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The Relationship Among Parental Style, Involvement, Influence and Undergraduate Student Success

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THE RELATIONSHIP AMONG PARENTAL STYLE, INVOLVEMENT, INFLUENCE AND UNDERGRADUATE STUDENT SUCCESS

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Information is lacking on parenting style and parental involvement as it relates to undergraduate college students. Using a quantitative methodology, this study surveyed 470 undergraduate students at a public 4-year university to investigate the relationship among parenting style, parental involvement and parent influence and undergraduate student success, as measured by Schreiner's Thriving Quotient (2009).

This study disaggregated the dimensions of Baumrind's authoritative parenting (1966) and included the concepts of parental control and challenge as aspects of parenting style. Factor analysis revealed two new constructs for future researchers to use: acceptance and transparency. Analysis also confirmed Hill & Tyson's (2009) conceptualization of parental involvement in education consisting of direct and indirect involvement, and that it applies to emerging adults in college. Additional findings include a positive relationship between parenting style and undergraduate student success and between parental influence and undergraduate student success.

By isolating which aspects of parenting style and parental influence positively relate with student success, higher education institutions can develop policies and parental programs to better inform and coach administrators, instructors, advisors and parents on behaviors that positively impact college students, which may help retention efforts.

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INTRODUCTION

Many parents strive to help their children succeed. Evidence exists that parental involvement in education improves students' academic achievement (Cripps & Zyromski, 2009; Fan, 2001; Fan & Chen, 2001; Hill & Tyson, 2009; Jeynes, 2007; Sheldon & Epstein, 2005; Sheldon & Van Voorhis, 2004) and that the level and style of involvement changes with age (Fan, 2001, Oyserman, Brickman & Rhodes, 2007; Wolf, Sax & Harper, 2009; Green, Walter, Hoover-Dempsey & Sandler, 2007). While many studies investigate the issue in the primary and secondary school setting (K-12), scant research exists regarding parental involvement on the college level. This study investigates student perception of parenting style and parental involvement in the college setting and how it relates to student success.

Positionality Statement

My interest in the relationship between parenting and student success stems from my family and professional background. My mother earned her high school diploma; my father completed two semesters of college. My parents married young, and our family lived for several years in a government project.

While neither parent had a college degree, they both stressed the importance of good grades and the value of education. My mother volunteered frequently in the elementary classroom and both of my parents attended school conferences on a regular basis. My father supervised homework; however, he died when I was in high school. When it was time for me to visit colleges, unlike my peers who went with their parents, I

went with my oldest brother. A first generation college student, I graduated cum laude from a private four-year college.

My adult work experience is in the educational field. I worked as an educational researcher for a federal grant researching the effects of mainstreaming. The longitudinal study involved annual testing and observations of children, parents, and teachers. I observed the ways in which teachers report on parental involvement, and how parents report satisfaction with their child's educational experience. I left the research field to teach in a public high school as a certified English teacher.

I taught high school for five years at various levels of instruction (honors, college preparation, and general education) and various grades (9^{th}-11^{th}). My interest in parental involvement and education continued, as I noticed variations in parental involvement by academic level and by grade. I earned my master's degree of Education in Teaching and Curriculum, but left public education to raise my three children, who are now in middle and high school.

Now it's my turn to monitor homework and school projects, prompt children to practice instruments, and shuttle children to various extracurricular activities. I invest my time, energy, and money in these endeavors because I believe they matter. My spouse and I emphasize to our children that education provides one with the greatest of luxuries: options. As my children progressed through elementary and middle school, I notice that children who experienced the same school system, the same curriculum, and the same teachers, experience differing levels of academic success, and differing forms and levels of parental involvement in their education.

My experience with education spans a variety of roles and age groups: a researcher working with preschool and elementary schools, a teacher in a public high school, a parent, and now as a higher education administrator. I currently work as the curriculum and assessment administrator for a private, four-year college. In this role, I examine research regarding student success and retention. I also work closely with other administrators and faculty, and hear stories about parental involvement on the college level. Many people assume that parental involvement in education results in positive academic gains for students. However, there are instances when a parent's involvement backfires, and instructors and administrators label the parent as the dreaded, "oh, one of **those** parents." From a teacher and administrative perspective not all forms of parental involvement are equal.

My experience frames this research question and study design. To investigate how representative my experiences with parental involvement and education are, the next section provides an historic overview of perceptions of childhood and societal changes in family structure.

Background Issues

The societal constructs regarding childhood, family, and young adulthood change over time. To provide a context in which to discuss the role of the parent in rearing children, I provide an historical framework of changes in our society's view of children. Next, I provide an overview of changes in the American family structure over the past fifty years. These changes contribute to a changing societal definition of when a child becomes an adult. This historical framework provides the backdrop for this study

investigating the relationship between parental involvement, parenting style, and undergraduate student success.

Historic Overview

While some people envision childhood as a time of spontaneous, child-organized, outdoor play, that concept is not historically accurate. In the 1700-1800s, boys began their work apprenticeships by the age of six or seven. Other children would contribute to the family through informal work such as barn work, field work, laundry, housework, and childcare of younger siblings. Starting in the mid-1800s, urban children worked long hours in factories (Lareau, 2011). Children contributed to the family's economic well-being starting at an early age. The Child Labor Law of 1920 changed the American perception of childhood to "economically useless by sentimentally priceless" (Lareau, 2011, p. 246). The idealized version of childhood as a period of freedom from responsibilities and schedules arose from the 1950s and 1960's. During this time period, the only organized youth activities were church or scout-related (Lareau, 2011).

Current Picture

Driving through middle class neighborhoods in the 2000s, it is rare to find children playing outside in informal settings. For most modern, middle-class children, after school and weekends consist of a frenetic pace of tightly orchestrated, formal activities, leaving little time for "free play" (Lareau, 2011). Instead of families gathering around the hearth, as they did in the 1800s, the center of the middle class family is now the calendar (Lareau, 2011). Childhood exists in a different, new social environment from the past.

Changes in the Family Structure

Changes in the type and pace of children's activities may be indicative of larger societal changes in the United States. To situate my research, I begin with an overview of the changes to the United States family structure that's occurred in the past 60 years. These changes include marriage rates, fertility rates, women in the workforce, the incidence of divorce and single parenting, and the changing definition of what constitutes being an adult from both a legal and a cultural perspective. This information is relevant based on the U.S. Department of Education's Coleman report, which concluded that family background factors are more predictive of students' academic success than school structure.

Marital trends in the United States. The demographic profile for the institution of marriage has changed dramatically in the United States in the past half-century. In 1960, the median age to marry was in their early twenties (age 20.3 for women, and 22.8 for men) (Smith, Christoffersen, Davidson & Herzog, 2011). In the fifty years since, couples are delaying marriage until their late twenties (26.5 years for women and 28.7 for men), the highest on record (Cohn, Passel, Wang, & Livingston, 2011). Not only are people getting married approximately six years later in their lives, fewer people are choosing to marry. In 1960, 72 percent of all adults (ages 18 and older) were married. In 2010, only 51 percent of adults are married (Cohn et al., 2011). The combination of waiting longer to marry, and choosing not to marry has especially changed the demographics for young adults. In 1960 nearly 60 percent of young adults (ages 18-29) were married; that number dropped to 20 percent in 2010 (Kreider & Elliott, 2010). Table 1 summarizes the information on these 50-year marital trends in the United States.

Table 1

Summary of 50 Year Marital Trends in the United States

Descriptor of marriage data	**1960**	**2010**
Median age for first marriage in years, female.	20.3	26.5
Median age for first marriage in years, male.	22.8	28.7
Percentage of United States population 18 years or older, married.	72%	51%
Percentage of United States population ages 18-29, married.	59%	20%

Fertility rates. Another indication of the changing family structure is fertility rates. Fertility rates are defined by the U.S. Census as the number of live births per thousand women between the ages of 15 and 44. The highest recorded fertility rate in the United States occurred in 1957: 122.7 births per 1,000 women. After the "baby boom" era, the rate has fallen, and is currently at the lowest rate since recorded data (1920). The fertility rate in 2011 was one-half the rate of the peak rate, falling to 63.2 births per thousand women (Livingston & Cohn, 2012). Women are having fewer children, resulting in smaller families. According to the U.S. Census, the average number of children per family fell from 2.44 in 1965 to 1.88 in 2012 (United States, 2012). Hofer (2012) theorizes that family size may impact the number of activities in which children participate. Families have fewer children than previous decades, which may result in more discretionary family income to for children to participate in activities.

Divorce trends and single parenting. In addition to people delaying and in some cases, foregoing marriage, the incidence of divorce dramatically increased in the past fifty years. From 1963 to 1980, the divorce rate increased for 17 consecutive years (Jeynes, 2010). The divorce rate went from 9.2 divorces per 1000 married women in 1960 to an all-time high of 22.6 in 1980. Recently, the number of divorces reported for 2010 was 17.5 per 1000 women. The increase in divorce created an increase in the

proportion of children raised by single parents. In 1960, six percent of children were raised by single parents: five percent of children had divorced parents, and 1 percent had parents that never married. In 2008, the percentage of children raised by single parents had increased to nearly one-third of all children: 15 percent of children lived with a parent divorced or separated parent, and an additional 14 percent of children lived with a parent who never married (Pew Research Center, 2010). The increase in divorce rates and the subsequent incidents of single parenting changes how we define family structure.

Stay-at-home mothers. For the partnerships that endured, another change in family structure is the percentage of women who stay home to raise their children rather than work outside of the home. In 1969, 44 percent of married women with children under the age of 15 were stay-at-home mothers (Fry & Parker, 2012; United States, 2012a). This number fell to a low of 21 percent in 2010, before going up 23 percent in 2011 (United States, 2012a). Fewer mothers stay home to raise children; more children are either in daycare, after school care, or latch-key children. Hofer (2010) theorizes that with an increasing number of women working outside of the home; parents may compensate for their lack of physical presence by increasing student involvement in structured activities, or use those activities as child care.

With more parents working, one might expect teens to transition sooner to adulthood as they gain additional experience without parental presence. However, in the ways we define adulthood in legal and cultural expectations, the opposite appears to occur (Hofer, 2010; Waters, Carr, Kefalas & Holdaway, 2011; and Smith, Christoffersen, Davidson & Herzog, 2011).

Change in Defining Adulthood

Federal laws pertaining to adulthood. While the legal age of majority within the United States is 18, state and federal laws blur the line between adolescent and adult. The higher education climate for parents and students has changed. The passage of the Family Educational Rights and Privacy Act (FERPA) in 1975 changed the relationship between parents and higher education institutions. Previously, parents had the right to their children's education records. However, FERPA states that once a child turns 18 or attends a post-high school institution, parents do not have the right to their children's college education records, only the student does (United States, 1975). That means that parents, who may be paying for a child's college education, do not have access to the student's grades without the student's express written consent. Colleges see students as adults, over the age of 18, while parents may not have the same perspective.

FERPA supports the concept of adulthood at the age of 18 by turning the rights to education records over to students when they turn 18. While individuals are legal adults by the age of 18 in regard to voting and serving in the military, the government does not consider 18-20 years olds adult-enough to drink alcohol. The National Minimum Drinking Age Act of 1984 (23 U.S.C. § 158) establishes the legal drinking age at age 21. Recently, the federal 2010 Health Care Reform Law (United States), states that young people may stay on their parents' health insurance through the age of 25. The Health Care Reform Law indicates that young people remain dependent upon their parents until age 25. Each of these laws establishes an ever-higher age to autonomy, indicating that people between the age of 18 and 25 can be identified as both adolescents and as adults.

Cultural definition of adulthood. The cultural definition for an adult differs from the legal definition. Culturally, independent living is a primary indicator of adulthood (Waters et al., 2011). Other ways to culturally define adulthood include "the end of schooling, a stable career, financial independence and new family formation" (Smith et al., 2011, p. 14). The adoption of this definition indicates that emerging adults reach adulthood at a later date than previous generations. In 1960, 42 percent of young adults ages 18-24 lived with their parents. In 1990, that number increased to 53 percent, indicating that young adults are delaying adulthood (Waters, et. al 2011). The median age for first marriages is also older, from 20.3 in 1950 to 25.9 in 2006 for women, and from 22.8 up to 27.5 for men, respectively (Smith et al., 2011). Not only are young adults delaying marriage, they delay fiscal independence.

Smith et al. (2011) found that American parents extend financial support into the 20's and 30's. Parents reported spending an average of $38,340 per child during the ages of 18-34, including cash, housing, educational expenses and food (Goldscheider & Goldscheider, 1999). Fifty years ago, 42 percent of young adults ages 18-20 lived with their parents; by 1990, that number increased to 53 percent (Goldscheider & Goldscheider, 1999). When looking at 25-34 year olds, 14 percent lived with their parents according to Census data, increasing to 19 percent in 2011 (United States, 2011). These societal changes are now reflected in scholarly literature as a new life stage: "emerging adult," which refers to those between the ages 18 and 29 years old (Goldscheider & Goldscheider, 1999).

Changes in Parenting

This prolonged transition from adolescence to adult may be attributed to the

macro-level societal changes to the family described earlier. These changes include how many people choose to marry, when they marry, women in entering the workforce in unprecedented numbers, increased levels of educational attainment, and the Great Recession of 2008 (Waters et al., 2011). Stonebraker (2012) connects the changes in fertility rates to parental behavior using an economic model. He asserts that parents shifted their focus from the *quantity* of children to the *quality* of children (author's emphasis). Raising high-quality offspring is more costly in terms of time and money. Rather than children being sentimentally priceless, for baby-boomer parents, children are a form of obsessive product development (Gibbs, 2009). Parents now struggle with when the product is ready to be launched, and continually monitor and modify. The economic interpretation of family change helps to explain the hyper-scheduling of children's activities and the ambiguous role of parents during their children's emerging adulthood.

The blurred demarcation between childhood and adulthood may result from societal changes in family structure (increased age for first marriage, increased rates of divorce, lower birthrates, and an increase in women entering the workforce). In addition to these changes, anecdotal evidence exists regarding changes in how we parent. New terms such as "soccer mom" and "helicopter parent" used by mainstream culture reflects changes in how we describe parents' roles.

Soccer moms. As families changed, new terms arose to describe the generation of parents born after 1964 (Gibbs, 2009). "Soccer moms" became a popular moniker in the 1980's. This term referred to parents who packed children's schedules with sports and other extra-curricular activities. Consequently, a new parenting norm arose. Parenting included paying for the many activities, transporting children between activities, and

participating in the activities as spectators or coaches. Organized activities for children became the focal point of the family schedule (Lareau, 2011). The level of involvement soon spread to the academic realm. This generation of parents actively advocated for individualized educational services, and jockeyed for placement into classrooms or schools to better advantage their children.

Helicopter parents. Increased parental involvement expanded from extracurricular activities and classroom involvement. The term "helicopter parent" was first coined by Cline and Fay's (1990) book "Parenting with Love and Logic: Teaching Children Responsibility." The authors used the phrase to describe parents who hovered over student/school, student/employer or student/society relationships. In its original inception, the involvement could be either positive or negative. Helicopter parenting entered the mainstream vocabulary as a derogatory term through a 1991 Newsweek Buzzwords column by Ned Zehman. He defined it as "a nosy grown-up who's always hovering around. Quick to offer a teacher unwanted help." (p. 9). The adoption of the term helicopter parent into mainstream culture reflects parents' increasing tendency to be hyper-involved in students' lives. Changes in technology, including email, cell phones, social media and texting facilitates parents' hyper-involvement.

Changes in Technology

Technology changed dramatically in the 1980's and 1990's. With the rise of the personal computer in the 1980's and the increasing access to e-mail in the 1990's, long distance communication was no longer limited to expensive long-distance phone calls. By 2011, 83 percent of all Americans owned a cell phone, with 73 percent of those owners used text messaging (Smith et al., 2011). Before cell phones were affordable,

parents and their college children did not communicate on a daily basis. Hofer (2010) found that parents and their undergraduate students communicate an average of 13.4 times per week. Changes in technology changed the frequency with which parents and their college children communicate.

Implications of Society Change on Parental Involvement

Changes in parental involvement may be a result of fewer children per family (and therefore more time for parents to invest per child). Children may be involved in more activities for similar reasons, or as a strategy to provide structure and supervision due to the decrease in stay-at-home mothers and the increase of single parenting. Another possibility behind the change in parental involvement may be the desire to help advantage children for the college admissions process. Parents recognize the value of education to provide economic stability (Devine, 2004). With the increase in the number of students pursuing higher education degrees, Lareau (2011) theorizes that parents concertedly cultivate the skills and mannerisms that help students succeed in the classroom.

Change in the United States' Economy

Society appears to place increasing emphasis on the value of education as a means of establishing economic security. The past two decades witnessed a decline in highly paid manufacturing jobs, and an increase in minimum wage service jobs (Lareau, 2011). The disappearance of well-paying factory jobs impacts the ability for young adults to support a family in a middle-class lifestyle. As these jobs disappear, individuals either earn less or become unemployed, making them less desirable marriage partners (Sawhill, 2013). A poor economy results in lower security jobs, more frequent job changes, and the

ongoing need for new training (Goldscheider & Goldscheider, 1999). Concerns about the economy changed the public's perception regarding the value of a college education. In 1978, 50 percent of adults in the United States felt that a college education was necessary to get ahead in life. In 2009, 73 percent of adults believed a college education was necessary (Fry & Parker, 2012).

Education and economic security. Parents place a higher premium on college degrees as a way to provide their children with future job security and prosperity. Collins (1979) found that the number of years in school is the most important predictor of occupational success and social mobility and theorized that the desire to improve one's socioeconomic status drives the steady increase in college degree attainment. In the 1870's, 4.7 percent of Americans had a bachelor's degree (Collins, 1979). In 1971, that number had increased to 12 percent. By 2012, 31 percent of Americans ages 25 and older earned a bachelor's degree (Fry & Parker, 2012). Middle class parents know the importance of academic credentials in securing entry to high-level jobs (Devine, 2004). Education helps people access sinecure jobs and positively impacts their earning potential.

Education and earning potential. Education is a major factor in determining the income of many American workers. In 2009, the difference in median family income between families headed by an individual who dropped out of high school and families headed by an individual with a bachelor's degree or higher was approximately $68,600 ($31,100 compared with $99,700, respectively) (Haskins, 2012). According to Baum & Ma (2007), people with a bachelor's degree earn over one million dollars more during their lifetimes than those without a degree. Not only does education position people to

earn more, education appears to help cushion workers from fluctuations in the economy.

Education and employment rates. The Great Recession of 2008 impacted workers without college degrees far more than those with degrees. Industries that employ high proportions of workers without college degrees (manufacturing and construction) lost nearly 5.2 million of the 7.2 million jobs lost during the recession (December 2007 through January 2010). Industries with high concentrations of college-educated employees (public administration, education, healthcare) lost far fewer jobs, and added 1.5 million jobs during the recovery period (January 2010 through 2012) (Carnevale, Jayasundera, & Cheah, 2012). Unemployment rates for college graduates increased during the recession, but peaked at 6.3 percent. For high school graduates, unemployment peaked at 13.4 in February 2010, and remained at 9.4 in May 2012 (Carnevale, Jayasundera, & Cheah, 2012). By January 2013, the gap remains wide. For individuals without a high school diploma, the unemployment rate is 12 percent; for those with a bachelor's degree, the rate is 3.7 (Thompson, 2013). A college degree appears to help provide employment stability during times of economic upheaval, and a mechanism to more recover more quickly from economic downturns.

Even while a greater percentage of our population pursue higher education degrees, traditional higher education institutions experienced severe financial constraints resulting from reductions in state appropriations, and a reduction in endowment funds due to the stock market performance during the Great Recession. In addition to financial constraints, the brick-and-mortar institutions of higher education face challenges to their business model with competition from online learning models.

Changes in the Higher Education Landscape

Higher education institutions are not immune to economic change. Between 2007 and 2012, states cut the amount of money given to colleges by 17.4 percent, a total of 15.2 billion dollars. Between 2010 and 2011, state appropriations per full-time equivalent student declined by 10 percent, leaving this funding 25 percent below its level from 2006, after adjusting for inflation (The College Board, 2012). Public funding decreases may be a result of the states' economic constraints, or it may be a result of society changing its impression of education from what Parsons (2002) sees as a shift from a public good to a consumer product.

Changes in tuition and student debt. Prior to the Great Recession, the cost of tuition for traditional higher education skyrocketed. The price for college increased 439 percent between 1982 and 2007, while the median family income during the same period only increased by 147 percent (Lippman, Guzman, Keith, Kinukawa, Shwalb & Tice, 2008; Waters, Carr, Kefalas, Holdaway, 2011). During the Great Recession and subsequent recovery (December 2007 through June of 2011), the median household income in the United States shrank by 9.8 percent (Phipps, 2012). The disparity between tuition increases and household income coincide with additional student loan debt. The number of young people graduating from college with student loan debt increased by 108 percent in one decade (Waters, Carr, Kefalas, Holdaway, 2011). Of the college graduates in 2011, 66 percent had student loan debt, with an average debt of $26,000 (Institute for College Access and Success, 2012). Parents may be more involved in college students' lives due their increased investment in tuition and the risk that accompanies incurring student loan debt. Higher education is accountable to taxpayers, parents and students to justify their cost and value.

Student debt and graduation rates. Student loan debt is a double-edged sword. A student may need to incur debt to gain access to well-paying jobs. But for students who leave college without securing a degree, the penalties are high: daunting student loan debt, without the credentials to secure a well-paying job to pay off the significant debt. Of the nearly 20 million students who attended college in 2011, only 63 percent are predicted to earn a degree (Tinto, 2012). Students who leave represent lost tuition dollars for colleges, and also impact college's ratings. One-third of colleges expect net tuition revenue to either decline, or to increase at a rate less than inflation for 2013 (Kiley, 2013). Graduation rates, job employment rates and student satisfaction with their degrees impact colleges' bottom lines as they compete to secure student enrollment for future years.

