Mexican-American Parents’ Working Hours, Parental Involvement, and Adolescent Academic Achievement

by

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A thesis submitted in conformity with the requirements for the degree of Master of Arts
Human Development and Applied Psychology
Ontario Institute for Studies in Education of the University of Toronto

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2010

Abstract
In order to better understand the specific mechanisms that may hinder high educational achievement among Latino students, this study explored the impact of parental working hours on parental involvement and school outcomes across three generations of Mexican-American youth. Results from a longitudinal data set revealed that constrained parental availability, related to increased working hours, had an impact on the amount of parental involvement for third generation students, but not on their academic outcomes. For first-generation students, parental monitoring (a form of parental involvement) was a significant positive predictor for grade 8 and 10 reading scores as well as high school completion among second-generation students. Results from this study suggest that increased parental monitoring may be beneficial for higher academic outcomes for first and second generation students. Future research will need to investigate what types of parental involvement may influence third generation students.
Acknowledgments

I would not have been able to complete this thesis without the help of many wonderful people who have encouraged and supported my academic pursuits. I would like to thank Dr. Guanglei Hong for all her help and guidance as my thesis supervisor during the thesis writing process. Her patience, knowledge and high expectations challenged me to develop a better understanding of my research questions and appreciate the work that goes into academic research. I would also like to thank Dr. Carl Corter as my second reviewer. His comments and useful insight really helped shape this thesis and enabled me to have a deeper conceptual framework of parental involvement.

My thanks for all the support I received from my lab mates, colleagues, and friends: Marija, Emiko, Sara, Yihua, Bing, Monika, Zhong Xu, Jeremy, Sam, Marisa, Alkarim, Fatima, Shazeen, and Alisha. They all helped make the many, many, hours spent in the lab more manageable and enjoyable.

My love and sincere thanks also goes out to my parents Nasrin and Azad Jamal, whose love, sacrifice and hope has encouraged me to believe in myself and my potential. My love and thanks also goes out to my brother Alnasir, who has been my true friend, critique and motivator.

Finally my appreciation and thanks goes to He who is Above all else. I would not have been able to do this without the Grace and Light that inspired this work and will continue to inspire any future work along the way.
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CHAPTER ONE: INTRODUCTION:
THE HIGH ASPIRATIONS, LOW ACHIEVEMENT PARADOX

Immigrants to the United States usually hope to better their lives and their children’s in terms of safety, greater political freedom, financial security and educational opportunities (Gibson & Ogbu, 1991). Among members of the Mexican-American Latino community, some are new immigrants, while others have been residing in the U.S. for over six generations. Despite the high value Mexican-Americans place on formal schooling for economic and occupational advancement, on average, academic achievement is found to be low amongst Mexican-American students (Goldenberg, Gallimore, Reese & Garnier, 2001). Statistically, Latino students overall have one of the highest high school dropout rates and some of the lowest academic achievement scores amongst all visible minorities within the United States. Close parental involvement in an adolescent’s academic experience and social development has been found to be positively associated with high academic merit for youth. Yet the number of hours that parents do paid work may influence the amount of time they have available to involve themselves and support their children’s academic and social development. This study investigates whether parental employment hours are related to parental-adolescent discussions and parental monitoring as forms of parental involvement, whether parental working hours predict academic achievement, and whether parental involvement as a potential mediator still predicts academic achievement after controlling for parental working hours within and across different generations of Mexican-American Latino youth.

The general Latino population has now become the largest minority community within the United States, comprising 15% of the total American population (U.S. Bureau of Census, 2000). However, they are still found to be largely marginalized from the larger social community (Bendick Jr., Jackson, Reinoso, & Hodges, 2006; Greene, Way, & Kerstin, 2006). This is
because on average, people from Latino communities are twice more likely to be living in poverty, are earning lower wages and have youth who are four times more likely to drop out of high school than white American born children (DeNavas-Walt, Proctor, & Lee, 2006; U.S. Department for Education, 2009). However, before entering high school Latino students and their immigrant born parents are found to have higher academic aspirations than their white American born peers (Cheng & Starks, 2002; Fuligni, 1997; Kao & Tienda, 2005). Yet Latino students overall are least likely to maintain their high academic aspirations by the time they entered grade 12 (Kao & Tienda, 1998).

A worrying paradox is noticeable in that despite the initial high academic aspirations shared by the Latino students and their immigrant parents, educational achievement is generally low amongst the Latino community.

**Adolescents as an Important Group to Study**

The association between high educational aspirations at the end of elementary school and low educational outcomes at the end of high school amongst many immigrant students, including Latinos has been a puzzle for researchers. Students as adolescents experience an important transitioning state in development from childhood to adulthood. Making cognitive advances, experiencing identity formation, choosing one’s social circle, and building a sense of independence and responsibility all become important domains of the adolescent experience. Additionally a majority of students become less attached to their parents and are more susceptible to media and peer influence (Baumrind, 1991). Adolescents coming from households where both parents work in full time jobs may not receive the parental monitoring and support required for guiding them through their social and scholastic challenges.

To study the above paradox, I compared whether parental working hours and parental involvement differed across generations of Mexican-American Students using a nationally
representative data set. I also investigated whether parental working hours were associated with the amount of parental involvement reported by adolescent youth, and evaluated the impact of parental involvement on educational outcomes.

This paper will first introduce the key constructs and their relationships—namely, generational differences in school outcomes of students from immigrant Latino families, parent-adolescent discussions and parental monitoring as types of parental involvement, and parental working hours. I will focus on the theoretical importance of parental employment hours and its influences on parent-adolescent discussions and parental monitoring. I will then review the educational literature on the associations among parental working hours, parental involvement and adolescent academic attainment. This will lead to an empirical investigation of the above research questions through analyzing a large-scale longitudinal data set. Finally I will discuss the findings of the research and its contribution to the current knowledge about Mexican-American education achievement. I will also point out limitations of the current study and directions for future research.

**Generational Differences in Achievement and Parental Involvement**

**Generational differences in academic achievement**

Researchers have noticed generational differences in academic aspiration and achievement amongst Latino students. First generation Latino students are found to have higher high school graduation rates, academic aspirations and expectations compared to their second and third generation peers (Driscoll, 1999; Pong, Hao, & Gardner, 2005). One would expect that first generation Latinos who have immigrated to the U.S. with their parents would have the largest disadvantage in terms of their educational attainment. This is in view of the fact that many first generation Latinos struggle to adapt to the American English language and adjust to their new social and cultural surroundings. Furthermore first generation Latinos usually have
parents with a low education level, limited institutional and cultural knowledge about the US school system, and come from families that endure great financial constraints (Guzman, 1996; Suro & Passel, 2003). Whereas second generation Latino children who have been born in the U.S. and third generation children whose parents were also born within the U.S. may be more familiar with their cultural and social environment, enabling them to overcome some of the barriers first generation students face.

What explains the lower educational aspirations and lower educational attainment of the second and third generation Latino children in comparison with the first generation? The generational difference in achievement measures may be partly due to acculturation into the North American culture along with the weakening of an intact family and community structure in the later generations. Assimilation into the North American culture by Mexican-Americans has been found to have a negative association with students’ academic achievement, expectations and high school completion (Conchas, 2001; Kao & Tienda, 2005; Suárez-Orozco & Suárez-Orozco, 1995).

**Generational differences in parental involvement**

Parental involvement is a general term that can refer to a variety of behaviours that parents display when involving themselves with their children’s academic and social lives. Types of parental involvement have been found to differ across different generations of Mexican-American families. For instance first generation Mexican-American adolescents are found to have closer family ties, better adolescent-parent relationships and frequent parent child discussions than second and third generation students (Suárez-Orozco & Suárez-Orozco, 1995). Another form of parental involvement is in terms of supervision and monitoring and is found to be higher amongst first and second generation Mexican-American adolescents than third generation adolescents (Kao & Tienda, 2005). The increase of single parent families amongst
subsequent generations of Mexican-American students (Oropesa & Landale, 1997) and the added stress of trying to meet the economic needs of the family, without the support of an additional parent may be one of the contributing factors explaining the generational difference in parental monitoring behaviours. Although the above findings suggest more parental involvement amongst first generation children, some evidence also indicate that first generation parents are less likely to be academically involved than parents of third generation children when considering parent-teacher interviews, belonging to parent school groups or volunteering in schools (Kao & Tienda, 2005; Lopez, 2001). Furthermore, parents of first generation and second generation students are less likely than parents of third generation students to discuss high school plans and materials learned in school, and partake in extra curricular learning activities such as public library and museum visits with their children (Hao & Bonstead-Bruns, 1998. Low English proficiency may be one of the barriers immigrant parents of first and second generation students face in order to actively involve themselves with the above types of parental involvement. Furthermore, Mexican-American parents with lower levels of English proficiency were less likely to have discussions about school with their adolescent children (Keith & Lichtman, 1994). This is a finding that may be inconsistent with a previous cited study, which reported that immigrant parents of first and second generation children had higher rates of parent-adolescent discussions about school than parents of third generation students (Suárez-Orozco & Suárez-Orozco, 1995).

Overall, first generation Latino parents may not be able to have a high level of academic involvement in their adolescents’ school lives due to their lack of English proficiency, lack of knowledge about the US school system, and perhaps lack of spare time due to longer working hours. However, a lack of academic involvement among parents of first generation students may not actually be an education barrier since many of these children are found to have higher academic aspirations and high school completion rates. What are the protective mechanisms that
enable first generation Latino students to successfully transition into high school and perform academically higher than their later generation peers and not drop out?

