

Effect of Multigenerational Relationships on Adolescent's Academic Aspiration

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A thesis submitted to

The Faculty of
The Columbian College of Arts and Sciences
of The George Washington University
in partial fulfillment of the requirements
for the degree of Master of Arts

May 20th, 2012

Thesis directed by

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Dedication

The author wishes to dedicate this thesis to my parents and grandparents, who inspired this research on the topic of intergenerational relationships.

Acknowledgments

The author wishes to express sincere appreciation to the Department of Sociology for their support and especially to Professor Hiromi Ishizawa for her constant encouragement and feedback. This thesis would never have been completed without her as well as the support of my family and friends.

Abstract of Thesis

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Using data from the Iowa Youth & Families Project, this research investigates the effect of children having grandparents to discuss life issues with on the children's academic aspiration. This study rests on the assumption that the more positive influences children have during youth, the more positively they view their own future. The addition of grandparents' support positively affects the child's educational aspiration. This can be seen from the theoretical perspective of ecological systems theory, which describes how the amount of interaction and the strength of the relationship between a child and someone in their immediate family and/or community environment will hold a tremendous weight on a child's development. This framework provides a structure in which the quality of a child's relationship in their environment creates an intricate component that affects a child's cognitive process to mature and grow. This paper forms the hypothesis that the relationship created between children and their grandparents will have a positive effect on children's academic aspiration. Findings suggest that intergenerational interactions increase an adolescent's academic aspiration. The results also show that social capital provided by parents and peers, such as developing social norms of what is acceptable and what their expectations of academic aspiration are, has strong influence on educational aspiration. The implications of these findings suggest that the more affirmative influences a child has in their life, the more that encouragement will have some bearing on other aspects of their development, such as furthering education.

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Effect of Multigenerational Relationships on Adolescent's Academic Aspiration

A child's mind is ever growing and ever changing. The years leading up to adulthood can be beneficial or damaging towards a child's educational development (Suarez-Orozco, Bang, and Onaga 2010: 500). The support system children have, whether it's at home, at school, or in a community, can have a long-lasting impact on their growth. Therefore, it is imperative to understand the differences in a child's academic desires and how their environment molds their perspectives. This paper focuses on one of the aspects of environment, family context, specifically, intergenerational relations. With the increase in life expectancy and the changes in social roles within the family, the interactions between grandchildren and grandparents are becoming an important issue to examine. The extended longevity of grandparents has created the opportunity for grandparents and grandchildren to navigate their relationships with one another (Kemp 2004; Uhlenberg 1993). These two generations' lives are therefore overlapped for longer periods of time, which in turn allows for the intergenerational relationship to vary in its quantity and quality across life transitions, such as furthering education, marriage, job attainments, having children, and being retired.

However, the research on intergenerational relationship has paid little attention to its effect on child development, particularly on educational aspiration since we have yet to know the long term effects. Reasons for this neglect could be due to 1) past deficiencies of grandparents from the family because of American depiction of the family being a secluded nuclear entity, 2) a drawn out theoretical conjecture stating how the mother-child dyad tends to be the most important relationship in a child's development, and 3) the lack of a life course perspective when examining the impact of an older

generation on the younger generation, not just the younger on the older (Tinsley and Parke 1984: 165; King and Elder Jr. 1997: 848; Kemp 2004: 504; Dolbin-MacNab and Keiley 2009: 163). Moreover, previous sociological research on grandparent-grandchild dyadic relationships has primarily focused on the grandparent's perspective of the intergenerational relationship and the effects of intergenerational interaction on grandparents, such as the effect of caregiving responsibilities on familial relationship quality. This then leaves a gap in understanding the intergenerational relationship from the perspective of the grandchild. Adolescence is a time in a child's life where they are considering future aspirations, such as the prospect of obtaining higher education. They may seek someone they already consider as a mentor for encouragement and support. Depending upon who is providing the support, or lack thereof, could push the child's goals in one direction or another. Prior research has found that close family, particularly parents, as well as friends are the people within a child's life that influence the child's academic aspiration (Garg et al. 2007; Holland 2011; Wells et al. 2011). However, we do not know the role of grandparents in literature. It is important to address how grandchildren's relationship with grandparents affects their educational pathways from both a sociological and developmental perspective. Therefore, this research will analyze how grandparent-grandchild interactions affect grandchildren's self-reflection regarding future academic goals during adolescence. This study is, thus, guided by the following question: Does having a relative, excluding parents and siblings, to discuss life issues with affect a child's academic aspiration? More specifically, do the grandparent's conversations with a child when discussing life issues, affect a child's academic aspiration?

Significance

Previous literature suggests that a child's development begins in the home, generally within one's own family, (Pong 1997: 737; Teachman and Paasch 1998: 705). The relationships within a family are a key starting point when analyzing a child's perspectives, behaviors, and aspirations. However, there are few prior studies that have examined the effect of multigenerational relationships on children's development, mannerisms, or outlooks (Tomlin 1998: 159; Tinsley and Parke 1984: 167). Among family members, grandparents are one of the important influential figures in children's lives as the extra generation provides an insight that either parents may not be able to provide or act as an additional parental authority within the family. It is crucial to examine this didactic relationship between grandparents and grandchildren further as the roles of grandparents could be to provide support and motivation to the child, such as mentors and advisors (Tomlin 1998: 161). Prior literature has found that children who have more access to intergenerational relations are more likely to succeed psychologically and socially, as well as going through the transition into adulthood (Furstenberg and Hughes 1995; King et al. 1998; Schneider and Coleman 1993). Therefore, if intergenerational relations have a positive effect on the child's development, it is important to see if it also applies to academic aspiration.

In order to examine influences from relationships within a child's life on their academic aspiration, it is also important to understand the developmental implications of a child's aspirations and expectations. Adolescence is a time of making many decisions as children enter a new developmental stage, young adulthood. Specifically, development refers to the biopsychosocial changes that occur during one's life course, resulting from

forces that are subjective and constantly changing (Hoare 2009: 70). It is emphasized how these decisions, whether it be beginning a family, furthering education, obtaining a job, or joining the military, are affected by various levels of liability, planning, and obligation (Holland 2011: 1030). For the purpose of this study, continuing education is the life transition examined. Examining adolescents' academic aspirations can also assist in other future accomplishments, including grades, academic accomplishments, and occupational status (Boxer et al. 2011; Cunningham, Corprew, and Becker 2009; Dubow, Boxer, and Huesmann 2009; Mello 2008). Therefore, environmental influence on educational aspirations must be examined in order for further research to be done and understood in relation to educational policy implications.