Financial pressures for higher education institutions. The financial future for higher education faces additional pressures beyond mediocre graduation rates, tuition increases outpacing inflation, and reduced state appropriations. Higher education also faces threats to its traditional business model in the form of digital learning systems (online education) and Massive Open Online Courses (MOOCs). Brick-and-mortar schools often rely on room and board fees from residential four-year students to help fund the cost of education. Online education removes that revenue source. MOOCs involve significant start-up fees, without any guarantee of profit or even breaking even. In addition to these structural challenges, college enrollment is shrinking. One-half of colleges and universities report lower enrollment for fall 2012 than for fall 2011 (The College Board, 2012). Colleges face changes and challenges in resources and organization.

As colleges face increasing financial constraints and as families face the higher cost of a college education, there is a need for research on factors influencing student success in college setting. This study connects research on parenting style with educational research on parental involvement in schools to investigate the role of parenting for undergraduate student success.

Parenting Style Literature

I am defining parenting within this study as the relationship established by the parent with the child. The relationship may be characterized by emotional warmth (Schaefer, 1965), parental responsiveness (Maccoby & Martin, 1983), parental control (Baumrind, 1966) and parental challenge (Dailey, 2008). I selected these elements of parenting style because each relates to parental assumptions and beliefs regarding the parent/child relationship and the roles of each party within the relationship. Parenting style conveys the parent's attitude toward the child rather than toward a child's behavior (Darling & Steinberg, 1993). Previous research links each of these elements to positive outcomes in cognitive and autonomy development in childhood and adolescence (Baumrind, 1978; Baumrind, Larzelere & Owens, 2010; Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Lamborn, Mounts, Steinberg & Dornbusch, 1991; Steinberg, Elmen & Mounts, 1989; Steinberg, Lamborn, Darling, Mounts, & Dornbusch; 1994).

Parental assumptions and beliefs about the parent/child relationship extends beyond the home setting to educational institutions. The U.S. Office of Education's 1966 report "The Equality of Educational Opportunity" (known informally as the Coleman report) concluded that family background factors are more predictive of students'

academic success than school structure. This study opened the gateway for research on the family role in academic success.

Educational Research Literature

Studies investigating the role of parental involvement on academic success emerged during the 1980's (Jeynes, 2010). Policy makers cite elements of this research and claim that parental involvement improved student academic outcomes (United States, 2002). To this end, The No Child Left Behind Act of 2001 mandates that K-12 school districts must actively seek parental involvement (through parental involvement programs), under the assumption that parental involvement increases student academic outcomes (United States, 2002).

Parental involvement in kindergarten through high school. Claims involving the positive aspects of parental involvement in the elementary education setting are widespread (Fan, 2001; Fan & Chen, 2001; Mattingly, Prislin, McKenzie, Rodriguez & Kayzar, 2002; Sheldon & Epstein, 2005; Jeynes 2011). Researchers looked to see if these relationships extended into middle and high school settings. Hill & Tyson (2009) assert that as children mature from middle to high school students, parental involvement in school changes. Hill and Tyson introduced the idea of academic socialization, where parents, instead of being involved in education through direct means such as homework assistance and volunteerism, shift their involvement to indirect measures such as communicating and fostering educational and occupational aspirations (2009). Because of the continued social and emotional changes that occur as children mature into older adolescence, it seems reasonable and plausible that parental involvement in a child's college career will differ from parental involvement in high school.

Parental involvement in the form of academic socialization. Parents socialize their adolescents to the academic world through activities including communicating parental expectations for education, connecting school work to current events, fostering educational and occupational aspirations, discussing learning strategies and making future plans with their children (Hill & Tyson, 2009). By supporting education through this process of academic socialization parents remain involved in their children's education. This indirect involvement may foster an adolescent's growth toward autonomy. Hill and Tyson (2009)'s research demonstrated the correlation between indirect parental involvement and academic success. However, academic socialization efforts may differ by social class (Lareau, 2011). The concept of academic socialization connects educational research to sociological research on social class.

The construct of academic socialization also helps to explain why some studies find that for lower SES families, or for families of immigrants, parental involvement does not correlate to academic success. Hill et al. (2004) found that for lower SES families, parental involvement increases student aspirations, but does not affect student outcomes. Poor and working class parents may lack the cultural capital to help adolescents navigate into the more academically rigorous world of middle school and high school. Lareau (2011) investigated the relationship between parenting and social class as it relates to education. Her work provides a sociological framework for this study.

Sociological Framework

Child-rearing strategies. Lareau (2011) theorizes that social class membership relates to child-rearing strategies, building upon Bourdieu's work pertaining to habitus. She concludes that there are two types of strategies or cultural theories for child-rearing:

"natural growth" and "concerted cultivation." Poor and working class families tend to adopt the strategy of natural growth. For this strategy, the parent's responsibility is to provide comfort, food, shelter and basic support, each of which may be challenging to provide due to economic constraints (Lareau, 2011). Middle and upper class families tend to adopt the strategy of concerted cultivation, where parents deliberately work to stimulate a child's development and foster cognitive and social skills (Lareau, 2011). The skills gained by concerted cultivation help to augment cultural capital, and provide children with skills that place them at an advantage in educational institutions (Lareau, 2011).

Concerted cultivation. Concerted cultivation provides students with language skills that allow them to better succeed in classroom settings and with interpersonal and bureaucratic skills to better navigate education institutions (Lareau, 2011). Parents may continue to utilize concerted cultivation beyond the K-12 setting into college.

Parental Involvement in College

Frequency of involvement. Parents continue to be involved in students' lives during college. College Parents of America (2006) reports that 34 percent of parents communicate with their college childe at least daily, or more than twice a day (as cited by Wolf, Sax & Harper, 2009). Rowan-Kenyon, Bell, & Perna (2008) found that 24.9 percent of college students speak with their parents on a daily basis, with an additional 30.7 percent speaking with their parents a few times each week. Hofer (2010) found that parents and their college children at the University of Michigan are in communication an average of 13.4 times each week. She also found evidence that parental involvement goes beyond communication; 19 percent of parents reported proofreading their children's

papers, and 14 percent of the parents edited their children's college papers (Hofer, 2010). Somers & Settle (2010a) surveyed higher educational professionals, and found that higher educational professionals classify 40-60 percent of college students' parents as helicopter parents. Parents' involvement appears to stem from two motivations: 1) to remain connected with children and 2) to help students succeed in higher education. With the helicopter parent phenomena increasingly reported in higher education, it is surprising that scant research exists connecting parental involvement and student success in college.

Measuring college student success. A challenge in investigating the relationship between parental involvement and student success is defining and measuring success. In the K-12 setting, success is typically defined by grades. However, this is problematic in the college setting. Academic performance is only one way to measure success, and it is problematic. Earning an A in an introductory class may not require the same effort or measure the same level of learning as an A in a senior capstone experience. When multiple professors teach different sections of the same course, but require different assignments and write different tests, grades may not be the best way to determine levels of success.

Academic Success Compared to Thriving

Success in college entails more than grades. Kuh (2007) defines student success as "academic achievement, engagement in educationally purposeful activities, satisfaction, acquisition of desired knowledge, skills and competencies, persistence, attainment of educational objectives, and post-college performance." Building on Kuh's 2007 conceptualization of student success, Schreiner, McIntosh, Nelson, & Pothoven (2009) developed the "Thriving Quotient" as a way to measure college student success.

Thriving. Schreiner et. al (2009) uses the concept of thriving to measure three areas hypothesized to contribute to student success and perseverance: academic engagement and performance, interpersonal relationships, and intrapersonal wellbeing. The study at hand connects college student success, as measured by Schreiner et al.'s (2009) *Thriving Quotient*, with K-12 literature on parental involvement in education and class-based parenting styles to investigate how parental involvement may relate to college student success.

Problem Statement

Evidence exists that parental involvement positively correlates with academic success in K-12 schools (Fan, 2001; Fan & Chen, 2001; Mattingly, Prislin, McKenzie, Rodriguez & Kayzar, 2002; Sheldon & Epstein, 2005; Jeynes 2011), and that the form of parental involvement changes as students age (Fan, 2001, Oyserman, Brickman & Rhodes, 2007; Wolf, Sax & Harper, 2009; Green, Walter, Hoover-Dempsey & Sandler, 2007). Given that only 60 percent of incoming college students complete their four-year degree (Schreiner, 2012) and the looming student debt non-completers face, students, parents, and higher education institutions want strategies to promote student success. Lareau's (2011) theory of concerted cultivation supports the idea that parental involvement could better equip students to succeed on the college level, but that parental involvement varies by social class. This study addresses the gap in the literature investigating parental involvement in higher education as it relates to student success, parenting style, and parent influence. This study can inform higher education administrators and policy makers about retention as well as parents with their college children transitioning from adolescence to adulthood.

Purpose and Objectives of Study

The purpose for this study is to review the literature related to parental involvement and student success and to connect that body of work to the theoretical frameworks of parenting styles and thriving. While most of the previous work in these areas pertain to the K-12 setting, this study extends the work into the undergraduate college setting by analyzing data on these variables as they pertain to undergraduate students. The purpose of distinguishing between parental involvement and parent style is to establish which aspects of involvement and style impact college student success. Lareau (2011) and Baumrind (1966) established a connection between parenting style and social class. Therefore, social class is a control variable in this study. It is possible that the influence a parent has on student decision-making varies by student. This study investigates the relationship among aspects of parental involvement, parenting style, and parent influence and how they relate to undergraduate student success.

Definitions of Terms and Research Assumptions

Definition of Terms

College student. Within this paper, references to college students refer to traditional full-time students entering a four-year higher education institution in the fall immediately following their high school graduation. Therefore, students are assumed to be between 18 and 22 years of age.

Emerging adults. Based on child development and family studies literature, emerging adults are those people between the ages 18 and 29 years old (Goldscheider & Goldscheider, 1999). Traditional college students are assumed to be emerging adults.

Student success. Student success can refer to many areas such as academic success, interpersonal success, or emotional success, to name a few. For the sake of this study, student success is an overarching term, based on Kuh's (2007) conceptualization. According to Kuh, student success is multidimensional, including academic achievement, engagement in educationally purposeful activities, student satisfaction, acquisition of desired knowledge, skills and competencies, persistence, the attainment of educational objectives, and post-college performance (2007).

While most K-12 educational literature defines student success in terms of grade point average (G.PA.), this study does not. As described earlier, using G.P.A. in the college setting is troublesome due to variations in instructors, course assignments, and requirements between academic majors. Using Kuh's definition, student success incorporates more than academics. This study uses the Schreiner's et al.'s (2009) Thriving Quotient to measure student success.

Thriving Quotient. This instrument, developed by Schreiner et al. (2009), extends the definition of student success beyond G.P.A. and retention rates. The TQ measures students' positive functioning in three areas: academically, interpersonally, and intrapersonally (Schreiner et al., 2009). The TQ uses a more holistic construct than G.P.A.; it incorporates both cognitive and psychosocial components. This instrument is a more sensitive instrument than G.P.A, and the psychological components captured by the TQ are more malleable aspects that are susceptible to interventions. By using the TQ as the dependent variable, we can analyze what aspects of parental involvement and parenting style impact specific cognitive and psychosocial outcomes.

Parent. Parent refers to the primary adult whom the student identifies as a parent figure when the student entered college.

Parental support provider(s). To accommodate the variety existing in family structures, rather than assume a student identifies their parent as their biological, adoptive or step-parent, this student broadens the definition of parent to the people providing parental support in their lives. This may include a single parent, a parent and a step-parent, foster parents, grandparents, biological parents that are married to each other, or other variations of parental support.

Parental involvement. Parent involvement refers to the ways in which parents engage in their child's education. A review of literature shows that there are many forms of parental involvement (Kirk, Lewis-Moss, Nilsen & Colvin, 2011; Fan, 2001; Jeynes, 2007, 2011; Fan & Chen, 2001; Mattingly et al., 2002, Hoover-Dempsey et al., 2001) and that parental involvement changes as children age (Fan, 2001, Oyserman, Brickman & Rhodes, 2007; Wolf, Sax & Harper, 2009; Green, Walter, Hoover-Dempsey & Sandler, 2007). These activities include both direct and indirect forms of educational involvement. Examples include communication with teachers, volunteering in schools, out-of-school enrichment activities, assistance with or monitoring of homework, attending parent-teacher conferences, parent-child conversations about the importance of education, and educational attainment aspirations. This study collects data specific to parental involvement at the college level.

Indirect involvement. Taylor, Clayton & Rowley (2004) first introduced the term academic socialization into the parental involvement literature to describe student perception of parental expectation for grades and educational attainment. Hill & Tyson

(2004) further developed the idea of academic socialization to consist of communicating expectations for education and its value, connecting school work to current events, fostering educational and occupational aspirations, communicating learning strategies, and making plans for the future. This study uses Hill and Tyson's (2004) definition of academic socialization as an indirect method of parental involvement.

Direct involvement. This term refers to parental involvement in educational activities such as proofing or editing papers/projects, contacting faculty, college administrators or resident directors, or reminding students of academic due dates.

Communication. Communication refers to the quantity of parent-initiated communication, via phone, text, social media or video chat/face time.

Parental influence. This term refers to student perception of the parental support provider(s) influence on the student's decision-making.

Parenting style. The relationship established by the parent with the child. The relationship may be characterized by emotional warmth/support (Barber, 2005), parental responsiveness (Maccoby & Martin, 1983), coercive control (Baumrind, 2005, 2013; Baumrind, Larzelere & Owens, 2010; Dailey, 2008; Grolnick & Pomerantz, 2009) and parental challenge (Dailey, 2008). Each of these elements relates to parental assumptions and beliefs regarding the parent/child relationship and the roles of each party within the relationship.

***Emotional warmth*.** Student perception of the emotional warmth and support the parent displays toward the student.

***Responsiveness*.** Defined as the parents' awareness of a child's needs and the parents' engagement towards meeting the need.

Confrontive control. Confrontive control includes parental monitoring of children's schedules, peer associations, activities and physical whereabouts (Baumrind, 2013).

Coercive control. Baumrind classifies activities such as guilt-induction, love withdrawal, shaming and the invalidation of feelings as coercive control (Baumrind, 2013).

Parental challenge. Based on Dailey's (2008) work separating challenge from demandingness, challenge is defined as parental engagement focusing on building or strengthening a child's cognitive, behavior or social skills.

Assumptions

This study rests on several assumptions. The first assumption is that a majority of parents are involved in their undergraduate college students' lives. The second assumption is that this parental involvement varies. The third assumption is that parental involvement can be operationalized clearly enough to measure. In regard to parenting style, I assume that parenting styles vary, and that parenting styles can be defined and categorized and measured. Finally, I assume that the student perspective of parental involvement, parenting style and parental influence provides a meaningful report of those variables.

Research Questions

- Does undergraduate student perception of parental involvement, parenting style and parental influence relate to student success as measured by the Thriving Quotient?

- Do interactions exist among parental style, parental involvement and/or parental influence relative to success?

Design of Study

This study is a quantitative study using an electronically-administered survey. The study population consists of full-time undergraduate students at a public university with the Carnegie classification of a large, doctoral/research intensive. The study uses a cross sectional design and involves collecting data from each cohort: first-year, sophomore, junior and senior.

The independent variables include parental involvement, parenting style and parental influence. I developed survey questions to collect data on each variable, and tested the instrument using an exploratory group of undergraduate students. The study controls for the following parent information: marital status, education attainment, socio-economic status and age. It also uses the following controls for students: race, sex and prior academic preparedness as measured by SAT score.

Student success, the dependent variable, was measured using Schreiner et al.'s Thriving Quotient (TQ). This instrument collects information on five subscales: engaged learning, diverse citizenship, academic determination, positive perspective and social connectedness. Chapter three contains detailed information on both the TQ and the self-developed survey. To analyze the data, I use a factor analysis and multiple regression.

Limitations and Delimitations

Limitations. One purpose of this study is to describe what parental involvement looks like on the college level, and how it varies by parenting style and social class. Cross-sectional studies capture a snapshot of a phenomenon's attributes and frequency,

making this design appropriate for the research question. Because the study is a one-time survey, history, maturation, testing, statistical regression and attrition are not threats. The cross sectional approach provides information from a single point in time; therefore, causal assertions cannot be made. However, by collecting data from four specific points in a college career (first-year, sophomore, junior, and senior) and controlling for variations in student backgrounds, a picture of how involvement changes over the four-year college experience emerges.

Delimitations. The study delimitations include using a cross sectional study rather than a longitudinal study. However, by using a cross sectional study, attrition is not a factor in the validity of the results. A second delimitation involves collecting data from only one institution. However, by using a large, public institution, the population is both larger and more diverse than a smaller institution or a private college. Thus, the school choice provides a good estimate of the general population. Another issue that affects external validity is collecting data only from the college level, rather than both high school and college. However, by limiting the study to the college setting, survey questions specifically related to the college experience, providing a more nuanced view of the relationship among parental involvement, parenting style and social class on student success during the four years at college.

Significance of the Study

Most research pertaining to parenting style aggregates dimensions of parenting style using Baumrind's typology. This study adds the dimension of parental challenge and disaggregates the dimensions to confirm if the factors load according to Baumrind's conceptualization. It is distinct in that it connects dimensions of parenting style with

direct and indirect forms of parental involvement. By isolating which aspects of parenting style and parental involvement are positively related with academic success, higher education institutions can develop policies and parental programs to better inform and coach administrators, instructors and parents on parental involvement that positively impacts college students. This study will add to the body of knowledge on the relationship among parental involvement and student success. It extends the existing literature by connecting involvement, parenting style and social class. As most of the existing literature pertains to K-12 education, this study expands the knowledge to the higher education setting.

Information gleaned from this study will benefit administration, policy makers, academic advisors, parents and students. It can inform institutional policies regarding retention rates, and strategies to promote positive parental involvement. This study can inform academic advising and parental coaching in the college setting, to promote academic success and retention. It will help students understand their development, and how their efforts may promote personal thriving, positive ownership of the educational experience and college success.

Summary of Chapter 1

Societal changes in children's schedules, parenting and the role of higher education in social mobility have changed the ways and degrees to which parents are involved in the education of their children. These changes may extend to higher education. This study investigates dimensions of parenting style, involvement and influence and seeks to determine if undergraduate student success varies by parenting style or parental influence.

The next chapter reviews the literature relating to parenting style as conceptualized by Baumrind. It also reviews the literature relating to parental involvement and student success from elementary, middle and high school (K-12). Examining literature from elementary and high school (K-12) settings provides the context for studying parental involvement in college. Studies of K-12 settings establish that parenting style is a factor in parental involvement. Because there is scant research on parental involvement in the college setting, this study will extend the K-12 literature by establishing what parental involvement looks like during the college years.

Finally, chapter two examines previous efforts to define and measure college student success. Student success may be viewed from a social, cognitive, or development lens. Whereas previous studies typically define student success by grade point averages (G.P.A.), this study employs a more comprehensive measure of college success. Chapter two addresses the weakness of using G.P.A. as a metric, and describes the development and appropriateness of using Schriener's et al. (2009) Thriving Quotient to measure student success. Chapter three describes the design of the study, the variables and how the variables are measured, collected and analyzed. Chapter four contains the study findings and the final chapter offers a discussion of the results and implications.

CHAPTER TWO

REVIEW OF LITERATURE

Chapter one provided an overview of the background issues pertaining to parenting style, parental involvement and higher education. Chapter two provides a review of the literature pertinent to connecting parenting style, parental involvement and parenting influence. First, I summarize literature identifying dimensions of parenting styles and literature that examines parenting style relative to student success. Next, I review the literature on parental involvement and student success. Finally, I review literature pertaining to measuring student success. These elements create the model for the current study.

Dimensions of Parental Behavior

Parenting style incorporates parents' attitudes, beliefs and behaviors pertaining to child rearing. Researchers use similar terms, but operationalize their terms with meaningful nuance. This review starts with Schaefer's (1965) two parenting dimensions. Baumrind (1966) focused on one of Schaefer's dimensions, and created a seminal typology, to which Maccoby & Martin (1983) added the underlying socialization mechanisms. Research in the 1980's and 1990's investigated the relationship between aggregated parenting attitudes and behaviors parenting styles and child outcomes, establishing that Baumrind's authoritative parenting is positively associated with many positive child outcomes. More recent research investigates the differential effects of specific parenting attitudes and behaviors such as parental warmth/support, psychological control, and behavioral control.

Schaefer's Identification of Parental Behavior Dimensions

Schaefer (1965) reviewed psychologists' rating of parenting behaviors to develop the Children's Report of Parent Behavior Inventory (CRPBI), a 260 question inventory measuring 26 components of parenting behaviors. Schaefer's cluster analysis identified three dimensions of parenting behaviors, identified as acceptance/rejection, psychological control and firm/lax control. Schaefer defined the acceptance/rejection dimension through scales measuring positive evaluation, sharing, expression of affection, emotional support, and equalitarian treatment. The psychological control dimension consisted of intrusiveness, parental direction and control through guilt. Questions related to lax disciplines and extreme autonomy comprised the firm/lax control dimension, relating to parental rules, regulations and limits for the child's activities (see figure 1). Subsequent researchers focused on issues of parental control.

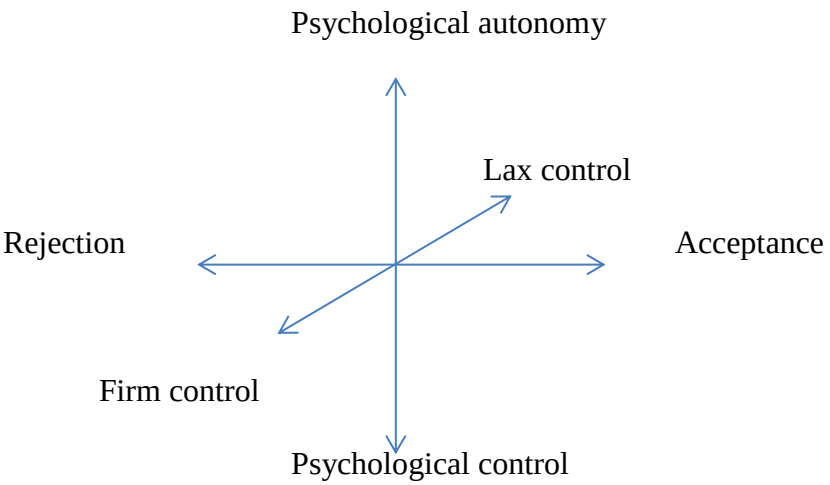

Figure 1. Schaeffer's three dimensional model for parent behavior.

