were difficult to assess with questionnaires. Also, questionnaires do not give a description of the adolescents' experiences of living in a polygamous family in Saudi Arabia. The next study uses qualitative methods and reports the results of interviews with adolescents from polygamous and monogamous families and their teachers.

Chapter Eight

Study 5

8.1 Introduction

As discussed in Chapter 1, it is important to study family relationships in social and cultural context and an important theory for studying development in social and cultural contexts is Bronfenbrenner's ecological theory (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 1998). This theory proposed that child development takes place in contexts. The first is the microsystem; the environments that the child has the most direct contact with and spends the most time in. Second is the mesosystem; the interactions between the different types of microsystem environments. Third is the exosystem; the environment that affects the child indirectly. Next is the macrosystem; the cultural context. Bronfenbrenner and Morris' (1998) version of the theory adds two more features, the first is the process of development and the second is development over time. This was the Person-Process-Context-Time model (PPCT). This thesis uses the contexts of the microsystem of the family and the macrosystem of the family structure in Saudi Arabia. Tudge, Mokrova, Hatfield and Karnik (2009) explained that the processes of development are interactions and activities that regularly go on in children's lives. In this chapter, the process aspect is the quality of the interactions reported by the adolescent between the adolescent and other family members, especially the father.

Most of the previous research with children and adolescents has used quantitative analysis of questionnaires (Al-Krenawi et al., 2002; AL-Krenawi and Slonim-Nevo, 2008; Elbedour et al., 2006). Studies that have used interviews and qualitative analysis have been studies with wives and a few studies have been with husbands (AL-Shamsi & Fulcher, 2005). Only three studies used interviews with children or adolescents and qualitative analysis. Al-Krenawi, Graham, and Al-Krenawi (1997) used semi-structured interviews with a small sample size of adolescents in the Negev region. They found children had a variety of behavioural problems, and below average academic achievement. Also, Slonim-Nevo and Al-Krenawi (2006) used qualitative interview methods with a small sample size and found that polygamous relationships were poorly functioning families, also painful for the children and the wives as well. Khasawneh, Hijazi, and Salman (2011) conducted interviews in Jordan. They found no negative effects for the polygamous relationship on the wives or the adolescent. This thesis is the first attempt to determine the psychological and behavioural effects of polygamy on male and female adolescents in Saudi Arabia. Also it is the first to report interviews with the children of polygamous marriages to gain in-depth information about their experiences.

In chapters 4 and 7, several specific instruments were used to assess the study variables which included the quality of parental bonding, self-esteem, satisfaction with life, depression, bullying, and being a victim of bullying. Although all of the questionnaires used in the study were validated for Saudi society, there are important aspects which were not included in the questionnaires. One of the aspects which was not assessed in the questionnaires was whether the father treats his wives and his children fairly. The issue of whether the father treats his children fairly arose from data reported in chapter seven showing that polygamous fathers spent fewer days with the family of the first wife than

second and third wives. It was decided to follow this with questions about whether the adolescents think their father treats them fairly. Other aspects not analysed by the questionnaires were family cohesion, family conflict, adolescents' attitudes toward polygamy, and the quality of the relationship with other relatives, especially with their siblings and with their father's other wives. It was decided to interview adolescents about these aspects of their family lives. Also, academic achievement was not assessed in the previous chapters. Some previous researchers have shown differences between students from polygamous and monogamous families in academic achievement, where students from monogamous families have better academic achievement (Adenike, 2013; AL-Krenawi & Slonim-Nevo, 2008). It was decided to include academic achievement in this chapter from teacher ratings.

The aim of this chapter was to conduct interviews with adolescents, counsellors, and teachers. Interviews will allow the adolescents from polygamous families to talk about their lived experiences of being a son or daughter in a polygamous family. Also, information from other sources such as counsellors and teachers will make the data more comprehensive.

8.2 Method

8.2.1 Participants

Participants were 30 students, 15 from polygamous families, 6 students from first wives and 9 students from second wives, three boys and three girls from first wives. 15 students from monogamous families 5 boys and 10 girls. The age range was 13-18 years and the

mean age was 16.9. Also, there were 10 teachers (2 were also qualified counsellors), 5 males and 5 females.

8.2.2 The interviews

The students were asked to respond to the following question list:

- How would you describe your father's relationship with his families?
- Does your father treat his families fairly? Why do you think that?
- Do you believe that polygamy is a good relationship? Why do you believe that?
- **for boys:** Would you wish to be a polygamous father in the future? Why would/wouldn't you?
for girls: Would you wish to be a wife of a polygamous man in the future? Why would/ wouldn't you?
- Now I would like to ask you some questions about other people in your family. How would you describe your relationship with your mother and your full siblings?
- How would you describe your relationship with your step-mother/s and your half-siblings?

- Do you prefer your full brothers and sisters or your half-brothers and sisters? Why do you prefer them?
- How would you describe your relationship with grandpa, grandma, and older siblings? Do you feel closer to one of them than to your parents? Why?

The teachers were asked to answer to the three following questions:

- In your opinion, are there psychological or behavioural problems among the students in the school? What sort of problems do you come across?
- Do students from polygamous families have problems? What kind of problems?
- Do students from monogamous families have problems? What kind of problems?

8.2.3 Procedure

After consent was given by parents, students, and teachers the interviews were conducted. The researcher conducted the interviews with the male students in schools, the interview took 15 minutes for each student. The interviews were carried out by the counsellors in the girl's schools. The female counsellors were expert in interview methods and their specialisation is psychology. The social norm is the reason behind the need for female counsellors for interviewing the girls because Saudi women are banned from talking about private issues with men who are strangers. However, three female students agreed

to have the interview with the researcher by telephone. The researcher conducted the interviews with the male teachers/ counsellors in person and with the female teachers/ counsellors by telephone. The researcher recorded the responses and transcribed the interviews on separate papers for each student and teacher, then the Arabic transcriptions were translated to English language. Thematic Analysis was used to analyse the student's and teacher's interview responses.

8.2.4 Definition of themes

The researcher read the interview transcripts several times to identify codes, merge the codes into themes checking back to the transcripts. Through analysing the patterns across data for the participants (students and teachers), six candidate themes were identified, father fair, family cohesion, family conflict, attitude toward polygamous, emotional and behavioural problems, and academic achievement. These six themes were under family functioning as an overarching theme. Attitudes towards polygamy and the emotional and behavioural problems are sub themes. Two overarching themes were identified: family functioning and effects of polygamy. Academic achievement was the candidate theme determined by the teachers. Themes and examples are shown in Table 6.1 and 6.2.

The definitions of themes were as follows. **Father fair** in polygamous families is the application of equality between the wives in every thing, which includes the time available, financial resources, and living in a separate house. Also, one of father fair forms in polygamous families is taking the responsibility for caring and upbringing of the children of all the wives (Farahat, 2002). **Family cohesion** is defined as emotional bonding that family members have toward one another (Olson, 1999). **Family conflict** is interpersonal tension

or struggle among two or more persons within the family whose opinions, values, needs or expectations are opposing or, incompatible (Karemer, Koelk, & Auer, 2006). **Attitudes toward polygamy** is the way of thinking and feeling about polygamy as a marital relationship. **Emotional and behavioural problems** were defined as an action which represents mental health problems, disorders and abnormal behaviour such as depression or aggressive behaviour (Clough, Pardeck & Yuen, 2004). The **academic achievement** theme is defined as excellence in all academic disciplines, in class as well as extra-curricular activities (Gania, 2013).

Table 8.1

Themes from interviews with adolescents

Overarching theme	Theme	Code	Example
Family functioning	Father fair	Father fair, more affectionate, family responsibilities carried out fairly, neglect, spend less time.	Father treats all his children fairly boys or girls (for monogamous families). I think. My father unfair with us in everything; care, availability, and money (polygamous families).

Overarching theme	Theme	Code	Example
Family functioning	Family cohesion	Preferring sibling than half sibling, different upbringing system, supporting each other, good relation with step mothers, sharing interests, hate, Jealous, Arrogant.	We often stay together to discuss any problem (monogamous families). No one care about the other, I feel that we are a separate family (polygamous families).
Family functioning	Family conflict	Fighting Homogeneity Roles conflict Decisions conflict Authoritarian	We almost agree with our family decisions with our parent's leading (monogamous families). I feel that my half siblings want to stay away from me (polygamous families).

Overarching theme	Theme	Code	Example
Effect of polygamy	Attitudes towards polygamy	Unsuccessful marriage Divorce Unstable Children as victim Social status Is permitted Devastated family Difficult life More children	<p>I wouldn't be in polygamous family in the future, because I have heard many bad stories about those families (adolescent from monogamous families).</p> <p>Because my terrible family lived experience, I wouldn't be polygynous (adolescent from polygamous families).</p>
Effect of polygamy	Emotional and behavioural problems	Low confidence Low self-esteem substance use Depression Antisocial acts Aggressive Gang Engagement Sexual problems Aloneness	I can see the behavioural problems from our friends who come from polygamous families (student from monogamous families).

		Stubborn	I feel depressed and scared most of the time because of the problems in my house (girl from polygamous families).
Effect of polygamy	Academic achievement.	<p>Low academic achievement</p> <p>Low attention during the class</p> <p>Low grades</p> <p>Missing most of the classes</p> <p>Dropping from the school</p>	<p>Family problems prevent me to concentrate on my study, also no one care about what I need (girl school from polygamous family).</p> <p>I think the school is very hard and my father doesn't ask me about what I have done in the school (boys school of polg)</p>

Table 8.2

Themes from interviews with teachers

Overarching theme	Theme	Code	Example
Effect of polygamy	Emotional and behavioural problems	Low confidence Aggressive Smoking Sad Depression Sexuality Social withdrawal Engaged with gang Bullying Anxiety	Teacher: Adolescents from monogamous families have basic problems Teacher: I have noticed that adolescents from polygamous families have more complicated behavioural problems.
Effect of polygamy	Academic achievement	Low motivation Low grades Less attention Dropping out of school Absence Fail Careless	Teachers: it can be noticed that adolescents from polygamous families have scholastic difficulties.