This paper will first introduce previous research on the role of grandparents within the family as well as their impacts on grandchildren, the roles of other family members and their impacts on a child, academic aspiration of a child, and peer influence over a child's choices regarding furthering education in Chapter 1. Then, Chapter 2 will discuss the theoretical frameworks for this study, the ecological systems theory and the family systems theory. Chapter 3 will describe the data and method utilized, followed by the discussion of the results in Chapter 4. Finally, Chapter 5 will present an analysis discussing limitations of the study, implications, and direction of future research.

Chapter 1: Background

Family

In order to understand how grandparents influence children's academic aspiration, the link between family and children's development through adolescence must be addressed. The connection between the family and children's education goes back to research conducted by Blau and Duncan (1967), who distinguished factors connecting the two environments: family and schooling. This work was then advanced by Sewell and his colleagues (Sewell and Hauser 1980; Sewell and Shah 1968). These authors found that educational attainments of both parents have strong positive effects on the academic aspirations of their children. They also observed that other environmental contexts impact a child's overall educational attainment, including socioeconomic background, significant others, measured ability, grades, and own aspirations. Teachman and Paasch (1998) found a similar pattern, with a majority difference in a child's academic aspiration deriving from the family context, such as mothers' expectations and parents' education level, however little of that variation being explained by family socioeconomic status.

There have been multiple explanations why families are associated with this difference in educational aspirations. The varying reasons include genetic predispositions where the child's innate learning abilities can include a wide range (Plomin 1986; Rowe 1994), familial socioeconomic status developing from cultural capital (Sewell and Hauser 1980: 68; Teachman 1987: 551), and social environments affecting their personal views on education such as peer influence (DuBois, Eitel, and Felner 1994: 412). The concept of cultural capital, founded by Pierre Bourdieu (1973) implies that a greater amount of cultural resources of advantaged parents plays a large role in the effect of families'

social basis on educational attainment, which facilitates their children to become skilled in the wide range of curriculum in schools (De Graaf, De Graaf, and Kraaykamp 2002: 93). DiMaggio (1982) implies that cultural capital is a factor of status culture separate from class standing, where the notions of class and status culture demonstrate how family background is multidimensional. In other words, class standing does not necessarily mean an individual comes from a family rich in cultural capital; it only really indicates occupational status and level of income, for the most part. Cultural capital has more to do with how families present children with assets that increase their likelihood of educational achievement, not taking class status into account (Teachman 1987). So, it's not surprising that DiMaggio and Mohr (1985) found that high school students differ regarding cultural capital, stating that students possessing more cultural capital are more likely to attain a college degree.

Role of Grandparents

Within Family

The influence from family on a child's academic aspirations can be taken to the next level when the grandparent-grandchild relationship is examined. Interdependence between these dyadic family members, plus distinctive individual interactions within multigenerational relations, creates a unique bond (Hicks, Patrick, and Pickard 2003: 229). One note that needs to be addressed is to distinguish this grandparent-grandchild relationship and utilizing the terms of intergenerational versus multigenerational to describe this relationship. For the purpose of this study, I will be using intergenerational to describe the involvement of members of two or more generations, in particular, the interaction between grandchildren and grandparents, in activities that could make them

conscious of distinct generational perspectives. This intergenerational interaction is meant to imply collaboration to accomplish mutual goals, overall increased communication, and a chance of reciprocal influences and exchanges, whereas multigenerational is meant to imply a broader relational term of just sharing qualities or activities among generations but not necessarily having an effect on those interactions (Villar 2006). Feiring and Lewis (1984) found that the old saying of quality over quantity is true regarding interaction between family members, mentioning how it is far more important for the child's emotional and scholarly development to spend quality time with parents rather than focus on a specific quantity of time (61). This could hold accurate for interaction with grandparents as well, as this older generation can be seen as mentors for grandchildren, or even mediators and safeguards between the adult child and the grandchild (Tinsley and Parke 1984: 173).

There are multiple findings on the different levels of interaction, however, that should be noted, such as picking and choosing a certain amount of contact as well as relations meant to be mainly economically beneficial. Some researchers, such as Cherlin and Furstenberg (1985), have found what could be referred to as "select investment" that grandparents have in their grandchildren, that is, picking and choosing which grandchild(ren) they will interact with more than others. They believe that many grandparents become heavily dedicated to certain grandchildren, initiating a type of parental influence over them. This, in turn, provides the grandchildren with that close relationship to the older generation (Cherlin and Furstenberg 1985: 113). Hunter and her colleagues (1998) highlight intergenerational relationships in the family being both beneficial for parenting arrangements and economic relationships among extended family.

Interestingly enough, grandparents were second only to biological fathers in their participation of child care and parenting activities, not taking the mother into consideration. This shows how intergenerational relations have become reintegrated into kin care in today's society, since these relationships, including within households, is not a new concept. Mothers in the study stated a common source of emotional encouragement was found to be from grandparents; however, they were also seen to be engaging in fundamental parenting, controlling issues of raising the child such as creating rules, implementing those rules, and disciplinary actions (Hunter et al. 1998: 348).

When creating these child-rearing systems in intergenerational support, it gives way for economic assets and opportunities, such as extra familial income, added childcare, and the possibility for an exchange of generational perspectives. However, other researchers, such as Kornhaber (1985), believe that a "new social contract" is carried out in today's society, renouncing emotional connections between grandparents and grandchildren, and the only way to reconnect these two generations is to go back to the "natural arrangement" of the three generational family structure being maintained. He found that grandchildren in this "natural" familial relationship with grandparents were exceedingly socialized and considered themselves genuinely bonded to their families (Kornhaber 1985: 163). Vern Bengtson (2001) has discussed how multigenerational relationships are changing the way families interact, creating intergenerational bonds. He has found that these relationships are becoming more significant than nuclear family bonds for the family's support and overall health (Bengtson 2001: 13-14). This suggests that there is a positive effect of intergenerational bonds and could coincide with an increase in socialization for the younger generations.

One of the other key elements Bengston (2001) mentions is the idea of the longevity of kin, referring to life expectancy increasing. This is especially important when studying grandparents as caregivers of grandchildren because families are able to depend more upon other family members to keep the family traditions and roles alive. This, in turn, increases and strengthens the bonds between generations as they are able to learn from each other as well as provide more resources to each other.

Education

The influence of grandparents also translates into a child's education due to the grandparents' educational practices and/or the value grandparents place on education. Family provides a certain level of cultural and social capital that transfers over to the following generations. Therefore, familial attainments in capital continue over time; these advantages are then correlated with enhanced cognitive results among later generations (Ferguson and Ready 2011).