Figure 1 illustrates Schaeffer's three dimensional model for parent behavior using three axes. The first axis pertains to issues of psychological control. Parental behavior that encourages child psychological autonomy lies at one end of the spectrum. The opposite end of the spectrum reflects behaviors that encourage parental psychological

control over the child. The second axis pertains to degree of parental control, with one end being firm or strict control, and the other being lax parental control over child behavior. The third axis pertains to parental warmth, with one end indicating parental-rejecting behaviors of the child, and the opposing end reflecting parental acceptance of the child. While Shaeffer's research resulted in defining three dimensions of parenting behaviors, Baumrind delved into the dimension of parental control in her seminal work on parenting styles.

Baumrind's Conceptualization of Parenting Style

Baumrind developed a seminal conceptualization of parental control (1966). She conceptualized three prototypes: authoritarian, authoritative and permissive (described below) based on seven dimensions of parental control. These dimensions included disciplinary practices, withdrawal of love, parental explanations, demands for responsibilities and behavior, autonomy development, style of control, and maintenance of status (Baumrind 1966). She described these parenting styles as gestalts in that "integrated practices interact in such a way that confers properties that aren't possessed by a sum of its component practices" (Baumrind, Larzelere & Owens, 2010). Parenting practices therefore, result in an interaction effect among the practices that comprise each pattern (Baumrind, 2005). Baumrind's original typology of parental control consisted of authoritarian, authoritative and permissive parents, as defined below.

The authoritarian parenting style.

The authoritarian parent is similar to the stereotype of a drill sergeant. An authoritarian parent wields their power in an attempt to shape and control the child an absolute standard of conduct, valuing obedience over developing the child's autonomy

(Baumrind, 1966). Baumrind further emphasized that the relationship between adult control and the child's autonomy by stating, "authoritarian parents view parents' rights and responsibility to assert strict control as primary, and children's autonomy as secondary" (Baumrind, 2013, p.18). Authoritarian parents place their authority higher than a child's desires, with the goal of creating obedient children (Baumrind, 1978).

Authoritarian parents have high expectations for their children, but do not support and value the development of autonomy in their children. They discourage verbal give-and-take between the child and the parent (Maccoby & Martin, 1983). Parent's philosophy regarding children's autonomy is the distinction between the authoritarian parenting style and the other parenting styles.

The authoritative parenting style.

Baumrind describes parenting that establishes high behavioral expectations and autonomy-development as authoritative parenting. Rather than a drill sergeant, an authoritative parent is akin to a coach. The authoritative parent "attempts to direct the child's activities in a rational, issue-oriented manner. She encourages verbal give and take, shares with the child the reasoning behind her policy, and solicits his objections when he refuses to conform" (1966, p.891). An authoritative parent balances the demands of "disciplined conformity" with autonomy development (Baumrind, 1966, p.891). According to Baumrind, "the authoritative parent affirms the child's present qualities, but also sets standards for future conduct" (1966, p.891).

Unlike authoritarian parents, "authoritative parents regard the rights and responsibilities of parents and children as reciprocal, not equal, reflecting their different social roles and their children's changing competencies and developmental needs"

(Baumrind, 2013, p.18). Baumrind's 1971 work included "open communication" to help distinguish between authoritarian and authoritative parents. An authoritarian parent uses directive language and teaching strategies, while authoritative parents are willing to listen and be responsive to their child's point of view (Maccoby & Martin, 1983). If authoritarian parents assert power like a dictatorship, and authoritative parents function like a democracy.

The permissive parenting style.

The final parenting style in Baumrind's typology, the permissive style, is a bit like anarchy. Rather than the parent asserting control over the child, a permissive parent "allows the child to regulate his own activities as much as possible, avoids the exercise of control and does not encourage him to obey externally defined standards" (1966, p.889). A permissive parent views parental control as undesirable and detrimental to a child's autonomy development (Baumrind, 2013).

The distinguishing factor between Baumrind's parenting styles is parents' attitude and behavior related to the child's autonomy development. The authoritarian parent does not encourage autonomy development. The authoritative parent values and expressly encourages the child's autonomy development, but in a setting where the parent establishes the standard of conduct. The permissive parent places a primacy on the child's autonomy, completely abdicating parental control.

Baumrind's methodology. Baumrind's conceptualization of parenting styles evolved based on data from a longitudinal study. Her original conceptualization of three parenting styles emerged from a pilot study in 1967. She continued to investigate the prototypes and gather empirical support through a longitudinal study of 134 parents and

children consisting of home and lab observations and surveys, from preschool through age 15 (Baumrind, 1978; 2005). Her data consisted of parental surveys, family observations, and, as the child participants aged, child-report surveys. Baumrind expanded the permissive typology into two areas: permissive-indulgent and permissive-neglectful (1978). While her sample was small and limited to a Caucasian population, Baumrind's longitudinal work incorporates both quantitative and qualitative data from lab and natural settings, and has endured over forty years of testing.

Baumrind's typology provides researchers with a framework to discuss differences in parenting. Parents who differ in how they use authority tend to also differ in the amounts of demands, communication style, and nurturing (Darling & Steinberg, 1993). Parental attitudes from those areas combine to create the emotional climate of interaction (Darling & Toyokawa, 1997). Baumrind's typology is inclusive of parental attitudes, beliefs, demands, communication style and nurturing, providing a robust framework to explore the connections between parenting style, parental involvement and student success. The limitation to Baumrind's work is that it aggregates the dimensions of control. More recent work separates the mechanisms of control to test and further develop Baumrind's theory.

Maccoby & Martin's Expansion of Baumrind's Typology

Maccoby and Martin (1983) conjectured that the underlying processes of socialization in Baumrind's typology related to parental demandingness and responsiveness (See figure 2, below). Baumrind and subsequent researchers adopted Maccoby & Martin's dimensions of demandingness and responsiveness to distinguish parenting styles (Baumrind 2005, 2013; Lamborn, Mounts, Steinberg & Dornbusch,

1991; Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994; Baumrind, Larzelere & Owens, 2010; Brown & Iyengar, 2010).

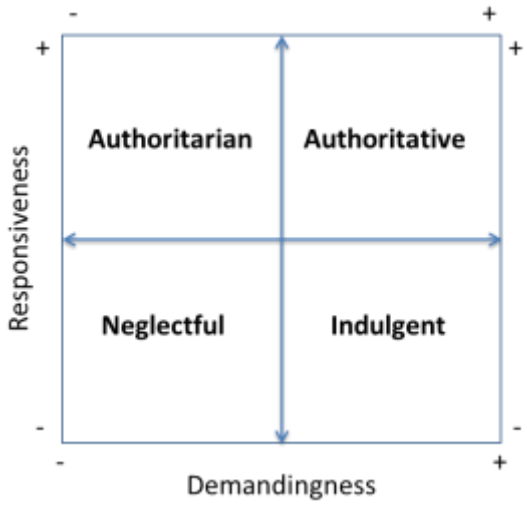

Figure 2. Maccoby & Martin's (1983) expansion of Baumrind's parenting styles.

Figure 2 provides a graphic illustration of Maccoby & Martin's (1983) concept of the socialization process incorporating Baumrind's parenting typology. The two socialization processes, responsiveness and demandingness, provide scales that differentiate the Baumrind's parenting styles. Authoritarian parents employ low levels of responsiveness coupled with high levels of demandingness. Authoritative parents employ high levels of both responsiveness and demandingness. Indulgent parents tend to be highly responsive to their child but not demanding. Neglectful parents are neither responsive nor demanding. Researchers refined the semantics of these terms in subsequent work, as defined below.

Responsiveness. While some researchers use responsiveness interchangeably with Schaefer's conceptualization of acceptance, responsiveness is distinct from acceptance and from warmth. Warmth is conveyed as the impulse of the parent, distinct from the child's current behavior/signals (e.g., a parent spontaneously ruffling a child's

hair). When a parent demonstrates warmth, the child's behavior or needs may or may not be connected to the parental response. Baumrind defined responsiveness as "the extent to which parents intentionally foster individuality, self-regulation, and self-assertion by being attuned, supportive and acquiescent to children's special needs and demands" (Baumrind, 1991, p. 62). Responsiveness, therefore, is driven by the child's current behavior, placing the child in a position of control (e.g., a parent noticing a child's distress, and reaching out to soothe the child). Authoritarian and indulgent parents are highly responsive to their children's behavior and needs (i.e., child-centered), while authoritarian and neglectful parents are not as responsive to their children's behavior and needs (i.e., parent-centered) (Maccoby & Martin, 1983; Baumrind 2005, 2013). Responsiveness is parents' attunement to the needs of their children. Demandingness, the second mechanism of parental control, is parent's attunement to society's demands.

Demandingness. Baumrind defines demandingness as the claims parents make on children to become integrated into society or the family "maturity demands, supervision, disciplinary efforts and willingness to confront the child who disobeys" (1991, p. 62). While authoritarian and authoritative parenting incurs high levels of demandingness, they differ in the type of control assertion: authoritarian parents use psychological control and authoritative parents use behavioral control (Darling & Steinberg, 1993). It is the type of control assertion, not the amount of control that differentiates authoritarian from authoritative parents (Baumrind, 2013).

Because the Baumrind's typology consists of multiple parenting behaviors, more recent research seeks to clarify the concept of demandingness as it relates to behavioral and psychological control. Baumrind, Larzelere & Owens (2010) separated

demandingness into two manifestations of parental power: confrontive control and coercive control. While authoritarian parents do not differentiate between the effects of each type of control, authoritative parents see confrontive control to be beneficial, and coercive control to be detrimental (Baumrind, 2013).

Confrontive control. Confrontive control is demanding, firm and goal-oriented (Baumrind, 2013). It aligns with pro-social behavior, self-assertiveness and mental health in children (Brown & Iyengar, 2010; Baumrind, Larzelere & Owens, 2010). These positive associations continue to exist in Baumrind's longitudinal data (Baumrind, Larzelere & Owens; 2010; Baumrind, 2013). Confrontive control includes parental monitoring of children's schedules, peer associations, activities and physical whereabouts. Monitoring provides structure, order and predictability for the child (Baumrind, 2013). Confrontive control includes parental discipline involving removing privileges, establishing rules and limits and that includes encouragement for positive behavior and reasoning after poor behavior (Baumrind, 2013). Confrontive control provides safe limits for children to explore autonomy development.

Coercive control. Coercive control does not support autonomy development. Coercive control is intrusive, manipulative, punitive, restrictive, and autonomy-restrictive and is manifested by activities such as guilt-induction, love withdrawal, shaming and the invalidation of feelings as coercive control (Baumrind, 2013). Coercive discipline includes domineering and arbitrary discipline as well as hostile verbal criticism focused on retaining the hierarchical family relationship (Baumrind, Larzelere, & Owens, 2010). Coercive discipline does not provide a reasoned explanation, but demands prompt compliance, without regard to the child's point of view. It is also unpredictable and

inconsistent (Baumrind, Larzelere, & Owens, 2010). Coercive control minimizes opportunity for autonomy development by asserting parental power over children.

Differences in power assertion help to distinguish parenting style. For Baumrind, Larzelere & Owens, the distinction between coercive and confrontive power assertion is "crucial to explaining the contrasting effects of authoritarian and authoritative parenting" (2010, p. 163). Authoritarian parents are both confrontive and coercive, while authoritative parents are confrontive but not coercive. While confrontive control requires parents to be proactive or mindful of long-term parenting goals, coercive control appears to be more reactive, and focused on continuing the hierarchical power status quo. Both authoritarian and authoritative parents use confrontive control related to discipline, however, authoritarian parents also use coercive control in rearing children. The inclusion of confrontive and coercive control into Maccoby & Martin's model results in the following model (Figure 3).

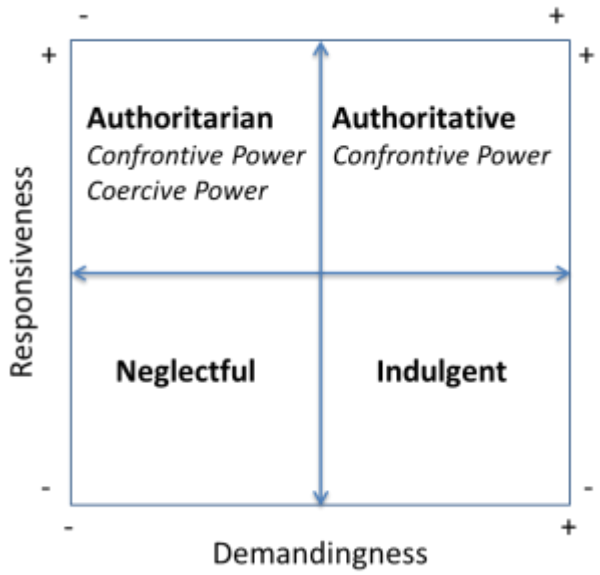

Figure 3. Maccoby & Martin's (1983) model with Baumrind et al.'s (2010) addition of coercive and confrontive power.

Table 2 briefly summarizes comparisons among the different conceptualizations of parenting. The table generally depicts the definitional shift in terms and introduces the challenges associated with discussing the parenting research in a comparative fashion. Baumrind, Larzelere & Owen's (2013) demarcation between confrontive power illustrates the definitional drift that confounds discussions pertaining to parenting style outcomes. Looking back at Schaeffer (1965)'s original dimension of firm control, Maccoby & Martin's concept of demandingness, specifically confrontive power, appears to align with Schaeffer's conceptualization of firm control. While Schaeffer (1965) conceptualized psychological control at the opposite end of autonomy development, Maccoby & Martin conceptualize demandingness as leading to autonomy development. Baumrind's conceptualization focuses on control as a mechanism of socialization, but doesn't directly reference autonomy as the goal of socialization. The variances in conceptualization regarding psychological control, behavioral control, demandingness, confrontive control and coercive control make conclusions about research findings challenging to summarize.

Table 2

Aligning Schaefer, Maccoby & Martin and Baumrind, Larzelere & Owens' Conceptualization of Parenting

Schaffer (1965)	Maccoby & Martin (1983)	Baumrind, Larzelere & Owen (2013)
Psychological control/autonomy development		Coercive control (autonomy inhibiting)
Firm/lax control	Demandingness (leading to autonomy)	Confrontive control
Rejection/acceptance	Responsiveness	

Table 2 illustrates the variances in conceptualizations of parenting style. The next section reviews findings of parenting styles related to adolescent outcomes. Between the definitional drift, the aggregation of dimensions into parenting typologies, and the myriad of dependent variables, it is difficult to assess what aspects of parenting related to a specific outcome. The review of research indicates that conceptualizing parenting style to consist of responsiveness, demandingness and challenge helps to fill a gap in the literature.

Research Findings Related to Parenting Styles

The Authoritarian Parenting Style

Children of authoritarian parents report less school misconduct, less drug use, fewer physical symptoms and a more positive orientation to school than children from indulgent parents (Lamborn, Mounts, Steinberg & Dornbusch, 1991). Children of authoritarian and authoritative parents do not score significantly different in regard to self-reliance, social competence and delinquency (Lamborn et al., 1991). However, there was no instance where the group of children from authoritarian parents scored higher than the group from authoritative parents. The researchers concluded, "parental strictness and supervision may help deter the development of problem behaviors" in adolescents (Lamborn et al., 1991). Authoritarian parenting is not associated in the quantity or magnitude of positive outcomes as the authoritative style, but it has more positive associations than does the indulgent style.

The Authoritative Parenting Style

Research investigating the effects of parenting styles and child outcomes indicates that the authoritative parenting style is associated with the most positive child outcomes.

Baumrind reported the positive association between authoritative parenting and agency, communication and cognitive competence among young children (1978). In a study of 4,100 adolescents (aged 14-18), authoritative parenting was positively associated with self-reliance, work orientation, social competence, grade point average, school orientation, and academic competence. In another study of 8000 high school students, researchers found that authoritative parenting is positively associated with grades (Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987). Steinberg, Elmen & Mounts (1989) found that authoritative parenting was associated with improved grades in the next academic year, indicating a directionality of the association. Steinberg et al. (1994) connected healthy psychological development and school success with authoritative parenting. Children of authoritative parents are consistently more competent and well-adjusted than children reared by other parenting styles (Baumrind, Larzelere & Owens, 2010). The positive associations of authoritative parenting hold true from early childhood through adolescents, in cross sectional studies and in longitudinal studies.

In addition to positive associations of higher grades, cognitive and social competence, healthy psychological development and work orientation, authoritative parenting is associated with fewer problem behaviors. Children raised by authoritative parenting report fewer psychological issues, physical complaints, school misconduct, drug use and delinquency (Lamborn et al., 1991).

The Indulgent Parenting Style

Indulgent parenting is associated with mixed outcomes. Children from indulgent parents are less autonomous than their peers from authoritarian and authoritative parents (Baumrind, Larzelere & Owens, 2010). Slicker (1998) found an association between

indulgent parenting, problem behaviors and negative adjustment in high school seniors. Children raised by indulgent parenting earn lower grades as high school students (Dornbusch et al., 1987). However, children raised by indulgent parents scored significantly better in social competence, self-reliance, and perception of academic competence than their peers from authoritarian parents (Lamborn, et.al., 1991). The researchers concluded, "parental acceptance and involvement may be the primary contributors to the development of positive self-conceptions and psychological well-being" (Lamborn, et al., 1991, p. 1063).

Disaggregating the Typologies

Parental style research in the 1980's and 1990's focused on distinguishing the child outcomes associated with specific parenting typologies, and established that authoritative parenting relates to positive outcomes in cognitive, behavioral and social domains. Recent research disaggregated the parenting style typologies to clarify the effects of behavioral/confrontive control and coercive control (Barber, Stolz & Olsen, 2005; Gray & Steinberg, 1999; Grolnick & Pomerantz, 2009). Gray & Steinberg found that better academic outcomes are associated with high levels of parental involvement and autonomy granting, along with modest levels of supervision and monitoring (1999). While Baumrind's typology of an authoritative parent is defined by high levels of confrontive power (what Gray & Steinberg called supervision and monitoring), Gray & Steinberg found that moderate levels of confrontive power are associated with the best academic outcomes.

Baumrind originally developed her typologies based on the observations and data collected from parents' interactions with young children.

Parental Challenge

While researchers such as Baumrind (2005, 2013), Baumrind, Lazerelere & Owens (2010) and Barber, Stolz & Olsen (2005) explicated the construct of demandingness into coercive and confrontive control, Dailey (2008) pursued the idea that demandingness may involve concepts other than control. Defining challenge as "behaviors that provide opportunities for stimulation or growth: pushing or testing the child's existing abilities or skills that may result in building or strengthening cognitive, behavior, social or affective knowledge or skills" (p. 644), Dailey contests challenge is one way in which parents help children to develop autonomy, and should be recognized as a component of parenting style. She notes that behavioral control is a confining construct, where parents have the expectation that children will comply. Challenge, however, is not confining. Parents who challenge their children provide invitations and encouragement for children to engage, debate or struggle with new skills or ideas. She developed the Parental Challenge Questionnaire (2008) with a Cronbach's alpha of .95 to investigate the concept of challenge. While parental monitoring may decrease as a child matures, parental challenge may increase as parents move from safeguarding children to providing opportunities for advanced autonomy development. Autonomy development may also result from adult unresponsiveness. Dailey's research provides insight into the mechanism behind the parental role in developing a child's autonomy.

Parental Involvement

As noted earlier, behavioral control in the form of parental monitoring and supervision may diminish with the child's maturity. One way in which parents may

continue to provide indirect behavioral control is in the form of parental involvement in their child's education both in terms of curricular and extra-curricular activities. Hoover-Dempsey and Sander published a model of the parental involvement process, postulating that parents had three sources of motivation for becoming involved with child learning (1995). The first source of motivation was parental motivational beliefs, consisting of role construction and parent self-efficacy. The second source of motivation was parents' perceptions of invitations to participate, including general invitations from the school (to attend an activity), invitations from a specific teacher, and invitations from their child. The third component of Hoover-Dempsey and Sander's model was parents' perceived life context, consisting of their perceived skills, knowledge, time and energy. A later study suggested that parents' interpersonal relationships with both children and teachers serve as the driving force behind parental involvement decisions (Green et al. (2007). Rather than investigating the mechanisms of why and how parents become involved in education, researchers such as Epstein focus on categorizing how parents are involved in children's education.

Epstein's Typology of Parental Involvement

Epstein investigated the effects of parental involvement on student outcomes. Epstein published a typology in 1991 consisting of five types of parental involvement, and expanded the typology 1994 to include assisting parents in child-rearing skills, school-parent communication, parent volunteerism in schools, involving parents in home-based learning, involving parents in school decision-making, and involving parents in school-community collaborations. By separating parental involvement into home-based and school-based activities, Epstein established two primary avenues for investigation.

Parental Involvement Programs

Mattingly et al. (2002) investigated school-based activities and conducted a meta-analysis of parental involvement program research. They concluded that the majority of the studies consisted of weak designs, and resulted in split results. Of the 41 research studies they analyzed, only four studies utilized a pre- and post-test and control group. From those four studies, two (McKinney, 1975 and Wise 1972, as cited by Mattingly et al.) reported significant outcomes that the program correlated with improved academic outcomes for students. Both of those programs reporting significant outcomes lasted for four or more months, and consisted of teaching parents of elementary school students how to assist students with homework. However, the other two studies with strong designs did not demonstrate a positive effect. Clearly there is a need for studies that utilize a pre- and post-test design with a control group to confirm if parental involvement programs are an effective use of increasingly scarce resources in schools.

Mattingly et al.'s meta-analysis revealed several important aspects about research on parental involvement programs. First, the majority of the programs studied focus on changing parental behavior in the areas of parenting and supporting home-learning, rather than incorporating parental involvement into school-based activities or school structure. Second, evaluations of parental involvement programs rarely provide evidence of the program's effectiveness. Rather than using student outcomes to evaluate efficacy, the evaluations relied upon respondents reporting on their perception of the program's effectiveness. Finally, the meta-analysis indicated that more research into the correlation between parental involvement in homework and student outcomes would be a worthwhile endeavor.