8.3 Results

Unfair dealing from the father was a common response from the participants. Twenty-six of 30 students from the two family structures believed that polygynous fathers treat their wives and children unfairly. For the participants from polygamous families 13 of 15 responded that their fathers provide unfair treatment in many things such as income, care, and availability. These participants reported that the father was unfair through tending to his second wife and her children rather than the first wife and her children. They reported that he is more affectionate and take care of all the responsibilities to his second family. Children from his first family complained about their father's mistreatment and neglect.

“ Male age 16: my father unfair, he takes care for our halfsiblings rather than us, also he loves the step mother rather than my mum and he provides all what they need when we wait for him a long of time to reply to us”.

Two students of first wives responded that their father is fair with his wives and children, so their responses for the remaining questions were different to other students. In other words, their responses were closest to their peers from monogamous families.

Most participants from monogamous families agreed in their responses that their father is fair and tries to be an ideal father through doing the responsibilities for his family. According to their responses, monogamous fathers were reported to be more cooperative and respectful to their wife and take care of the children as well. Students from monogamous families expressed the importance of their fathers being available in their life.

“ Female age 17: yah my father is fair with us in everything. For example, he shares in our interests and deals equally between us and our brothers. He always helps us in school duties and looks after us if one of us is sick, father is great thing in our life”.

Two students from monogamous families thought that their fathers were unfair with their children, after further investigation in their interviews it was clear that the problem was about the father’s preference for one child more than others.

Incoherent relationship between the family members is an indication of a lack of family cohesion in polygamous families. Words like ‘hate’, ‘jealous’, and ‘arrogant’ were used to describe the quality of relationship with the half siblings. Just one girl from a polygamous family had a sound relationship with her oldest half sibling brother. Participants reported that mothers supported the unhealthy relation between the halvesiblings through encouraging their sons and daughters to be rivals in everything.

“ Male age 17: the step mother doesn’t like my mum and even us, she always incite my father to be tough with us and also she keep our half siblings away from us”.

Also father unfairness and his bias to the second wife increased the deterioration of family cohesion.

In monogamous families, students showed love and mutual respect between the individuals in the family. None of the participants from monogamous families mentioned that he or she hates or wants to outperform the siblings in everything.

In polygamous families, family conflict was reported. No one wanted to follow the instructions from the other family, 13 students from polygamous families said they live in continuous conflict with their step mothers and half siblings. They reported that wives try

to control the father and dominate the family decisions. They reported that the second wife imposes her control on the father. Five students who were a son or daughter of the first wife described their step- mother as authoritarian and unjust. Also, they mentioned that the application of discipline rules is different between the two families, the father is more tolerant with his second wife and her children and tougher with his first family.

“Male age 17”: my father is always afraid of his second wife, she has a strong personality and she controls father’s decisions. When I made a mistake he punished me severely and he is supportive and forgiving for my half siblings. Not because he loves them but he is scared of the stepmother”.

In contrast, the responses of adolescents from monogamous families reflected the peace and the stability in those families, with the exception of one participant who described the relation between her parents as tense which caused the father to be nervous always.

The previous themes are related to family functioning which may be positively or negatively affected by the polygamous marriage. The next themes will explain the extent of the influence from this relationship. Thirteen adolescents from polygamous families had negative attitudes toward polygamy, also said that they do not want to be a partner in a polygamous family in the future. Students from polygamous families said they live with family problems and conflicts all the time, they also face several difficulties due to father absence most of time. Interestingly, some girls mentioned they have psychological problems such as depression, low self-esteem, and phobias and they attributed that to father loss.

“ Female age 17: this is madness if I would think to be a partner in a polygamous family (the interviewer: why you wouldn’t you want to be ?), she answered: because I am living this bad experience, my father is always absent and never asks about me, I have depression caused by this troubled family relationship, even I have diabetes from two years ago”

Two girls described how their life was changed for the worse after their fathers married again. They reported that their families have become troubled families and they found setbacks in many aspects like family cohesion, economy, and scholastic performance. Two boys from polygamous families had positive attitudes toward polygamy and said that they do not mind being polygynous fathers in the future. They said that their fathers deal justly with their wives and children which might be why they have those positive views toward polygamy.

Adolescents from monogamous families also had views against polygamy. They had acquired these negative perceptions from different sources, such as family, friends, and media. Only two students wanted to be polygynous fathers and they justified that with Islamic shariah law permits polygamy. None of the girls from polygamous or monogamous families wanted to be the wife of a polygynous man, because they believed that this type of marriage destroys the marital relations as well as affects children’s personality.

“ Female age 16: absolutely no, because it will be a lot of problems between the wives and their children, also I want my husband to stay with me and look after our children not be busy with another woman, I know a lot of polygamous families that were ended with sad stories specially with children”.

These negative attitudes led to the next theme which is about the emotional and behavioural problems among the adolescents. The most frequent two words used to describe the impact of polygamy on the family were “loss of childhood”. Adolescents from polygamous and monogamous families agreed that the greatest effects from polygamy will be on children or even teenagers.

From lived experience, some boys of polygamous families admitted behavioural problems such as smoking, drug usage, sexuality, and involvement in violence, and they referred to their dysfunctional family structure through the interviews. Also, some girls were concerned about their brother’s behaviours because their mothers cannot control them, and the father’s absence increased the involvement of boys in many behavioural problems. Girls also stated multiple emotional problems like low self-esteem and confidence as well as complaints from depressive symptoms. Participants from monogamous families supported those responses through what they have noticed about their friend’s behaviour from the polygamous families in school.

“Female age 16: one of my best friends is from a polygamous family, she is always sad and complain from the trouble situation for her family. I have noticed that she has become depressed and have pessimistic thoughts about her future”

Teachers stressed that a polygamous family structure has devastating effects on the student’s personality, mental health and academic achievement. Academic achievement was rated as low for students from those families. The teachers evaluated 10 students from the polygamous sample as having poor scholastic performances, and the remaining five students were evaluated as good. Also, the teachers and the counsellors explained further

problems such as bullying, absence, and dropping out of school are common problems for students from polygamous families, for both boys and girls. The teachers reported that students from polygamous families' sample had been investigated for committing sexual harassment. Teachers described girls from polygamous families as having low confidence, neurotic personalities and absence from classes as well.

“ Female teacher : girls who come from polygamous families have complicated emotional and behavioural problems such as mental health or even sexuality. Many times we call up the parents but unfortunately in most of cases we have not received any reply, so we transfer the cases to the office of educational supervision”.

Teachers reported satisfactory academic achievement for students from monogamous families, with 7 out of 10 rated as having excellent performance and 3 rated as good. For students from monogamous families, no complicated behavioural problems that need interventions were reported from the counsellors in the schools.

8.4 Discussion

The interviews revealed negative aspects of polygamy in Saudi families. Unfair treatment by the father in the polygamous families creates a troubled environment for the adolescents' upbringing. Adolescents of the first wife reported feeling injustice from the father which could affect their relationship with their father and parental bonding. According to Islamic shariah law the condition of the father being fair between his wives and children is for family stability and may help the polygamous marriage to be successful (Farahat, 2002). However, father bias to his second wife might be the cause of a tough life

for the first wife and emotional and behavioural problems for her adolescents (AL-Shamsi & Fulcher, 2005).

The authoritarian behaviour of the later wife might be the cause of the father's bias. For example, many students of the first wife mentioned that the father is subjected to the later wife's orders. Some students mentioned more advantages for the second wife which makes the father prefer her, such as being younger and more beautiful than the first wife. These responses supported the previous research in others societies such as Jordan, United Arab Emirates, and north of Israel (AL-Krenawi, Graham, & Slonim-Nevo, 2002; AL-Shamsi & Fulcher, 2005; Khasawneh, Hijasi, & Salman, 2011).

Interestingly, adolescents of later wives believed that their father is dealing justly with his two houses, however; they did not care or were not aware of the difficulties that faced their half siblings. This can be explained by the lack of cohesion and family conflict. Also it shows the effect of upbringing on the negative perceptions toward their half-siblings. The disrupted relations between the father and his wives, the careless treatment of one house, and the economic difficulties are underlying factors that were detrimental to those families. Through the interviews, students expressed opinions about the contrast between the two families in many aspects that even included the children's upbringing. This was also found by Al-Krenawi, Graham, & AL-Krenawi (1997). Also, this troubled state for those families may result in the first wife becoming a single mother because of abandonment from the husband or the relationship may end in divorce (AL-Krenawi & Lightman, AL-Seef, 2005, 2000; Elbedour, Onwueghbuzie, Caridine, & Abu-Saad, 2002; Elbedour, Bart, & Hektner, 2007).

The outcomes of dysfunctional family structures often results in adolescents having mental health problems and behavioural issues (AL-Krenawi et al., 1997; AL- Krenawi & Slonim- Nevo, 2008; Riaz, 1996), as these interviews have shown. Several of the students who lived in polygamous families admitted they have a difficult situation with their families that has affected their well-being and behaviour. It is noted that there was no gender difference in the type of emotional and behavioural problems. Both boys and girls from polygamous families shared in the same lack of psychological well-being and conduct disorders.

Also, the negative effects extended to scholastic performance. Family instability and the difficulties that face the students of polygamous families make progress in school difficult, so the interviews supported some previous research that suggested low academic achievement among students from polygamous families when compared with their peers from monogamous families (Adenike, 2013; AL-Krenawi, Graham, & Slonim-Nevo, 2002; AL-Shamsi & Fulcher, 2005). Also, low scholastic motivation was related with polygamous families (Adenike, 2013).