Previous research has shown positive correlations between grandparents' education and income and grandchildren's standardized test scores, controlling for similar parental features (Grant 2005; Hill and O'Neill 1994; Yeung and Conley 2008). Interestingly, Ferguson and Ready (2011) found that even after controlling for a wide array of demographic and socioeconomic features, children with college-educated grandparents acquire greater mathematics and literacy skills when beginning formal schooling. The main point is that educated grandparents are more likely to mentor grandchildren, talk about their aspirations with them, and teach important skills (King and Elder 1997, 1998). This is why it is important to examine intergenerational relations and their effects on a child's academic aspirations.

Grandchildren could also obtain a strong influence from grandparents not just due to the grandparents' socioeconomic status of possessing strong cultural capital, but also could be due to the grandparents not experiencing a strong education background themselves. This lack of an educational experience is probably because of the minimum academic opportunities that were available to the older generations (Uhlenberg and Kirby 1998: 35). However, with this being said, there must be other variables at work that are impelling grandparents with and without an education to endorse the grandchildren's furthering of education.

Personal Development

Grandparents play a variety of roles in the personal development of a grandchild. These roles are influenced by a major contextual factor known as "on time" versus "off time" grandparenting. This means that, depending upon when the adult child has children, will determine whether or not a grandparent is becoming a grandparent at a socially appropriate time. An example of an "off time" grandparent is when the parent has a child as a teenager or very young adult (such as before age 21) or when a grandparent becomes a parent again when becoming the legal guardian of a grandchild, therefore placing true grandparenthood off to the side to raise a second generation. Depending upon the timing status, whether that be too early, on time, or too late, will shift how the grandparent status feels to that grandparent and how the grandparenting role is performed (Bengston and Robertson 1985: 136).

After determining the timing of the grandparenting role, we can then examine the influence grandparents may have on a grandchild's personal development and growth. For one, grandparents may place their own values and mannerisms on their grandchildren,

such as topics relating to politics and religion or proper behaviors within society. An example of this is how Hagestad (1985) discusses the different ways grandmothers and grandfathers place emphasis on certain topics that are important qualities for grandchildren to learn from. Both grandparents talk with grandchildren about realistic issues regarding adult life, but grandmothers include importance of family relations and friendships more so. They can also act as transmitters and translators of family culture. This means that grandparents tend to be the main source for explaining to grandchildren the family's background and what are important family principles to know and pass on themselves. While sharing these characteristics about their family, grandparents can also act as a stable adult presence during difficult times. As stated above, grandparents often act as mentors and mediators within the family, and sometimes just "being there" for their grandchildren is the best way to grow and shape the child's personal development.

Reciprocal Effect

It is also important to mention how intergenerational relationships have impact on grandparents. In order for us to understand a grandparent's impact on grandchildren, the reciprocal effect needs to be taken into consideration as the effects of intergenerational relationships and how interactions with their grandchildren impact. Silverstein and Long's (1998) findings show that the amount of time grandparents spend with their grandchildren serves as an emotional meaning to them in their last decades of life, creating a positive atmosphere for both generations. Aging grandparents show higher levels of affection toward grandchildren than younger grandparents, but show signs of more severe rates of decline in contact proximity due to potential mobility issues. However, the stronger a bond the grandchildren have with their grandparents growing up,

the more it will strengthen the emotional intimacy as they get older. As grandparents age and their proximity to death grow closer, they tend to concentrate on maintaining their most personal relationships (Silverstein and Long 1998: 921). This illustrates that grandparents are more likely to have some effect on the family as they age, such as wanting to be involved in their grandchildren's lives. Bowers and Myers (1999), on the other hand, correlate how the more caregiving the grandmother gives, the more of a burden is put on her shoulders, creating more stress and less satisfaction for being a grandparent when their role is that of a primary caregiver. This then puts a negative feeling on childcare in intergenerational relationships because grandparents are acting more as parents (Bowers and Myers 1999: 303). Grandparents feel worn out because they cannot keep up with the grandchild's activities which then takes a toll on the child. They also noticed how the child's behavior can damage the relationship quality between the grandparent and the grandchild because there is so much tension caused by the problematic behavior of the child, which then causes clashing (Bowers and Myers 1999: 308). It really does depend on the situation and how involved all three generations are with each other (meaning the child, the parent, and the grandparent). Creating a strong intergenerational relationship is dependent upon how the family interacts with each other and their environment.

Role of Other Family Members

In order to better understand the grandparent-grandchild interaction, the relationship between children and their parents must be addressed. The parents' efficacy, attitudes, and behaviors will influence their children's development, specifically their academic aspirations and successes in various ways, depending upon how tenacious they

are in guiding the children on an encouraging path (Crosnoe, Mistry, and Elder Jr. 2002). Children learn the importance of academic and occupational attainment from parents who express the positive outcomes gained (Boxer et al. 2011; Dubow et al. 2009; Frome and Eccles 1998). For example, Jodl and her colleagues (2001) found that the parents' expressed opinions regarding their children's academic potentials and futures precisely foretold the children's articulated values and beliefs. Parents then who communicate their own expectations for their children's academic attainment, particularly when it comes time for postsecondary education, provide a direct form of the children's social capital (Cheng and Starks 2002; Gandara and Bial 2001; Hossler, Schmit, and Vesper 1999; Wells et al. 2011).

Parents, along with other relatives, provide cultural and social capital, just as grandparents do, which allows the children access to certain material and nonmaterial resources that could lead them to positive or negative outcomes. When specifically regarding a child's academic aspiration and success, families can provide available and practical material resources (such as books and internet access), a particular level of education family members have already reached, quality time supporting the child's academics (such as attending a band concert or helping the child with homework), and knowledge of the educational system and general learning methods (from either personal experiences in the system or going to educators for guidance) (Reay 1998; Wegmann and Bowen 2010). These cultural capital resources are demonstrated by previous research, such as the work conducted by Kraaykamp and van Eijck (2010), who found that strong intergenerational transmission occurs in families with higher levels of education, frequent participation in cultured and educated activities, as well as possession of enriching goods.