In an effort to explain the low academic achievement of Latino youth researchers in the past have looked at whether there were differences in parental attitudes between different minorities on the value of education (Kao, 2002; Qian & Lee, 1999). The results have revealed that Latino parents actually place a high value on academic achievement for their children. However, the degree to which parents valued education did not explain the gap between high and low achieving Latino students (Henderson, 1997; Suárez-Orozco & Suárez-Orozco, 1995; Okagaki, Frensch & Gordon, 1995). These findings indicate that it may not be sufficient to only measure parental attitudes, aspirations, and expectations of their children’s educational achievement as factors that may influence their children’s scholastic pursuits. Rather other types of parental involvement are warranted for study. For example, parent-adolescent discussions and parental monitoring as potential factors for promoting educational achievement.

**The Importance of Parental Involvement in Educational Achievement**

Parental involvement as one form of social capital has been proposed by previous researchers to be a protective and positive factor contributing to educational attainment (Fan & Chen, 2001; Hill, Castellino, Lansford, Nowlin, et al., 2004; Spera, 2005). There is some evidence suggesting that parental involvement supporting academic success is more important for immigrant youth’s high academic achievement than their family’s socio-economic factors. Furthermore, parental involvement in school activities was found to be more strongly associated with high academic achievement scores for Latino students than for White American born students (Qian & Blair, 1999). Parents become involved within their children’s lives partly through regular discussions about school and through parental monitoring at home (Sui-Chu & Willms 1996).
Parent-adolescent discussions about school

Parents who are involved with their adolescent children’s school life through school related discussions may be more effective in being able to communicate their high educational expectations and values for their children (Fan & Chen, 2001). In turn, these children can begin to internalize these values as their own academic ambitions and goals (Gonzalez-DeHass, Willems, & Holbein, 2005). For instance, a study by Fuligni found a strong positive association between immigrant students’ academic achievement and their perception of their parents’ aspirations, expectations and value in education (1997). Moreover, parent-adolescent discussions of school related activities are found to have a stronger relationship to school achievement than other measures of social capital such as parental school participation and parental home supervision (Sui-Chu & Willms, 1996). Parents who frequently engage in school-based discussions may have a better understanding of their children’s academic progress and are able to better support and encourage their children when they face challenges in school. Consequently, frequent school-based discussions may serve as a protective factor for adolescents from dropping out of high school and engaging in anti-social behaviour (Rumberger, Ghatak, Poulos, Ritter, & Dornbusch, 1990).

Parental monitoring

Parents who engage in frequent discussions about their children’s school experiences may also extend their involvement through appropriate monitoring of their children’s activities and whereabouts. Parental monitoring is defined as having knowledge about one’s children by being able to keep track of their children’s activities, know who their friends are and where they are located (Dishion & McMahon, 1998). Parents who have more knowledge and awareness of their children’s activities communicate and interact with their children more often (Kerr & Stattin, 2000). Parental involvement in the form of parental monitoring has been found to be
positively related to high academic grades and negatively related to dropout risks and behaviour misconducts amongst youth (Crouter, MacDermid, McHale & Perry-Jenkins, 1990; Jacobson & Crockett, 2000; Martinez Jr., DeGarmo, & Eddy, 2004). Furthermore, adolescent perceptions of parental monitoring are associated with higher academic motivation and higher achievement (Plunkett & Bamaca-Gomez, 2003). Low parental monitoring has been associated with relatively low educational outcomes and a relatively high likelihood of engaging in behaviour misconducts (Barnes, Farrell, 1992; Dornbusch, Erickson, Laird, & Wong, 2001; Prelow & Loukas, 2003). This may be because peer socialization becomes increasingly important as adolescents grow up. As adolescents begin to develop their own sense of independence and autonomy, they spend more time with their peers than when they were children, and as a result parental influence may not be as strong with adolescents as when they were younger (Larson & Richards, 1991). However, if greater parental involvement can foster closer parent-adolescent relationships and provide more social and emotional support, parental involvement through parental monitoring and parent-adolescent relationships may protect against adolescent behaviour misconducts and prevent adolescent students from academic withdrawal and eventual school drop out.

**Parental involvement as social capital**

Parental support for their children in various forms of parental involvement constitutes an important part of social capital. Coleman’s theory on social capital has been perhaps the most influential and frequently cited in educational literature (1988; 1990) and provides a theoretical framework for the current study. According to Coleman (1988), students benefit from their social capital if they can utilize their social relationships with family members, communities, and teachers as resources to advance their academic achievement (Coleman, 1988). Thus social capital implies a close relationship with parents or mentors in order to derive support—including material resources,
advice, love, attention and encouragement—so that the students can work towards attaining the goals they could not have attained alone. Within the family, support is largely determined by whether the parent is physically present for their children, pays attention to their children, and is involved within their children’s lives.

As is generally the case with parents who have more awareness and information about their children by communicating with them on a regular basis (Kerr & Stattin, 2000), parents who are more involved with their adolescent children’s lives with regular school based discussions and monitoring their activities, may be more aware of the social and academic challenges these adolescents go through during their transitional years in high school. Additionally, parent-adolescent discussions and parental monitoring as measures of social capital have been found to promote academic achievement (Dika & Singh, 2002; Sui-Chu & Willms, 1996; White & Glick, 2000).

According to Colman, single-parents or both parents who work full time are considered to have less social capital for their children than families where there is at least one adult available full time to care for the child (1988). Thus employment working hours may be a factor that influences the quantity and quality of social capital available to children, which in turn affects the amount of parental involvement these children have with regards to parent-adolescent discussions and monitoring, that also affects educational achievement.

**Parental Working Hours and Parental Involvement**

Mexican-American immigrants on average tend to work in low paying jobs requiring extended hours of work in order to support for the economic needs of their families (Orrenius & Zavodny, 2008). For example, the Latino population is disproportionately represented by working in labor intensive jobs with few family insurance benefits and frequent occupation layoffs (Guzman, 1996). This is partly because Mexican immigrants came from lower
educational backgrounds than the rest of the American population. Less than half of the Mexican immigrant population have at least a high school diploma while approximately 87% of the American population are high school graduates (Guzman, 1996; Rong & Preissle, 2009). In addition, recent immigration, language barriers, and often illegal immigration status can force Mexican-American families to work in precarious working conditions.

Brofenbrenner’s Ecological systems theory (1989) considers how the socio-economic contexts of parents may limit the amount of social capital they have available for their children. For instance, the larger external environment families live in such as society, culture, and community, which Bronfenbrenner calls the exosystem, indirectly influences the smaller environment such as the family structure, which he calls the microsystem. Particularly a parent’s workplace or the economic system would have an effect on a child’s development through the financial and social resources the parent is able to bring to the family.

Perhaps due to their socioeconomic conditions and lack of educational opportunities within their own countries, Latino parents tend to have greater aspirations for their children to complete high school within the United States. However, at the same time, those who are under more financial constraints and have to work longer hours may lack the time and educational resources to become academically involved and monitor their children’s scholastic activities. As a result, a lack of involvement may negatively influence their youths’ school completion and educational achievement.

On the other hand, if parents have fostered values of hard work and high educational expectation in their children, adolescents from households of full-time working parents may not be negatively affected by a lack of parental involvement. Rather, noticing the sacrifices and hard work of their parents for improving the family’s well-being, these students may be inspired to try harder in school (Lopez, 2001). Furthermore, parents who work full time may value what little
time they have with their children and maximize its use to foster academic support and
couragement. For instance, full-time working mothers were found to spend more hours on
recreational activities with their children than non-full time working mothers in a national
sample of American parents (Guryan, Hurst & Kearney; 2008). However, there is also some
evidence suggesting that parents who worked part time were more likely than full time and non-
working mothers to involve themselves within their children’s school activities by monitoring
homework completion and engaging themselves in school related discussions (Weiss et al.,
2003). In another study, part-time and non working mothers were more likely to regulate and
monitor their adolescents’ activities than full time working mothers by limiting television
viewing and checking on homework, which was found to be associated with higher academic
achievement (Muller, 1995).

The above findings did not look at ethnic differences; therefore it becomes necessary to
investigate whether Latino parents who work full time are still able to find ways to support and
involve themselves with their adolescent youths’ academic lives or whether parental working
hours deter such necessary involvement.
CHAPTER TWO: REVIEW OF THE LITERATURE: WHAT IS KNOWN ABOUT PARENTAL WORKING HOURS AND CHILDREN’S ACADEMIC ACHIEVEMENT?

From what little research is available on this topic, there is no general consensus amongst researchers as to whether the amount of parental working hours is strongly associated student achievement outcomes.

In one study, children of part-time working mothers were found to have significantly higher educational outcomes than children of full-time working mothers (Milne, Myers, Rosenthal, & Ginsburg 1986; Muller, 1995). In another study, part time working mothers had no significant influence on their children’s grades when compared with mothers who were not working (Bogenschneider & Steinberg, 1994). The same study also found that mothers’ full-time working status had a significant negative association with their adolescent son’s grades compared to mothers who worked part-time or not at all. The effect size was reported to be moderate at $d = -0.45$ for upper class male students. The study only sampled middle and upper class white students, making it difficult to extend to the Latino adolescent population.