The adolescents' opinions of the weakness of the father's role in polygamous families, especially the adolescents of the first wife, created negative perceptions and attitudes towards polygamy and towards the father (AL-Krenawi, Graham, & Shimol-Jacobsen, 2006). This was shown in the students' answers about their fathers in this study. Father presence is necessary for the growth of adolescents according to Johnson (1993), Sun (2001), Benjamin (2003) and AL-Sharfi (2009). This is especially important in Arab societies where the father plays the greatest role for shaping adolescents' behaviour. Thus, in the absence of the father, adolescents in polygamous families lose the educational influence of their fathers. Hetherington (1991) stressed that father absence in early

childhood negatively affects the child's personality. Also, it was found to influence gender identity. For example, in Saudi society, AL-Sharfi's study (2009) found that gender identity disorder and poor social role performance were reported from male adolescents whose father was unavailable.

According to theoretical frameworks about the family, there are several factors that are important for child development in the family, these are: cohesion, homogenous couple, strong bonding, and reasonable socioeconomic circumstances (Bowlby, 1969; Bronfenbrenner, 1993; Olsen, 1986). From the interview results, polygamous families are often lacking these criteria. Through the current study and previous results, it can be seen that polygamous relationships affect children and adolescents. The effect of father fairness has been investigated in this study whereas it was neglected in previous research on polygamy. The two students from polygamous families who claimed that their father is just in his dealings with his wives and children responded in a positive way to other questions about polygyny. Further research is needed to investigate whether father unfairness is the main cause of family disruption among polygamous families.

Chapter Nine

Discussion

The outcomes of the studies presented in this thesis have found that family structure affects Saudi adolescents' psychological well-being. Polygamous family structure had a negative effect on adolescents' psychological well-being and their behaviours when compared with a monogamous family structure, supporting the hypotheses. This was found consistently in Study 1 (chapter 4), Study 3 (chapter 6) and Study 4 (chapter 7), indicating a reliable result. Also, differences in scores on the parental bonding instrument were found in Study 3 (chapter 6) showing lower father care and mother care among polygamous families compared to monogamous families, supporting the hypotheses. Differences were found in socioeconomic status and other demographic variables between the two types of family structure (Study 1 and Study 4). Differences in the number of days that fathers were available to their children was evident, with fathers spending less time with their children in polygamous families (Study 1 and Study 4). Demographic variables and father availability influenced adolescents' perceptions of their relationships with their father and mother, shown through the models tested in Study 4. The role of parental bonding in predicting adolescent psychological well-being was evident for both types of families, supporting the hypotheses. Also, parental bonding served as a mediating variable between the demographic variables associated with family structure and adolescent dependent variables, supporting the hypotheses. Discussion of each feature of the results are presented in the following sections.

9.1. Differences between adolescents from polygamous and monogamous families in the dependent variables (self-esteem, satisfaction with life, depression, bullying, and victimization).

9.1.1 Self-esteem

The results of Study 1 (chapter 4), Study 3 (chapter 6) and Study 4 (chapter 7) agreed with the hypothesis that predicted differences between adolescents from polygamous and monogamous families in self-esteem. The adolescents from polygamous families had lower self-esteem compared with the adolescents from monogamous families. This result supports the results of previous studies conducted in others societies that allow polygynous relationships, such as North-Israel, United Arab Emirates, and Pakistan (AL-Krenawi & Graham, 2002; AL-Shamsi & Fulcher, 2005; Elbedour, Onwueghbzie, Caridine, & Abu-Saad, 2002; Riaz, 1996).

Self-esteem is important for development during adolescence (Rosen, 2016). High self-esteem has been related to adjustment and school success while low self-esteem has been related to school drop-out, substance abuse, and depression (Rosen, 2016). Self-esteem has been found to be affected by the type of family structure and the quality of family processes (Upton, 2012). Parents in dysfunctional families often have stressful marital relationships which negatively affect the self-esteem of children and adolescents in the family (AL-Muhareeb, 2003). This is especially relevant to adolescents in polygamous families. The ongoing family problems and dysfunctional family processes often associated with polygamous families and the lower levels of care experienced by adolescents in

polygamous families increases the risk of low self-esteem among adolescents and a sense of loneliness as well. This was supported by interview results reported in Study 5.

In polygamous families, parents' failure to achieve the needs of the adolescents leads to avoidant or ambivalent attachment which is represented by the insecure attachment toward the parents which results in adolescents having negative beliefs about their individual abilities (Koiv, 2012). Children begin to identify self-value through the mutual interaction with the surrounding environment. Based on the ecological system conceptualization, adolescents from polygamous families did not experience the positive proximal processes from the parents in the microsystem and mesosystem levels. This results in the adolescents from polygamous families carrying negative cognitive experiences about themselves and the surrounding society (Bronfenbrenner, 1994). This appeared through the interviews in study 5, adolescents from polygamous families made links between the low self-concept with no important role for fathers in their life.

9.1.2. Satisfaction with Life:

Adolescents from monogamous families were more satisfied with their life than adolescents from polygamous families which supports the research hypothesis. It was expected that adolescents from polygamous families would have lower satisfaction in their life than those from monogamous families. This was found consistently in Study 1, Study 3 and Study 4. No previous research was found that specifically addressed the association between the polygamous relationship and satisfaction with life for adolescents, however, it supports the general research on mental health and well-being problems among adolescents from polygamous families found in previous studies (e.g. AL-Krenawi & Slonim-

Nevo, 2008; AL-Shamsi & Fulcher, 2005). Also, the results of the interviews in Study 5 (Chapter 8) supported this. Some of the adolescents from Saudi polygamous families interviewed in Study 5 reported that their family life had changed for the worse after their father married a second wife. There were also reports of conflicts, living with family problems, and difficulties due to father absence, lack of quiet and stable family life that negatively affected their satisfaction with their lives. Also, the models for polygamous families reported in Chapter 7 found that adolescents' perceptions of parental care predicted their satisfaction with life.

9.1.3 Depression

Depression is one of the most frequently occurring psychological problems that happens during adolescence (Orth, Robins & Roberts, 2008; Zahran, 2005), and the family has a salient role in the occurrence of depressive symptoms or in protecting the adolescent from those symptoms (AL-Muhareeb, 2003; AL-Sharfi, 2009; Lamb, 2010). The results of Study 1, Study 3 and Study 4 found that there were significant differences between the adolescents from monogamous and polygamous families in depression symptoms, and that adolescents from polygamous families had higher depression scores than adolescents from monogamous families. This supports previous research that found a negative association between polygamy and depression symptoms for children and adolescents (AL-Krenawi, Graham, & Slonim-Nevo, 2002; AL-Shamsi & Fulcher, 2005). Also AL-Gellban's study (2007) was conducted to investigate the prevalence of depression among school boy adolescents in Saudi society and found some of the adolescents who had high depression scores belonged to polygamous families.

Depression symptoms may reflect family difficulties that often occur in polygamous families. Interestingly, some of the girls interviewed in Study 5 (Chapter 8) mentioned they have psychological problems such as depression, low self-esteem, and phobias and they attributed that to father loss. The association between parental bonding scores and depression found in polygamous families (Study 4, Chapter 7) may be supported by previous research that found an association between insecure attachment and depression (Rosen, 2016). Through the significant differences found and the significant associations found through the statistical modelling, it can be proposed that adolescents of polygamous families in Saudi society have psychological well-being problems as a result of insecure attachment to the parents.

9.1.4. Bullying

The results of Study 1, Study 3 and Study 4 found differences between the adolescents in bullying behaviour. Adolescents from polygamous families engaged in more bullying than their peers from monogamous families, supporting the hypothesis.

No previous research was found that investigated the effects of polygamous family structure on bullying or victimization. AL-Samaree's study (2002) had the closest findings which found that some adolescents from polygamous families were involved in gangs that committed antisocial behaviours. Many researchers claimed that bullying adolescents come from troubled families that have inconsistent upbringing, also, absence of one of the parents and family conflict are the salient features for those families (Papanikolaou, Chatzikosma & Kleio, 2011; Pellegrini & Jeffery, 2002; Smokwski & Kopasz, 2005). These are often the circumstances found in polygamous families as reported in the interviews in

Study 5. Adolescents in polygamous families are often raised in an aggressive atmosphere through their lived experiences of parental conflict and rival relationship with the half siblings, so they learn that violence is a suitable way to behave towards others. Results from the interviews found more aggression and conflict was reported among polygamous families. The majority of interviewees from polygamous families said they live in continuous conflict with their step mothers and half siblings. Most of the students who were a son or daughter of the first wife described their step- mother as authoritarian and unjust.

Bullying behaviour was found to be associated with insecure attachment during adolescence (Lereya, Samara & Wolke, 2013; Williams & Kennedy, 2012), and shown through feelings of anxiety towards neglecting parents. This was shown in the negative relationship between mother care and bullying found in Study 4 (Chapter 7). In addition, polygamous relationship is more practiced in tribal societies in Saudi Arabia which allow for men to control family decisions even in woman's issues. That can make girls stressful and then transfer their stress and frustration to aggressive behaviour toward their peers in school. In Study 1, girls reported more bullying behaviour than boys and a similar trend was shown in Study 3.

9.1.5. Victimization

Adolescents from polygamous families reported being victims of bullying more than adolescents from monogamous families in Study 1 and Study 3, thus the hypothesis was supported. Through the interviews (Study 5, Chapter 8), many of the adolescents from polygamous families expressed about their emotional and behavioural problems such as fears, low assertive behaviour, and low confidence. These problems were found in previous research as characteristics of victims of bullying (Papanikolaou., Chatzikosma, & Kleio, 2011; Smoskowski & Kopasz, 2005).

Victims have been found to have an ambivalent attachment style toward their parents of the same gender (Koiv, 2012) which is considered an insecure parent-adolescent relationship. In Study 4 (chapter 7) a negative relationship was found between mother care and victimisation among adolescents from polygamous families, lower levels of mother care predicted higher victimization scores.