Academic Aspiration

The purpose of this research is to understand the impacts intergenerational relationships have on a child's educational aspiration, therefore the concept of academic aspiration needs to be examined further. A child's aspiration has shown that it is one of the most important factors in foretelling their ultimate academic achievement (Cheng and Starks 2002; Sewell and Hauser 1992). For the purpose of this research, academic/educational aspiration will be referred to as the hopes and goals of young people (in this case, grandchildren) regarding their educational attainment. The things that tend to influence educational aspiration revolve around social and personal elements, such as parents' levels of education and one's own psychological health, but can also be affected by economic factors, such as possible salaries or employment opportunities (Rothon et al. 2011). Households with low parental levels of education or lower incomes may see education beyond necessity and beyond their extent, thus decreasing children's aspirations (Sewell and Hauser 1980; Teachman 1987). Poor mental health is assumed to lead to reduced aspirations due to a correlation with energy deficiency, lack of motivation, and decreased expectations (Rothon et al. 2011). Something that can alleviate possible personal and social shortcomings could include adding possible activity choices while a child is growing up that can model their personal goals and motivations in life, such as community involvement, school participation, and interaction with peers. Prior research has revealed that academic activity is significant in the thriving development of a child's schooling and is also fundamental in providing the basis for the pursuit of a college education (Adelman 2006; McDonough 2004). However, there is one point that still remains an important part of the educational aspiration literature: that is, if the child

believes they will achieve greater success, then that desire will most likely lead to greater success (Gainor 2006; Lent, Brown, and Hackett 1994; Phinney, Baumann, and Blanton 2001). Aspirations of success influence overall achievement, varied by a person's perceptions of their capability and own goals (Eccles et al. 1983; Eccles and Wigfield 2002). Such goals and perceptions are shaped by their view of their own prior accomplishments. Thus, there is a reciprocal effect of aspiration of success influencing achievements and achievements influencing future aspirations (Liu et al. 2009).

Peer Influence

Now, while the focus of this study is to examine the effects grandparents have on grandchildren's academic aspiration, it is also important to understand the influence of peers, particularly for an individual in adolescence. Even though family members, mainly the older generations, tend to identify their expectations for the children when discussing a college education, teenagers tend to look more towards peers to demonstrate the social norm for academic expectations and mannerisms (Wells et al. 2011; Woelfel and Haller 1971). Those impressionable years of adolescents tend to allocate for peers to hold more power of persuasion as the kids are attempting to fit in and find their own clique. Peer groups also facilitate in helping youth create their own sense of self distant from their parents and then the adolescents build self-worth and confidence when they feel they can meet the expectations of their friends, educationally and socially (Kaplan 1993; Garg, Melanson, and Levin 2007).

Adolescents who state that they have peers with plans of attending college are more likely to apply and/or enroll than youth lacking such peer influence (Choy et al. 2000; Horn 1997; Perna and Titus 2005). Prior literature has presented that peers not only

offer constant and encouraging environments for considering and planning for postsecondary education but can also affect the college selection, enrollment, and achievement of their cohort (Bedsworth, Colby, and Doctor 2006; Griffin et al. 2007; Pérez and McDonough 2008; Sokatch 2006). The probability that young adults will enroll in some type of higher education significantly increases when they have peers who appreciate learning, plan to register for postsecondary education, and hope the equivalent for their own peers, (Bedsworth et al. 2006; Sokatch 2006).

Urban/Rural Implications

This study utilizes a data set where the respondents live in a rural setting, so therefore it is important to touch on the implications of a rural versus urban setting when discussing grandparent-grandchild interactions, as previous research has shown a variation between the two environments. For one, influential support, mentoring, activities, and relationships that grandparents provide for and have with grandchildren will likely differ in rural and urban contexts. For example, in a rural setting, particularly on a farm, parents and grandparents may share economic production, therefore allowing the grandparents to participate in daily active roles with grandchildren (King and Elder Jr. 1995; King, Russell, and Elder Jr. 1998). In an urban context, however, the proximity to grandparents may not be as probable. However, it has been known that multigenerational relations can be created in a collective economic basis in an urban environment as well if family businesses are created, just as farming can be a shared family experience. (King, Russell, and Elder Jr. 1998). The influence the environmental context has on the intergenerational interaction also depends if both or just one of the generations is living in one or the other. As Bigbee, Musil, and Kenski (2011) mention, elders, specifically

discussing women and being of color, living in rural areas usually have considerably lower incomes and higher poverty rates than their urban cohort. Therefore, the amount of social and cultural capital combined with the environmental context, whether it is urban or rural, could have an effect on how much and the quality of interaction between grandparents and their grandchildren.

Chapter 2: Theoretical Framework

Based on the ecological systems theory, it is expected to find different trajectories of future aspirations, depending upon the formation of a child's development through various relationship systems within their environment (Ferguson and Ready 2011; Paquette and Ryan 2001). An understanding of the interplay of family, school, and community environments is important when examining the development of a child's intellectual and social growth, particularly future aspirations (Brooks-Gunn 1995; Eccles 2005; Ferguson and Ready 2011). This framework, founded by Urie Bronfenbrenner (1979) is a multidimensional model for understanding and analyzing the development of the child which includes determining interactions between and impacts on four intersecting systems: the microsystem, mesosystem, exosystem, and the macrosystem, collectively creating the ecosystem (Astor, Pitner, and Duncan 1996: 340). The microsystem is the closest layer environment which includes structures of direct contact. Examples of this consist of family, school, other forms of childcare, or neighborhood/community. The mesosystem is the next layer which provides links between the structures of the microsystem. In other words, the mesosystem is comprised of connections between, for example, parents and teachers, community and church, and so on. The exosystem layer is comprised of a larger social context that does not include the child's function in the environment directly. For instance, if a parent's schedule is changed at work or if the local YMCA holds a day camp for children whose parents don't want them to go to a typical daycare. Even though these social contexts do not have anything to do with the child directly, they can still impact the child's development indirectly, positively or negatively. The outermost layer of this ecosystem is the

macrosystem. This layer is considered mainly the global context in the child's development. This means that the broadest social contexts, such as laws, cultural values, or traditions, have an overall effect on all the rest of the layers of the ecosystem, therefore trickling down to impact the child's development, again indirectly (Paquette and Ryan 2001).

In this study, I focus on the mesosystem, which entails an interaction between two microsystems, family and school, which influence the child's development. The ecological systems theory argues that in order for an individual to continue to have stability in their development, there needs to be a certain level of maintenance of the mesosystem (Astor et al. 1996: 340). In other words, if the child's development is to progress in a successful direction, the relationship between education and family needs to also have a positive cause and effect on the child. However, for the purpose of this paper, I will be referring to the education context as a microsystem rather than the school context itself.

The two microsystems focused in this paper, family and education, are specifically discussed through familial relationships and the development of a child (Astor, Pitner, and Duncan 1996: 340; Dolbin-MacNab and Keiley 2009: 164; Duerden and Witt 2010:114). Therefore, the mesosystem in this paper will be the influence the intergenerational relationship has on academic aspirations. This is where the concept of grandparenting comes in. The ecology of grandparenting concentrates on the context in which grandparenting occurs (King, Russell, and Elder Jr. 1998: 53). That is, grandparents create a certain influence on grandchildren's development, depending upon the situation.