Sheldon and Epstein conducted a study that investigated four types of parent-school partnerships, rather than formal parental involvement programs (2005). They operationalized involvement into four categories: workshops, communication (conferences, progress reports), parent volunteers, and learning at home (homework interaction and games/learning activities). Out of those categories, only one area had a positive relationship with student academic outcomes: learning at home. The study investigated the effects on students in both elementary, middle and high school, but truncated the population groups, so that effects by age could not be discussed.

Parental Involvement and Academic Outcomes

Fan and Chen conducted a meta-analysis of kindergartners through twelfth graders (2001). They sorted studies involving parental involvement by grouping operational definitions into five categories: parental aspiration for child's education, parent-child communication (including help with homework), parent supervision, parental participation in school (conferences, volunteerism), and other. This study revealed a positive, moderate effect between parental aspirations and GPA (.397) and between parental participation and GPA (.317). Like Sheldon and Epstein's 2005 study, Fan and Chen truncated age groups, making it impossible to see if parental involvement effects are related to student age. However, in a separate study, Fan conducted a longitudinal survey study of middle and high school students indicating that parental aspirations, defined as parents' educational goals for students, is positively correlated to student grade point average (2001).

Jeynes' 2007 meta-analysis of 52 studies focused on parental involvement and urban high school student academic outcomes. He compared aspects of parental

involvement including parental expectations, parenting styles (supportive and helpful), homework checking, communication between parent/child regarding school, and attendance/participation at school events (like open houses). The largest effect on student academic achievement was parental expectations, defined as "parents' degree of high expectations of the student's ability to achieve at high levels" (p. 90). Parental expectation was strongly correlated with student achievement (Pearson's correlation coefficient of .88), nearly twice the effect as the moderate-strong relationship of parenting style (.45). Parent-child communication regarding school activities was also moderately correlated (.39) with academic outcomes. Jeynes concluded that subtle aspects of parental involvement such as parenting style and expectation have a greater impact on student outcomes than demonstrative activities such as attendance.

These findings connect back to Baumrind's 1966 model of parenting styles (authoritative, authoritarian, and permissive) applied to young children and Dornbusch et al.'s 1987 study asserting that parenting style can predict academic outcomes in adolescents. Their results indicated that authoritative parenting styles are correlated with better student academic performance, which was supported by an additional study conducted in 1991 (Lamborn et al.). Authoritative parenting, defined as clear expectations for mature behavior, establishment of standards, and encouragement of child independence and open communication dovetails with Jeynes' (2007) findings that parenting style impacts academic achievement. Dornbusch et al. reported that parenting style changes with student age (1987). If parenting style changes with student age, it is reasonable to expect that the style of parental involvement in their child's education will change as well.

Sheldon and Van Voorhis' 2004 study investigated parent-school partnerships and found that elementary schools report more parent volunteerism than secondary schools. However, secondary schools report that parents are more involved in decision making committees than elementary school parents. While it has been widely accepted that parental involvement in school volunteerism and homework assistance decreases as the student enters middle and high school, Sheldon and Van Voorhis indicate that the type of parental involvement changes over time, rather than decreasing. However, Singh et al. reported that the relationship between parental involvement and academic outcomes decreases between elementary school and middle school (as cited by Hill and Tyson, 2009). Students go through significant changes in physical, mental, social and cognitive growth in the years bridging childhood to young adult; the effect of these changes on the parental role in education could be the factor confounding the relationship between type of parental involvement and academic success.

Fan (2001) noted the discrepancy in outcomes between parental involvement and academic outcomes. His study showed that elementary students demonstrated consistent, positive correlations between parental involvement and student grades, but there was no measureable effect for middle school or high school students. Many studies, like Sheldon and Epstein (2005) focus on elementary students, but there is a growing field of research focusing on adolescence. Cripps and Zyromski (2009) write that parental involvement is critical to adolescence because the "level of involvement signals to youths their importance to the parent" (citing Gecas and Schwalbe, 1986).

Chen and Gregor (2010) pursued the idea that parental involvement changes with stage of life. Their study found that parental involvement through high expectations for

student achievement is more predictive for academic outcomes than participation in parent-teacher conferences or homework help for adolescents. Middle school is a time of transition for students, in terms of physical growth and school structure, going from one teacher, one class to larger schools with multiple teachers and classrooms in the course of a day. Hill and Tyson (2009) speculate that because middle school students do not need direct parental involvement, parents' efforts may be less effective for academic outcomes.

Academic Socialization. Hill and Tyson introduced the idea of academic socialization, where parents, instead of being involved in education through direct means such as homework assistance and volunteerism, shift their involvement to indirect measures (2009). Parents socialize their adolescents to a more academic world through activities including communicating parental expectations for education, connecting school work to current events, fostering educational and occupational aspirations, discussing learning strategies and making future plans with their children (Hill & Tyson, 2009). By supporting education through this academic socialization parents stay involved, but indirectly, which fosters an adolescent's growth toward autonomy. This framework supports Dornbusch et al.'s 1987 and 1991 research correlating academic performance and authoritative parenting styles that consist of clear expectations, standards of behavior, encouraging child independence and open communication.

Hill and Tyson conducted a meta-analysis using this academic socialization construct and found that among types of parental involvement, academic socialization had the strongest positive relationship with academic achievement, and that direct help with homework is not consistently related. They speculate that homework is

inconsistently related because students may first be experiencing poor grades, which causes the parental involvement (2009).

The construct of academic socialization also helps to explain why some studies find that for lower SES families, or families of immigrants, parental involvement does not correlate to academic success. Hill et al. (2004) found that for lower SES families, parental involvement increases student aspirations, but does not affect student outcomes. Carpenter (2008) found an inverse relationship between parental expectations and student achievement in a study of Latino students of first generation immigrants. For both of these groups, parents may have lacked the social capital to help adolescents navigate into the more academically rigorous world of middle and high school.

Parent educational involvement appears to change as children mature, and may be linked to parenting styles by way of parental behavior control and challenge. Like parenting style, parental involvement appears to be linked with parental assumptions and beliefs regarding the parent/child relationship and the roles of each party within the relationship. Another perspective to investigate is the potential relationship between parent behavior and social class.

Lareau's Theory of Cultural Logic

Overview of Lareau's Work

Lareau (2011) investigated the relationship between parenting and social class as it relates to education. Lareau conducted a mixed methods study consisting of naturalistic observations of 12 families from different socio-economic background with children between the ages of 9 and 10 years old. The study consisted of 20 home visits in one month per family, for a length of three hours per visit. While her population was too

small to generalize, she suggests that parenting strategies relate to social class membership (Lareau, 2011). She concludes that there are two types of strategies or cultural theories for child-rearing: natural growth and concerted cultivation. She theorizes that these strategies provide different outcomes for children.

Natural growth. Lareau theorizes that poor and working class parents focus predominantly on providing basic support, including food, shelter and comfort for their children to facilitate their natural growth (Lareau, 2011). Parents whose focus is on providing these elements of natural growth have limited time and energy to interact with their children, resulting in more separate lives for parents and children. Lareau noted communication style and social interactions reinforce this boundary, with parents speaking in directives to children, rather than employing persuasion. Hart & Risley's (1995) work supports Lareau's conclusion, as they found parental utterances vary by social class, with parents from lower socioeconomic backgrounds speaking significantly fewer words per day to their children than middle class parents.

Lareau observed in addition to shaping parenting-child interactions, parenting strategies also shape interactions of both students and parents with educators and administrators. Lareau (1987) found that low income parents often rely on the school to help students, because of parental belief that they (the parent) lack the requisite skills to help their children in regard to learning. Poor and working class parents tend to be more respectful of teacher professional expertise, and less likely to challenge teacher pedagogy or policies (Lareau, 2011). This minimizes the child's exposure to guided opportunities to navigate institutional interactions to their advantage. Children reared by natural growth appear less likely to demand differential treatment from the teacher, and tend to accept

the actions of adult authority figures (Lareau, 2011). The natural growth strategy may disadvantage children at both at school and in organized activities.

The natural growth model indicates that poor and working class children participate less in organized activities. Parents employing the natural growth strategy focus on meeting children's basic needs, not on children's activities. Based on the families observed in her study, Lareau asserts that when parents focus on providing basic essentials, children's activities are "inconsequential" (2011, p. 36). Organized activities such as team sports, music lessons, and clubs afford children with increased opportunities to interact with adults in a variety of settings. Lareau believes these interactions better prepare children for successful interactions in institutional settings such as school and the professional work environment (2011).

While the natural growth strategy may constrain children in regard to interactions with adults and in formal institutional settings, Lareau theorizes that the natural growth strategy results in interpersonal skill development with other children. Children reared by the natural growth strategy experience more leisure time and more autonomy over their leisure time than their middle and upper class peers (Lareau, 2011).

She found that poor and working class children spend long periods of time away from parents, and more time playing with children of varying ages than their middle class peers (Lareau, 2011). These groups function without adult monitoring, thus children learn "how to construct and sustain friendships on their own, and how to organize and negotiate" Lareau, 2011, p. 79). Children raised by natural growth demonstrate skills in peer mediation, conflict management, personal responsibility and strategizing (Lareau, 2011). Lareau argues that both the natural growth and the concerted cultivation parenting

strategy benefit children; however, concerted cultivation may advantage children in educational settings.

Concerted cultivation. While lower and working class parents tend to use the natural growth strategy, Lareau's observations indicate that middle and upper class parents tend to use concerted cultivation in rearing their children. Lareau (2011) describes concerted cultivation as a parenting strategy that focuses on the deliberate stimulation of the child's development to foster cognitive and social skills. She argues that parental involvement is a key component of concerted cultivation, and that this strategy results in children gaining a sense of being entitled to have adult attention on every detail of their life (Lareau, 2011). While natural growth separates the world of children from adults, concerted cultivations draws children into the world of adults by teaching children to question adults, to address them as relative equals, and to expect adult attention on their activities (Lareau, 2011).

Concerted cultivation is characterized from natural growth in part by the parent-child communication style. One aspect of concerted cultivation is the deliberate "transmission of verbal skills that enable children to make special requests of adults in positions of power (Lareau, 2011, p. 111). This transmission occurs through parents being engaged in extensive conversations with children, asking questions, probing children's assertions and listening to answers. Lareau believes this communication results in children who are not only comfortable with, but also feel entitled to voicing opinions, making special requests and offering advice to adults (2011).

Laureau theorizes that concerted cultivation leads to greater verbal skills in children, larger vocabularies, and increased comfort interacting with authority figures.

Therefore, children raised using concerted cultivation learn how to articulate their own views through parent-guided discussions, and how to employ reasoning, as parents use reasoning as the foundation of their discipline (Lareau, 2011). Another advantage is that these conversations may introduce or deepen knowledge of school subjects, and familiarize children with the patterns of interaction that characterize the classroom and adult organizational settings (Lareau, 2011)

Concerted cultivation emphasizes education. Devine investigated how parents prepare children for the work force, and concluded that middle class parents encourage child learning from an early age, and expect children's curiosity and inquisitiveness to be stimulated further in school (2004). She also notes that middle class parents closely monitor children's academic performance, and possess the cultural capital to understand the educational system, how children ought to perform, and their role in facilitating their children's success (Devine, 2004). Concerted cultivation focuses on learning and enrichment both in and out of the classroom.

Lareau characterizes concerted cultivation as increased child participation in organized activities. Children of professionally-employed children participated in an average of 4.6 organized activities per week, compared to 2.3 activities per week for working class families (Lareau, 2003). Participation in organized activities helps children in setting priorities, managing itineraries and interacting with adults (shaking hands, maintaining direct eye contact) and working as a team (Lareau, 2011). Because college admissions considers extracurricular activities as beneficial, increased participation in these activities provide middle and upper class children with advantages in the

application process (Lareau, 2011). Lareau (2011) and Devine (2004)'s work indicates the need to control for social class when investigating parenting behaviors.

Meshing Lareau's theory of cultural logic with Baumrind's typologies of parental control (1966) is problematic. Concerted cultivation requires high levels of parental involvement in education, and parents actively coach children to navigate institutional settings by activating cultural capital, akin to authoritative parenting. However, natural growth has elements of both authoritarian and permissive parenting. Authoritarian parenting tends to communicate through directives rather than discussion, which is similar to Lareau's natural growth. But authoritarian parenting is also categorized by constraining the child's autonomy development, whereas natural growth allows children high degrees of freedom, which is more similar to permissive parenting. The challenge in aligning Laureau's work and Baumrind's typology is that each reflects a different aspect of parenting: Baumrind's work reflects parental attitudes regarding autonomy development in their offspring, whereas Lareau's work hinges on parental ability to activate cultural capital.

Student Success

Parents who employ concerted cultivation may do so in an effort to promote student success. Traditionally, educational professionals, parents and students define undergraduate student success in terms of performance (i.e. grade point average) or persistence (i.e. retention or graduation rates). As mentioned earlier, using student grades to measure success is problematic due to variances in course content, teacher grading discrepancies, and variances in assignments and in institutions. Using persistence to measure student success is also problematic, as variances exist in the student population

and in institutions. Bluntly stated, some students are not as academically prepared as others, and some institutions are more rigorous than others.

More complex measures of student success exist. For example, student success may include learning gains, student satisfaction, student belonging, and student engagement (Kuh, 2007; Pacarella & Terenzini, 2005). Perna & Thomas (2008) define student success on the basis of transitions: college readiness, college enrollment, college achievement, and post-college attainment. Braxton (2008) defined success as consisting of eight domains: academic attainment, acquisition of general education, development of academic competence, development of cognitive skills and intellectual dispositions, occupational attainment, preparation for adulthood and citizenship, personal accomplishments, and personal development. A robust definition of student success should include multiple aspects of learning, including cognition, decision-making, and adjustment (Brown & Iyengar, 2010).

Flourishing. From the field of positive psychology, Keyes & Haidt (2003) introduced the concept of *flourishing* to describe a person who is "filled with emotional, psychological and social well-being" (p. 11). Flourishing is a result of positive relationships, meeting personal challenges and engagement with the world (Schreiner et al., 2009). This concept encompasses multiple dimensions of a life well-lived, providing a broad scope through which to define a successful life. Schreiner et al., (2009) investigated the construct of flourishing in regard to an undergraduate student population, resulting in her concept of *thriving*.

Thriving. Thriving combines the psychological well-being theory behind flourishing with student retention literature resulting in a construct that is specific to

student success and persistence (Schreiner et al., 2009). They theorize that three key areas contribute to student success and persistence: academic engagement/performance, interpersonal relationships, and intra-personal well-being (Schreiner et al., 2009). Where flourishing is specific to psychological well-being, thriving encompasses academic engagement, self-regulated learning, goal setting, effort regulation, openness to differences, citizenship and the psychological sense of community on a campus (Schreiner et al., 2009). In a study of 35 private and 18 public four-year colleges, thriving predicted 31% of the variance in college grades (Schreiner, Edens & McIntosh, 2011). This study uses Schreiner et al.'s concept of thriving to measure student success, as it captures multiple domains of student success. Thriving, therefore, is an indicator of undergraduate students' academic engagement, self-regulated effort and learning, accomplishment in interpersonal relationships, and connectedness to community. Thriving provides a robust indication of student success beyond performance and persistence.

Conceptual Framework

This study explores their relationship of parenting style, parental involvement, parental influence, and student success. While focusing on the emerging adult population enrolled in undergraduate college, the study integrates literature from the fields of education, family studies, higher education retention, and psychology. I define parenting style as consisting of three parts: parental responsiveness, parental demandingness, and parental challenge. These three dimensions are in-line with Schaefer's (1965) original analysis of parenting behaviors. Schaeffer's work identified a scale of acceptance/rejection, measured through sharing, expression of affection, emotional

support and equalitarian treatment (1965). Maccoby and Martin (1983) narrowed the definition of acceptance/rejection with the term responsiveness. This study uses Maccoby and Martin's conceptualization of responsiveness, a parent's attunement to the needs of their child and willingness to respond, as a dimension of parenting.

Schaeffer (1965) identified two other dimensions of parenting: psychological autonomy/control and firm/lax control. Maccoby and Martin (1983) clustered these dimensions together under the term demandingness, which includes maturity demands, supervision, discipline, and willingness to confront a misbehaving child (Baumrind, 1991). Darling's (1993) work clarified that there are two underlying mechanisms within demandingness: parental psychological (or coercive) control, and parental behavioral control. Darling's work provides a twist on Schaeffer's conceptualization. Both Darling and Schaeffer identify psychological control as a dimension of parenting style, and both identify firm control (Schaeffer) or behavioral control (Darling).

Gray & Steinberg's (1999) study provides support that as students mature, it is reasonable to expect that parental behavioral will diminish. In the same way that parents closely supervise toddlers by a street, but then stop holding their hands at street corners somewhere during the elementary years, as an adolescent matures the degree of supervision over the adolescent's activities should change. Following similar reasoning, this study, which focuses on college-aged children, does not include aspects of parental monitoring such as when a child is expected to be home in the evening, or how much time they spend watching television or playing computer games. Instead, this study measures behavior control (what other researchers have called monitoring, supervision, firm discipline or confrontive control) as parental awareness of how their college-aged

child spends their money and free time, and who their friends are. While parental behaviors indicative of the behavioral control dimension to demandingness may change with the child's maturity, the psychological control behaviors are consistent, regardless of child maturity. Therefore, the demandingness dimension of parenting style consists of psychological and behavioral control

The third dimension I use to define parenting style is parental challenge, based on Dailey's (2008) research. Dailey asserts that challenge, defined as opportunities parents provide to the child to push or test the child's existing abilities or skills, is an important component for developing autonomy (2008). Dailey's work aligns with Schaeffer's psychological autonomy dimension of parenting. Because emerging adults are gaining autonomy, it seems logical to investigate challenge as a specific dimension of parenting style. As children age, it makes sense that parenting changes. Parents move from holding a child's hand when they cross the street to allowing a child to walk across the street with an adult, to crossing the street without an adult. In the same way, parental behavioral control may be less important to an emerging adult, but parental challenge may emerge as more important. For these reasons, I conceptualize parenting style to consist of responsiveness, demandingness and challenge.

Significant research supports the relationship between parenting style and child cognitive, interpersonal, and behavioral outcomes (Baumrind, 1978; Baumrind, Larzelere & Owens, 2010; Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Lamborn, Mounts, Steinberg & Dornbusch, 1991; Steinberg, Elmen & Mounts, 1989; Steinberg, Lamborn, Darling, Mounts, & Dornbusch; 1994; Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh's 1987). Most of this research is based on preschoolers through high school

students. It is logical that the relationship between parenting style and child outcomes would extend into the emerging adult years. This relationship could be measured as student success, as defined by Schreiner et al.'s (2009) concept of thriving.

Parenting style may relate to parental involvement. Schaeffer (1965) identified that some parents are disengaged from their child (rejecting) as did Baumrind (the neglectful, authoritarian and indulgent parenting styles) (1966). A parent who is disengaged from parent-child interactions may not be as involved in their child's education as a parent who is fully engaged.

There are well-documented benefits of parental involvement in education (Cripps & Zyromski, 2009; Fan, 2001; Fan & Chen, 2001; Hill & Tyson, 2009; Jeynes, 2007; Sheldon & Epstein, 2005; Sheldon & Van Voorhis, 2004). While extensive literature exists on the benefits of parental involvement in elementary and middle school aged children, the quantity of research decreases with the child's age. It is reasonable to suggest that the benefits of parental involvement in education extend into the college years. Hill & Tyson (2009) found that the type of parental involvement changes as the child ages. Therefore, this study operationalizes parental involvement in their child's education to consist of both direct and indirect forms of involvement. By disaggregating the nature of the involvement, I hope to identify which forms of parental involvement relate to undergraduate student success.

While not conceptualized as a form of either parental involvement or parenting style, parent-initiated communication appears to be an important aspect of parenting to investigate (Hofer, 2010). The conceptual framework (below) indicates that parenting style impacts communication frequency, as does parental involvement. In addition,

parental involvement (and therefore communication frequency) may vary with students' tenure in school (if they are part of the freshman, sophomore, junior or senior cohort.)

Although research exists on parental influence on teen decision making, I found no literature relating to parental influence on student success separate from parental involvement or parenting style. While a parent may be hyper-involved in a child's life, if the child does not welcome their involvement, the impact of parental involvement may vary. Therefore, my framework includes parental influence as an intervening variable. Parental influence may be affected by parenting style, parental involvement, student cohort, the frequency of student visits home, and communication frequency. It may also relate to a parent's financial support of college costs. It is logical that parental influence may be a factor in an undergraduate student's success.

According to the Coleman report referenced earlier, family background factors are more predictive of students' academic success than school structure. Therefore, in my model, family background variables impinge on student success, the dependent variable. These include parental educational attainment, parental marital status and race/ethnicity. Retention literature indicates that one of the best predictors of college graduation is parental educational attainment, because college graduates tend to model and value the pursuit of advanced degrees and provide access to interpersonal and economic resources necessary to complete the degree (Lareau, 2011; Melby, Conger, Fang, Wickrama & Conger, 2008). Melby et al., 2008 found that parental education attainment, per capita income, and occupational prestige all positively correlate with student educational attainment. Because students may not know or feel comfortable reporting parental income, this study also uses parental educational attainment as a proxy variable for

parental SES. According to Nakao & Treas (1992), parental education attainment provides a better indicator than income in determining social class. Lareau (2011)'s work on concerted cultivation and natural growth indicates that SES impacts parenting style and parental involvement.

It makes sense to also control for parental marital status, as married couples may have more time and fiscal resources to invest in raising their children than a single parent (American Psychological Association, 2013). Finally, controlling for race is a standard practice in educational research due to persistent disparities in academic outcomes (Perna & Titus, 2005).