9.2 Parental bonding

The results of Study 2 (chapter 5) found that the Parental Bonding Instrument Father Care and Mother Care subscales were suitable for use with Saudi adolescents and the Father Protection and Mother Protection subscales were less useful. Consequently, the parent-adolescent relationship measures used in subsequent chapters were the two Care subscales. The results of Study 3 (chapter 6) found significant differences between adolescents from polygamous and monogamous families in both Father Care and Mother

Care scores, supporting the hypothesis. As the PBI was reported to measure attachment relationships (Parker et al., 1979), it can be concluded that adolescents from monogamous families had stronger and more secure attachment relationships with their parents than adolescents from polygamous families.

As will be discussed in more detail in section 9.4, father care and mother care predicted adolescent well-being differently for monogamous and polygamous families. Also, the position of the wife in polygamous families (whether first, second or later wife) predicted adolescents perceptions of mother care and father care. The later the position of the wife in the family, the higher the perceived care. No previous research was found that reported differences in PBI scores or parent-adolescent attachment relationship among polygamous families to help with interpretation of these results. However, it is suggested that the family conflicts and feelings of neglect reported in the interviews (Study 5) can help to explain the adolescents' scores on the PBI.

9.3 Differences in the demographic variables

9.3.1 Adolescent age and gender

The age range of participants was quite large (13 – 18 years). In 'Western' cultural contexts adolescence is often divided into different stages in psychology texts (Upton, 2012). This often includes early adolescence, mid-adolescence, later adolescence, and emerging adulthood. Also, the systematic literature review reported in Chapter 2 found that few studies had compared children and adolescents of different age groups. Although it was not a focus of this thesis to compare age groups and so no predictions were made

about adolescent age, it was decided to compare younger and older adolescents in Study 3 (chapter 6). No differences were found between younger and older adolescents except for a small but statistically significant difference between younger and older adolescents in depression scores. Although depression has been found to increase between childhood and adolescence, differences between younger and older adolescents are not clear (Berk, 2010). Also, there are very few studies of adolescent depression or satisfaction with life among Arab adolescents (Obermeyer, Bott & Sassin, 2015) to compare with the results of Study 3. From a Western culture perspective self-esteem has been found to increase during adolescence (Cole, Maxwell, Martin, Peeke, Seroczynski, Tram, & Maschman, 2001), however, most of the research on self-esteem among Arab adolescents has not compared age differences, so it is difficult to compare with this sample.

One reason for the lack of consistent age differences in this sample may be that the age differences between the older and younger age groups were not large enough for comparisons. Also, there may be cultural reasons for a lack of age differences. Saudi society is from Middle East communities that follow strict education systems to prepare boys and girls for adult life and parents continue to be important throughout adolescence and adulthood (Al-Sharfi, 2009). This would explain the results showing no significant age group differences in the remaining dependent variables.

The main focus of this thesis was to compare adolescents from polygamous and monogamous families, so no predictions were made about gender differences. However, it could be expected that boys and girls have different experiences of family life which could affect the results. It was decided to compare boys and girls to find out whether there were gender differences in the dependent variables and in parental bonding scores. There were

very few gender differences in the quantitative data. In Study 1, a gender difference was found in bullying and victimization, with more bullying and victimisation reported by girls, especially girls from polygamous families. A similar trend was observed in Study 3 although nonsignificant. The number of girls included in Study 3 was more than in Study 1 which could explain the difference in the results from these two studies. No gender differences were found for self-esteem, satisfaction with life, depression, father care and mother care. The results support Al-Krenawi et al's (2002) research findings of no significant gender difference in depression for their sample of Arab 13 year-olds in the Negev region and did not support Obermeyer et al's (2015) report of more frequent rates of depression and anxiety for Arab girls than boys.

The results of the interviews (Chapter 8) showed some interesting concerns about boys. From lived experience, some boys from polygamous families admitted behavioural problems such as smoking, drug usage, sexuality, and involvement in violence. Also, some of the girls were concerned about their brother's behaviours because their mothers cannot control them, and the father's absence increased the involvement of boys in many behavioural problems. Girls also stated a lot of emotional problems like low self-esteem and confidence as well as complaints from depressive symptoms.

9.3.2. Level of parental education.

Polygynous fathers were less educated than monogamous fathers, and these results (Study 1, Study 4) are similar to many studies which had shown that polygamous fathers were illiterate or they attended limited classes in their life (Adenike, 2013; AL-Krenawi & Lightman, 2000; AL-Krenawi & Slonim-Nevo, 2006; AL-Shmasi & Fulcher, 2005).

The numbers of illiterate polygamous fathers in this study was 68 cases compared with the 15 cases of illiterate monogamous fathers, also more monogamous fathers completed the basic education (secondary school) than polygynous fathers. This result supports the expectation that the practice of polygyny is prevalent between less educated men in Saudi society. Polygamous marriage requires more responsibilities from the husband toward his families that are not faced by the husband in monogamous families, so Islamic sharia law had determined logical the conditions to practice polygamy. Unfortunately, most of the polygynous fathers did not observe those conditions especially the financial ability. Also the low level of education for those fathers may make them less aware about the arduous tasks for this type of family structure, depriving them of the recognition of the negative and positive sides of the polygynous relationship. Thus it can be expected that difficulties within the polygamous families will occur.

Previous research has shown that fathers with less education often do not have healthy family relationships (EL-Bedour et al., 2002; Olsen, 1986; Sun, 2001) and that a higher level of education for fathers helps to build a stable family structure (Ermisch & Pronzato, 2010). Also other researchers claimed that attainment of at least a basic education helps parents to have the required skills for bringing up their children (Farraji, 2012). In a supporting point, through the interviews in chapter 8 the participants and the teachers mentioned that polygynous fathers did not cooperate with the schools to resolve scholastic and behavioural problems of the adolescents. This can be explained by the lack of awareness by those fathers of the importance of the contact between school and home. What makes matters worse for the polygamous families, is when the mother is also illiterate and she is unable to cope with marital and economic difficulties. In chapter 7, mothers of polygamous families were found to be more illiterate and had lower levels of

education than mothers from monogamous families. The number of illiterate mothers from polygamous families was high with 121 versus 78 illiterate mothers from monogamous relationship. Previous researchers have pointed out that lower levels of education makes the mothers of polygamous families more likely to accept to be the wife of a polygynous husband (AL-Shamsi & Fulcher, 2005; Gyimah, 2009).

In many cases, the fear of spinsterhood makes the woman accept this type of family structure. Also, some women leave the decision to choose the spouse for the parents as a cultural practice which happens in some Saudi communities (Yamani, 2008). Another reason is related to religion. A widely held belief among the women in some religious families is that polygamous marriage is a practice for sharia law and it contributes to address the social problems resulting from a delayed age of marriage. Interestingly, the high numbers of illiterate polygamous parents indicate that polygynous fathers tend to prefer to marry an uneducated woman because she is more likely to accept a polygamous relationship than an educated woman. All the above reasons are related to a lower level of parent education in the polygamous family structure.

9.3.3. Father availability

Father's absence is the most frequent family dilemma which occurs in polygamous families (AL-Krenawi et al., 2002; AL-Shamsi & Fulcher, 2005 Eledour et al., 2002). The results of Study 1 (chapter 4) and Study 4 (chapter 7) showed that fathers in Saudi polygamous families were less involved on a daily basis with their children's upbringing. In Study 4, the mean for father availability was reported as 2.87 days in a week for the polygamous families, and 6.83 days of father availability for monogamous families. This big

variation between the two types of family structure is a reflection of the weak role of the father in raising children for Saudi polygamous families. This is supported by previous studies (ElBedour et al., 2002; AL-Krenawi & Slonim-Nevo, 2008) which found that polygynous fathers spent less and ineffective time with their adolescents.

Father availability is an important factor to shape positive development for adolescents as is mother availability. The results of Study 4 (chapter 7) found that father availability was related to mother care among polygamous families. The less available the father was to the family the more care the adolescents reported their mother showing. The father in the Saudi family is the first person responsible for family rules, thus father absences can have serious negative effects on family stability (AL-Muhareeb, 2003). Father absence deprives adolescents of the sense of security and leaves them alone to face the difficulties of the growth stage (AL-Harbi, 2006) and puts more responsibility onto their mothers. Adolescents who have experienced father's absence have been found to suffer from mental health problems and conduct disorder (AL-Sharfi, 2009; Lamb, 2010).

Interestingly in Study 5 (chapter 8), the position of the wife in the family affected the father's presence where it was found that polygynous fathers prefer to live with the later wife. Therefore, the first wife and her adolescents are the biggest victims of the effect of polygamous relationships. The reasons behind the unfair treatment may be a lack of the love and the attention to the first wife, or maybe he finds more stability with the later wife. Another reason is linked with the characteristics of the later wife. The later wife usually is the youngest and more beautiful than the first wife and she may exploit these advantages to control the father and family decisions, which leads to conflicts within the polygamous families. This was reported in the interviews in Study 5. Also, Study 5 found that adolescents

from monogamous families described that their father played a substantial role in making their life more secure through helping them in overcoming difficulties that they could face in daily life.

9.3.4. Family size

Polygamous families have more children than monogamous families in Saudi society which increases the responsibilities for polygamous parents. Family size is associated with the level of parental care, whenever the family size is high the adolescents will find less parental care and vice versa (AL-Aumar, 2008). It has already been stated in the Introduction (Chapter 1) that one of the reasons for polygynous practice in the past is the procreation of many children to help the parents on the farms. However, in the current time Saudi people are no longer working on the farms to the same extent, so the reason is related more with lack of level of education (AL-Krenawi & Lightman, 2000).