Dolbin-Macnab and Keiley (2009) explain how the ecological systems theory is used to examine the child's development through the caregiving context. Depending upon how that caregiving influences the child's perspective, features correlated with caregiving could aid in directing their relationships with adult relatives, such as parents and grandparents (Dolbin-Macnab and Keiley 2009: 164). In other words, depending upon the timing in a child's life, the amount of caregiving, and who is providing the care will hold a tremendous weight on the strength of the relationships between the children and grandparents and/or parents. The various aspects relating to the caregiving context could include issues, such as parent-child relationships (hesitance towards their parents), living arrangement (multigenerational or skipped generational household), and intergenerational contact. These aspects may create multiple parental figures, causing a wide range in the quality of relationships between the three generations. (Dolbin-Macnab and Keiley 2009: 164). This paper, therefore, examines the possibility that the more affirmative influences children have in their lives, the better their family relationships are, which therefore translates into other aspects in life, such as furthering education.

We can break the ecological systems theory down even further into the family systems theory. This would allow us to examine not only the child's development, but also the interaction of generations within a family. When studying the interaction between the grandparents and grandchildren, it is important to examine all three sets of relationships occurring between generations, including parents: children and parents, parents and grandparents, and grandparents and grandchildren (Hagestad 1985: 44). Since the interdependence of a multigenerational family can be complex in nature, we need another multifaceted approach to break it down within its ecosystem. The family systems

theory is comprised of an ecosystem, specifically designed around the family: the interaction in and among the family as well as its environments. Due to the constant shifting of the level of involvement of family members, society, and natural environment over time, there are no predetermining boundaries when structuring the family ecosystem (Bubolz and Sontag 1993: 432). In this study, the actual interaction within the family in the family systems theory is the primary focus. In order to examine family systems more closely, I focus on issues of human development, resources, and family relations, which are central concepts integrated into the overall family ecological perspective.

Human development is the process of complex interactions within one's environment. In the ecological systems theory, it was noted that family was a segment of the microsystem. Since family is critical for one's development due to transitions over the life course (Bubolz and Sontag 1993: 437), the interaction between family and school adds onto that influence over development. Resources are means by which families meet necessities and adjust to changing situations. The management of resources then is where decision making occurs during various stages of development, which are embedded within the microsystem (Mammen, Bauer, and Richards 2008:156). For example, when a child is considering their education, family will have a direct impact on that decision making process due to the family's position within the ecological system. Goal setting entails that the child evaluate obtainable resources to accomplish goals. Then, when making family decisions, such as a child's future education, products of decisions and directing experiences go back as added knowledge to the family system (Bubolz and Sontag 1993: 436). Finally, there is the concept of family relations. In this perspective, both the primary individual and the family as a group are examined. Communication,

pleasant thoughts of others, being loved, and being acknowledged are all important in understanding what family relations mean (Bubolz and Sontag 1993: 435). The actual term “family” can encompass a wide range of what actually constitutes a family. Thus, for this research, I will be referring to blood-relatives as family. These three concepts, human development, resource management, and family relations, thus break down what it means for interaction to occur within the family ecosystem. Since intergenerational relations are rooted within the family ecosystem, this demonstrates the importance of the location of grandparents in that structure and allows us to examine how they form the relationships they create with their kin (Mueller and Elder Jr. 2003: 405).

Hypothesis

From the theoretical perspective provided, the following hypothesis has been derived: If a child has a grandparent to discuss their problems and worries with, then the child’s academic aspiration is expected to be higher than children without grandparent relationships. The ecological systems theory provides the evidence that the environment a child is raised in greatly affects the way their life and thoughts are shaped. Therefore, we expect to find that grandparents who interact actively with the child to converse about life concerns with would raise the level of positive influence a child has upon their life and therefore could bring about higher expectations in that child’s life. This intergenerational interaction is what sets this study apart from previous research; that is, actually having a grandparent to communicate life issues with instead of just simply having the grandparents around influences and creates the positive effect that I expect to find.

Chapter 3: Data and Method

Data

The data comes from the Iowa Youth and Families Project, which is a longitudinal study that began in 1989, consisting of 451 White, rural families in North Central Iowa consisting of two-parent households. Those interviewed include parents (both mother and father), focal adolescent (a 7th grader in 1989), and a near sibling. Families were chosen to participate for this study through the sampling of families with 7th grade students who were enrolled in a public and private schools during the fall term of 1989. All schools in this specific area of Iowa were contacted to acquire access to target families. There was a total of 78 percent of the families eligible for preliminary selection for the study, who were then contacted to hear about the project in detail and decide the family's willingness to participate. From 1989 to 1993, the families were interviewed annually until the Project changed to the Family Transitions Project in 1994. The initial design of this Project was to allow researchers to analyze economic hardship and its influence on feelings, mannerisms, and self-efficacy as well as the impact those financial issues had on nuclear family relationships (Conger and Elder Jr. 1994: 6).

This study uses the first wave and the fourth wave of the Project, the first wave is from 1989-1990 and the fourth wave is from 1992-1993. A total of 451 families were interviewed to begin with in 1989 and then down to 404 families by 1992 with 385 families interviewed in all four waves.

Measures

Target Child Educational Aspiration: The dependent variable of this study is target child's educational aspiration. In order to measure academic aspiration, I utilized a

question in the interview where the child was asked to assess how important having a college education was to them. “Indicate how important...the following goals or values is to you...having a college education,” with the answers ranging from being 1= extremely important to 5= not at all important. The responses were then recoded as 1= not at all important to somewhat important, 2= very important, and 3= extremely important in order to clearly show the difference between children having a high aspiration for college and those who do not. The recoded response provided will be used as the dependent variable.

Grandparent-Grandchild Interaction: In all four waves, the target child was asked, “Do you have any relatives...who you can talk to about your problems and worries?” excluding parents and siblings, and if so, “Who is that?” They provided responses of grandmother, grandfather, aunt, uncle, and cousins. The responses were then recoded as 0= no grandparent and 1= grandparents. The responses of grandmother and grandfather (grandparents) will be used as the independent variable when analyzing my hypothesis.

Control Variables: This analysis controls for parents’ socioeconomic status using the household income provided in the initial wave as well as highest level of education achieved in the household provided in the fourth wave. It also controls for the parent-child relationship quality measured by the child’s level of satisfaction, happiness, and confidentiality they have with each parent over all four years. The final control is based on the importance of having a college education asked to each parent, allowing for a household importance of higher education.