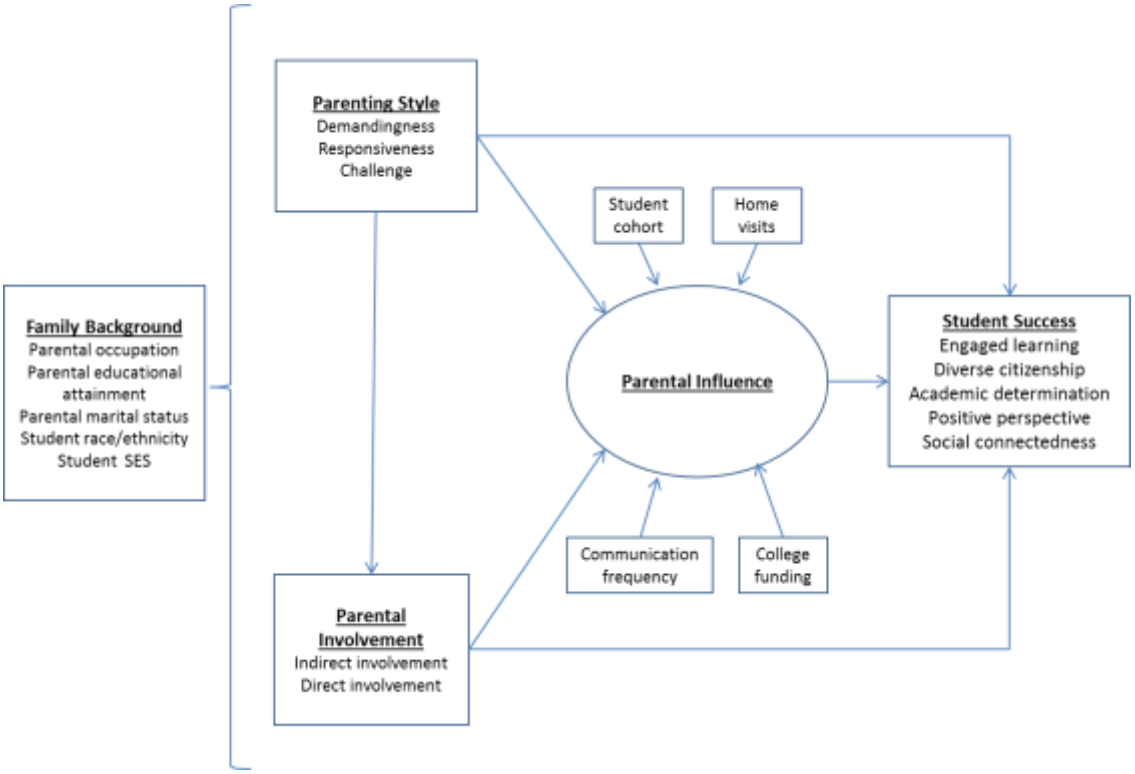

Figure 4. Conceptual framework for study.

The conceptual framework, above, demonstrates that family background directly impinges on parental involvement and parenting style, and indirectly on parental influence and student success. Parenting style directly relates to parental involvement,

parental influence and to student success. Parental involvement directly relates to parental influence and student success. The conceptual model indicates that an interaction effect may be present among parental involvement, parenting style and/or parent influence. The research questions are:

- Does undergraduate student perception of parental involvement, parenting style and parental influence relate to student success as measured by the Thriving Quotient?
- Do interactions exist among parental style, parental involvement and/or parental influence relative to success?

Summary of Chapter 2

Parental assumptions and beliefs regarding the parent/child relationship and the roles of each party within the relationship appear to be inexorably entwined in the constructs of parenting styles and parental involvement in education. This chapter reviewed how research on parenting styles encompasses two main dimensions: warmth/responsiveness and demandingness (consisting of behavioral control, coercive control and challenge). Parental involvement research focuses on direct forms of parental involvement such as homework assistance and parent/teacher conferences and indirect educational involvement (academic socialization) by which parents communicate educational expectations, career aspirations and knowledge of the educational system. This study seeks to integrate research on parenting styles and parental involvement and expand prior work to older adolescents and emerging adults in the undergraduate setting. The next chapter outlines the research questions, designs, operational definitions and data collection and analysis.

CHAPTER 3

METHODS

In the preceding chapter, I reviewed studies pertaining to the relationship between parental involvement and student success and between parenting style and student success. Ample studies on these topics using elementary school aged students exist; however, the amount of literature decreases with student age. Scant literature exists that explores relationships concerning parental involvement on the college level. None of these studies connect parental involvement, parenting style and parental influence on undergraduate student success. The purpose of this study is to connect the literature on parental involvement, parenting style and parental influence to student success as measured by the Schreiner et al.'s Thriving Quotient (2009), which conceptualizes success as thriving academically, interpersonally, and intrapersonally. This chapter provides a description of the research design, data collection, data analysis plan, limitations, and ethical considerations.

Purpose of Study

This research explores possible correlations among parental involvement, parenting style, and parental influence on undergraduate student success. By isolating which aspects of parental involvement positively relate with academic success, higher education institutions may develop policies and parental programs to better inform and coach administrators, instructors and parents on parental involvement that positively impacts college students. This study will add to the body of knowledge on the relationship among parental involvement and student success. It extends the existing literature by connecting involvement, parenting style and social class. As most of the

existing literature pertains to K-12 education, this study expands the knowledge to the higher education setting.

Information gleaned from this study will benefit administration, policy makers, academic advisors, parents and students. It can inform institutional policies regarding retention rates, and strategies to promote positive parental involvement. This study can inform academic advising and parental coaching in the college setting, to promote academic success and retention. It may assist students to understand their development, and how their efforts may promote personal thriving, positive ownership of the educational experience and college success.

Research Questions

Positive psychology suggests that success may be defined by the multi-dimensional concept of thriving. Student success, as indicated by educational literature, connects with parental involvement on the elementary and secondary level. The literature suggests that parent-child bonds reach into college-aged children and even further into young adulthood, therefore, it the relationship of parental involvement on undergraduate success seems logical. Parenting literature indicates that parenting style relates to student cognitive, social and behavioral success. It seems logical that the relationship of parenting style may vary with the degree of influence a student ascribes to their parent. It also seems logical that relationships would exist among parental influence, involvement, and style relative to student success at the college level. This invokes the following research questions:

- Does undergraduate student perception of parental involvement, parenting style and parental influence relate to student success as measured by the Thriving Quotient?
- Do interactions exist among parental style, parental involvement and/or parental influence relative to success?

This study approaches these questions from a post-positivist framework, using quantitative methodology. A quantitative approach facilitates hypothetical deductive generalizations (Patton, 2002). This approach is appropriate because the research purpose is to quantify types and levels of parental involvement, parenting style and parent influence, and to determine if those variables relate with student success. The advantages of using quantitative variables include "parsimony, precision, and ease of analysis" (Patton, 2002, p. 60). This type of approach facilitates the comparison of a large number of responses and the statistical aggregation of data (Patton, 2002). There is well-defined theory supporting both parenting style and parental involvement. A quantitative methodology is also appropriate because this study investigates the severity and extent of the variables within a larger population.

Research Design

This study uses a cross-sectional survey to gather student-reported data. Because this is a population survey, there is no need for sampling. A population survey also allows for generalization to the population.

Cross-sectional surveys help to determine the frequency or level of a particular attribute in a defined population at a particular point in time (Chapter 10 Cross-sectional surveys – *www.iarc.fr/en/publications/pdfs-online/epi/.../CancerEpi-**10**.pdf)*. They are also

useful in assessing attitudes and beliefs of a population. Because this study focuses on student perception of parental involvement, parenting styles and parent influence, a cross-sectional study is appropriate.

While cross-sectional research traditionally does not permit causal inferences due to the inability to establish time order (Cook & Campbell, 1979), this study utilizes a contiguous cohort design that facilitates comparisons. According to Cook & Campbell, "it is reasonable to assume that a cohort differs in only minor ways from its contiguous cohorts" (1979, p. 127). A "quasi-comparability" can be assumed between cohorts, making this design useful for establishing causal inferences (Cook & Campbell, 1979). The study may be further strengthened by using a selection cohort design with treatment partitioning. Since data collection included Likert scaling reflecting differing levels of involvement and communication, I can partition respondents into treatment groups based on the extent of their experience. This greatly strengthens the internal validity of the cohort design (Cook & Campbell, 1979). The resulting data are "especially interpretable in causal terms if there are different levels of treatment and the data analysis reveals that these statistically interact with the cohort group" (Cook & Campbell, 1979, p. 131).

Operational Definitions

The dependent variable for this study is student success, collected through Schreiner et al.'s (2009) Thriving Quotient (TQ). There are three independent variables: parental involvement, parenting style, and parental influence. Control variables include race, sex, social class, student cohort, and student residential status. Data for all variables come from the student; therefore, information pertaining to parents is from the student perspective. The operational definitions for each variable appear below.

Student Success

This study uses the Schreiner's et al.'s (2009) Thriving Quotient as a measure of academic, interpersonal and intrapersonal success. Schreiner et al. piloted Stage 1 in 2008 with 2,474 students in 13 colleges. She combined 13 instruments totaling 198 questions. After eliminating redundant items, the research team calculated the Cronbach's alpha for each scale to determine reliability. Next, they conducted principle components analysis and varimax rotation. They identified items for elimination based on low or cross-loadings, and conducted multiple regressions to determine the remaining seven factors. The Eigen values for each of the 5 factors were 1.0 or higher, with total alpha of .86. By the conclusion of Stage 1, the instrument consisted of 70 items (Schreiner et al., 2009).

During the second stage in developing the Thriving Quotient, the researchers conducted focus groups on five campuses, rewording the remaining 70 items. That process resulted in refining the instrument to 26 items, each using a 6-point Likert scale. The principle components analysis with varimax rotation resulted in five factors explaining 51.6% of variance. The researchers next tested the remaining questions using a large population.

The third stage in developing the Thriving Quotient was to test the instrument using 20,636 undergraduates from 92 public and private four-year institutions of higher learning. The combined alpha for the instrument is .89 (Schreiner, Louis, & Nelson, 2012; Schreiner, 2012), indicating the instrument provides a reliable measure with strong content validity related to student success. The resulting five subscales and their alphas are reported below.

Engaged learning. "A measure of the degree to which students are meaningfully processing what happens in class, energized by what they are learning, and continuing to think about it outside of class" with a reported alpha of .85 (Schreiner, 2012).

Diverse citizenship. "A measure of students' desire to make a difference in the community around them, as well as their openness to differences in others with a reported alpha of .80 (Schreiner, 2012).

Academic determination. "A measure of students' goal-directedness, investment of effort, and regulation of their own learning and use of time" with a reported alpha of .83 (Schreiner, 2012).

Positive perspective. "A measure of students' optimism, explanatory style, and subjective well-being" with a reported alpha of .83 (Schreiner et al. 2009).

Social connectedness. "A measure of students' involvement in healthy relationships and social support networks, whether on or off campus" with a reported alpha of .81 (Schreiner, 2012).

The Thriving Quotient is a more sensitive instrument than G.P.A. Using student G.P.A. as a measure of student success is problematic for several reasons. First, grades are a single measure of student academic success, which does not provide an indication of their participation in a larger social community or of their internal perseverance or positive orientation. Second, grading scales vary by institution and by instructor, which is problematic for comparison. Third, grades may also vary by major or by cohort. An A in a first-year class may not require the same effort as an A in a senior year seminar. An A from a physical education course may not be the same indicator of success as an A from an Advanced Physics course. The TQ uses a more holistic construct than a student's

grade point average (G.P.A.); it incorporates both cognitive and psychosocial components. The psychological components captured by the TQ are malleable aspects that are susceptible to interventions (Schreiner et al., 2009). The questions contained in the measure are listed in Appendix D.

While the Thriving Quotient is a holistic measure of success, student G.P.A. is a commonly used metric of academic achievement. This study collects a self-report of student academic achievement of cumulative G.P.A. in addition to the Thriving Quotient. Freshman students will not be able to report their first-semester G.P.A. at the point of data collection, therefore, for freshman, the survey asks for their high school G.P.A.

Parental Support Provider(s)

To accommodate the variety existing in family structures, rather than assume a student identifies their parent as their biological, adoptive or step-parent, this student broadens the definition of parent to the people providing parental support in their lives. This may include a single parent, a parent and a step-parent, foster parents, grandparents, biological parents that are married to each other, or other variations of parental support.

Parental Involvement

Parent involvement is defined as the way in which parental support provider(s) engage in their child's college education. This study operationalizes parental involvement to consist of two components: direct and indirect parental involvement. I will factor analyze questions pertaining to parental involvement to see if one or more factors exist. Each concept is defined below.

Indirect involvement. This study adapts Hill & Tyson's (2004) definition of academic socialization to a college setting. These activities are indirect methods to help

students academically. Academic socialization is measured as the student report of the emphasis the parental support provider(s) place on the following activities on a scale of 1-5. The parental activities are:

- Expressing the importance of attending class, earning good grades and earning a degree,
- Having a plan to secure a job after college that utilizes a college degree,
- Cultivating good relationships with professors, advisors and other campus professionals,
- Providing specific advice regarding how to improve my grades, such as strategies on how to take notes, how to study, or resources on campus to consider using, etc.

In addition, based on Schreiner's 2010 description of engaged learning, I will include a question regarding discussing classroom learning outside of school.

Direct involvement. This is defined as parental likelihood to become directly involved in assisting students with academic issues. The survey question "My parents are likely to do the following activities to help me with college" on a scale of 1-5 from highly unlikely to highly likely.

- Edit my paper or project, remind me to work on a specific paper/project, study for a specific test or call/text me a reminder when a class starts.
- Contact a professor, R.A.'s, or school administrator to resolve a problem I am experiencing such as grade disputes, roommate issues, registration issues, or program requirements.

Communication Frequency

Communication frequency is defined as students' self- report of the number of times in a typical week since the beginning of the current semester that parental support provider(s) initiate communication with their college student irrespective of the communication method (i.e., text messaging, email, phone calls, video chats, or visits).

Parental Influence

Parental influence is defined as students' self-report of their parental support provider(s)' influence on their decision making. Students are asked to "When my parental support provider(s) offer me advice, I consider their advice," with a response scale of 1 – 7. While scant research addresses parental influence on their children, it is logical that influence addresses the intensity of parental involvement. If influence and involvement or influence and style interact, the coefficient for the multiplicative value will be significant.

Parenting Style

Parenting style is defined as the relationship established by the parent with the child. The relationship may be characterized by emotional warmth/support (Barber, 2005), parental responsiveness (Maccoby & Martin, 1983), coercive control (Baumrind, 2005, 2013; Baumrind, Larzelere & Owens, 2010; Dailey, 2008; Grolnick & Pomerantz, 2009) and parental challenge (Dailey, 2008). Each of these elements relates to parental assumptions and beliefs regarding the parent/child relationship and the roles of each party within the relationship. I will factor analyze the survey questions pertaining to parenting style to determine if one or more factors exist.

Responsiveness. Parental responsiveness is defined as the parents' awareness of a child's needs and the parents' engagement towards meeting the need. I measure

responsiveness by questions such as: I feel better after talking with my parents, my parents smile at me often, and my parents make me feel special and loved.

Parental control. Following Baumrind's (2013) recommendations, I include questions to distinguish between parental use of confrontive control and coercive control.

Confrontive control. Confrontive control includes parental monitoring of children's schedules, peer associations, activities and physical whereabouts (Baumrind, 2013). This study asks students how well their parental support provider(s) really knows what they spend their money on, what they do with their free time, and who their friends are. Originally created as a 3-point scale, I modified the scale to five points to provide consistent scales for data analysis.

Coercive control. Baumrind classifies activities such as guilt-induction, love withdrawal, shaming and the invalidation of feelings as coercive control (Baumrind, 2013). Originally created as a 3-point scale, I modified the scale to five points to provide consistent scales for data analysis. Students are asked if the following activities describe their parental support provider(s):

- Are always trying to change how I feel or think about things.
- Change the subject whenever I have something to say, or often interrupts me.
- Blame me for other family members' problems.
- Bring up past mistakes when they criticize me.
- Is less friendly with me if I do not see things their way.
- If I have hurt their feelings, stops talking to me until I please them again..

Parental Challenge. Based on Dailey's (2008) work separating challenge from demandingness, challenge is defined as parental engagement focusing on building or strengthening a child's cognitive, behavior or social skills. Originally created as a 7-point

scale, I modified the scale to five points to provide consistent scales for data analysis. My parental support provider(s):

- asks me what I learned from my bad experiences or tough situations.
- asks me to explain the reasoning behind my decisions.
- encourages me to make my own decisions even though I might make a few mistakes.
- engages in discussions or debates with me about ideas or complex issues
- expects me to deal with the consequences of my decisions or behaviors.

Control Variables

Parental educational attainment. Retention literature indicates the need to control for first-generation college students. This question requests the highest level of education achieved by the parental support provider(s). According to Nakao & Treas (1992), this information provides a better indicator than income in determining social class, so this information may also be used to estimate the parental support unit's socio-economic status. Oakes (n.d.) echoes Nakao & Treas, stating "educational attainment is an excellent proxy measure of socioeconomic status."

Household income estimate. Socioeconomic status is a complex construct, and a latent variable that can't be directly measured (Oakes, n.d.). As a proxy measure, this study uses student estimate of the combined household earnings of their parental support provider(s). Using the U.S. Department of Commerce's quartiles from their 2010 "Middle Class in America" report, students are presented with five options: up to $21,800, between $21,801 and $51,000, between $51,001 and $81,000, between $81,001 and $122,800, and over $122,801.

Student socio-economic status. Because students may not have an accurate estimate of family income, or because they may not be comfortable sharing that data, I also incorporate two additional variables to assist in measuring SES. I collect data regarding the student's financial responsibility for their college education.

College funding. The degree to which students contribute financially to their education provides an indicator of student SES. One survey question elicits information regarding the a rough estimate of how much of the educational cost the student bears, and how much the parental support provider(s) contributes, if any.

Pell grants. Pell grants are awarded to the neediest students. During the 2010-11 academic year, 74% of Pell grant recipients had family incomes of $30,000 or less (U.S. Department of Education, 2012). Interviews with the institution's Financial Aid Director established that 38.39% of full-time students enrolled in the 2012-13 academic year received Pell grants.

Parental support provider(s)'s marital status. This variable describes the parental support providers' marital status from the following options: single, married, divorced, divorced and remarried, or cohabitating.

Race/ethnicity. As defined by the U.S. Office of Management and Budget (1997), this term describes "groups to which individuals belong, identify with or belong in the eyes of the community." Participants select the group best describing them from the following choices: African-American, Asian-American, Caucasian, Hispanic or Latino, or Other. This coding reflects that used by the U.S. Census Bureau and the Federal Pell Grant Program.

Sex. Sex of the student participant, a dichotomous variable coded 0 for male and 1 for female.

Cohort. The classification of academic cohort based on the number of credits the student has earned (e.g. first-year/freshman, sophomore, junior, or senior).

SAT score. To compare if cohorts significantly differ, student SAT scores were obtained from the institution's Institutional Research Office.

Residential status. Students who reside at home and commute to school have different levels of exposure to their parents than students who don't live at home during the college semesters. Therefore, one question elicits if students reside with their parents during the fall academic semester, coded as a dichotomous variable (yes/no).

The complete survey appears in Appendix C.

Measurement Issues

The study uses an electronic survey to collect data from student participants. The survey consists of two measures. The first measure is a set of researcher-developed survey questions to collect data on the independent variables (parental involvement, parenting styles, and parental influence) and the control variables. Survey questions for this measure originate from previous research identified in the literature review. The use of a topic map ensures coverage for each variable and helps to evaluate questions for content validity.

The instrument underwent testing using a cognitive interviewing technique with undergraduate students not participating in the study to identify and resolve problematic or ambiguous wording. This technique examined covert cognitive thought processes, which helps to minimize response error (Willis, 1999). Survey questions underwent

subsequent revisions based on non-participant volunteer college student responses. Students who participated in the cognitive testing were excluded from the study.

The second measure is Schreiner et al.'s (2009) Thriving Quotient (TQ). This 26 question instrument collects information on the dependent variable (student success) on five subscales: engaged learning, diverse citizenship, academic determination, positive perspective and social connectedness. The TQ's Cronbach's alpha, a measure of how all items within the instrument measure the same construct, is .89 (Schreiner, 2012), indicating the items have a relatively high internal consistency.

Data Sources

I selected a survey to collect data due to cost, time and the potential for generalization. Surveys are relatively inexpensive to develop and administer, and they allow for a rapid turnaround for data collection (Babbie, 1990). According to Monette, Sullivan, and DeJong "the strength of surveys is their potential for generalizability" (2011, p.164). I selected Qualtrics, a web-based survey software, to administer the survey to students.

I considered Groves et al.'s (2004) dimensions of data collection in the design of this survey. One dimension of data collection is the degree of interaction with the respondent. The web mode requires minimal interaction with the respondents, increasing privacy. While Groves et al. indicates that interviewers may "be effective recruiters of the sample persons, potentially affecting the nonresponse error features of the survey statistics" (2004, p. 141), the target population is well-acquainted with web-based surveys. The degree of interviewer involvement is minimal, reducing survey costs.

Therefore, the mode of data collection will be electronic, to decrease both the time and expense of data collection.

Target Population

The study population is full-time undergraduate students at the main campus of a public university in the mid-Atlantic region. The university has the Carnegie classification of a large, doctoral/research intensive. Based on the 2012-13 enrollment figures, the anticipated population for this study is approximately 11,550 students.

Sampling.

This study used a stratified sample of undergraduate students. The panel consisted of 4500 main campus undergraduate student email addresses pulled from Banner, the repository of student enrollment data. From the randomly selected addresses for each cohort, I excluded all confidential addresses, and anyone under 18 or over 25.

In determining the sample size, I investigated the institution's student response rates for electronic surveys. The 2014 NSSE response rate for undergraduate first year students was 17%, and the 2010 Career Development survey of undergraduate students reported a 9% response rate. Based on the low response rate for institutionally-supported surveys, I will oversample. A second reason to over-sample is the exclusion criteria for this study.

After the survey administration, the data file was sent to the institution's Institutional Research Office (IR). This office developed a crosswalk to assign "dummy IDs" to each record (embedded data A and B fields). The dummy ids allow the IR to map survey responses to the student SAT scores. The researcher does not see anything other than the embedded data with the responses, nor have access to the panel cross walk. This

process prevents IRB conflicts pertaining to identifying participants with responses and protects student anonymity.