There is also evidence suggesting that there is no association between parental working hours and adolescent’s social and academic outcomes (Armistead, Wierson & Forehand, 1990). Paulson (1996) also agrees that there is no direct association between maternal working hours and adolescent academic achievement; rather, she found that if the parents had a positive attitude about maternal employment, then the adolescent was more likely to have positive academic outcomes. Another researcher found that high maternal working hours in non-professional careers were positively associated with high behaviour problems in their children (Rogers, Parcel, & Menaghan, 1991). In addition, a more recent study found a significant indirect positive
association between high maternal working hours and school delinquency, through the process of low parental monitoring (Vander Ven, Cullen, Carrozza & Wright, 2001).

After an exhaustive search, the few studies that were found within the literature mainly focused on maternal working hours and adolescent academic achievement. Particularly when looking at adolescent academic achievement, empirical evidence suggests the benefits of mother’s part-time work on adolescent educational outcomes over full-time work; however, there are not enough empirical studies looking at this association to enable a valid judgment. Additionally, a majority of these studies have not looked at whether parental working hours affect the amount of parental involvement parents invest towards their adolescents’ academic development. There is still an unclear picture as to whether parental working hours enhance, reduce or have no influence on parental involvement towards adolescent academic achievement.

Limitations of Past Research

What might explain the inconsistent findings of the effect of maternal work hours on student academic achievement? First, the studies looked at different samples of students. Some studies focused on white upper and middle class adolescents (Bogenschneider & Steinberg, 1994), whereas others examined race as a factor but omitted the Latino population (Milne, Myers, Rosenthal, & Ginsburg 1986). Other researchers focused only on low-income families (Weiss, et al., 2003). None of the previous results were solely based on a Latino sample.

Secondly, maternal employment effects on adolescent academic attainment may differ by education and income level. For instance, Frankel (1964) found academic achievement differences amongst male adolescent students who had mothers with professional careers and mothers employed in non-professional occupations. After being matched by IQ, males who were high achievers were more likely to have professional working mothers whereas males who were low achievers were more likely to have non-professional working mothers (as cited in Taylor &
Wang, 2000, p. 131). Although the findings from this study may not seem applicable for maternal employment in today’s context, high maternal education levels are still found to be associated with professional working occupations and higher achievement outcomes for children (Guryan, Hurst, & Kearney, 2008). Thus it becomes important to control for potential covariates such as parental income, parental education, and student IQ so that competing factors do not mask the true contributing effect of maternal employment on parental involvement and student academic achievement.

Thirdly, some studies utilized standardized academic assessments (Muller, 1995), while others relied on teacher reports (Armistead, et al., 1990), and student’s school grades to measure academic attainment (Paulson, 1996). When using teacher reports, student GPAs and school grades, a confounding factor of school and teacher effects may distort the true measure of academic attainment for these adolescents. As a consequence, results based on non-standardized achievement measures perhaps underestimated the influence of parental involvement and parental working hours on adolescent achievement.

Lastly, most previous studies did not look at parental involvement as a mediator between maternal employment hours and adolescent academic attainment. Although some of these studies did not find an overall influence of maternal working hours on adolescent achievement, multiple indirect influences may have existed and may operate in opposite directions. For example, longer working hours may predict less time for parental involvement, yet parents who work longer hours may pass on important work ethics to their children. A prompt conclusion that parental working hours have no bearing on adolescent academic achievement (Armistead, et al., 1990; Prelow & Loukas, 2003) would disguise the complex mechanisms through which parental working hours may influence student outcomes.
CHAPTER THREE: CURRENT STUDY

This study investigates whether parental working hours influence the amount of parental involvement for adolescent youth and whether parental involvement has any influence on Latino adolescents’ academic attainment. To my knowledge there have only been a few studies that look at the impact of parental working hours on adolescent academic achievement with parental involvement as a possible mediator (see Muller, 1995; Vander Ven, Cullen, Carrozza & Wright, 2001). However, there have been no studies that have specifically investigated, in the Latino population, whether parental involvement serves as a possible mediator between parental working hours and academic outcomes. Due to large intragroup variability with regards to the different demographic and socio cultural backgrounds within the Latino community (Suárez-Orozco & Suárez-Orozco, 1995), this study will focus on Mexican-American Latino youth because they constitute the largest segment of Latinos within the United States (Portes and Zhou, 1993).

Furthermore, to overcome the limitations of previous research, this study will control for a larger number of covariates such as ethnicity, generational status of immigrants, teacher and school influences, parental education, family income levels, and adolescent’s biological sex. This will help reduce bias in evaluating the true influence of parental working hours on the academic attainment of Mexican-American students.

Finally, this study has the potential to contribute to knowledge that several researchers have affirmed to be missing within the current educational academic literature; that is, how parental involvement can be affected by parental employment hours and how this in turn affects the critical developmental transition of adolescents from elementary school to high school (Muller, 1995; Paulson, 1996; White and Glick, 2000).
Research Questions

I ask the following research questions:

1. Do parental working hours differ across different generations of Mexican-American students? Is there a difference in the amount of parental involvement reported by different generations of Mexican-American students?

2. Do parental working hours constrain parental involvement with their adolescent children in parent-adolescent discussions and parental monitoring?

3. Does the amount of parent-adolescent discussions and parental monitoring influence the academic outcomes of Mexican-American students?

4. Do parental working hours have any direct influence on Mexican-American student academic outcomes?

5. Do parental working hours have any indirect influence on Mexican-American academic outcomes through the mediation of parental involvement?

These research questions will help clarify some of the discrepant viewpoints in the literature with regard to whether parental working hours are associated with parental involvement. Furthermore, it will reveal whether parental working hours indirectly influence adolescent academic achievement though parental involvement factors. Based on the limited evidence presented in the past research, I hypothesize that students who have both parents working full time may experience a lower frequency of parental involvement, which may negatively influence student academic achievement (Muller, 1995; Weiss, et al, 2003). If parental working hours and parental involvement for grade 8 Mexican-American students predict the academic achievement of grade 10 students and high school drop out up to grade 12 then there will be empirical support indicating the importance of parental involvement on the academic development of young Mexican-American adolescents. An alternative hypothesis is
that the importance of these parental factors to the academic development of adolescents may diminish as they enter higher school grades and become increasingly mature.

The above research questions will also be elaborated by asking whether there are generational differences in the amount of parental working hours and parental involvement reported by Mexican-American adolescents. If parental working hours and parental involvement differ across different generations of students, this will be additional evidence indicating important heterogeneity within the Mexican-American population. Moreover, future research may explore whether parental working hours and parental involvement explain cross-generational difference in educational attainment among Mexican-American students.

Method

Sample

I will use data from the National Educational Longitudinal Study (NELS) from 1988-1992 released by the National Center for Education Statistics (NCES). This study surveyed grade 8 students nationally with follow up until their adult years outside of school. This data set was designed to be nationally representative of schools and students. Stratified sampling was used in the first stage to select 1,734 public and private schools where 1,052 schools participated. In the second stage for this sampling procedure, researchers randomly selected 25 students per sampled school. The overall sample resulted in 24,599 students participating in the study. School samples were also stratified by size, being urban or rural, its region and its percent of minority population. It also adjusted for non response rates and unequal probabilities for selection. The analytic sample for this study focused on the Mexican-American Latino students, consisting of a sample size of 947 students.
Measures

Predictor and Outcome Variables

In order to measure student achievement, I utilized the reading and math standardized achievement measures that NELS carried out for students in grade 8 and 10. These outcome variables were on a continuous scale. Student drop out by grade 12 was also a measured outcome variable and was binary coded (0 = did not drop out, 1 = dropped out) for the analysis.

I constructed a measure of parental working hours and labeled it as parental availability measuring how available the parent was for their adolescent child to support and monitor them personally. I constructed this measure by combining parental working hours information of either both parents or a single parent if there were no data available for the spouse. Parental working hours were taken from the base year parental questionnaire when the student was in grade 8. Parental availability was coded according to their physical availability to their child according to their working schedule, (2 = at least one parent is available full time, 1 = at least one parent is available part-time for their adolescent child, 0 = either both parents or a single parent work full time and is not available during their work hours for their adolescent child).

Parent-adolescent discussions regarding school were measured according to the frequency of discussions by creating a continuous variable composite score combining the following variables from the base year parental questionnaire: how often the parent spoke to their child about their school experience, how often the parent spoke to their child about their high school plans, and how often the parent spoke to their child about their post high school plans. The above variables were found to be moderately correlated with each other with Pearson $r$ values ranging from 0.472 to 0.684 and were significant at the $p < .01$ level. The reliability of the composite score was also high at Cronbach’s $\alpha = 0.80$. 
Parental monitoring was measured by the amount of time parents limited television watching of their adolescent children (0 = never, 1 = rarely, 3 = sometimes, 4 = often). Although NELS did not have a specific variable measuring parental monitoring in a wide range of areas in their base year student questionnaire, parents limiting the amount of television watching has been used as a proxy for parental monitoring behaviour in a previous study (Muller, 1995). Furthermore, limiting television watching is a close proxy to active parental monitoring because parents have to directly engage in their adolescent children’s’ activities by setting boundaries and rules.

Mexican-American Latino students’ generation status in the U.S. was also a variable of interest. Student generation status was a new variable that I created by combining and recoding two variables in the NELS data set that measured student and parents’ place of birth. Specifically, this variable distinguishes among first generation students (0 = student and parents were both born outside of the U.S.), second generation students (1 = student was born in the U.S. and both parents were born outside of the U.S.), and third generation students (2 = student and at least one parent born in the U.S.).