To address the research question of this study, a recoded variable was first created which allows this study to place the grandmother and grandfather responses provided by

the target child into a new grandparent category together. For this analysis, groups of grandparents were formed (from the type of relatives the target child could choose from as to whom they created a close conversing relationship with). Also, aunts and uncles were put together as a recoded variable, as well as cousins, to create comparison groups against the use of grandparents as a response to determine differences among whom the child would go to discuss life issues with.

The controls were also recoded to condense categories. Income and highest level of education in the household were grouped to take the highest response within the household. Monthly household income was grouped as 1 = less than \$1000, 2 = \$1,000-1,499, 3 = \$1,500-1,999, 4 = \$2,000-2,499, 5 = \$2,500-2,999, 6 = \$3,000-4,499, and 7 = greater than \$5,000. The highest level of education in the household was coded as 1 = high school graduate or less, 2 = some college, 3 = Bachelor's degree, and 4 = Advanced degree. The parent-child relationship quality recoded variables combined the child's level of satisfaction, happiness, and confidentiality into one overall quality variable for each parent coded as 0 = fair to bad and 1 = very good to fairly good. So, if the children rated their relationship quality sometime over the four waves to be very good to fairly good, then that is the control response referred to. Then, finally, the parents' responses to their level of importance of having a college education were combined to take the household importance of education coded as 1 = not at all important to not very important and 2 = somewhat important to extremely important.

Methods

The recoded responses of grandparent-grandchild interaction, child's educational aspiration, and the controls were then used to test the hypothesis. A multivariate linear

regression analysis was conducted for both Wave 1 and Wave 4 in order to predict academic aspiration on the basis of grandparent-grandchild interaction, parent-child relationship quality, highest level of education in the household, average monthly income, and parents' outlooks on the importance of a college education. The linear regression for Wave 1 consisted of 385 respondents and the linear regression for Wave 4 consisted of 384 respondents. Each linear regression was tested with and without controls in order to determine variation in r-squared.

Results

I first examine the grandparent-grandchild dyadic relationship based on the child's response of discussing life issues with a grandparent. As Table 1 illustrates, grandparent-grandchild interaction differs across time. Although overall there seems to be a slight increase in the average response of the child acknowledging this interaction with a grandparent over the four waves, the second wave shows a decrease from 25.97% in the first wave responding "yes" as an answer to the question if they discussed life problems with to 14.81%. This decrease may have an effect on the amount of influence a grandparent has on their grandchild's aspirations.

Table 2 then shows the child's educational aspiration based on the child's response given on their level of importance of having a college education. The four responses vary slightly over time, as the "extremely important" response decreases from 74.55% in the first wave to 69.09% in the fourth wave, as well as the "not at all important" response decreases from 1.04% to 0.26%. However, when looking at the variable recoded, the responses of "very important to extremely important" combined do not vary much,

given as 92.47% of the responses in the first wave to 90.91% of the responses in the fourth wave.

Table 3 provides the percentage distribution of the control variables used. The household monthly income shows that the majority, 72.47%, lies from \$1,000 to \$2,499 per month (\$12,000 to \$30,000 per year). The relationship quality shows the child's relationship with their mother, 26.23%, is higher than with the father, 15.32%. The majority of the response of the highest level of education in the household shows to be "some college" with a percentage of 42.19%. Finally, both parents' responses on how important they believe having a college education is shows a strong positive answer at 96.88% from the mother and 92.21% from the father.

This study's hypothesis was analyzed using multivariate linear regression. As Table 4 shows, grandparent-grandchild interaction has a positive effect on the child's educational aspiration at the initial wave (1989), as demonstrated by the statistical significance at $p < .1$. The regression model was then run controlling for the highest level of education in the household, average household income, the child's relationship quality with each parent, and parents' opinions on the importance of having a college education. When utilizing family-level contexts as controls in this multivariate linear regression analysis, I find that those controls strengthen the model, providing significance at $p = .075$.

In order to determine if there was a similar affect occurring across the four waves, the same multivariate regression model was run for Wave 4, using the grandparent-grandchild interaction response and the child's response of academic aspiration from the Wave 4 interviews. As Table 5 shows, grandparent-grandchild interaction does not show

a significant effect on the child's educational aspiration, as demonstrated by significance of $p = .45$.

Since this intergenerational relationship does not seem to impact the child's academic aspiration over time when using the importance of having a college education representing the child's aspiration, I varied the dependent response given on academic aspiration with other related questions asked of the target child to see if there were any differences in statistical significance. The child was asked over all four waves, "If you could go as far as you wanted in school, how much education would you like to have?" and "How far do you think you will actually go in school? The responses were recoded and grouped as 1 = some college or less, 2 = Bachelor's degree, and 3 = advanced degree. The former question of "how much education would you like to have?" was used as a dependent variable for Table 6. Surprisingly, grandparents showed no statistical significance with these responses. On one hand, it could be due to parents already having such a large influence on the child. As shown in Table 6, the highest level of education in the household, meaning the parents' highest level of education, shows an impact across the model run.

The consideration of other contexts and the child's interdependence within environmental ecologies needs to be observed here to make further analysis. For example, since the child is twelve years old when first interviewed, they are still more impressionable by adults. But, as they enter their teenage years, especially getting ready for high school, they may become less influenced by immediate adult relatives, such as parents and grandparents, and turn to peers for who they think should hold more weight in their future decisions. The idea behind this concept is based on the awareness that

peers and rising autonomy from the family places a continual growing gap between these skipped generations (Hodgson ed. Szinovacz 1998: 175). To test this change in who the child goes to for confiding life problems with, the same regression was run but utilized aunts and uncles as a response instead of grandparents to compare other adults within the family as well as cousins as a family/peer influence. However, there was no effect across all four waves for aunts and uncles and for cousins, not even showing marginal significance. So, this leads us to believe that there is a context and/or relationship outside familial relationships that are influencing the child's academic aspirations over time.

This is where the concept that peers may be having more of an influence on the child's decision-making processes than family comes into play. The first model was run again, replacing the original independent variable of grandparent-grandchild interaction with the target child's response when asked, "Think about what your closest friends might value in life. How important is each of the following to your closest friends...having a college education" to demonstrate peer influence, with 1= extremely important to 5= not at all important. This regression was run over all four waves and found that the relationship was statistically significant at $p < .001$ (see Table 7). Even after including the controls, this strong significance held up. The other possible dependent variable of academic aspiration asked of the child, "If you could go as far as you wanted in school, how much education would you like to have?" was also run against the independent variable of peer influence. This regression also found the relationship to be significant at $p < .001$, including after adding controls.