Data Collection

Study participants answer questions from both the TQ survey and the researcher-developed questionnaire (Appendix C) at the same sitting. The timeline for survey administration will be the first week of November, after the stress of midterms, but before papers and projects are due (typically before Thanksgiving break), and before the stress of preparing for final exams (the second week of December).

To help increase response rates, the web-based survey will advertise the incentive of four $25 gift cards to Amazon.com, randomly selected from respondents. An email follow-up reminder will be sent every five days, with three follow-up attempts.

Data Analysis

Qualtrics, the survey software, allows for exporting responses into Excel. From there, data will be imported into STATA, a statistical software program. I will use STATA to run appropriate statistical analyses on the data. First, I will run tabulations and univariate analysis on the variables. Second, I will run multivariate analysis, and ordinary least squares regression analysis. I will also critique the regression model.

Exploratory factor analysis and OLS regression are the most appropriate statistical procedures, based on the study design (i.e., using multiple independent variables) and the study purpose (i.e., exploring relationships). Factor analysis explains variables' correlations rather than variance and provides a method to simplify data pertaining to constructs that are not directly observable (Hamilton, 1992).

Exploratory factor analysis is appropriate because the goal is to identify the "latent variables that explain the variation and covariation in a set of measured variables" (Preacher & MacCallum, 2003, p.13). One goal of this study is to identify the constructs that explain correlations among parenting style, parental involvement and parent influence. Using exploratory factor analysis helps "the researcher to understand the sources of common variation underlying observed data" (Preacher & MacCallum, 2003, p. 21).

The factor analysis creates multi-item scales to aggregate the independent variable data. Based on the literature, factors should load around the concepts of warmth/support, behavior control, and challenge. Using the Kaiser criteria, factor loadings with an Eigen value of one or higher will be kept. I will create indices and calculate Chronbach's alphas to determine internal consistency. The factor analysis can confirm if theories about parent style and parental involvement apply to this population, providing evidence that the factors are psychometrically sound as well as theoretically sound.

Delimitations

I limit this study to full-time undergraduate students between the ages of 18 and 24, enrolled at the institution's main campus during the fall semester of 2013-14. The restriction to full-time students between the ages of 18 and 24 confines the study to traditional students entering college shortly after graduating from high school, rather than non-traditional students. Full-time students are transitioning away from their role as a high school student, but have not yet adopted an adult or career persona. Little research exists on emerging adults in regard to parental involvement, making this research particularly significant. I limited the study to students at this institution because it is a

public state school, more likely to attract a wider variation in population demographics than a private school, and increases the likely transferability of the study. These restrictions provide a sample frame that focuses on emerging adults in an undergraduate college setting.

A second delimitation involves collecting data from only one institution. However, by using a medium-sized public institution, the population is both larger and more diverse than a smaller institution or a private college. Thus, the school choice provides a good estimate of the general population.

Limitations and Weaknesses

One purpose of this study involves identifying the relationship of specific aspects of parental involvement with student success. Because cross-sectional studies capture a snapshot of a phenomenon's attributes and frequency, this design is appropriate for the research question. The cross-sectional approach provides information from a single point in time; therefore, causal assertions cannot be made.

As in all cross-sectional quasi-experimental designs, concerns exist regarding internal validity. Selection poses a threat, as there may be underlying differences in the academic years beyond those for which I controlled. History may also be an issue in looking at differences in data by academic cohort. After considering the inherent limitations of a longitudinal design including concerns regarding maturation, testing statistical regression, attrition, cost and time constraints, I determined that a cross sectional student survey sampling across four academic cohorts (i.e., freshman, sophomore, junior, senior) best suited the research question.

Ethical Considerations

The study integrates procedures to protect participants and treat them ethically. After the acceptance of the dissertation proposal, I provided information regarding the study design and data management to the institution's Institutional Review Board for approval. I informed potential participants of my position as a doctoral student, and provided details about the study including data collection, analysis and use (Appendix E). I assured participants that their participation was voluntary, would remain confidential, and that all identifying information would be stripped from the data. Those who agreed to participate indicated their informed consent form by selecting the response "I have read the information above and would like to participate."

My location as a parent and a higher education administrator may influence my interpretation of the data. I will safeguard against my personal bias in the analysis of data by exploring multiple interpretations, and present those to my dissertation chair and other ALS cohort members to obtain feedback about any potential bias regarding my interpretation of the data.

Summary

This study explores if undergraduate student perception of parental involvement, parenting style and parental influence relate to student success, and what, if any interactions exist among parental style, parental involvement or parental influence relative to success. Using a quantitative methodology, by isolating which aspects of parental involvement positively relate with academic success, higher education institutions may develop policies and parental programs to better inform and coach administrators, instructors and parents on parental involvement that positively impacts college students. This study will add to the body of knowledge on the relationship

between parental involvement and student success. It extends the existing literature by connecting involvement, parenting style and social class, and addresses the gap in literature pertaining to parental influence on student success.

CHAPTER 4

FINDINGS

The purpose of this study was to explore if undergraduate student perception of parental involvement, parenting style, and parental influence relate to student success. It also explored what, if any, interactions exist among parental style, parental involvement, or parental influence relative to success. Using STATA IC to explore the quantitative data collected in November 2014 through Qualtrics survey software, this chapter describes the data analysis process and findings. The process involved a preliminary analysis of frequencies, an exploration of correlations and a factor analysis to generate the dependent variable and two of the independent variables. Because the study contains three primary independent and multiple control variable variables, I used multiple regression to determine the relationship among the parental involvement, parenting style, and parent influence relative to student success. I investigated the variables, developed a model, criticized the model, and arrived at a final model. Finally, I tested the assumptions of the regression to evaluate the model (Hamilton, 2006). This chapter discusses the findings of that process.

Description of the Sample

From the initial sample frame of 4500 undergraduate students at the main campus, 563 undergraduate students opened the Qualtrics survey link and began the survey, a 12.5% response rate. I removed cases of those who did not complete the survey (n=82) and those who did not agree to the informed consent (n=2). I also removed those who did not meet the inclusion criteria (part-time students, n=3; age restriction, n=1). Finally, I removed the respondents who indicated they lacked both a female and a male support

provider (*n*=5). The cleaned data set consisted of 470 students, a 10.4% response rate. Table 3 provides a detailed summary of the student respondents included in the analysis.

Table 3

Characteristics of Undergraduate Student Respondents

Variables	Sample Number	Sample Percent	Population Percent
Race/Ethnicity			
African-American	27	5.81%	10%
Asian-American	5	1.08%	1%
Caucasian	411	88.39%	74%
Hispanic/Latino	16	3.44%	3%
Multiracial	6	1.29%	2.8%
Declined to answer	1		
Sex			
Male	94	20.17%	54.8%
Female	372	79.83%	45.2%
Declined to answer	4		
Cohort			
Freshman	65	13.83%	32.2%
Sophomore	110	23.40%	23.9%
Junior	142	30.21%	22.1%
Senior	153	32.55%	21.8%
Commuter Student			
No	415	88.68%	88.8%
Yes	53	11.32%	11.2%
Declined to answer	2		

Note: N=470

Race/Ethnicity

Students self-identified their race/ethnicity. To allow students to self-identify race/ethnicity, I allowed a text entry option, in addition to the standard responses. I examined the text responses, and recoded those who wrote in "white" (*n*=2) to Caucasian. One person wrote in "black," which I coded as African-American. Those who identified as Thai/Asian (*n*=1) or Asian (*n*=1) I recoded as Asian-American. Those who identified

as Caribbean, Caucasian-African-American, Afro-Haitian, Asian-American/Korean, or Caucasian-Hispanic I recoded as Multiracial (*n*=6). The majority of the students identified as Caucasians. The institution reports that 74% of students are Caucasian, 10% are African-American, 3% are Hispanic, 2.8% are multiracial, and less than 1% are of Asian descent. The respondents for this study indicate that Caucasian students are overrepresented, and African-American students are under-represented. Due to thin cells, I recoded the data into a dichotomous minority yes/no. This resulted in 411 respondents identifying as Caucasian (87.45%) and 59 identifying as "other" or minority (12.55%). There was one missing case, for which a logistical regression supported imputing non-minority.

Sex

Nearly 80% of the respondents were female, and 20% male. Four respondents declined to answer this question. According to the institution, the 2014-15 undergraduate population consisted of 54.8% females, demonstrating that females are overrepresented in this study, and males underrepresented.

Cohort and Commuter Status

Respondents indicated what year they were in college (freshman, sophomore, junior or senior). The respondents were not evenly distributed by cohort. The majority of the respondents were upperclassmen. One-third of the respondents were seniors, and nearly a third identified as juniors.

Commuter students were defined as students who live at home with their parent(s) during the academic year. Eleven percent of the respondents, 53 students, identified as commuter students. One case did not answer this question.

Marital Status of Parental Support Providers

The survey asked respondents to indicate if each parent was single, living with a person with whom they are romantically involved but not married, married, divorced, or divorced and remarried. Due to thin cells, this was recoded to no mom or dad present/married/not married. Of the respondents, 11 indicated not having a female support provider, and 39 indicated not having a male support provider. Between 74 and 76% of respondents had married parents. Table 4 provides a summary of the marital status.

Table 4

Marital Status of Respondents' Parental Support Provider

Female marital status	Frequency	Percent
No mother present	11	2.35%
Not married	108	23.03%
Married	350	74.63%
Declined to answer	1	
Total	470	
Male marital status		
No father present	39	8.30%
Not married	69	14.68%
Married	362	77.02%
Declined to answer	0	
Total	470	

Indicators of Economic Class

The survey asked respondents to provide several indicators of economic status, including an estimate of household income, whether or not students received a Pell grant, parental contribution towards the costs of college, and the educational attainment of their parent(s). A summary of this information appears in Table 5.

Household income. Respondents estimated their parent(s) household income. Nine percent reported a household income up to $21,800 and ten percent reported an income exceeding $122,801. The median reported score was the range from $51,001-$81,000, with a standard deviation of 1.15.

Pell Grant. Nearly 30% percent of respondents indicated receiving a Pell grant. The institution reported 37.5% of students are Pell grant recipients. Nearly a quarter of the respondents did not know whether or not they were Pell Grant recipients (*n*=116).

Family financial contribution to college. Respondents indicated that 26% of the parents do not provide any financial assistance for college and that nearly a quarter of parents provide less than half the cost of college. Twenty percent indicated that parents are funding the entire cost of college. A summary of the data is in Table 5.

Educational attainment of parents. The survey asked students to identify the highest level of education their parental support providers achieved. The categories of some high school, high school diploma or GED, trade school, some college, Associate's degree, Bachelor's degree, Master's degree, and terminal degree resulted in thin cells. Therefore, I collapsed the categories into high school, some higher education, Bachelor's degree, or post graduate education.

Table 5

Economic Indicators of Respondents

Variables	Number	Percent
Household income		
up to $21,800	42	8.97%
$12,801--51,000	137	29.27%
$51,001--81,000	124	26.50%
$ 81,001--122,800	115	24.57%
over $122,801	50	10.68%
Declined to answer	2	
Pell grant recipient		
No	214	45.63%
Yes	139	29.64%
I don't know	116	24.73%
Declined to answer	1	
Parental financial contribution		
No financial assistance	122	26.12%
Less than ½ the cost of college	116	24.84%
Half the cost of college	52	11.13%
More than ½ the cost of college	79	16.92%
All of the cost of college	98	20.99%
Declined to answer	3	
Female support provider education level		
No female support provider	11	2.34%
High school	118	25.11%
Some higher education	136	28.94%
Bachelor's degree	139	29.57%
Post-graduate education	66	14.04%
Male support provider education level		
No male support provider	39	8.30%
High school	144	30.64%
Some higher education	120	25.53%
Bachelor's degree	94	20.00%
Post-graduate education	73	15.53%

Note. N=470

Student Grade Point Average and SAT scores

Students self-reported their grade point averages. Freshmen were requested to indicate their high school G.P.A. as they had not completed their first semester of college at the time of the survey administration. Due to thin cells, I collapsed the cells into four categories, as indicated in Table 6.

Table 6

Respondents' G.P.A

G.P.A	Frequency	Percent
2.4 or lower	17	3.63%
2.5-2.9	82	17.52%
3.0 – 3.5	144	30.77%
3.6 – 4.0	225	48.08%
Declined to respond	2	
Total	468	

The institution provided student SAT scores. The mean verbal SAT score is 510; math is 512. The mean combined SAT score is 1029. The institution did not have SAT scores for 55 of the respondents. According to the Intuitional Research office, not all students are required to have SAT scores for college acceptance.

The descriptive information above provided control variables for the model based on the literature review. The next section describes the generation of the dependent and independent variables.

Variable Generation

This section describes the creation of the dependent (student success) and independent variables (parental involvement, parenting style, and influence).

Dependent Variable

Traditionally, educational professionals, parents, and students define undergraduate student success in terms of performance (i.e. grade point average) or persistence (i.e. retention or graduation rates). As mentioned earlier, using student grades to measure success is problematic due to variances in course content, teacher grading discrepancies, and variances in assignments and in institutions. Using persistence to measure student success is also problematic, as variances exist in the student population and in institutions. Bluntly stated, some courses, instructors and institutions are more rigorous than others, and students vary in their academic preparedness and ability.

Keyes & Haidt (2003) introduced the concept of *flourishing* to describe a person who is "filled with emotional, psychological and social well-being" (p. 11). Flourishing is a result of positive relationships, meeting personal challenges and engagement with the world (Schreiner et al., 2009). This concept encompasses multiple dimensions of a life well-lived, providing a broad scope through which to define a successful life. Schreiner et al., (2009) investigated the construct of flourishing in regard to an undergraduate student population, resulting in her concept of *thriving*.

Thriving. Thriving combines the psychological well-being theory behind flourishing with student retention literature resulting in a construct that is specific to student success and persistence (Schreiner et al., 2009). Thriving encompasses students' academic engagement, self-regulated effort and learning, accomplishment in interpersonal relationships, and connectedness to community, providing a robust indication of student success beyond performance and persistence. This study uses Schreiner's et al.'s (2009) Thriving Quotient as a measure of academic, interpersonal,

and intrapersonal success. The instrument consists of 26 items, each using a 6-point Likert scale. The combined Cronbach's alpha for the instrument is .89 (Schreiner, Louis, & Nelson, 2012; Schreiner, 2012), indicating the instrument provides a reliable measure with strong content validity related to student success. The resulting five subscales and their alphas are reported below.

Engaged learning. "A measure of the degree to which students are meaningfully processing what happens in class, energized by what they are learning, and continuing to think about it outside of class" with a reported alpha of .85 (Schreiner, 2012).

Diverse citizenship. "A measure of students' desire to make a difference in the community around them, as well as their openness to differences in others with a reported alpha of .80 (Schreiner, 2012).

Academic determination. "A measure of students' goal-directedness, investment of effort, and regulation of their own learning and use of time" with a reported alpha of .83 (Schreiner, 2012).

Positive perspective. "A measure of students' optimism, explanatory style, and subjective well-being" with a reported alpha of .83 (Schreiner et al. 2009).

Social connectedness. "A measure of students' involvement in healthy relationships and social support networks, whether on or off campus" with a reported alpha of .81 (Schreiner, 2012).

Univariate analysis of the multi-item thriving scale. I calculated the mean of the variables within the domain to create a domain score. Due to a clerical error, one question from the original Thriving Quotient was not included on the survey. The question, "I would like to join an organization that emphasizes getting to know people

from different cultures," was omitted. This question contributes to the Diverse Citizenship domain, which ought to be comprised of eight questions. Schreiner et al. report that the Cronbach's alpha coefficient for this domain is .80 (2009), meeting the .80 recommended by Nunnaly & Berstein (1994) to demonstrate a strong internal consistency. Based on the alpha of .80, and that the measure is based upon a powerful study of the same population, the domain remains a legitimate factor, despite the missing question. Dropping that question shortens but does not nullify the subscale.

A review of the data set revealed 24 cases where respondents did not respond to a thriving quotient question. The alpha coefficient for each domain is a .80 or higher, which indicates a respectable internal consistency between variables within a domain (DeVellis, 2003). Therefore, I decided to replace missing data with the respondent's mean for the domain. I did this for respondents that completed at least half of the domain questions. If a respondent skipped more than half of the domain questions, I discarded the case (n=5), thereby decreasing the cases from 470 to 465.

I later tested if replacing the missing values influenced the model by running the regression with missing values and then re-running with the imputed values. There was not a substantial difference, which supports the logic of my conservative imputation. A histogram of *thriveA* revealed a slight negative skew (Figure 5), which may cause problems in the regression, which I critique later in the chapter. Next, I discuss the generation of the independent variables.

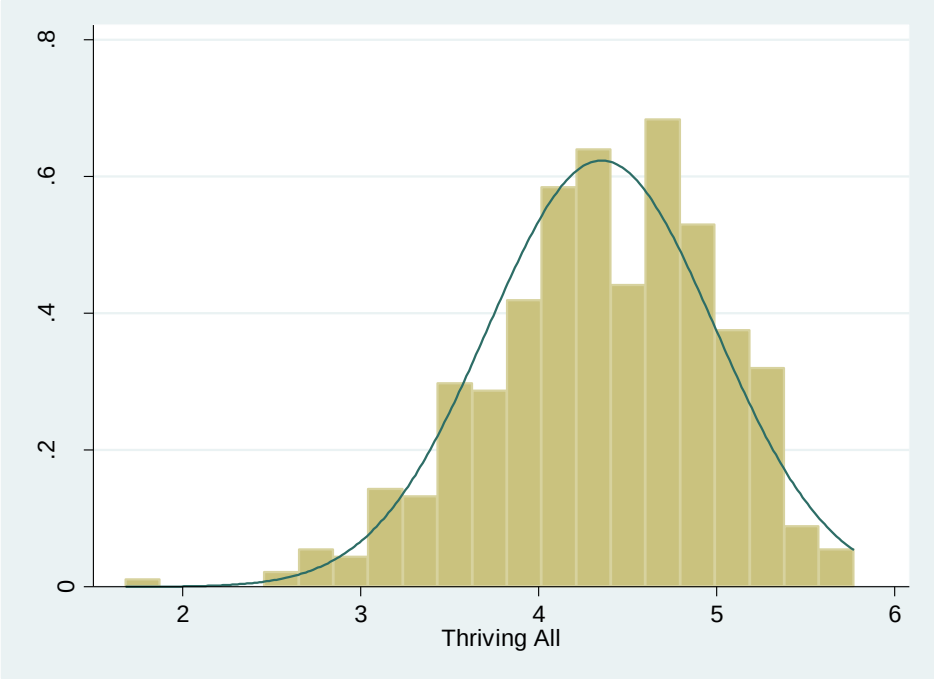

Figure 5. Histogram of thriveA.

Independent Variables

This section describes the independent variables of parental involvement, parenting style, parental influence, and parent connectedness. The generation parental involvement and parenting style required two separate factor analyses.

Parental Involvement. Parental involvement is defined as the way in which parental support provider(s) engage in their child's college education. Based on the work of Hill & Tyson (2004), I included survey questions regarding parental involvement in their college student's life. Table 7 contains a summary of the questions and the variable names. Responses were in the form of a 5-point Likert scale.

Table 7

Parental Involvement Variable Names and Survey Questions

Variable	Survey question
go2clss	How much emphasis does your parental support provider(s) place on the following activities: the importance of attending class.
Plan	How much emphasis does your parental support provider(s) place on the following activities: having a plan for life after college
profRela	How much emphasis does your parental support provider(s) place on the following activities: cultivating good relationships with professors, advisors, or other campus professionals
acdStrtg	How much emphasis does your parental support provider(s) place on the following activities: strategies on how to improve my grades such as note taking, using campus resources
helpEdit	How likely are my parental support provider(s) edit my paper/project for a college course
rmdDue	How likely are my parental support provider(s) to remind me when a project/paper is due
rmdStudy	How likely are my parental support provider(s) to remind me to study for a specific test
rmdGo	How likely are my parental support provider(s) to call or text a reminder to get up or to go to class.
RACntct	How likely are my parental support provider(s) to contact my RA or RD regarding a problem I'm experiencing with my roommate or other person on campus.
profCntct	How likely are my parental support provider(s) to contact my professor regarding an academic such as a class policy or grade.
admCntct	How likely are my parental support provider(s) to contact a college administrator regarding an administration issue such as registration, billing, etc.

I ran a factor analysis using the variables pertaining to parental involvement. As recommended by Hamilton (1992), I retained factors with Eigenvalues greater than 1.0 (n=2), but also produced and inspected scree plots. Table 8 contains the Eigenvalues from

the factor analysis. The scree plot (Figure 6) confirmed the decision to retain the two factors. The first two factors explain 100% of the variability in parental involvement.