Family size affects the level of income for the family, so increasing the family size with low income will put the family in economic difficulties which can have a negative effect on the development of children and adolescents (Mooney et al., 2009). Family size was a significant predictor of father care and mother care in the entire sample of 500 participants in Study 4 (chapter 7) but it was not a significant predictor for polygamous families. This may be because the effects of family size are based on the mother; there were similar numbers of family members in polygamous families where the mean was 12.65 members for first wife and 12.58 members for second wife (no statistically significant difference).

9.3.5. Income

Low income is one of the factors that can make family life more troubled for children and adolescents (Ermisch & Pronzato, 2010; Mooney, Oliver, & Smith, 2009), as previous research has shown (AL-Krenawi, AL-Krenawi, & Graham, 1997; AL-Krenawi & Slonim-Nevo, 2002, 2008; AL-Shamsi & Fulcher, 2005; EL-bedour, Onwueghbuzie, Caridine, & Abu-Saad, 2002). Study 1 (chapter 4) and Study 4 (chapter 7) have shown that polygamous families in Saudi society face more economic problems than monogamous families.

At the time of conducting this research, the average income for the Saudi citizen is about £2000 to £ 3500 monthly, which is enough for one family consisting of eight members. However, some Saudi fathers remarry without financial competency which can create problems for the first family and the second. What makes things more complicated is that the level of income is associated with other indicators of socioeconomic status for parents such as level of education and family size. A higher level of education helps the parents to find work with a high or satisfactory income, also it prompts them to take birth-control for providing all the developmental requirements for their children and adolescents.

Another negative factor is low standard of education for mothers in polygamous families. It can be difficult for uneducated women in Saudi society to find a job because of the narrow opportunities for women's work in general and it is limited to educated women. Therefore, unemployed and uneducated mothers marrying polygynous fathers who are not

able to meet the financial requirements for his families makes the standard of living more difficult.

The results show that the Saudi polygamous family structure has an unstable socioeconomic status which is expected to have a negative impact on family stability. Also, there are inter-relationships between the socioeconomic variables for these families, low education for the parents leads to low income, also high family size may cause less father availability. However, on its own as a separate variable, family income was not a predictor of parental bonding or any of the adolescent dependent variables. It may be the case that income alone is not as important as the family characteristics that income is associated with.

In summary, the analysis of variance tests which were conducted in Study 1 and Study 3 found significant differences between polygamous and monogamous families supporting the hypotheses. However, few adolescents from polygamous families showed adjusted psychological well-being and behaviours that may reflect resilience and coping with current family conditions.

9.4 The models of the relationships between family variables and adolescent outcomes

The test of the postulated models to investigate the relationships between family context variables, parent-adolescent relationships and adolescent psychological well-being supported the hypotheses, especially the mediating role of parent-adolescent bonding. Models were developed to explain relationships between family context, parent-

adolescent relationships and adolescent well-being for the entire sample and for each family structure separately. In total, nine models were developed and each will be discussed separately in the following sections.

9.4.1. The models for polygamous and monogamous families combined (first model, second model, and third model)

The model for the main sample which included 500 adolescents from polygamous and monogamous families consisted of father availability and family size as demographic/context variables, father/mother care as mediating variables, and psychological well-being (self-esteem, satisfaction with life, and depression) as the dependent variables. The model illustrated that more father availability and smaller family size predicted higher father and mother care which predicted self-esteem and satisfaction with life. So, higher perceived levels of parental care were associated with higher self-esteem and satisfaction with life. This finding can be supported by previous research based on attachment theory (Constantine, 2006; Rodenburg, Colnnesi, & Stama, 2013).

The second model comprised of both polygamous and monogamous families combined together and included the demographic / context variables of father availability and family size, the mediating variables of father and mother care and bullying behaviour as the dependent variable. The interrelations between variables showed that more father availability and lower family size leads to higher father and mother care (AL-Krenawi & Lightman, 2000), and that predicted less bullying behaviour.

The third model was tested on both monogamous and polygamous families together. It included father availability and family size as demographic variables, father and

mother care were the mediating variables, and victimization was the dependent variable. The interrelations between variables showed that more father availability and lower family size led to higher levels of father and mother care and higher levels of parental care predicted lower likelihood of being a victim of bullying behaviour.

9.4.2. Models for polygamous families (fourth model, fifth model, and sixth model)

The fourth model was limited to adolescents from polygamous families. It consisted of father availability and position of the wife in the family as demographic/context variables, the mediating variables of father and mother care, and the psychological well-being dependent variables (self-esteem, satisfaction with life, depression). The interrelation values showed that father availability was not associated with father care which can be explained by the lack of father ability in the polygamous families (AL-Shamsi & Fulcher, 2005; Elbedour, Onwueghbuzie, Caridine, & Abu-Saad, 2002;). However, father availability was associated with mother care, which affected adolescent satisfaction with life and depression. Families that had less time with their father reported more mother care. Also, it was related to the position of the wife in the family which may indicate the father's preference for spending more time with the second wife (AL-Krenawi & Lev-Wiesel, 2000). This predicted lower parental care which affected psychological well-being. The position of the wife was related to father care and mother care, lower father and mother care was found for first wives than later wives.

The second model for polygamous families (Fifth model) included father availability and position of the wife in the family, father/mother care, and bullying behaviour. The path model demonstrated that low father availability was associated with low father care although this did not affect bullying. However, mother care was associated with bullying which can be explained by the quality of mother-adolescent relationship in polygamous families (Williams & Kennedy, 2012). Also, father availability affected mother care which affected adolescent bullying. Perhaps the mother makes the adolescents a scapegoat for the stressful marriage and the adolescent may copy the aggressive behaviour from the mother (ElBedour, Abu-Bader, Onwuegbuzie, Abu-Rabia, & El-Aassam, 2006). Also, the position of the wife predicted father care and mother care, lower father and mother care was found for first wives than later wives.

The last model for the polygamous group included the victimization variable as the dependent variable in addition to the same variables as in the previously described polygamous models. The interrelations between variables were close to the previous model; low father care was not correlated with victimization resulting from the absent father's role for adolescents. Father availability affected mother care which affected adolescent victimization. Mother care was associated with victimization which is interpreted by the effects of the father's absence and the conflict with the other wife on the mother that makes the mother-adolescent bonding more affectionate. Also, the position of the wife predicted father care and mother care, lower father and mother care was found for first wives than later wives.

9.4.3 Models for monogamous families (seventh model, eight model, and ninth model)

This model and the remaining two models for the adolescents from monogamous families did not find any interrelations between the demographic/ context variables with the mediating father and mother care variables. For these models, the same variables as for the entire sample were used (father availability and family size, father/mother care and self-esteem, satisfaction with life, and depression as the dependent variables).

The interrelations between variables illustrated that higher levels of father care were associated with self-esteem and satisfaction with life, but were not associated with depression (Constantin, 2006). This means that high father care has positive effects on adolescent psychological well-being. Interestingly, the mother care variable had a low association with satisfaction with life which reflects the important effective role of father care in the adolescent's life for monogamous families and that was not evident in polygamous families. On the other hand, the mother care interrelations variable in the models for polygamous families showed more responsibility for the mother and her impact on adolescents' psychological well-being.

The eighth model included the same variables as the seventh model in addition to bullying behaviour as the dependent variable. The result revealed that high levels of parental care reduces the likelihood of bullying behaviour for adolescents from monogamous families.

The final model tested the dependent variable of victimization with the same variables as the seventh model. This model showed that high parental care leads to less possibility of victimization. However, the association that was found between father care and victimization could be explained by the quality of father care where the father may provide excessive care to the adolescents that makes them dependent on the father thus they become less experienced to deal with aggressive adolescents.

9.4.4 Summary of the models

In general, the results of these models supported the mediating role of father and mother care on adolescent well-being and behaviour. This is supported by research based on attachment theory. For example, according to Parker, Tupling, & Brown (1979), insecure attachment and careless parenting are disruptions to the parent-child bonding that leads to mental health disorders and behavioural problems in childhood and in later life (Parker, Tupling, & Brown, 1979). Furthermore, insecure attachment is associated with mental health problems for children and adolescents. Symptoms of anxiety and depression were reported in adolescents who perceived insecure attachment toward their parents (Constantine, 2006; Rodenburg, Colonnese, & Stams, 2013). Also, insecure attachment is a risk factor for the development of bullying behaviour or being a victim of bullying during adolescence (Koiv, 2012; Williams & Kennedy, 2012).

Also, the results found family context variables to be associated with levels of parental care and these context variables differed for polygamous and monogamous families. This should be expected considering the demographic differences reported and

discussed above. Although interactions between parents were not measured directly in this thesis, the relationships between some family context variables and parental care gave indications of the effects of the father's behaviour on the levels of mother care. Family context variables, parent-adolescent relationships and relationships between family members are all relevant to Bronfenbrenner's theory.

As reported in Chapter Two and Chapter Seven, Elbedour et al. (2003) commented that research on the effects of polygyny on children and adolescents is limited by an over-reliance on the single factor of family structure in the design of research studies. They stated that research is needed to evaluate the effects of mediating and moderating factors within the family, including demographic variables and family relationships. The models reported in this study have shown that differences between polygamous and monogamous families are complex.

The models have shown that cultural context is important in understanding the development difficulties for children and adolescents. The practice of polygamy is supported by the cultural context in Saudi society. However, there are no strict rules for curbing polygamy, therefore many adolescents from polygamous families will be vulnerable to the risks of development. Also, the models revealed that the socioeconomic status for the family is not necessarily the main effect on the development of children and adolescents, but the quality of parent-relationship is the first element for shaping the development processes for the children.

The models uncovered the negative effects of the polygamous family structure on developmental outcomes for Saudi adolescents. From the result of this research, adolescents from polygamous families are more at risk of developing problems than

adolescents from monogamous families, especially adolescents from the first wife. Therefore family psychologists should provide awareness programs to the society and especially polygamous families about the potential developmental problems which may occur to children and adolescents. Also, the counsellors in schools who have the most contact with polygamous families should develop protection programs for students to avoid the psychological and behavioural problems associated with polygamy.