**Control Variables**

**Student level controls**

Social economic status (SES) is a contextual factor that has been found to be consistently associated with student achievement outcomes and is widely used in educational research as a covariate (Coleman, 1966; Sirin, 2005; White, 1982). I controlled for the student’s SES by using a composite measure provided by NELS in the student questionnaire. This measure included information about mother and father’s highest level of education completed, mother and father’s income level, and mother and father’s occupation status.
The following variables were used from the NELS data set and binary coded for the analyses:

Family having more than 50 books at home (0 = does not have, 1= does have), parental marital status (0 = single, 1 = married), and the sex of the student (0=male, 1=female).

The number of books within a family household was controlled as a possible confounding factor due to its positive association with reading achievement test scores (NCES, 2001; Williams et al., 2000). Parental marital status was also controlled for within the model as it has been found to be associated with adolescent academic achievement. Adolescents from single headed families were more likely to drop out than adolescents from dual headed families (Astone & McLanahan, 1991). The number of siblings students have was also controlled for within the analyses because students that came from large families have been found to have less family resources such as parental time and financial support and have lower educational achievement (Downey, 1995).

Number of siblings was coded from having no siblings to 6 or more within our sample, (0 = none, 1= one, 2 = two, 3 = three, 4 = four, 5 = five, 6 = six or more).

**School level controls**

School effects have also been found to influence academic attainment. Higher school turnover and dropout rates have been found amongst schools with 40% or more minority students compared to schools that have a lower proportion of minority students (Rumberger & Thomas, 2000). Furthermore, mean school SES was found to be associated with individual academic achievement scores even after controlling for individual SES. Schools with a high SES mean have been found to have a strong positive impact on academic achievement amongst individual students coming from low SES families (Caldas & Bankston, 1997; Willms, 2004). I controlled and dummy coded for percent minority in school (0 = None, 1 = 1-20%, 2 = 21-40%, 3 = 41-60%, 4 = 61-100%), percent free lunch in school (0 = None, 1 = 1-5 %. 2 = 6-10%, 3 =
11-20%, 4 = 21-30%, 5 = 31-50%, 6 = 51-75%, 7 = 76-100%), whether the student attended
college (0 = yes, 1 = no), whether the school was located in an urban, suburban or rural
area (1 = urban, 2 = suburban, 3 = rural), and lastly where the school was regionally located (1 =
North east, 2 = North central, 3 = South , 4 = West).

CHAPTER FOUR: RESULTS

Descriptive Statistics

The distribution of our sample across three generations of Mexican-American students is
reported in Table 1. I found significant generational differences in some of the background
characteristics of Mexican-American students. As displayed in Figure 1, students who were first
generation Mexican-Americans came from families with lower socio-economic status than
second (mean difference = 0.26, \( p < .001 \)) and third generation students (mean difference = 0.78,
\( p < .001 \)). Second generation students came from families with lower socio-economic status than
third generation students (mean difference = 0.52, \( p < .001 \)). However, I found a larger variance
in socio-economic status amongst the families of third generation students compared to the
families of first and second generation students.

A greater percentage of third generation students had only one sibling compared to their
second generation student counterparts, who on average were more likely to have more than one
sibling (percent difference = 16.4%, \( p < .001 \)). Lastly, a greater number of second generation
students attended schools with more than half its population coming from minority backgrounds,
compared to the schools attended by third generation students (percent difference = 31.7%, \( p 
< .001 \)). There were no significant differences in the distribution of the variables between first
generation students and their second and third generation peers. Furthermore, academic
achievement measures in grade 8 and grade 10 reading, grade 8 and grade 10 math and high
school drop out did not significantly differ across different generations of Mexican-American students.

**Parental Availability and Parental Involvement across Generations**

The first research question investigated whether Mexican-American parents of early generation adolescents are on average less available than parents of later generation adolescents due to their working hours. It also addressed whether different generations of Mexican-American adolescent students had different parental involvement. I conducted Chi-square test of independence analyses in order to assess whether there was a significant association in the amount of time parents were available and the monitoring activities they had with their adolescent children according to the students’ generation status.

*Parental availability according to generation status*

When investigating whether parental availability differed with respect to the students’ generation status, an overall chi-square test was found to be significant, $\chi^2(4) = 15.54, p < .05$, Cramer’s $V = .159$. Table 2 compares, across the generations, the proportion of parents at each level of parental availability for supporting their adolescent youth in grade 8. Pairwise contrasts revealed that second generation Mexican-American students had parents that were significantly more likely to be available full time than parents of both first generation (percent difference = 9.0 %) and third generation Mexican-American students (percent difference = 17.9%). The strength of the relationship between generation status and parental availability, as indicated by Cramer’s $V$, however was found to be very weak or close to non existent.

*Parental monitoring according to generation status*

Chi-square analyses of parental monitoring with respect to limiting television watching according to the student’s generational status was found to be significant $\chi^2(6) = 17.96, p < .05$,
Cramer’s V = .106. As indicated by Table 3, third generation Mexican-American students have parents who are least probable in often monitoring the amount of television their youths watch in comparison to the parents of first generation students (percent difference = 11.1%) and second generation students (percent difference = 10.3%). However, the strength of the relationship between the students’ generation status and their parent’s television monitoring behaviour was found to be non existent or very weak as indicated by the Cramer’s V coefficient.

**Parental discussions according to generation status**

In order to compare whether there was a difference, on average, in the amount of parent-child discussions about school according to students’ generation status, a 1 x 3 analysis of variance was performed with parental discussions as the dependent variable and students’ generation status as the independent variable (first, second, and third generation Mexican-American students). I found a significant association between the generation status of students and the frequency of school based discussions parents engaged in with their adolescents, $F(2, 773) = 12.31, p < .001, \eta^2 = 0.03$. Nevertheless, generational status only explained 3 percent of the variance in the amount of discussions parents had with their youth.

As seen in Figure 1, on average most Mexican-American parents speak to their children about school on an occasional basis; however; in post hoc comparisons, there were some significant mean differences between the generations of students with regards to how frequently their parents speak to them on school related matters. Parents of third generation students were rated significantly higher in the frequency of school based discussions they have with their adolescent youth in comparison to first generation parents (Mean difference = 0.37, $SE = .094, p < .001$). Third generation parents were also found to speak to their youth about school related matters more often than second generation parents (Mean difference = 0.15, $SE = .056, p < .05$).
Our first research question asked whether Mexican-American parents of early generations of American students are on average less available to support their adolescent children due to working longer hours than parents of later generations of students. The results indicated that parents of first generation students did work longer hours than second generation students. Parents of first generation students did not, however, work longer hours than parents of third generation students.

The first research question also asked whether parents of different generations of Mexican-American students had different amounts of parental involvement. The results indicated that parents of third generation students engage in less parental monitoring behaviour than parents of first and second generation students. In terms of participating in parent-adolescent discussions regarding school, parents of third generation students were more likely than parents of first and second generation youth to be involved. Parental involvement therefore is found to be different across different generations of Mexican-American youth.

*Association between Parental Availability and Parental Involvement across Generations*

The second research question addressed whether parental availability due to parental working hours influenced the amount of parental involvement with children. A related question is whether different generations of Mexican-American students received the same amount of parental involvement in the forms of parental-adolescent discussions and parental monitoring when taking into consideration parental availability. I split the data according to student generational status and conducted multiple linear regression for each generation.

*Parent-adolescent discussions*
In order to control for potential confounding factors that may explain some of the variance in parent-adolescent discussions, correlations were conducted between the following potential background variables: student’s socio economic status composite (SES), adolescents’ biological sex, family having more than 50 books, percent of minority students in school, and parent’s marital status. Variables that were found to be significantly correlated with parent-adolescent discussions about school were: student’s SES \((r = .248, p < .01)\), student’s family having more than 50 books \((r = .152, p < .01)\), and parent’s current marital status \((r = .098, p < .01)\).

These variables were entered into the first step of the regression model simultaneously, whereas parental availability was entered into the second step of the regression model. In order to examine the possible influence of parental availability on parent-adolescent discussions, two regression models were used, one without parental availability, and the other including this possible factor. As displayed in Table 4, results indicated that for first generation Mexican-American students, none of the mentioned control variables including parental availability were found to be significant predictors of the amount of parental adolescent discussions students reported. Second generation Mexican-American students’ SES was significantly positively related to the amount of parent-adolescent discussions in the family. For third generation Mexican-American families, students’ SES, family having more than 50 books, and parent’s marital status were significantly positively related to the amount of parent-adolescent discussions families engaged in. Parental availability was not found to be a significant predictor for the amount of parent-adolescent discussions in any of the three generations of Mexican-American students. The final regression model was found to be statistically significant for third generation Mexican-American students \(F(4, 348) = 8.616, p < .001\). Predictors within this model were able to account for 9% of the variance in parent-adolescent discussions amongst third generation
Mexican-American students. Parental availability did not have any unique predictive value for third generation Mexican-American students when statistically controlling for SES, family having more than 50 books and parental marital status.