This relationship of peers having a strong effect over the child's academic aspiration over all four waves demonstrates what is already known to hold true. Past

research that focuses on peers influence on one another's educational aspirations has found that for some students peers form an important context for contemplating, planning, and deciding education options after high school (Bedsworth, Colby, and Doctor 2006; Cunningham et al. 2009; Holland 2011; Pérez and McDonough 2008; Sokatch 2006). The age group of the target child is from 12 years old to 16 years old, and, as a child enters teenage years, it is understood that peers become a large part, if not the majority, of influence over that teen.

Chapter 4: Discussion

Utilizing the framework of the ecological systems theory and the family systems theory, this study explored the role of grandparent-grandchild interactions on the child's academic aspiration. By examining this intergenerational relationship, we learn that grandparents do have an impact on children's educational aspirations, and therefore, influence children's overall development. In terms of the ecological systems perspective, the results appear to agree with the fact that the interactions and relationships a child possesses with others within their environment do affect the child's aspirations of the educational context. However, while the grandparent-grandchild interaction was significant and showed a positive effect on the child's educational aspiration during Wave 1, the following Waves did not confirm statistical significance. This finding is inconsistent with the research conducted by Bengtson (2001), Hagestad (1985), King and Elder (1997, 1998), and Uhlenberg and Kirby (1998), who have discussed how important grandparents' role within the family are and how that role can play both a direct and indirect influence on grandchildren's personal development and growth, particularly when examining educational attainment. However, it is important to note that while the latter waves did not confirm statistical significance, that the positive effect found from the first wave is still worth examining further. As stated earlier in this study, one of the key elements that could be having a large affect on intergenerational relationships is the increase in life expectancy. One possible explanation that could be varying this type of interaction is that as the grandchildren get older, so do the grandparents. The grandparents' capability to sustain a strong and influential interaction may decline with age. Not only could this interaction decline due to age, but also with increased age

increases the likelihood for higher mortality rates. Therefore, the grandparents may not even be around by the fourth wave to maintain that interaction. As the children are increasing in development through adolescence, the grandparents are decreasing in development as they near the end of their life stages, causing less and less of the amount in intergenerational interaction.

When those interactions are thriving, the ecological systems and family systems perspectives allow us to examine the direct and indirect influences grandparents have on their grandchildren as well as translating those influences to another environmental context, in this case, education. For example, grandparents can directly influence grandchildren through their interactions and discussions on issues such as family and life values, teaching certain skills, and even acting as mentors or parental figures.

Grandparents can also indirectly influence grandchildren when their intergenerational interaction is enacted through other familial connections, such as grandparent-parent relations or parent-child relations. This means that the way grandparents parented their own children when they were young may impact the way that second generation (adult children) parents their own children (the grandchildren). Also, if and when grandparents act as mediators between parents and their children, the grandparents' interaction with the adult children and the grandchildren separately could affect the overall relationship between the grandparents and grandchildren (Tomlin 1998).

The regression analyses also demonstrated that the influence of peers and parents' characteristics (levels of education and parent-child relationship quality) have a positive effect on the child's academic aspirations, with peer influence affecting the youth's educational desire the most. In other words, while the family systems theory allows for a

partial explanation of the child's academic perceptions, showing the importance of the quality of relationships between and within family members, the ecological systems theory is more applicable to illustrate the crucial implication that peers have a greater effect on youth in this particular data set. These findings are consistent with previous research, such as that conducted by Boxer et al. (2011), Crosnoe, Mistry, and Elder Jr. (2002), Dubow et al. (2009), Frome and Eccles (1998), Jodl et al. (2001), Wells et al. (2011), and Woelfel and Haller (1971).

Parents play an early and significant role amid those who impact students' academic expectations. The social and cultural capital of the family situates the social, financial, and cultural context for the youth's upbringing (Wells et al. 2011). Prior research emphasizes the importance social capital characteristics play in how much families have to invest in children's future endeavors, such as continuing education (Feliciano 2006; Kuo and Hauser 1997; Marjoribanks 2002; McDonough 1997; Sewell and Shah 1968; Turley, Santos, and Ceja 2007; Wells et al. 2011). However, as stated above, grandparents' parenting techniques affect the parents' parenting, which then affect their children. In that case, this finding that parents' relationship quality with children is having a positive effect on the children's academic aspiration could be an indirect affect of the grandparents' influence. Also, this indirect affect could be a building block for intergenerational relationships. Just as King and Elder Jr. (1995) found, joint activity with parents is associated with high quality relationships with grandparents. So, therefore, the interactions with grandparents could be influenced by the relationship quality the youth feel they have with their parents.

Peers embody a further central part of social capital when examining youths' academic expectations (Gandara 1995; Hanson 1994; Li 2007; Tierney and Venegas 2006; Wells et al. 2011). Children's socialization within and between peer cliques influences furthering education, such as having friends who plan to continue their education, what schools they want to attend, and how high of an achievement level they set for themselves (Bedsworth, Colby, and Doctor 2006; Griffin et al. 2007; Pérez and McDonough 2008; Sokatch 2006; Tierney and Colyar 2005; Wells et al. 2011). Due to the respondents' age group in this study's research (ages 13-16), peer influence could be overpowering the amount of influence grandparents, and even parents, have on these youth since this age bracket is the developmental stage where youth begin to grow into young adulthood (Battistich 2005; Oberle, Schonert-Reichl, and Zumbo 2011). Since this study did find that grandparents' interaction with grandchildren positively affected the children's academic aspiration during the initial wave (when the children were in 7th grade), but did not impact their educational aspiration in the following years, this could be due to the youth entering the junior high and high school years where peers have taken over the grandparents' role as mentors and role models. Adolescence is a time for youth to try to "find themselves" and begin to mold into the person they want to be. Just as previous research has found, there is a significant association between positive peer relationships and signs of emotional and social well-being, such as positive outlooks about oneself, contentment, hopefulness, and overall psychological wellbeing (Dougherty 2006; Nangle and Erdley 2001; Oberle et al. 2011; Rubin, Bukowski, and Parker 2006; Wentzel 2009). Therefore, it is not surprising that peers may overshadow grandparents' influence over adolescents.

Chapter 5: Conclusion

The main finding of this study suggests that grandparent-grandchild interaction is related to adolescent's academic aspiration. As shown above, intergenerational relationships are explained by the frameworks of ecological systems theory and family systems theory. In the first regression analysis using the first wave, grandparents' interaction with grandchildren via discussing the youth's life problems and worries is statistically significant, providing a positive effect on the child's academic aspiration. Utilizing family-level contexts as controls in this analysis, I then found that they strengthen the model, providing an even stronger significance on the child's educational aspiration. However, it was found that, over time, peer influence and parent-child relationship quality had a more consistent effect on the adolescent's academic aspiration.