9.5 Differences between adolescents from first and second wives in parental bonding and psychological well-being, bullying, and victimization.

An important feature of polygamous families that has been commented on in this Discussion chapter is the differences in treatment between first and subsequent wives and their families. The models for the polygamous families found that the position of the wife in the family was related to mother care; the later wives demonstrated more care than first wives. Also, adolescents from first wives reported lower self-esteem, lower satisfaction with life and higher rates of depression (Study 4, chapter seven). Few studies have compared the children and adolescents of first and subsequent wives in polygamous families. Elbedour, Bart, W., Hektner's (2007) report of higher levels of psychopathological symptoms among children of three and four wife families support the results of chapter seven.

The position of the wife may have affected the father's presence. The polygynous fathers prefer to spend time with the later wife than the first wife. The reasons behind such absence and unfair treatment may be because of lack of love and attention to the first wife,

or maybe he finds stability with the later wife. Another reason is related to the attractive characteristics of the later wife such as being younger and more beautiful than the first wife which might make the later wife the favourite wife. These advantages may be exploited by the later wife to control the father and family decisions, which leads to conflicts within the polygamous families. This was reported in the interviews in Study 5.

9.6 Research strengths and limitations

This is one of the first studies of the psychological effects of the polygamous family structure on Saudi adolescents. The results are similar to those from other cultural contexts, especially studies done in other Arab cultural contexts (Al-Krenawi, 2014). One of the strengths of this research is that standardised tests were used and culturally suitable measures. The bullying and victimization questionnaire was designed for use by Arab students. The other tests used had previously been validated for use with Arabic or Middle Eastern samples. Also, the psychometric properties (internal consistency) of the instruments for this sample were tested and internal consistency was good. For tests designed in the English language, back-translation was used. Also, one of the strengths of this research includes conducting the cultural validation of the Parental Bonding Instrument. As there is currently no available measure of parent-adolescent relationships, parental bonding or adolescent attachment in Saudi Arabia, this cultural validation will be of benefit to Saudi psychologists.

The study has contributed to psychological research in Saudi Arabia and the study of development in polygamous family contexts. It has added to the research on the effects of polygamy on children and adolescents in Saudi Arabia and other cultures where polygyny

is practiced. Testing several dependent variables on different samples of adolescents has increased the reliability of the results. Also, it has shown that polygamy has several effects on the psychological well-being of adolescents and their behaviour. Some of these variables have not been studied before, particularly bullying and victimization. The research has incorporated mediating variables into the research design to improve our understanding of the effects of family structure, especially polygamy. The results have shown that the amount of time the father is available to his family is important. This is relevant to polygamous and monogamous families and seems to have worked in different ways for different family structures. In polygamous families, father availability affected the mother's behaviour which then affected the adolescent. As previous authors have pointed out (Elbedour, Onwueghbuzie, Caridine, & Abu-Saad, 2002), family structure is complex and involves many interacting variables.

There is a wide range of developmental outcomes that could be investigated. The choice of adolescent dependent variables was based on theory and previous research. Self-esteem was measured using a measure of global self-esteem. Adolescents could have higher self-esteem in some areas and not in others and this needs further research. Other variables that could be researched more fully in the future include resilience and educational achievement.

The use of mixed methods in this research has been an advantage. The quantitative data has allowed the results to be replicated, the effects of several variables to be analysed and the effects of mediating variables to be investigated. The information added by the qualitative analysis of interviews has illustrated some of the important points raised by the quantitative data, and provided the context of the adolescents' everyday experiences of family life. The qualitative study extracted six themes which were not assessed by the

questionnaires, these were father fairness, family conflict, family cohesion, attitude toward polygamy, emotional and behavioural problems, and academic achievement.

The research can be used to help children and families. For example, it can be used to identify children most at risk of developing problems, such as children of first wives in polygamous families. The researcher identified 14 students who were found to need immediate intervention and the school counsellors were informed so that they could begin counselling programmes to help them. All of these students were from polygamous families, 12 cases were adolescents from the first wife and 2 cases were adolescents from the later wife.

Limitations of the research include the choice of family variables. The choice of family context variables was based on those identified in previous research, especially research included in the systematic review. Other family variables could have been included, such as support from extended family members, relationships with siblings and grandparents. The thesis focussed on the parent-child relationship. This is relevant to the modern Saudi family and to important psychology theories. Other important family relationships were excluded, particularly relationships between parents (family cohesion) and relationships between co-wives. Although relationships between mother and father were not investigated directly, the interviews in chapter 8 and the models tested in chapter 7 suggest that the relations between parents and between co-wives should be investigated further in future research. Some of the other variables, such as relationships within the family and relationships with siblings were included in the interviews. These should be investigated in more detail in future research. Also, relationships with grandparents would

be very relevant to this research. Grandparents and other extended family members might increase resilience and this should be investigated in future research.

Also, further research is needed on this topic such as the quality of the psychological or psychosomatic problems for Saudi women in polygamous relationships, and investigations of the impact of the later wives on the family cohesion in Saudi polygamous families. In addition, it is recommended to investigate the impact of polygamous relationships on gender identity disorders for male adolescents especially since polygamous families have the problem of father absence (ALmuhreeb, 2003; AL-Sharfi, 2009).

9.7 Implications of the study

From the results of this research it is recommended that school counsellors should give more attention to adolescents from polygamous families regarding their mental health, behaviours, and academic achievement by following-up those students from time to time. These important steps will help with early detection of students' problems. Also the cultural validation of Parental Bonding Instrument is an important tool for counsellors to assess the quality of parent-adolescent relationship and its impact on student's mental health and behavioural problems. Interventions and counselling programs should target the parents as well as students to increase awareness of bullying behaviour and to prevent bullying and victimization.

Another effective step would be for counsellors in schools to maintain continuous contact with the polygamous families and encourage them to provide an intact family

environment and respect the developmental requirements for adolescents. This could help to protect adolescents from developmental risks.

Schools could play an important role in educating students about the negative effects of the polygamous relationship on family stability and children's developmental outcomes. The results of this research and other studies could be used by educators and teachers to develop seminars and classes in schools.

As this is the first study to investigate the effects of polygamous relationships on Saudi adolescents, the results of this research will be valuable for the Saudi public. The researcher aims to inform the Saudi public about the results of the study through newspapers and some TV channels in Saudi Arabia to ensure that a large number of Saudi people have information about the effects of polygamous relationships on children and adolescents. Also, the researcher will meet with Islamic institutions and work co-operatively for increasing awareness in the Saudi society about the risks of polygamy when it is practiced without prescribed circumstances. The researcher will visit villages and small cities which still follow the tribal rules, and give lectures in social serves centres about the risks of polygamous relationships on family stability and the mental health of children and adolescents.

9.8 Conclusions

It is important to consider the social and cultural context in which the research was carried out. Many years ago, it was considered a difficult task to conduct research on sensitive social issues in Saudi society. One of the reasons was the lack of awareness from people about the positive contributions that address the potential problems. Another

reason is related to cultural factors relevant to people of the Middle East which is a tendency to hide their personal and family problems from strangers. In some cases, social institutions were behind the prevention of criticism the polygamous relationships which was a reflection of the fears about what may happen if there is conflict between the social norms and the scientific results of the research. Polygynous relationships and its impact were one of the controversial social issues in Saudi society, so have not been addressed during the past years, with the exception of AL-Seef's study (2008) which specified polygyny as one of the reasons for divorce. Fortunately, the current study has been carried out in a time that Saudi society has become ready to confront its own social problems. Also the social and educational institutions have supported research which provides the potential solutions for those problems.

The literature review found that most of the previous researchers have shown that polygamous family structures negatively affect the mental health and behaviours of children and adolescents, so the outcomes of this study have supported those results. Also, the validation of the parent-adolescent bonding instrument on Saudi society has been provided by this study.

The thesis has provided objective research about the effects of polygamous family structure on adolescents compared with monogamous family structure in Saudi society. The results have revealed that the polygynous family structure has negative effects on psychological well-being, bullying, victimization, and academic achievement for adolescents, and the parent-adolescent relationship was shown to be a mediating variable. The results showed consistently that there were differences between adolescents from polygamous and monogamous families. Structural equation modelling was used to test the

nine theoretical models which were postulated to explain the nature of interrelations between the variables of the study. The study has contributed through adding the parent-adolescent bonding as a mediating variable which has effects on the dependent variables. Furthermore, the current study investigated the effects of the polygamous family structure on bullying and victimization among adolescents. In addition, the qualitative study added information about about father fairness, family conflict, family cohesion, emotional and behavioural problems, and academic achievement.

Finally, the study is not intended to clash with the social institutions which permit polygamous relationships, but it provides a wider understanding for the Saudi society about the effects of polygamous family structure on children and adolescents. It will help educators to pay more attention to the psychological well-being and behavioural problems of adolescents through providing the required counselling and protection programs. The results of this thesis will contribute to the work of school counsellors and teachers, family psychologists and social workers. It is expected that the results will be valuable for policy development also.

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Appendix 1

Demographics questionnaires:

1- Age:
2-Fathers' education: - Less than high school. - High school. - Bachelor. - Graduate.
3-Mothers' education: - Less than high school. - High school. - Bachelor. - Graduate.
4- Are you son or daughter of polygamous family? <input type="checkbox"/> yes <input type="checkbox"/> no If yes, please answer the following: How many wives does your father have? First wife Second wife Third wife Fourth wife You are son or daughter of: <input type="checkbox"/> first wife <input type="checkbox"/> second wife <input type="checkbox"/> third wife <input type="checkbox"/> forth wife
5- How many Numbers of siblings?
6-Who many days per week your father spends with you?
7- Parents' occupation: - Father: - Mother:
8- Income level" A-(3000-5000 _{SAR}) B-(5000-8000 _{SAR}) C-(8000-10000 _{SAR}) D- (10000 _{SAR} and more).