**Parental monitoring**

A second linear regression analysis was conducted to explore whether parental availability had any predictive value for the amount of parental monitoring. As shown in Table 5, results indicate that SES was a significant positive predictor of the amount of parental monitoring that was reported for third generation Mexican-American students. Third generation Mexican-American students also had parental availability as a significant positive predictor for parental monitoring. The final regression model with SES and parental availability predictors was found to be statistically significant for third generation Mexican-American students, $F(2, 363) = 6.82, p < .01$. Predictors within this model were able to account for 4% of the variance in parental monitoring behaviours. The unique predictive value of parental availability, however, only accounted for 1% of the variance in parental monitoring behaviours.

Part A of the second research question asked whether parental availability due to working hours constrained the amount of time parents involved themselves through parent-adolescent discussions. The results indicated that parental availability did not constrain the amount of parent-adolescent discussions in Mexican-American families. Student SES was found to be a significant positive predictor for the amount of parent-adolescent discussions families engaged in amongst second and third generation Mexican-American students.

The second part of our question explored whether parental availability due to their working hours constrained the amount of time parents engaged in monitoring their adolescents’ behaviour. Results indicated that parental availability was only a significant positive predictor for third generation Mexican-American students. Although significant, this predictive
relationship was found to be quite small, accounting for only 1% of the change in parental monitoring behaviour. Furthermore, SES was found to have a positive significant predictive relationship for parental monitoring for third generation Mexican students.

*The Impact of Parental Involvement on Adolescent Educational Outcomes*

The third research question explored whether Mexican-American parental involvement in grade 8 predicted the academic achievement of their adolescent children in grade 8, 10 and high school drop out up to grade 12. Furthermore, I wanted to know whether the relationship between parental involvement and adolescent academic achievement was the same across different generations of Mexican students. I conducted multiple linear regressions for predicting grade 8 and grade 10 educational outcomes and logistic regression for predicting students’ drop out status by grade 12.

*Parent-adolescent discussions as a predictor of grade 8 reading scores*

Initial examination of the data indicated that there were significant correlations between the following variables with grade 8 reading scores: family having more than 50 books ($r = .17$, $p < .001$), number of siblings ($r = -.20$, $p < .001$), percent minority of students in school ($r = -.12$, $p < .001$), percent free lunch students in school ($r = -.13$, $p < .001$), SES ($r = .33$, $p < .001$), and being enrolled in a public school ($r = .11$, $p < .01$). In order to control for potential confounding variables, the above variables were entered into the first step of the regression model. The variable of focal interest, parent-adolescent discussions, was entered into the second step of the model in order to examine whether it had any predictive value on grade 8 reading scores. The final overall regression model was found to be statistically significant in explaining the variance in grade 8 reading test scores for second ($F(3, 197) = 6.13$, $p < .01$) and third generation
Mexican-American students, \( (F(3, 438) = 16.08, p < .001) \). None of the above variables were found to be significant predictors for first generation Mexican students’ grade 8 reading test scores. As shown in Table 6, variables that were found to have a significant positive predictive value for second generation Mexican students’ grade 8 reading standardized test scores were SES and whether the student was enrolled in a public school. Predictors within this model were able to account for 9% of the variance in grade 8 reading test scores for second generation Mexican students. For third generation Mexican students, only SES was found to have a significant predictive value on grade 8 reading test scores. The predictor within this model was able to account for 10% of the variance in grade 8 reading test scores for third generation Mexican students. Parent-adolescent discussions were not found to be a significant predictor for any of the three generations of Mexican-American students’ grade 8 reading test scores.

**Parental monitoring on grade 8 reading scores**

In another linear regression analysis, after controlling for the same potential confounding variables, parental monitoring was entered into the second step of the regression model in order to measure whether it had any predictive value on grade 8 reading test scores. As indicated in Table 7, parental monitoring was found to have a significant predictive value for first generation Mexican students’ grade 8 reading test scores. However, the overall final regression model that included the potential control variables was not found to be statistically significant. Parental monitoring was not found to be a significant predictor for grade 8 reading test scores amongst second and third generation Mexican students.

**Parent-adolescent discussions on grade 8 math scores**

The following variables were initially found to be significantly correlated with grade 8 math test scores and were included in the first step of the regression as possible confounding variables: family having more than 50 books \( (r = .15, p < .001) \), the number of siblings the
student has \((r = -.15, p < .001)\), percent of minority students in school \((r = -.15, p < .001)\),
percent of students who receive free lunch in school \((r = -.16, p < .001)\), SES \((r = .32, p < .001)\)
and if the student was enrolled in a public school \((r = .08, p < .05)\). Parent-adolescent discussions
was entered within the second step of the linear regression to see if it had any predictive value on
grade 8 math test scores. The final regression model was statistically significant for second \((F (2, 204) = 14.55, p < .001)\) and third generations of Mexican-American students \((F (2, 449) = 30.66, p < .001)\). Table 6 shows that the SES factor was the only significant predictor variable for
second and third generation Mexican-American students’ grade 8 math test scores. Furthermore,
both regression models were able to account for 12% of the variance in grade 8 math test scores
for Mexican students. Parent-adolescent discussions were not found to have any predictive value
for any of the generations of Mexican-American students’ math test scores.

**Parental monitoring on grade 8 math scores**

Parental monitoring was entered into the second step of the regression model in order to
measure whether it had any predictive value on grade 8 math test scores, after inputting the same
potential confounds as indicated for parent-adolescent discussions in the first step of the
regression model. Parental monitoring was not found to be a significant predictor for grade 8
math test scores amongst any of the generations of Mexican-American students.

**Parental-adolescent discussions on grade 10 reading scores**

The following potential confounding variables were included within the first step of the regression model to control for their potential influence on grade 10 reading test scores: whether
family has more than 50 books \((r = .18, p < .001)\), number of siblings \((r = -.15, p < .001)\), sex of
student \((r = .09, p < .01)\), percent minority in school \((r = -.15, p < .001)\), percent free lunch in
school \((r = -.118, p < .01)\), and student’s socio economic status composite \((r = .30, p < .001)\).
The parental adolescent discussions composite was entered within the second step of the linear
regression in order to investigate whether it had any predictive value on grade 10 reading scores. The final regression model was found to be significant for second, \( F(4, 172) = 3.87, p < .01 \) and third generation Mexican-American students \( F(4, 398) = 14.40, p < .001 \). Table 8 shows that for second generation Mexican-American students, the socio economic status composite was the only significant predictor for grade 10 reading test scores. Third generation Mexican-American students had both socio economic status and sex of student as significant predictors for grade 10 reading test scores. Parental discussions did not have any predictive value of grade 10 reading test scores for any of the generations of Mexican-American students. The final regression models were able to account for 9% of the overall variance in reading test scores for second generation Mexican-American students and 13% of the variance in reading test scores for third generation Mexican-American students.

**Parental monitoring on grade 10 reading scores**

The same potential confounding variables were inputted into the first step into the regression model as listed within the grade 10 reading scores analysis for parent-adolescent discussions. Parental monitoring was entered into the second step of the regression model. Parental monitoring was found to be a significant predictor for grade 10 reading test scores amongst first generation Mexican-American students. However, the final overall regression model was not found to be significant. Parental monitoring did not have any predictive value for second or third generation Mexican-American students. As opposed to the first model, which included possible confounding variables that could have predicted grade 10 reading scores, the second model that included the parental monitoring factor was found to increase in its significance level. This called for a follow up linear regression analysis where parental monitoring was the only variable inputted into the regression model. This model was found to be significant only for first generation Mexican-American students \( F(1, 77) = 6.34, p < .05 \). Thus
parental monitoring was found to be a significant predictor for first generation students ($\beta = 1.86$, $p < .05$) and was able to account for 8% of the variance in grade 10 reading test scores.

**Parent-adolescent discussions on grade 10 math scores**

The possible confounding predictors entered within the first step of the regression model included whether the student’s family has more than 50 books ($r = .14, p < .001$), number of siblings ($r = -.12, p < .001$), percent of minority students in school ($r = -.15, p < .001$), percent of students receiving a free lunch in school ($r = -.140, p < .001$), SES ($r = .32, p < .001$), and whether the student attends public school ($r = .09, p < .01$). Parent-adolescent discussions were entered into the second step of the regression model. The final regression model was significant for second ($F (3, 184) = 6.94, p < .001$) and third generation Mexican-American students ($F (3, 415) = 24.62, p < .001$). As shown in Table 8, SES was the only significant predictor for grade 10 math test scores. The parent-adolescent discussions factor was not found to be a significant predictor for grade 10 math test scores amongst any of the generations of Mexican-American students. The final regression models were able to account for 10% of the variance amongst second generation Mexican-American students and 15% of the variance amongst third generation Mexican-American students for their grade 10 math test scores.

**Parental monitoring on grade 10 math scores**

After inputting the same possible confounding variables that were entered for the previous regression in the first step of the model, parental monitoring was entered into the second step of the regression model. Parental monitoring was not found to have any predictive value on grade 10 math test scores amongst any of the generations of Mexican-American students.

**Parent-adolescent discussions on high school drop out by grade 12**
A binary logistic regression analysis was performed to predict high school drop out by Grade 12 amongst Mexican-American students. The outcome variable high school drop out was coded as 0 = did not drop out and 1 = dropped out. Several covariates that were initially found to be significantly correlated with high school drop out by grade 12 were entered in the same step within the model. These included: whether family has more than 50 books ($r = -0.09, p < .05$), number of siblings student has ($r = -0.19, p < .001$), their socio economic status composite ($r = -0.22, p < .001$), if the student attends public school ($r = -0.09, p < .05$) and the geographical region of the school composite ($r = -0.09, p < .01$). Parent-adolescent discussions in grade 8 was also inputted as a continuous variable at the same time in order to investigate whether any of these variables had any predictive value on high school drop out by grade 12.