Table 8

Eigenvalues from Factor Analysis for Parental Involvement

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor 1	3.33295	1.94666	0.7357	0.7357
Factor 2	1.38629	0.88491	0.3060	1.0417
Factor 3	0.50138	0.36274	0.1107	1.1524
Factor 4	0.13864	0.17325	0.0306	1.1830
Factor 5	-0.03461	0.01358	-0.0076	1.1754
Factor 6	-0.04818	0.03140	-0.0106	1.1648
Factor 7	-0.07958	0.04136	-0.0176	1.1472
Factor 8	-0.12094	0.01462	-0.0267	1.1205
Factor 9	-0.13557	0.06294	-0.0299	1.0906
Factor 10	-0.19851	0.01327	-0.0438	1.0467
Factor11	-0.21177	.	-0.0467	1.0000

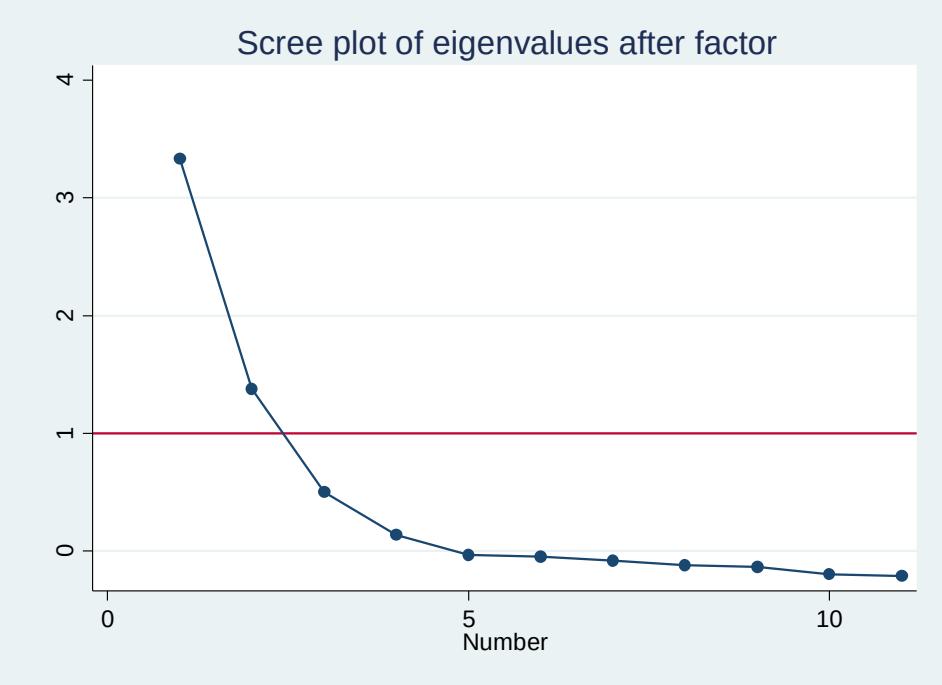

Figure 6. Scree plot of factors for parental involvement.

I retained two factors; however, there was no distinct pattern between the two factors. The promax rotation of the factors provided a clear pattern of the factor loadings,

and the uniquenesses improved. Although a few were higher than desired, investigation of item effects on the alpha coefficient and theoretical considerations suggested retaining these items in the scale. The loading plot (Figure 7) provides a visual display of the factors. Based on the variables that loaded on each factor, I named the factors *direct involvement* and *indirect involvement.* Direct involvement consists of parental help in editing papers or projects, reminders of due dates for course work, reminders to study, and reminders to go to class. It also encompasses parental contact with resident life staff (R.A.s and R.D.s), contact with professors or advisors, and contact with administration, such as school deans, the Registrar's Office, or the Provost. The Cronbach alpha for *direct involvement* is .81. Factors with alpha scores of .80 or higher indicate a strong internal consistency (Nunnally and Bernstein, 1994).

Indirect involvement consists of parents stressing the importance of going to class, having a life plan, developing relationships with advisors, professors and resident life staff, and teaching academic strategies to help with learning. The Cronbach alpha for *indirect* is .75. Nunnally (1967) indicates that levels above .7 are acceptable for preliminary research. The factor loadings for both direct and indirect involvement appear in Table 9 and the loading plot in Figure 7.

Table 9

Factor Loadings for Parental Involvement

Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor 1 Indirect Involvement	Factor 2 Direct Involvement	Uniqueness
go2clss	-0.0080	0.5868	0.6584
plan	-0.0497	0.4992	0.7633
profrela	-0.0387	0.7143	0.5051
acdstrtg	0.0654	0.7485	0.4059
helpedit	0.4264	0.0867	0.7883

rmddue	0.7898	0.0295	0.3613
rmdstudy	0.6645	0.1372	0.4844
rmdgo	0.6393	0.0171	0.5844
racntct	0.7058	-0.0717	0.5273
profcntct	0.7387	-0.0838	0.4847
admcntct	0.5279	0.0109	0.7177

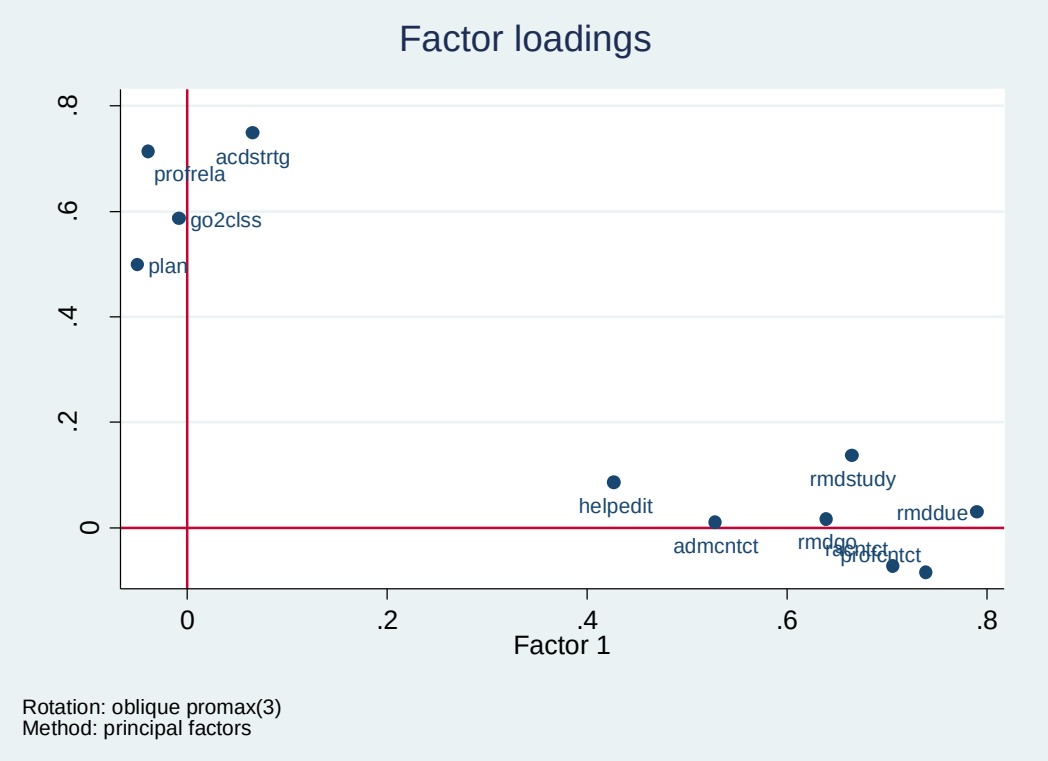

Figure 7. Loading plot for parental involvement.

The histogram for *direct_involve* indicated a positive skew (Figure 8) and the histogram for *indirect_involve* showed a negative skew (Figure 9). I investigated if transforming the variables would produce a more normal distribution (Figure10 and Figure 11). In both instances, I decided against transforming, as it did not favorably improve the shape of the distribution.

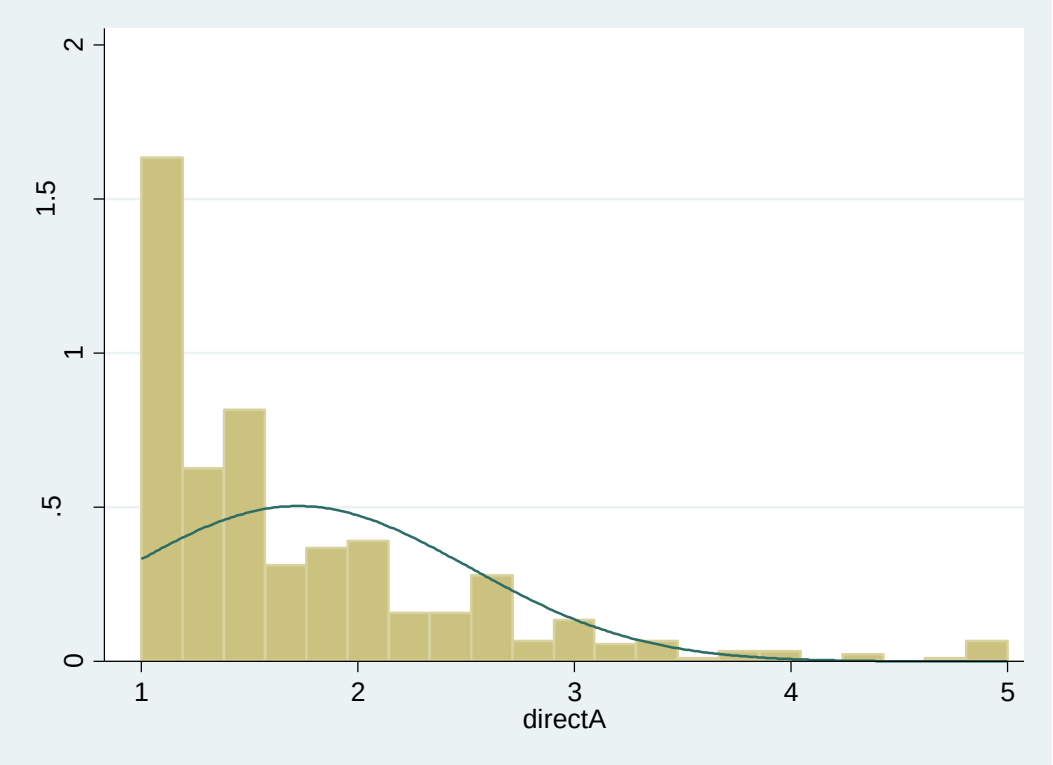

Figure 8. Histogram of *direct_involve*.

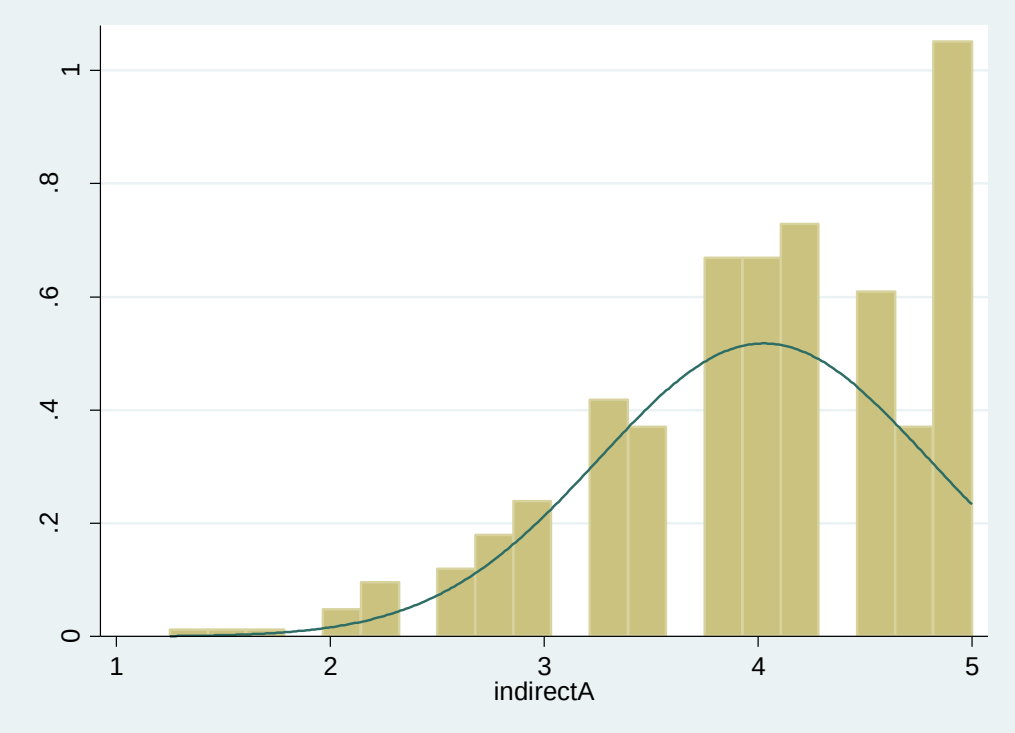

Figure 9. Histogram of *indirect_involve*.

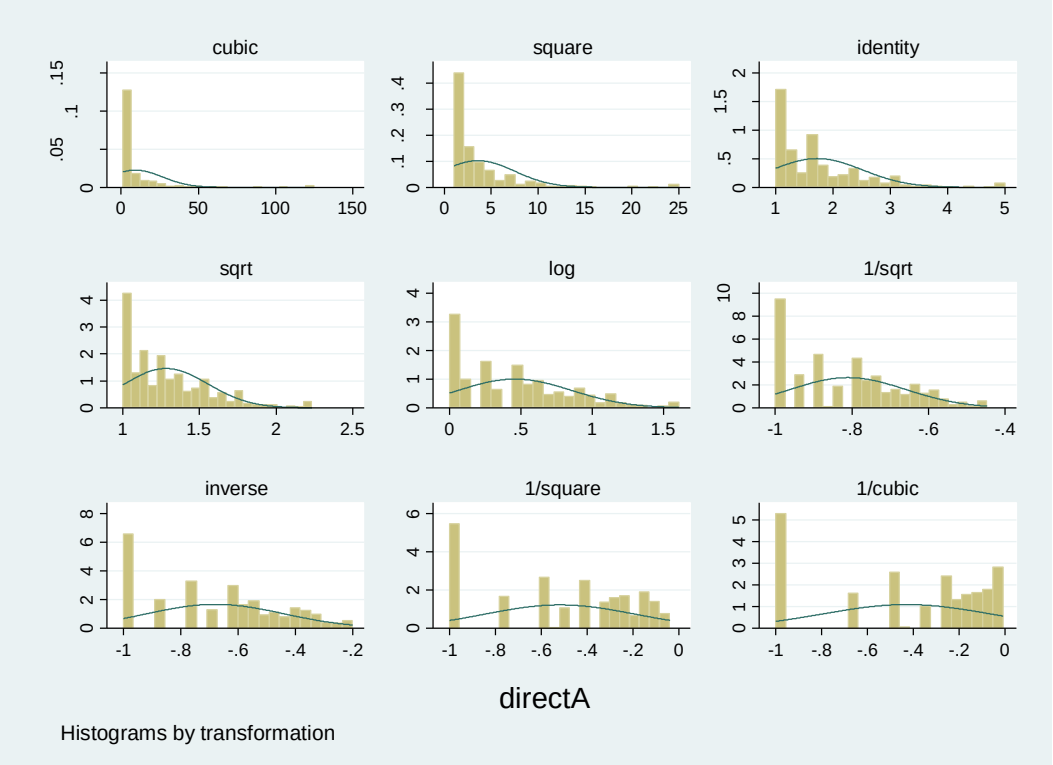

Figure 10. Histograms by transformations of *direct_involve*.

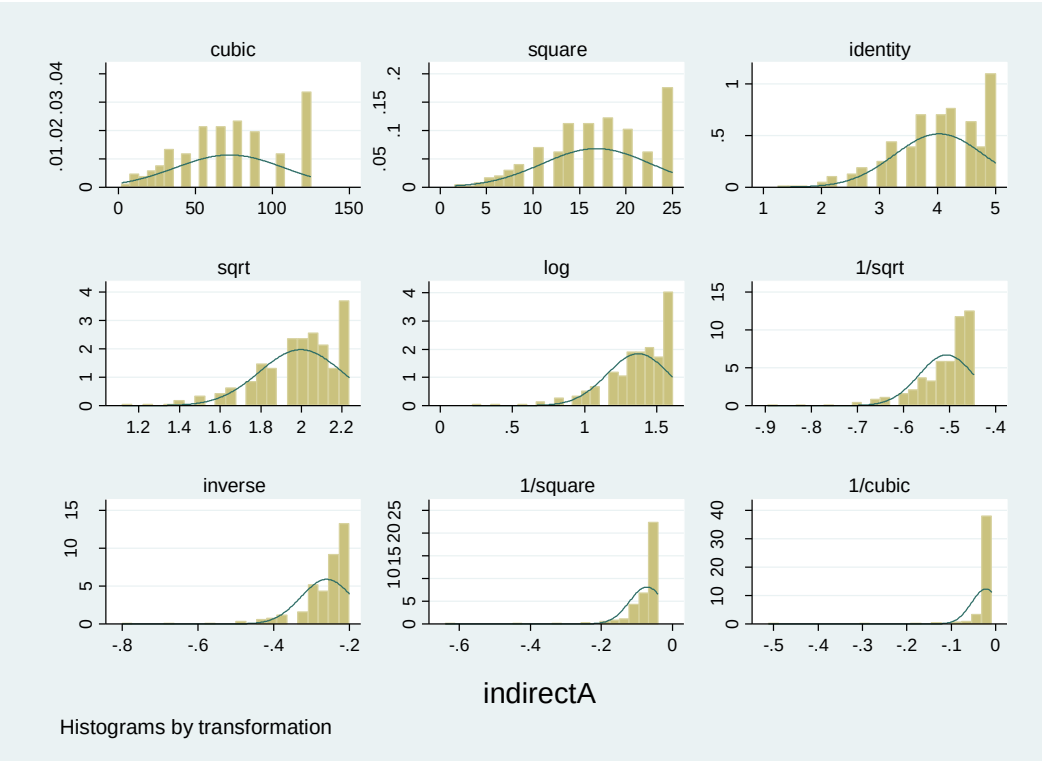

Figure 11. Histograms by transformations of *indirect_involve*.

Parent Connectedness. The proposed model included the frequency of communication and the mode of communication between parents and their college-aged children as part of the parental involvement variable. However, they were not factors within parental involvement. I also included questions pertaining to the frequency and mode of communication between parents and their college-aged children. Because it seemed reasonable that communication frequency and mode would be related to student success, I retained both as variables.

The questions relating to communication investigated both intensity (least intense/engaging is a text message, most intense and engaging is face to face) and the extent (or frequency) of communication. Therefore, I created a scale, and labeled the variable as *connect.* Next, I multiplied the level of intensity by the frequency of communication to create a weighted index named *connectedness.* The histogram of this variable (Figure 12) indicated the variable was skewed. It is possible that the skewedness of *connectedness* caused problems in the regression, which I critique later in the chapter.

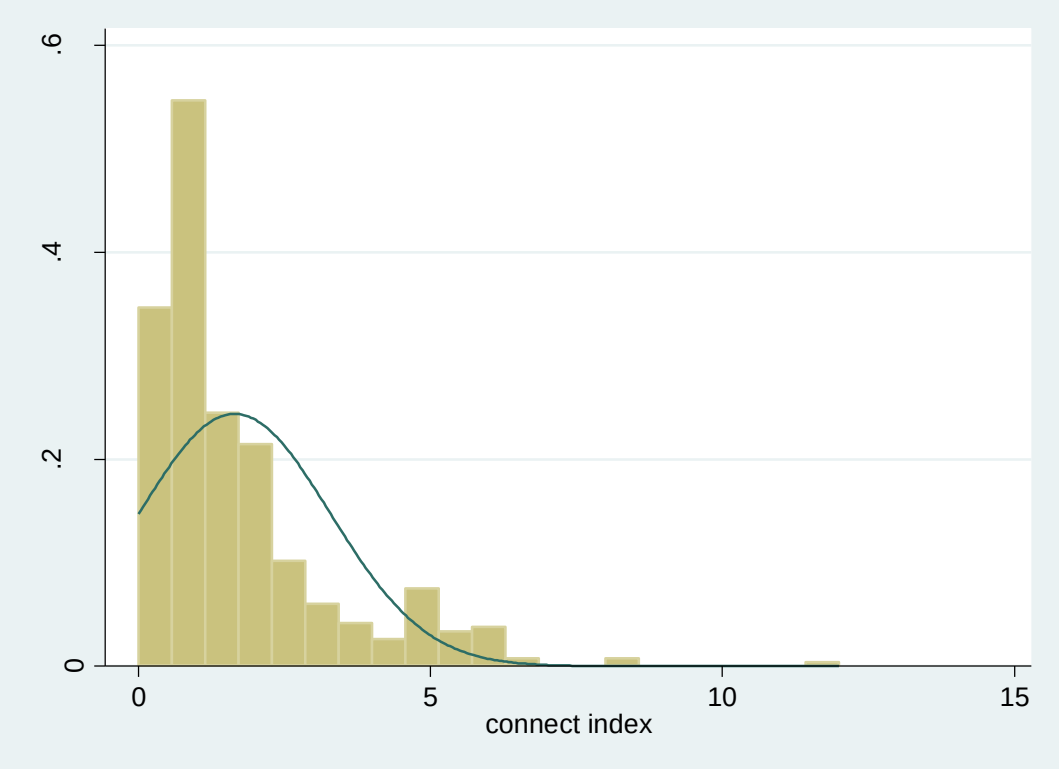

Figure 12. Histogram of *connectedness*.

Parenting Style. Based on a review of the literature, I theorized that parenting style may be characterized by emotional warmth/support (Barber, 2005), parental responsiveness (Maccoby & Martin, 1983), control (Baumrind, 2005, 2013; Baumrind, Larzelere & Owens, 2010; Dailey, 2008; Grolnick & Pomerantz, 2009), and parental challenge (Dailey, 2008). Each of these elements relates to parental assumptions and beliefs regarding the parent/child relationship and the roles of each party within the relationship. Table 10 contains the 5-point Likert scale survey questions and variable names pertaining to parenting style.

Table 10

Parenting Style Variable Names and Survey Questions

Variable	Survey question
chngFeel	My parental support providers try to change how I feel or think.
intrpts	My parental support providers change the subject whenever I have something to say or interrupts me.
blame	My parental support providers blame me for other family members' problems.
mistak	My parental support providers bring up past mistakes when they criticize me.
lssFriend	My parental support providers are less friendly with me if I do not see things their way.
silentT	My parental support providers stop talking to me if I hurt their feelings, until I please them again.
praise	My parental support provider(s) smiles at me often or praises me
enjoy	My parental support provider(s) enjoys spending time together or doing things with me.
affection	My parental support provider(s)is affectionate and caring towards me.
loved	My parental support provider(s) makes me feel special and loved.
comfort	My parental support provider(s) makes me feel better after we talk.
knwMoney	How well do your parental support provider(s) really know what I spend my money on?
knwTime	How well do your parental support provider(s) really know what I do with my free time?
knwFrien	How well do your parental support provider(s) really know who my friends are?
snsMking	How often do your parental support provider(s) ask me what I learned from my bad experiences or tough situations, or help me to make sense of what happened?
reason	How often do your parental support provider(s) ask me to explain the reasoning behind my decisions?
autonmy	How often do your parental support provider(s) encourage me to make my own decisions even though I might make a few mistakes?
debate	How often do your parental support provider(s) engage in discussions or debates with me about ideas or complex issues?
conseq	How often do your parental support provider(s) expect me to deal with the consequences of my decisions or behaviors?