Systematics review paper:

Study 1 (chapter 4):

Table 1

Correlations between individual items and the total score on the Self-Esteem scale

Items	<i>R</i>
1	.438**
2	.531**
3	.595**
4	.515**
5	.667**
6	.433**
7	.548**
8	.326**
9	.711**
10	.647**

** $p = 0.001$

Table 2

Correlations between individual items and the total score on the Satisfaction with Life scale

Items	<i>R</i>
1	.758**
2	.792**
3	.782**
4	.714**
5	.562**

** $p = 0.001$

Table 3

Correlations between individual items and the total score on the Depression scale

Items	<i>R</i>
1	.423**
2	.569**
3	.559**
4	.691**
5	.621**
6	.682**
7	.558**
8	.534**
9	.650**
10	.567**
11	.670**
12	.693**
13	.704**
14	.631**

** $p = 0.001$

Table 4

Correlations between individual items and the total score on the Bullying scale

Items	<i>R</i>
1	.406**
2	.463**
3	.622**
4	.682**
5	.715**
6	.741**
7	.565**
8	.588**
9	.624**
10	.677**
11	.673**
12	.732**
13	.740**
14	.692**
15	.699**
16	.720**

17	.438**
18	.751**
19	.809**
20	.775**
21	.642**
22	.675**
23	.647**
24	.649**
25	.823**
26	.721**
27	.657**
28	.723**
29	.752**
30	.525**
31	.770**
32	.702**
33	.699**
34	.721**

** $p = 0.001$

Table 5

Correlations between individual items and the total score on the Bullying–Victim scale.

Items	<i>R</i>
1	.806**
2	.661**
3	.741**
4	.846**
5	.867**
6	.756**
7	.773**
8	.807**
9	.785**
10	.727**
11	.793**
12	.776**
13	.683**
14	.771**
15	.654**
16	.840**
17	.786**

18	.735**
19	.712**
20	.785**
21	.792**
22	.753**
23	.744**
24	.852**
25	.790**
26	.838**
27	.814**
28	.779**
29	.760**
30	.770**

** $p = 0.001$

Table 6

Tests of Between-Subjects Effects

Dependent Variable: Self-esteem

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	239.112 ^a	3	79.704	4.647	.004	.669
Intercept	36049.512	1	36049.512	2101.783	.000	.981
Family	138.877	1	138.877	8.097	.005	.668
Gender	50.022	1	50.022	2.916	.091	.000
family * gender	.574	1	.574	.033	.855	.000
Error	1612.276	94	17.152			
Total	48582.000	98				
Corrected Total	1851.388	97				

a. R Squared = .129 (Adjusted R Squared = .101)

Table 7

Tests of Between-Subjects Effects

Dependent Variable: Satisfaction with life

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	386.035 ^a	3	128.678	3.088	.031	.770
Intercept	41419.567	1	41419.567	994.131	.000	.964
Family	165.603	1	165.603	3.975	.049	.769
Gender	93.554	1	93.554	2.245	.137	.003
family * gender	16.419	1	16.419	.394	.532	.006
Error	3916.424	94	41.664			
Total	58517.000	98				
Corrected Total	4302.459	97				

a. R Squared = .090 (Adjusted R Squared = .061)

Table 8

Tests of Between-Subjects Effects

Dependent Variable: Depression

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1978.756 ^a	3	659.585	13.590	.000	.784
Intercept	14299.697	1	14299.697	294.630	.000	.888
Family	1559.702	1	1559.702	32.136	.000	.783
Gender	82.691	1	82.691	1.704	.195	.006
family * gender	.897	1	.897	.018	.892	.004
Error	4562.233	94	48.534			
Total	25721.000	98				
Corrected Total	6540.990	97				

a. R Squared = .303 (Adjusted R Squared = .280)

Table 9

Tests of Between-Subjects Effects

Dependent Variable: Bullying

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	14904.444 ^a	3	4968.148	13.797	.000	.661
Intercept	264555.402	1	264555.402	734.670	.000	.925
Family	10505.832	1	10505.832	29.175	.000	.657
Gender	3573.593	1	3573.593	9.924	.002	.008
family * gender	721.568	1	721.568	2.004	.160	.008
Error	33849.475	94	360.101			
Total	347408.000	98				
Corrected Total	48753.918	97				

a. R Squared = .306 (Adjusted R Squared = .284)

Table 10

Tests of Between-Subjects Effects

Dependent Variable: Victimization

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	9379.634 ^a	3	3126.545	6.711	.000	.675
Intercept	204067.524	1	204067.524	438.054	.000	.920
Family	5863.435	1	5863.435	12.587	.001	.674
Gender	2199.832	1	2199.832	4.722	.032	.005
family * gender	20.264	1	20.264	.043	.835	.010
Error	43789.928	94	465.850			
Total	285829.000	98				
Corrected Total	53169.561	97				

a. R Squared = .176 (Adjusted R Squared = .150)

Appendix 2 Study 2 (chapter 5)

Table 1

Total Variance Explained (Father version)

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.851	27.405	27.405	6.351	25.402	25.402	5.244	20.976	20.976
2	2.292	9.168	36.573	1.624	6.496	31.898	2.158	8.630	29.607
3	2.092	8.369	44.943	1.457	5.828	37.726	1.738	3.743	36.559
4	1.264	5.054	49.997						
5	1.103	4.410	54.407						
6	1.017	4.070	58.477						
7	.901	3.606	62.083						
8	.809	3.234	65.318						
9	.805	3.220	68.537						
10	.747	2.989	71.526						
11	.735	2.942	74.468						
12	.654	2.617	77.085						
13	.625	2.499	79.584						
14	.579	2.314	81.898						
15	.556	2.225	84.123						
16	.525	2.101	86.224						
17	.475	1.900	88.124						
18	.468	1.873	89.997						
19	.442	1.767	91.764						
20	.423	1.694	93.458						
21	.381	1.523	94.981						
22	.366	1.465	96.445						
23	.329	1.316	97.762						
24	.308	1.233	98.994						
25	.251	1.006	100.000						

Extraction Method: Principal Axis Factoring.

Table 2

Table (3) Total Variance Explained Mother version

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.477	21.907	21.907	4.880	19.519	19.519	3.283	13.131	13.131
2	2.326	9.303	31.209	1.625	6.500	26.019	2.252	9.009	22.140
3	1.996	7.983	39.192	1.455	5.819	31.838	1.865	29.598	1.865
4	1.182	4.726	43.918						
5	1.159	4.636	48.554						
6	1.000	4.002	52.556						
7	.995	3.979	56.535						
8	.891	3.566	60.101						
9	.831	3.323	63.423						
10	.788	3.153	66.576						
11	.766	3.062	69.638						
12	.754	3.015	72.654						
13	.702	2.810	75.463						
14	.669	2.676	78.140						
15	.655	2.619	80.759						
16	.613	2.453	83.212						
17	.576	2.304	85.516						
18	.527	2.110	87.626						
19	.516	2.065	89.691						
20	.502	2.009	91.700						
21	.479	1.916	93.616						
22	.458	1.834	95.450						
23	.413	1.651	97.101						
24	.367	1.467	98.568						
25	.358	1.432	100.000						

Extraction Method: Principal Axis Factoring.

Appendix 3

Study 3 (chapter 6)

Table 1

Tests of Between-Subjects Effects

Dependent Variable: Father Care

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	6969.080 ^a	7	995.583	22.679	.000	.381
Intercept	160533.310	1	160533.310	3656.945	.000	.934
Family	6815.055	1	6815.055	155.247	.000	.376
Gender	103.987	1	103.987	2.369	.125	.009
Stage	97.445	1	97.445	2.220	.137	.009
Family * Gender	28.787	1	28.787	.656	.419	.003
Family * Stage	77.759	1	77.759	1.771	.184	.007
Gender * Stage	43.651	1	43.651	.994	.320	.004
Family * Gender *	7.410	1	7.410	.169	.682	.001
Stage						
Error	11325.736	258	43.898			
Total	184895.000	266				
Corrected Total	18294.816	265				

a. R Squared = .381 (Adjusted R Squared = .364)

Tests of Between-Subjects Effects

Table 2

Dependent Variable: Mother Care

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2524.352 ^a	7	360.622	13.851	.000	.273
Intercept	208904.123	1	208904.123	8023.517	.000	.969
Family	2361.471	1	2361.471	90.699	.000	.260
Gender	7.696	1	7.696	.296	.587	.001
Stage	39.807	1	39.807	1.529	.217	.006
Family * Gender	42.791	1	42.791	1.644	.201	.006
Family * Stage	7.492	1	7.492	.288	.592	.001
Gender * Stage	10.623	1	10.623	.408	.524	.002
Family * Gender * Stage	104.206	1	104.206	4.002	.046	.015
Error	6717.411	258	26.036			
Total	224503.000	266				
Corrected Total	9241.763	265				

a. R Squared = .273 (Adjusted R Squared = .253)

Table 3

Tests of Between-Subjects Effects

Dependent Variable: Self-esteem

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2103.190 ^a	7	300.456	20.378	.000	.356
Intercept	123558.554	1	123558.554	8379.993	.000	.970
Family	2014.973	1	2014.973	136.660	.000	.346
Gender	.704	1	.704	.048	.827	.000
Agegroup	.798	1	.798	.054	.816	.000
Family * Gender	5.442	1	5.442	.369	.544	.001
Family * Agegroup	16.114	1	16.114	1.093	.297	.004
Gender * Agegroup	31.877	1	31.877	2.162	.143	.008
Family * Gender * Agegroup	6.564	1	6.564	.445	.505	.002
Error	3804.073	258	14.744			
Total	134036.000	266				
Corrected Total	5907.263	265				

a. R Squared = .356 (Adjusted R Squared = .339)