A test of the full model indicated that it was statistically significant for second generation of Mexican-American students, when compared to the null model $\chi^2(11) = 30.82, p < .01$ and for third generation Mexican-American students $\chi^2(11) = 53.87, p < .001$. The full model was able to overall correctly predict its cases 82% of the time, with 1.1% more cases than the null model. It was also able to correctly predict students who dropped out 19% more than the null model with no predictors amongst the second generation Mexican-American students. With regards to the third generation Mexican-American students, the full model was overall able to correctly predict 81.1% of its cases, 1.4% more than the null model. Furthermore it was able to correctly predict students who dropped out by 18%, better than the null model. The strength of association amongst second generation Mexican-American students between the final predictors within the model and student drop out status was relatively weak given that the Cox and Snell $R^2 = .15$ and Nagelkerke $R^2 = .24$. With regards to third generation Mexican-American students, these associations were also weak, Cox and Snell $R^2 = .12$ and Nagelkerke $R^2 = .19$. Table 8 shows the binary logistic regression coefficients, Wald statistics, the estimated odds ratio and 95%
confidence intervals amongst the model predictors and its influence on high school drop out status.

None of the predictors in the model were able to significantly predict high school drop out amongst first generation Mexican-American Students.

With respect to second generation Mexican-American students, those that were enrolled in a school that was located in the south region of the United States were 160% more likely to drop out when compared with students attending a school located in the west region of the United States, \( p < .05 \). Furthermore with one standard deviation increase in the socio economic status composite score, the odds of dropout of high school were reduced by 74\%, \( p < .05 \).

Third generation Mexican-American students were significantly less likely to drop out of high school if they had fewer than 6 siblings, \( p < .05 \), and 58\% less likely to drop out of school if they had high socio economic status composite scores compared to students that had low socio economic status composite scores, \( p < .001 \). Students who attended schools that were located in the north central geographical region of the United States were 130\% more likely to drop out of school than students who attended school in the west region of the United States, \( p < .05 \). Lastly, students attending school in the south geographical region of the United States were 120\% more likely to drop out of high school than students attending school in the west region of the United States, \( p < .01 \). The parent-adolescent discussions factor in grade 8 was not found to be a significant predictor for high school drop out by grade 12 amongst any of the generations of Mexican-American students.

*Parental monitoring on high school drop out by grade 12*

The parental monitoring variable in grade 8 was inputted as a categorical variable at the same time as the covariates that were used in the previous logistic linear regression analysis. The full model was found to be statistically significant for second generation Mexican-American
students, $\chi^2(13) = 37.75, p < .001$ and for third generation Mexican-American students, $\chi^2(13) = 53.43, p < .001$ when compared to the null model.

The full model was able to overall correctly predict its cases 82% of the time, 2% more than the null model with no predictors and 21% of the time more correctly for students who dropped out of high school than the null model for second generation Mexican-American students. Amongst third generation Mexican-American students, the full model overall was able to correctly predict its cases 81% of the time, 1% more than the null model. With respect to those students dropping out, it was able to correctly predict 15% of these cases than the null model with no predictors. The strength of the association between the final predictors within the model and student drop out status was still relatively weak amongst second generation Mexican-American students, Cox and Snell $R^2 = .18$ and Nagelkerke $R^2 = .28$ and third generation Mexican-American students, Cox and Snell $R^2 = .12$ and Nagelkerke $R^2 = .19$. None of the predictors in the model were able to significantly predict high school drop out amongst first generation Mexican-American Students. As Table 11 shows, parental monitoring in grade 8 was found to be a significant predictor for high school drop out by grade 12 amongst second generation Mexican-American students. Parents who rarely monitored their adolescent children’s television watching in grade 8 had youth who were about three times more likely to drop out of high school by grade 12 than those who monitored their children regularly ($p < .05$).

The overall analyses found that level of parental adolescent discussions was not a significant predictor for adolescent academic achievement for any generation of Mexican-American students in grades 8, 10 or for high school drop out by grade 12. Parental monitoring in grade 8, however was found to have a significant positive predictive value for grade 8 and grade 10 reading test scores amongst first generation Mexican-American students. Furthermore,
a lack of parental monitoring in grade 8 was also found to significantly increase the odds of dropping out of high school by grade 12 amongst second generation Mexican-American students.

Lastly, the forth and fifth research questions asked whether parental availability due to working hours could account for any of the differences in the academic outcomes of Mexican-American students and whether parental involvement mediated the relationship.

**Parental availability on Reading Outcomes**

Multiple regression analyses were conducted on student reading outcomes for grades 8 and 10 while controlling for parental monitoring. This is because parental monitoring was the only parental involvement factor that was able to significantly predict reading scores from question two. Parental availability was inputted into the model in the second step using the enter method in order to measure any possible direct effects on reading outcomes. Parental availability was found to be a significant predictor for third generation students for grade 8 reading achievement scores $\beta = -1.86, SE = .540, t(2, 347) = -3.44, p < .01$ and grade 10 reading achievement scores $\beta = -1.39, SE = .533, t(2, 325) = -2.61, p < .01$. The negative coefficients suggest an inverse relationship between parental availability and reading achievement scores, thus the higher the parental availability, the lower the reading achievement score for Mexican American students. Parental availability explained 3% of the variance in grade 8 reading scores and 2% for grade 10 reading scores. However, when measures of SES and whether the youth attends a public school were also inputted into the model with parental monitoring as control variables, the associations between parental availability and student outcomes are no longer statistically significant.

A binary logistic regression was also performed to measure whether parental availability was able to significantly predict high school drop out status. The models were not found to be statistically significant.
Since there was a small amount of variance in grade 8 and grade 10 reading scores accounted for by parental availability, I ran another analysis in order to see whether parental availability had any indirect effects with grade 8 and 10 student reading scores, through parental monitoring. Multiple regressions were conducted controlling for parental monitoring. Parental monitoring was inputted into the second step of the model. If the variance of reading scores explained by parental availability decreased with the addition of parental monitoring, this would indicate that parental monitoring mediates the relation between parental availability and reading achievement scores as some of the variance of reading achievement can be explained by parental monitoring. My results showed that none of the R squared values decreased. Hence, there is no evidence indicating that parental monitoring mediates the relationship between parental availability and student reading outcomes.

CHAPTER FIVE: DISCUSSION

Summary of Research Findings

The purpose of the current study was to investigate whether parental working hours influenced academic achievement though parental involvement amongst Mexican-American youth.

Overall, results from the analyses indicated that parents of second generation Mexican-American students were more likely to be available full time than those of first and third generations. First and second generation Mexican-American students’ parental working hours were not significantly associated with parent-adolescent discussions or parental monitoring. Although parental working hours was found to be significantly associated with parental monitoring amongst third generation students, it only accounted for 1% of the change in parental monitoring behaviour. Frequent parental involvement in terms of parental monitoring was found
to significantly predict reading scores amongst first generation students in grade 8, and grade 10 and protect against high school drop out amongst second generation students. High parental availability was found to significantly predict low reading scores amongst third generation students. However, when SES was inputted into the model, parental availability was no longer predictive.

This empirical study did not find strong support for the impact of parental working hours on parental involvement amongst Mexican-American families in the first and second generations. Nor was there compelling support to indicate a strong influence of parental working hours on the academic achievement of Mexican-American students through parental involvement as a mediator.

**Theoretical Rationale of Research Findings**

One of the reasons for not finding a strong association between parental working hours and parental involvement in the first two generations may be due to the way parental working hours and parental involvement were measured. The NELS data set that was used for this study had parental working hours split into three categories, whether the parent was employed full time, part time or unemployed. These constructs made it difficult to measure whether parents were working longer than typical full time hours or non-standardized work schedules which are significantly more likely to occur amongst low income families (Presser & Cox, 1997).

Research has shown that non-standard parental working hours such as shift work amongst low income families has a negative association with child and family well being as well as parents’ available free time for their children (Staines & Pleck, 1984; Strazdins, Korda, Lim, Broom & D’Souza, 2004, Han, 2005).

With regards to parental involvement, this construct is known to be measured in several different ways amongst different researchers (Keith & Lichtman, 1994). For the purpose of this
study, parental involvement was measured through parental monitoring and parent-adolescent discussions and is consistent with the formal ways parental involvement has been measured in educational research (see Fan, 2001; Muller, 1995; Sui-Chu & Willms, 1996). However, in utilizing a more traditional approach to measure a complex construct such as parental involvement, the measure may have disregarded the alternative and perhaps more important ways Latino parents informally involve themselves to foster educational achievement. For example, Latino immigrant families may encourage and support their children to pursue formal education by exposing them to the conditions of their labour intensive jobs, in order to promote a strong work ethic in school (Lopez, 2001).

Another possibility may be that parental working hours do not actually constrain the quality of time parents involve themselves with their children, at least in ways that are important to this population. Overall, Mexican-American families regularly engaged in parent-adolescent discussions about school across all generations of families. Furthermore, parental working hours may have influenced other forms of parental involvement, such as in schools with parent teacher organizations and parent teacher interviews, which were not measured within this study.