Despite significant findings, there were a number of limitations to this research. My research was unable to assess the affect of grandparent-grandchild relations on academic aspiration by living arrangements due to data limitation. Living arrangements could have impacted the results differently because the amount of contact with grandparents, both in and out of the household, could vary the intergenerational relationship. So, this research had to generalize to just analyzing an overall interaction of the intergenerational relationship between grandparents and grandchildren, not taking living arrangements into consideration. Also, the interaction between the parents and grandparents cannot be measured, but is an important factor that may impact the relationship between the grandparent and grandchild, as well as the child's academic aspiration. For instance, the grandparents could feel that they are overstepping the parental role in providing advice to the child, which could place a strain on both the

grandparents and parents as to how to set the boundaries of who has what role in the family. The amount of interaction and the timing of the discussion moments could impact the grandparent-grandchild relationship in different ways. Depending upon that amount, the child could come away from the discussion with much motivation or not really caring at all. Another limitation could be that the frequency of discussions could vary the lasting impression on the child, whether or not that contact is enough to truly change the child's points of view. Finally, as in all studies where there are respondents discussing personal issues, there could be concerns related to the validity and reliability of the respondents' answers.

The results of this current study suggest that further research on grandparent-grandchild relationships and the overall development of adolescents needs to explore the child's perspective regarding their intergenerational interactions and relationships with grandparents, which is unknown in this research. The only information provided from the respondents' answers in this data set were vague questions regarding if they had a grandparent to discuss life issues with and the amount of contact they have with grandparents, but no actual responses to further examine the quality of the grandparent-grandchild relationship. Also, future research should further study the transfer of influence from family members, such as grandparents and parents, to peers during the adolescent years. Just as the indirect affect occurs between the three generations, there might also be an indirect affect or transfer affect that transpires between family relations and peer relations that impact the overall development of the youth.

Overall, the research provided is useful in observing adolescent academic aspiration and the influence of intergenerational interactions between grandparents and

grandchildren. The results of this study are important to the growing literature on multigenerational relationships as well as academic attainment, however further research needs to be conducted in order to provide more insightful information on how the various interactions within a child's environment impact their overall development.

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Appendices

Table 1: Grandparent-Grandchild Interaction

| Grandparent Interaction | % (Yes) | N |
|--------------------------------|----------------|----------|
| Wave 1 | 26.23% | 385 |
| Wave 2 | 14.81% | 385 |
| Wave 3 | 29.61% | 385 |
| Wave 4 | 30.13% | 385 |

Table 2: Child's Educational Aspiration (Importance of College)

| Importance of College Education | Wave 1 % N = 385 | Wave 4 % N = 385 |
|--|-----------------------------|-----------------------------|
| Extremely Important | 74.55% | 69.09% |
| Very Important | 17.92% | 21.82% |
| Somewhat Important | 4.68% | 7.79% |
| Not Very Important | 1.82% | .78% |
| Not At All Important | 1.04% | .52% |

Table 3: Control Descriptives

| Variable | % |
|-------------------------------------|----------|
| Average Monthly Income in HH | |
| \$0-\$999 | 5.19% |
| \$1000-\$1499 | 23.38% |
| \$1500-\$1999 | 28.05% |
| \$2000-\$2499 | 21.04% |
| \$2500-\$2999 | 11.43% |
| \$3000-\$4999 | 4.16% |
| \$5000+ | 2.34% |
| Mother's Relationship Quality | 26.23% |
| Father's Relationship Quality | 15.32% |
| Education Importance- Mother | 96.88% |
| Education Importance- Father | 92.21% |
| Highest Parental Level of Education | |
| High School or below | 10.16% |
| Some College | 42.19% |
| Bachelor's Degree | 25.00% |
| Advanced Degree | 10.94% |

Table 4: Multivariate Regression: Child's Educational Aspiration (Wave 1)

| Variables | b | b |
|--|----------|----------|
| Grandparent-Grandchild Interaction | 0.11* | 0.13* |
| Parent's Highest Level Education | | 0.06** |
| Household Average Income | | 0.03* |
| Mother-Child Relationship Quality | | -0.05 |
| Father-Child Relationship Quality | | 0.05 |
| Parents' Importance of College Education Opinion | | 0.13 |
| R^2 | .01 | .04 |

* $p < .1$, ** $p < .05$

Table 5: Multivariate Regression: Child's Educational Aspiration (Wave 4)

| Variables | b | b |
|--|----------|----------|
| Grandparent-Grandchild Interaction | -0.08 | -0.05 |
| Parent's Highest Level Education | | 0.09*** |
| Household Average Income | | 0.03 |
| Mother-Child Relationship Quality | | -0.08 |
| Father-Child Relationship Quality | | 0.08 |
| Parents' Importance of College Education Opinion | | 0.06 |
| R^2 | .003 | .05 |

*p < .1, **p < .05, ***p < .01

Table 6: Multivariate Regression: Child’s Educational Aspiration (“How much education would you like to have?” response)

| Variable | b | b |
|--|----------|----------|
| Grandparent-Grandchild Interaction | .05 | 0.09 |
| Parent’s Highest Level Education | | 0.18*** |
| Household Income | | 0.06 |
| Mother-Child Relationship Quality | | -0.11 |
| Father-Child Relationship Quality | | 0.28** |
| Parents’ Importance of College Education Opinion | | 0.05 |
| R^2 | .00 | .06 |

* $p < .1$, ** $p < .05$, *** $p < .01$, **** $p < .001$

Table 7: Multivariate Regression: Child's Educational Aspiration (Peer Influence)

| Variables | Wave 1 (b) | Wave 2 (b) | Wave 3 (b) | Wave 4 (b) |
|--|-------------------|-------------------|-------------------|-------------------|
| Peer Influence | 0.53**** | 0.45**** | 0.45**** | 0.63**** |
| Parent's Highest Level Education | -0.09**** | -0.06** | -0.09*** | -0.06** |
| Household Income | 0.00 | -0.00 | -0.02 | -0.02 |
| Mother-Child Relationship Quality | 0.02 | 0.06 | 0.05 | -0.05 |
| Father-Child Relationship Quality | -0.07 | -0.05 | -0.00 | -0.06 |
| Parents' Importance of Education Opinion | -0.08 | -0.01 | -0.14 | 0.04 |

* p < .1, **p < .05, ***p < .01, **** p < .001