Table 4

Tests of Between-Subjects Effects

Dependent Variable: Satisfaction With Life

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	4084.915 ^a	7	583.559	16.016	.000	.303
Intercept	139529.419	1	139529.419	3829.465	.000	.937
Family	3732.520	1	3732.520	102.441	.000	.284
Gender	127.084	1	127.084	3.488	.063	.013
Agegroup	49.046	1	49.046	1.346	.247	.005
Family * Gender	32.341	1	32.341	.888	.347	.003
Family * Agegroup	52.081	1	52.081	1.429	.233	.006
Gender * Agegroup	7.893	1	7.893	.217	.642	.001
Family * Gender * Agegroup	.218	1	.218	.006	.938	.000
Error	9400.424	258	36.436			
Total	159024.000	266				
Corrected Total	13485.338	265				

a. R Squared = .303 (Adjusted R Squared = .284)

Table 5

Tests of Between-Subjects Effects

Dependent Variable: Depression

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	10481.360 ^a	7	1497.337	25.860	.000	.412
Intercept	48474.065	1	48474.065	837.168	.000	.764
Family	10384.012	1	10384.012	179.336	.000	.410
Gender	67.335	1	67.335	1.163	.282	.004
Agegroup	225.680	1	225.680	3.898	.049	.015
Family * Gender	35.905	1	35.905	.620	.432	.002
Family * Agegroup	2.857	1	2.857	.049	.824	.000
Gender * Agegroup	1.159	1	1.159	.020	.888	.000
Family * Gender * Agegroup	21.646	1	21.646	.374	.541	.001
Error	14938.835	258	57.902			
Total	74142.000	266				
Corrected Total	25420.195	265				

a. R Squared = .412 (Adjusted R Squared = .396)

Table 6

Tests of Between-Subjects Effects

Dependent Variable: Bullying

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	60673.102 ^a	7	8667.586	19.185	.000	.342
Intercept	763815.002	1	763815.002	1690.636	.000	.868
Family	51903.647	1	51903.647	114.884	.000	.308
Gender	1210.923	1	1210.923	2.680	.103	.010
Agegroup	618.923	1	618.923	1.370	.243	.005
Family * Gender	1085.759	1	1085.759	2.403	.122	.009
Family * Agegroup	720.157	1	720.157	1.594	.208	.006
Gender * Agegroup	1428.301	1	1428.301	3.161	.077	.012
Family * Gender * Agegroup	1489.317	1	1489.317	3.296	.071	.013
Error	116562.236	258	451.792			
Total	947716.000	266				
Corrected Total	177235.338	265				

a. R Squared = .342 (Adjusted R Squared = .324)

Table 7

Tests of Between-Subjects Effects

Dependent Variable: Victim

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	46559.896 ^a	7	6651.414	15.898	.000	.301
Intercept	595990.977	1	595990.977	1424.492	.000	.847
Family	40538.279	1	40538.279	96.891	.000	.273
Gender	704.302	1	704.302	1.683	.196	.006
Agegroup	839.341	1	839.341	2.006	.158	.008
Family * Gender	78.538	1	78.538	.188	.665	.001
Family * Agegroup	560.822	1	560.822	1.340	.248	.005
Gender * Agegroup	899.259	1	899.259	2.149	.144	.008
Family * Gender * Agegroup	594.902	1	594.902	1.422	.234	.005
Error	107944.228	258	418.388			
Total	753717.000	266				
Corrected Total	154504.124	265				

a. R Squared = .301 (Adjusted R Squared = .282)

Appendix 4

Study 4 (chapter 7)

Table 1

Independent sample test (main sample 500)

	Levene's test for Equality of Variances		t-test for equality of Means						
	F	Sig.	T	Df	Sig.(2-tailed)	Mean differences	Std.Error Differences	95% Confidence Interval of The Difference	
								Lower	Upper
SELF-ESTEEM Equal variance assumed	35.698	.000	-31.683	498	.000	-8.53563	.26941	-9.06494	-8.00632
			Equal variance not assumed	-30.792	384.772		-8.5363	.27720	-9.08046
SATISFACTION WITH LIFE Equal variance assumed	8.899	.003	-40.655	498	.000	-14.89563	.36639	-15.61549	-14.1757
			Equal variance not assumed	-40.03	442.129		-14.89563	.37199	-15.62637
DEPRESSION Equal variance assumed	28.423	.000	42.262	498	.000	20.83262	.49294	19.68411	21.80113
			Equal variance not assumed	41.350	414.473		20.83262	.50381	19.84228
BULLYING Equal variance assumed	219.181	.000	30.821	498	.000	49.48397	1.60550	46.32957	52.63836
			Equal variance not assumed	29.045	260.089		49.48397	1.70372	46.12912
VICTIMZATION Equal variance assumed	260.752	.000	31.749	498	.000	48.22285	1.51672	45.24290	51.20281
			Equal variance not assumed	30.049	270.160		48.22285	1.60481	45.06332

Table 2

Standardized Regression Weights: (Group number 1 - Default model)

Interrelations			Estimate
Father care	<---	Father Available	.753
Mother care	<---	Father Available	.457
Father care	<---	Family size	-.207
Mother care	<---	Family size	-.194
Depression	<---	Father care	-.871
Satisfaction with life	<---	Father care	.904
Self-esteem	<---	Father care	.871
Depression	<---	Mother care	-.123
Self-esteem	<---	Mother care	.204
Satisfaction with life	<---	Mother care	.147

Table 3

Standardized Regression Weights: (Group number 1 - Default model)

Interrelations			Estimate
Father care	<---	Father Available	.641
Mother care	<---	Father Available	.486
Father care	<---	family size	-.160
Mother care	<---	family size	-.201
Bullying	<---	Father care	-.364
Bullying	<---	Mother care	-.484

Table 4

Standardized Regression Weights: (Group number 1 - Default model)

Interrelations			Estimate
Father care	<---	Father Available	.644
Mother care	<---	Father Available	.463
Father care	<---	family size	-.165
Mother care	<---	family size	-.196
Victimization	<---	Father care	-.489
Victimization	<---	Mother care	-.294

Table 5

Standardized Regression Weights: (Group number 1 - Default model)

Interrelations			Estimate
Father care	<---	Wife placed	.265
Mother care	<---	Wife placed	.196
Mother care	<---	Father Available	-.213
Father care	<---	Father Available	-.092
Self-esteem	<---	Mother care	.558
Satisfaction with life	<---	Mother care	.450
Depression	<---	Mother care	-.349
Self-esteem	<---	Father care	.390
Satisfaction with life	<---	Father care	.428
Depression	<---	Father care	-.255

Table 6

Standardized Regression Weights: (Group number 1 - Default model)

Interrelations			Estimate
Father care	<---	Wife placed	.235
Mother care	<---	Wife placed	.179
Father care	<---	Father Available	-.080
Mother care	<---	Father Available	-.213
Bullying	<---	Father care	.069
Bullying	<---	Mother care	-.421

Table 7

Standardized Regression Weights: (Group number 1 - Default model)

Interrelations			Estimate
Father care	<---	Wife placed	.238
Mother care	<---	Wife placed	.156
Father care	<---	Father Available	-.082
Mother care	<---	Father Available	-.201
Victimization	<---	Mother care	-.163
Victimization	<---	Father care	.006

Table 8

Table Standardized Regression Weights: (Group number 1 - Default model)

Interrelations			Estimate
Father care	<---	Father Available	.079
Mother care	<---	Father Available	.027
Father care	<---	Family size	.061
Mother care	<---	Family size	.058
Self-esteem	<---	Mother care	-.141
Satisfaction with life	<---	Mother care	-.151
Depression	<---	Mother care	-.073
Self-esteem	<---	Father care	.844
Satisfaction with life	<---	Father care	.966
Depression	<---	Father care	-.775

Table 9

Standardized Regression Weights: (Group number 1 - Default model)

Interrelations			Estimate
Father care	<---	Father Available	.078
Mother care	<---	Father Available	.042
Father care	<---	Family size	-.028
Mother care	<---	Family size	.065
Bullying	<---	Mother care a	-.124
Bullying	<---	Father care	-.159

Table 10

Standardized Regression Weights: (Group number 1 - Default model)

Interrelations			Estimate
Father care	<---	Father Available	.074
Mother care	<---	Father Available	.036
Father care	<---	Family size	-.024
Mother care	<---	Family size	.064
Victimization	<---	Father care	-.244
Victimization	<---	Mother care	-.072

Appendix 5

Study 5 (chapter 8)

The interview with the participants

Participant No:

Age:

Gender:

Family structure: Polygamous Monogamous

The questions	The responses
<ul style="list-style-type: none"> • How would you describe your father's relationship with his families? 	
<ul style="list-style-type: none"> • Does your father treat his families fairly? Why do you think that? 	
<ul style="list-style-type: none"> • Do you believe that polygamy is good relationship? Why do you believe that? 	
<ul style="list-style-type: none"> • Would you wish to be polygynous (father/mother) in the future? Why you would/wouldn't? 	
<ul style="list-style-type: none"> • How would you describe your relationship with your mother and full siblings? 	
<ul style="list-style-type: none"> • How would you like describe your relationship with your step mother and your half siblings? • Do you prefer your full brothers/sisters or half 	

brothers/sisters? Why do you prefer them?	
<ul style="list-style-type: none"> How would you describe your relationship with grand pa, grandma, and older siblings? Do you feel closer to one of them than to your parents? Why? 	

The interview with teachers and counselors

The questions	The responses		
<ul style="list-style-type: none"> Are there psychological or behavioural problems among the students in the school? What sort of problems do you come across? Do students of polygamous families have problems? What are kind of problems? Do students of monogamous families have problems? What are kind of problems? 			
<ul style="list-style-type: none"> How would you describe the student academic achievement? 	Poor	Good	Excellent