Mexican-American families’ social economic status (SES), which included parental education, income, and occupation type, showed a significant positive association with the amount of parent-adolescent discussions that second and third generation families engaged in about school, although the effect size was small. This may be because, subsequent generations of Mexican-American families are more assimilated into the American culture and language. They are also found to have higher SES measures in terms of education, income and occupation (Fuligni, 1997), which may influence their knowledge of the American school system enabling them to engage in more parent-adolescent discussions about school.
None of the control variables including SES were found to significantly predict any of the parental involvement measures for first generation students. This is most likely due to the small sample size of first generation students and consequently its lack of power for detecting possible significant relationships. In particular 78 students were left from the original 95 students among first generation students for a regression analysis after 17 students were removed due to missing responses. Furthermore, the measure of SES amongst first generation students had little variability, making it difficult to detect the impact of SES on various outcomes.

Nonetheless, frequent parental involvement in terms of parental monitoring was found to significantly predict higher reading scores amongst first generation students in grade 8, and grade 10. The strength of this relationship was moderate, accounting for up to 8% or almost a whole grade letter in the difference between reading scores. Furthermore, parents of second generation students who monitored their children appeared to provide a strong protective mechanism to diffuse the risk of dropping out from school by up to 320%. These findings are consistent with studies that found low parental monitoring associated with low achievement and academic withdrawal and that reported high academic outcomes for adolescents with perceptions of high parental monitoring (Crouter, MacDermid, McHale & Perry-Jenkins, 1990; Dornbusch, Erickson, Laird, & Wong, 2001; Plunkett & Bamaca-Gomez, 2003).

Parent-adolescent discussions about school were not found to be significantly associated with academic outcomes. This was a surprising finding since previous research has found strong support indicating that parental home discussions about school is one of the strongest predictors for academic achievement among the general population of adolescent students (Epstein & Sanders, 2002; Hill & Taylor, 2004, Sui-Chu & Willms, 1996). Perhaps this is due to the differences in the way parent adolescent discussion measures are constructed in education research. For example, Sui-Chu & Willms also used the same NELS data set but measured
parent-adolescent discussions by combining different variables than the ones used in this study (1996). Specifically they included “discuss activities at school”, and “talk to father” within their parent-adolescent discussions measure. Whereas the parent-adolescent discussions construct in this study focused on combining variables that measured discussions particular to the student’s high school experience, high school plans, and post high school plans. Additionally as indicated by the distribution of this sample, Mexican-American families across all generations were found to engage in regular discussions about school. Thus if most Mexican-American students are not achieving high academic scores, and most Mexican-American students regularly speak to their parents about their school experience and plans, other factors may account for the low academic scores amongst these students.

High parental availability was a significant predictor of low reading achievement outcomes for third generation students. However, because parental availability was only able to account for 3%, a small variance in grade 8 and grade 10 reading achievement scores, the practical significance of this relationship is questionable. As well, when SES was also controlled for within the model, the significant relationship between parental availability and reading scores disappeared. Remember that the parental availability factor within this study was constructed from parental working hours, thus high parental availability indicated that at least one parent did not work within the family. Having only one parent work within the family, or a single parent who did not work, may be negatively related to a family’s SES status, and single headed families are more predominate amongst third generation Mexican-American students. Low SES status amongst families has been significantly associated to lower educational outcomes for students. Another possibility is that low SES families could have also been less available due to both parents engaging in full time work, yet among families at the same SES level a decrease in parental availability did not necessarily lead to a decrease in student achievement.
Another interesting finding was the different levels of parental availability across different generations of Mexican-American students. First and third generation students were found to have significantly less parental availability than second generation students. Amongst first generation students, SES measures indicated that a majority of these families have lower parental education and family income. Most Mexican-American families that have immigrated to the U.S. have been predominately reported to work in service sector, and labour category jobs requiring longer hours with less pay (Portes & Bach, 1985). Thus first generation families may have both parents working full time as recent immigrants and consequently are less available for their children. Second generation families, although on average still have lower incomes than the general U.S. population, may be financially better off than first generation families (Fuligni, 1997) having one parent work on a part-time basis while being more available for their child than first generation families. Another reason for the higher availability amongst second generation families may be due to the difficulties of finding stable work due to the lower formal education levels these parents have on average than the majority U.S. population (Guzman, 1996; Rong & Preissle, 2009). Furthermore many face wage and hiring discriminations (Bendick, Jackson, Reinoso, & Hodges, 2006; Waters & Eschbach, 1995) and may be less ready to accept the precarious working conditions in labour intensive jobs and migrant work that many recent Mexican-American immigrants are offered (Toussaint-Comeau, Smith, & Comeau, 2005). Less parental availability amongst third generation students with native born parents may be due to both parents working full time due to an increase in occupational status, and being less susceptible to hiring discriminations compared to first and second generation students with foreign born parents (Myers & Cranford, 1998; Toussaint-Comeau, Smith, & Comeau, 2005). Third generation students also have higher incidents in living in single headed families, thus if one parent is working full time, parental availability would be less in these families.
Implications, Limitations and Future Research

A theoretical strength of this study compared to previous studies was to compare Mexican-American students across different generations, acknowledging the different needs and characteristics between these populations. However, it also created a concern for research design, which was a loss of power within the study due to the low sample size within each generation of students. Most notably, analyses of first and second generation students may not have had enough power to detect any possible significant relationships between the parental working hours, parental involvement and academic outcome factors within this study. A missing value analysis was not performed in this study. However, future studies are recommended to consider methods for missing data imputations in order to decrease the implications of small sample sizes when taking into account intragroup variability within minority groups.

Particular consideration had to be taken in order to account for the true influence of specific types of parental involvement. There could be a loss of statistical power due to controlling for the confounding variables in this study. An increase of the number of predictors requires a greater sample size in order to retain some power within the research to discern any possible significant relationships. However, the study could retain statistical power by controlling for covariates that strongly predicted the academic outcomes. Thus the significant relationships that were found within this study can be understood to be a conservative measure of their true influence on parental involvement and academic outcomes.

Another feature of this study was the use of a longitudinal data set. Most impressively, parental involvement with adolescents in terms of regular monitoring in grade 8 was found to have a large significant association with the prevention of high school drop out up to grade 12. Regular parental monitoring in grade 8 also was able to positively predict academic reading outcomes for students 2 years later.
Future research may also investigate whether the parents are actively informed and are able to communicate with the student’s school and teachers to understand their student’s needs. This is because although a large number of Mexican-American parents have been found to have high expectations and aspirations for their youth (Keith & Lichtman, 1994), a lack of parental involvement may not only depend on the way parental involvement is measured but may also indicate systematic barriers such as a lack of support, lack of cultural understanding, and apathy Mexican parents often face from their children’s schools (Chavkin & Williams, 1989; Epstein & Dauber, 1991; Peña, 2000; Ramirez, 2004).

This study investigated whether parental working hours, parent-adolescent discussions and parental monitoring as parental involvement were able to explain some of the differences in student academic outcomes for Mexican-American adolescents. Overall, parental working hours did not account for the differences in parental involvement and student academic outcomes. Regular parental involvement in terms of monitoring was found to have a positive longitudinal influence on reading achievement scores and prevented high school drop out. The influence of parental monitoring as parental involvement differed according to student generation status. Generational differences amongst Mexican-American students should be considered by future researchers in order to have a better and more accurate understanding of this population.
Bibliography


Table 1. *Descriptive Statistics of Predictor Variables used in Analyses across Generations of Mexican Latino Students*

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<th>3rd generation</th>
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<td>count</td>
<td>count</td>
</tr>
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<td>Mean or percentage</td>
<td>Mean or percentage</td>
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<td>(0.68)</td>
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<td>South</td>
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<td>School Outcomes</td>
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<td>----------------</td>
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<td>--------------</td>
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<td>58.4%**</td>
<td>40.5%</td>
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*Note.* The values represent the percent proportion of Mexican Latino parents on their availability during daily working hours, n = 613.

**p < .01
Table 3. Proportion of Parental Monitoring by Limiting Television Watching Across Students’ Generation Status

<table>
<thead>
<tr>
<th>How often parents limit time watching television</th>
<th>Generation Status</th>
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<tr>
<td></td>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
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<tr>
<td>Never</td>
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<td>Rarely</td>
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<tr>
<td>Often</td>
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*Note.* n = 792.
Table 4. *Estimates of Possible Predictors on Parent Adolescent Discussions across Generations of Mexican Youth*

<table>
<thead>
<tr>
<th></th>
<th>1&lt;sup&gt;st&lt;/sup&gt; Generation</th>
<th>2&lt;sup&gt;nd&lt;/sup&gt; Generation</th>
<th>3&lt;sup&gt;rd&lt;/sup&gt; Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coefficient</td>
<td>SE</td>
<td>Coefficient</td>
<td>SE</td>
</tr>
<tr>
<td>Student’s Socio Economic Status</td>
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<td>1.042**</td>
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<td>Family has more than 50 books</td>
<td>.783</td>
<td>.794</td>
<td>.235</td>
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<tr>
<td>Parent’s current marital status</td>
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<td>.411</td>
<td>-.035</td>
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*Note.* *p<.05, **p<.01, ***p<.001.*
Table 5. Estimates of Possible Predictors on Parental Monitoring across Generations of Mexican Youth

<table>
<thead>
<tr>
<th>Predictor</th>
<th>1&lt;sup&gt;st&lt;/sup&gt; Generation</th>
<th>2&lt;sup&gt;nd&lt;/sup&gt; Generation</th>
<th>3&lt;sup&gt;rd&lt;/sup&gt; Generation</th>
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<td>SE</td>
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<td>Student’s Socio</td>
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<td>Parental Availability</td>
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*Note. Standard errors are in parentheses *p<.05. **p<.01. *** p<.001.*
Table 6. *Estimates of Possible Predictors on Grade 8 Reading and Math Scores across Generations of Mexican Youth with parent adolescent discussions*

<table>
<thead>
<tr>
<th></th>
<th>1&lt;sup&gt;st&lt;/sup&gt; Generation</th>
<th>2&lt;sup&gt;nd&lt;/sup&gt; Generation</th>
<th>3&lt;sup&gt;rd&lt;/sup&gt; Generation</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Reading</td>
<td>Math</td>
<td>Reading</td>
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<td>Student’s socio economic status</td>
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<td>-.578 (2.21)</td>
<td>2.432* (.972)</td>
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<td>_</td>
<td>5.581* (2.350)</td>
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<td>Parent-adolescent discussions</td>
<td>-.005 (1.133)</td>
<td>1.797 (1.302)</td>
<td>.110 (.814)</td>
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</table>

*Note. Standard errors are in parentheses*

*p<.05. **p<.01. *** p<.001.*
Table 7. Estimates of Possible Predictors on Grade 8 Reading and Math Scores across Generations of Mexican Youth with parental monitoring

<table>
<thead>
<tr>
<th></th>
<th>1&lt;sup&gt;st&lt;/sup&gt; Generation</th>
<th>2&lt;sup&gt;nd&lt;/sup&gt; Generation</th>
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<td>Math</td>
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</tr>
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<td>Parental monitoring</td>
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<td>.719 (8.59)</td>
<td>.320 (.496)</td>
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</table>

*Note. Standard errors are in parentheses
*p<.05. **p<.01. ***p<.001.
Table 8. *Estimates of Possible Predictors on Grade 10 Reading and Math Scores across three Generations of Mexican Youth with parent adolescent discussions*

<table>
<thead>
<tr>
<th></th>
<th>1st Generation</th>
<th>2nd Generation</th>
<th>3rd Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reading</td>
<td>Math</td>
<td>Reading</td>
</tr>
<tr>
<td>Student’s socio economic status</td>
<td>-2.751 (2.466)</td>
<td>-3.039 (2.635)</td>
<td>2.227* (1.087)</td>
</tr>
<tr>
<td>Sex of student</td>
<td>2.726 (2.022)</td>
<td>_ (1.295)</td>
<td>1.535 (1.295)</td>
</tr>
<tr>
<td>Number of Siblings</td>
<td>_ (.586)</td>
<td>_ (.356)</td>
<td>_ (.655)</td>
</tr>
<tr>
<td>School percent minority</td>
<td>-.204 (.704)</td>
<td>_ (.473)</td>
<td>-.634 (2.50)</td>
</tr>
<tr>
<td>Parent-adolescent discussions</td>
<td>1.035 (1.320)</td>
<td>1.720 (1.438)</td>
<td>1.509 (1.320)</td>
</tr>
</tbody>
</table>

*Note. Standard errors are in parentheses
*p<.05. **p<.01. *** p<.001.*
Table 9. Estimates of Possible Predictors on Grade 10 Reading and Math Scores across three Generations of Mexican Youth with parental monitoring

<table>
<thead>
<tr>
<th></th>
<th>1st Generation</th>
<th></th>
<th>2nd Generation</th>
<th></th>
<th>3rd Generation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reading</td>
<td>Math</td>
<td>Reading</td>
<td>Math</td>
<td>Reading</td>
<td>Math</td>
</tr>
<tr>
<td>Student’s socio economic status</td>
<td>-1.578</td>
<td>(2.312)</td>
<td>-1.729</td>
<td>(2.525)</td>
<td>2.429*</td>
<td>(1.064)</td>
</tr>
<tr>
<td>Sex of student</td>
<td>2.142</td>
<td>(1.870)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Number of Siblings</td>
<td>-</td>
<td>(-.030)</td>
<td>(551)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>School percent minority</td>
<td>-.219</td>
<td>(.660)</td>
<td>-</td>
<td>-</td>
<td>-.632</td>
<td>(.475)</td>
</tr>
<tr>
<td>Parental monitoring</td>
<td>2.066*</td>
<td>(.816)</td>
<td>1.134</td>
<td>(.897)</td>
<td>.743</td>
<td>(.573)</td>
</tr>
</tbody>
</table>

*Note. Standard errors are in parentheses
*p<.05. **p<.01. *** p<.001.
Table 10. Estimates of Possible Predictors on High school Drop Out by Grade 12 across three Generations of Mexican Youth with Parental Discussions

<table>
<thead>
<tr>
<th></th>
<th>1st Generation</th>
<th></th>
<th></th>
<th></th>
<th>2nd Generation</th>
<th></th>
<th></th>
<th></th>
<th>3rd Generation</th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>Wald</td>
<td>Exp(β)</td>
<td>95% CI Lower, Upper</td>
<td>β</td>
<td>Wald</td>
<td>Exp(β)</td>
<td>95% CI Lower, Upper</td>
<td>β</td>
<td>Wald</td>
<td>Exp(β)</td>
<td>95% CI Lower, Upper</td>
</tr>
<tr>
<td>Socio economic status</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Siblings One</td>
<td>-1.668*</td>
<td>3.111</td>
<td>.189</td>
<td>.030, 1.204</td>
<td>-1.330*</td>
<td>6.567</td>
<td>.264</td>
<td>.096, .731</td>
<td>-.873***</td>
<td>13.719</td>
<td>.418</td>
<td>.263, .663</td>
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<tr>
<td>Family has more than 50 books</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Central</td>
<td>.502</td>
<td>.476</td>
<td>1.651</td>
<td>.397, 6.868</td>
<td>.960*</td>
<td>4.522</td>
<td>2.611</td>
<td>1.078, 6.323</td>
<td>.803**</td>
<td>7.279</td>
<td>2.233</td>
<td>1.246, 4.003</td>
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<tr>
<td>South</td>
<td>(-.709)</td>
<td>2.936</td>
<td>.492</td>
<td>.219, 1.107</td>
<td>(-.197)</td>
<td>.394</td>
<td>.821</td>
<td>.444, 1.519</td>
<td>(.093)</td>
<td>.201</td>
<td>1.098</td>
<td>.731, 1.649</td>
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</table>

Note. Standard errors are in parentheses. Dashes indicate that data were not computed within the logistic regression analysis.
*p<.05. **p<.01. *** p<.001.
Table 11. Estimates of Possible Predictors on High school Drop Out by Grade 12 across three Generations of Mexican Youth with Parental Monitoring

<table>
<thead>
<tr>
<th></th>
<th>1&lt;sup&gt;st&lt;/sup&gt; Generation</th>
<th>2&lt;sup&gt;nd&lt;/sup&gt; Generation</th>
<th>3&lt;sup&gt;rd&lt;/sup&gt; Generation</th>
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</thead>
<tbody>
<tr>
<td><strong>Beta</strong></td>
<td>Wald</td>
<td>Exp(β)</td>
<td>95% CI</td>
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<td>Socio economic</td>
<td>-1.895*</td>
<td>(1.048)</td>
<td>.407, .944</td>
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<tr>
<td>status</td>
<td>(.937)</td>
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</tr>
<tr>
<td>Siblings</td>
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<td></td>
</tr>
<tr>
<td>One</td>
<td>-.669</td>
<td>(.943)</td>
<td>.510, .400</td>
</tr>
<tr>
<td></td>
<td>(.1048)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two</td>
<td>-.970</td>
<td>(.1040)</td>
<td>.379, .049</td>
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<tr>
<td>Three</td>
<td>-.917</td>
<td>(.1010)</td>
<td>.400, .055</td>
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<tr>
<td>Four</td>
<td>-.673</td>
<td>(.943)</td>
<td>.510, .080</td>
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<td></td>
<td>(.1040)</td>
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<tr>
<td>Five</td>
<td>-.065</td>
<td>(.064)</td>
<td>.107, .133</td>
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<td>Family has more</td>
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<td>.634, .138</td>
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<td>than 50 books</td>
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<td>region of</td>
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<tr>
<td>school (West)</td>
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<td>North</td>
<td>.447</td>
<td>(.1017)</td>
<td>.193, 1.564</td>
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<tr>
<td>Central</td>
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<td>South</td>
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<td>.028, 1.124</td>
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<tr>
<td>Parental</td>
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<td>Television</td>
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<tr>
<td>monitoring</td>
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<tr>
<td>Never</td>
<td>1.568</td>
<td>(.1051)</td>
<td>2.226, 4.799</td>
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<td>Rarely</td>
<td>1.744</td>
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<td>2.922, 5.723</td>
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<tr>
<td>Sometimes</td>
<td>.536</td>
<td>(.1083)</td>
<td>1.205, .519</td>
</tr>
<tr>
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<td></td>
</tr>
</tbody>
</table>

*Note. Standard errors are in parentheses. Dashes indicate that data were not computed within the logistic regression analysis.

*p<.05. **p<.01. ***p<.001.
Figure 1. *The frequency of parent adolescent discussions about school across different generations of Mexican-American students*