I conducted a factor analysis of the variables pertaining to parenting style to develop an index. The factor analysis indicated that two factors account for 91% of the variance. As recommended by Hamilton (1992) I retained the factors with Eigen values exceeding 1.0 (*n*=2) (Table 11). The scree plot (Figure 13) confirmed the decision. Orthogonal rotation revealed the loading pattern; promax rotation confirmed the pattern of two distinct factors. Based on the variables that loaded in each factor, I named the factors *acceptance* indicating parental acceptance of their student for who he/she is and *transparency*, indicating the type of relationship between the parent and student. The two factors explained 91.02% of the variance.

Table 11

Eigenvalues from Factor Analysis for Parenting Style

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor 1	7.72675	5.82338	0.7303	0.7303
Factor 2	1.90337	1.09221	0.1799	0.9102
Factor 3	0.81116	0.13148	0.0767	0.9869
Factor 4	0.67968	0.42474	0.0642	1.0511
Factor 5	0.25494	0.13037	0.0241	1.0752
Factor 6	0.12456	0.03116	0.0118	1.0870
Factor 7	0.09340	0.03994	0.0088	1.0958
Factor 8	0.05346	0.04178	0.0051	1.1009
Factor 9	0.01168	0.00790	0.0011	1.1020
Factor 10	0.00379	0.04347	0.0004	1.1023
Factor11	-0.03968	0.01122	-0.0038	1.0986
Factor 12	-0.05091	0.02480	-0.0048	1.0938
Factor 13	-0.07570	0.02411	-0.0072	1.0866
Factor 14	-0.09981	0.00868	-0.0094	1.0772
Factor 15	-0.10849	0.03337	-0.0103	1.0669
Factor 16	-0.14186	0.01166	-0.0134	1.0535
Factor 17	-0.15351	0.04457	-0.0145	1.0390
Factor 18	-0.19808	0.01647	-0.0187	1.0203
Factor 19	-0.21455	.	-0.0203	1.0000

Note: LR test: independent vs. saturated: chi2(171) = 5371.70 Prob>chi2 = 0.0000

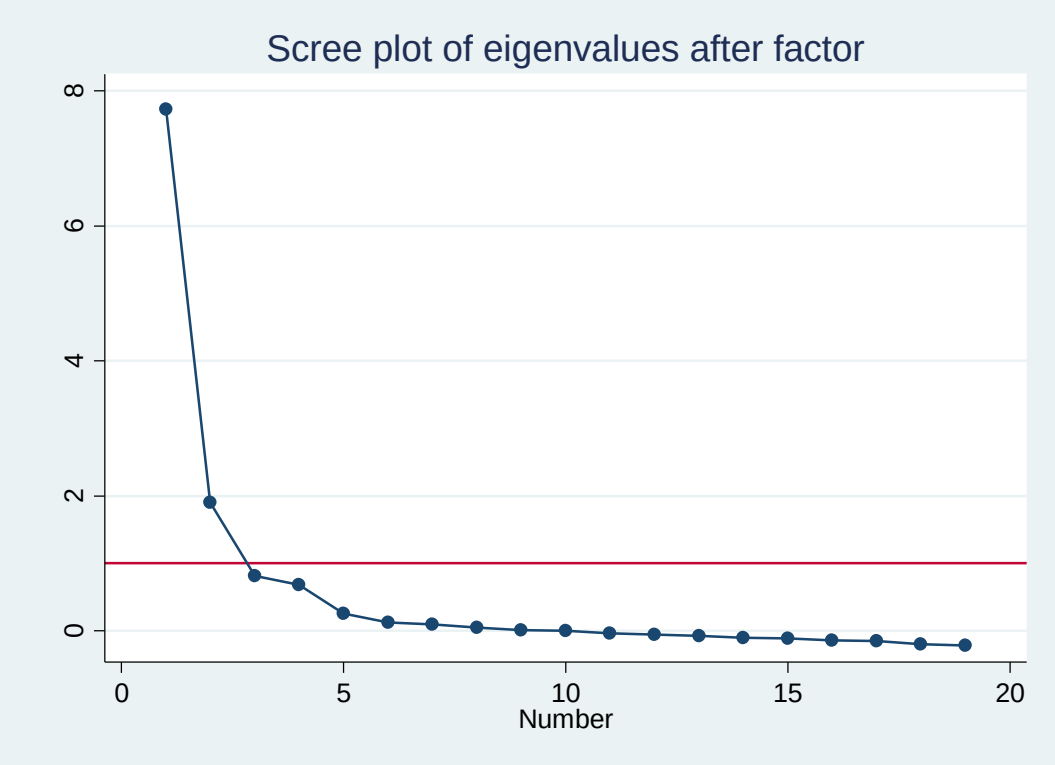

Figure 13. Scree plot of parenting style factors.

The variables that load on the *Acceptance* factor reflect a continuum of parent activities between actively accepting and actively non-accepting their child's actions, feelings and personality. These items included student perceptions of parents trying to change their feelings, interrupting when they speak, blaming the student for situations, recalling past student mistakes, and giving students the silent treatment if the parent does not agree with their opinions or behaviors. It also included student perception of parents praising the student, enjoying the student's company, showing affection, making the student feel loved, and comforting them in challenging times.

After examining the item-rest values, I decided to drop the *chngfeel* variable, as it did not correlate as strongly as the other factors. This increased the alpha of the factor and appeared logical: teens tend to believe their parents try to change their feelings about

certain topics. A Cronbach's alpha provides an indicator of the reliability of a factor. The alpha coefficient for this factor is .93, exceeding the .80 recommended by Nunnally & Bernstein (1994) to demonstrate a strong internal consistency.

The variables that load on the second factor, *transparency*, indicate a parenting relationship categorized by open communication where the child is transparent about their habits and opinions. These included questions pertaining to a student's report of their parents' knowledge of how they spend their money, spend their time, and who their friends are. It also includes items relating to parents solicitation of the student's reasons behind their actions, helping a student to make sense of challenging times, support for student autonomy, willingness to engage in debates about different beliefs, and the parent's making the student accept the consequence of their actions.

Of the variables that loaded on this factor, I decided to drop conseq, based upon the item-rest correlation. This variable, based on the survey question "my parent expects me to deal with the consequences of my decisions or behaviors," is more of an outcome than an indicator of a transparent relationship with open communication. The subsequent increase in the alpha scores, from .80 to .82 supports this decision.

These two factors, *acceptance* and *transparency*, explain 93% of the variability in parenting style. The factor loadings are in Table 12 and the loading plot for parenting style in Figure 14. Three variables (parental knowledge of child's friends, how they spend their money, and how they spend their time), while clearly loading on factor 2 versus factor 1 are not as visibly delineated on the loading plot as the other variables.

Due to the overall alpha of the two factors of .91, I decided to replace missing data with the respondent's mean for each factor. I did this for respondents that completed at least half of the factor questions.

Table 12

Rotated Factor Loadings and Unique Variances for Parenting Style

Variable	Factor 1	Factor 2	Uniqueness
intrpts_r	0.8333	-0.0993	0.3785
blame_r	0.8114	-0.1509	0.4412
mistak_r	0.8562	-0.1825	0.3899
lssfriend_r	0.8820	-0.0940	0.2961
silentt_r	0.7597	-0.0791	0.4766
praise	0.5532	0.2559	0.4870
enjoy	0.6838	0.1697	0.3877
affection	0.6223	0.2492	0.3956
loved	0.7384	0.1864	0.2824
comfort	0.6705	0.2589	0.3098
knwmoney	0.2080	0.4578	0.6519
knwtime	0.2366	0.4876	0.5909
knwfrien	0.3148	0.4078	0.6062
snsmking	-0.0657	0.7544	0.4761
reason	-0.2537	0.8129	0.4810
autonmy	0.2667	0.4637	0.5903
debate	-0.0082	0.6145	0.6274

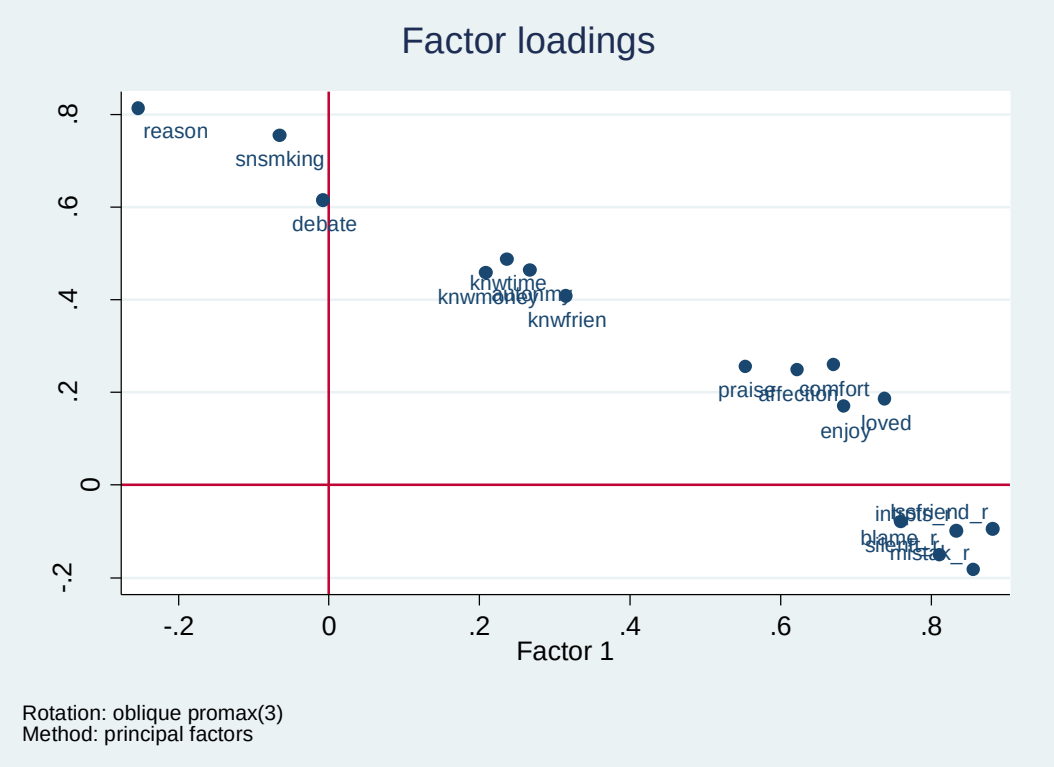

Figure 14. Loading plot for parenting style.

While the histogram for transparency indicated a normal distribution (figure 15), the distribution for acceptance revealed a distinct skew (figure 16). Therefore, I recoded the data to create a dichotomous variable of accepting/non-accepting.

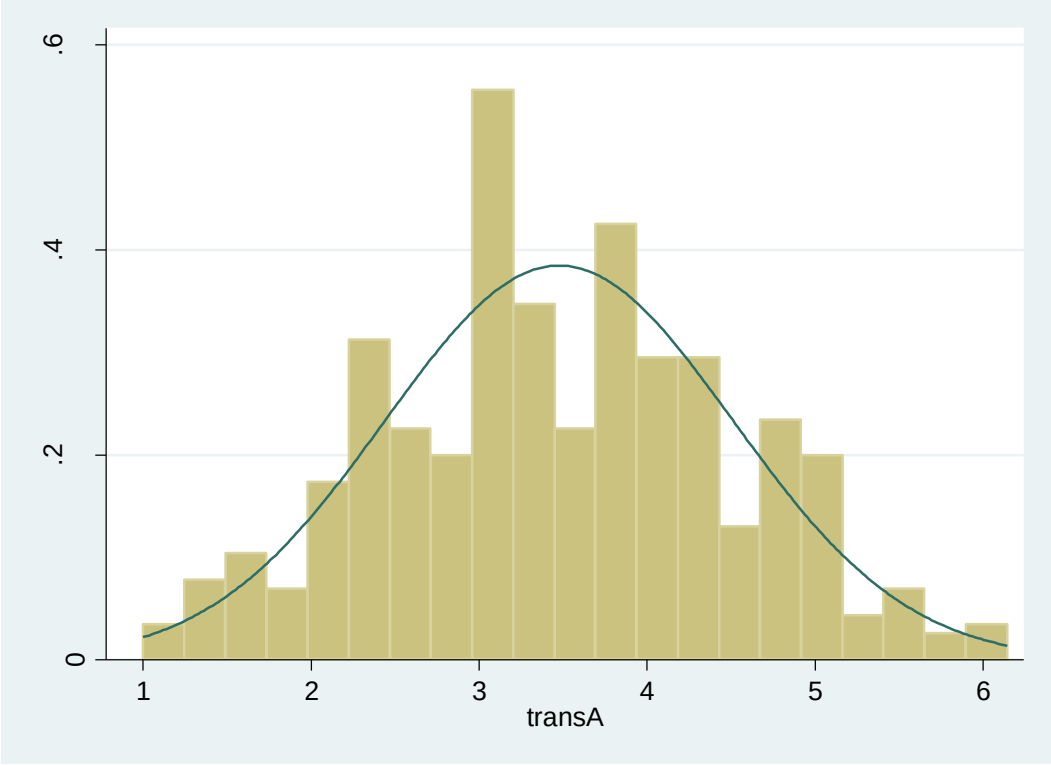

Figure 15. Histogram of transparency.

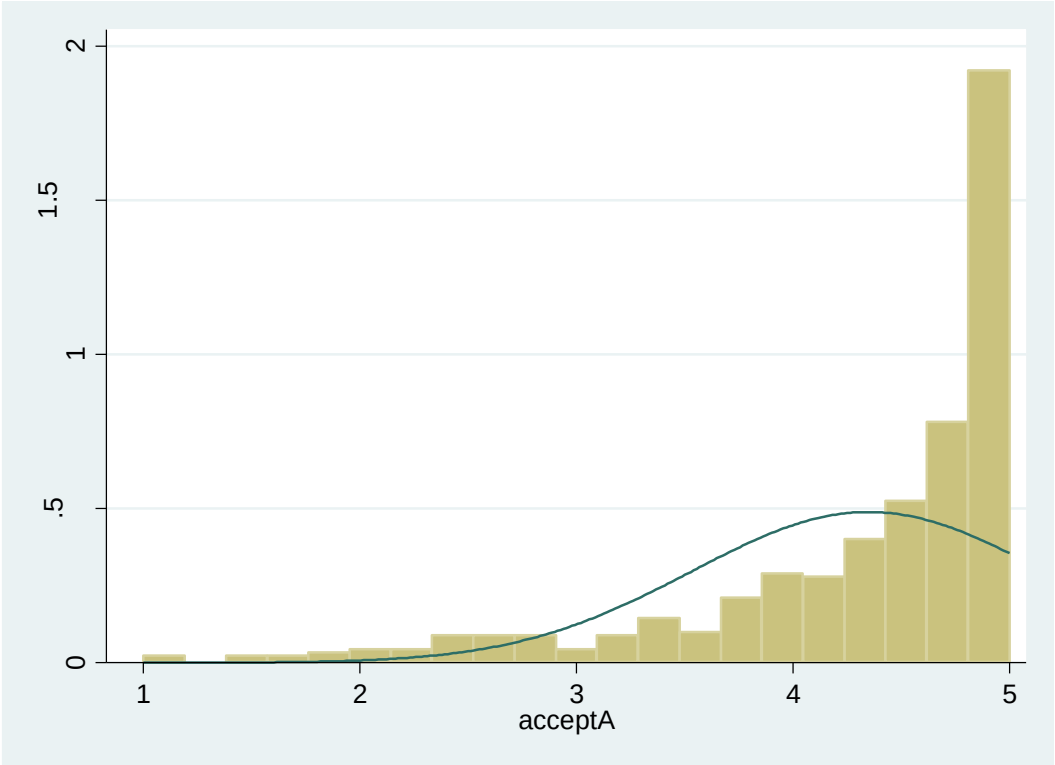

Figure 16. Histogram of acceptance.

Parental Influence. Parental influence is defined as students' self-report of their parental support provider(s)' influence on their decision making. Students responded to the question, "when my parental support provider(s) offer me advice, I consider their advice," with a response scale of 1 - 5. While scant research addresses parental influence on their children, it is logical that influence addresses the intensity of parental involvement. I tested if parental influence belongs as part of a parent style factor. The item test correlation demonstrated that influence is not part of parenting style. Additionally, including *influ* did not change the alpha coefficient, further supporting the decision to retain it as a separate variable. The histogram of *influ* (Figure 17) showed a negative skew, therefore, I collapsed the cells into three categories, and named it *influence*.

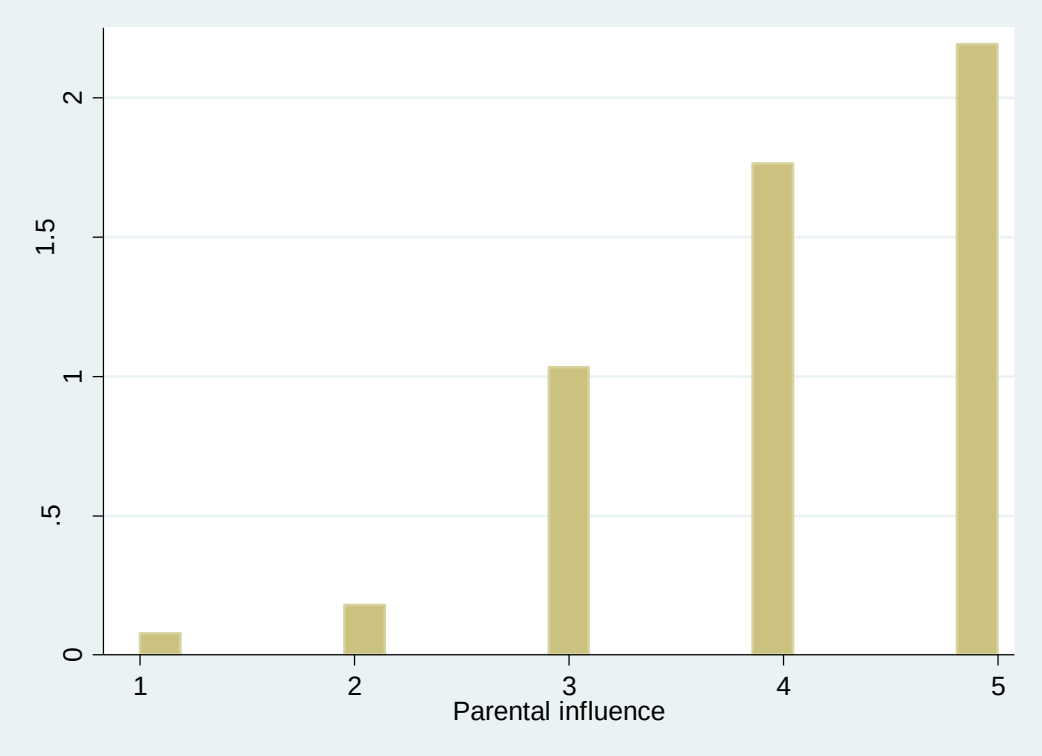

Figure 17. Histogram of *influence.*

The independent variables include parental involvement (*direct_involve* and *indirect_involve*), parenting style (*acceptance* and *transparency*), parental connectedness (*connectedness),* and parental influence (*influ).* Next, I discuss the control variables.

Control variables. This study used several control variables, including information specific to the student, and information about their parents. Respondents self-identified their race/ethnicity. Due to thin cells, I recoded the data into a dichotomous *minority* yes/no. Respondents self-identified their sex (*sex*), if they lived with their parent(s) during the academic year (*commuter*), and their academic year (*cohort*). Students provided their grade point averages (*GPA*). Freshmen were requested to indicate their high school G.P.A. as they had not completed their first semester of college at the time of the survey administration. I reverse-coded the G.P.A.s, and, due to thin cells, collapsed the cells into four categories. I named the recoded variable *gpa*. The institution provided student SAT scores, when available, and mapped them to the respondent. The remainder of the control variables reflects family information.

Family information used as control variables includes information about family structure and economic indicators. Respondents answered if they had a male and or female support provider (*mspprt* and *fsppt*). The also indicated their parents' marital status (*mmarital2* and *fmarital2*). The survey asked respondents to indicate if each parent was single, living with a person with whom they are romantically involved but not married, married, divorced, or divorced and remarried. Due to thin cells, this was recoded to no mom or dad present/married/not married.

The control variables for economic indicators included parents' educational attainment level (*dad_educ* and *mom_educ*). The categories of some high school, high

school diploma or GED, trade school, some college, Associate's degree, Bachelor's degree, Master's degree, and terminal degree resulted in thin cells. Therefore, I collapsed the categories into high school, some higher education, Bachelor's degree, or post graduate education. Students indicated if they were Pell grant recipients (*pell*), estimated the household income (*income*) and the family financial contribution towards college costs (*famcontr*). There frequencies are described under the descriptive statistics above. The frequencies for all the control variables appear in the descriptive statistics above (see Tables 3, 4, and 5).

Summary of Variables

The study used the dependent variable, thriving, consisting of five subdomains, and multiple independent variables. Table 13 summarizes the variables used in this study.

Table 13

Summary of Variables

Variable name		Description	Alpha	Measure
Dependent Variable				
Thriving	*ThriveA*	Total score from Thriving Quotient (TQ) questions with missing values imputed.	α =.89	Ordinal
	divcitA	Diverse citizenship subdomain of the TQ, with missing values imputed.	α = .80	Ordinal
	acdetermA	Academic determination subdomain of the TQ, with missing values imputed.	α = .83	Ordinal
	pperspA	Positive perspective subdomain of the TQ, with missing values imputed.	α = .83	Ordinal
	sconnectA	Social connectedness subdomain of the TQ, with missing values imputed.	α = .81	Ordinal
	englearnA	Engaged learning subdomain of the TQ, with missing values imputed.	α = .85	Ordinal
Independent Variables				
Parental Involve-ment	*direct_ involve*	Direct involvement consisting of parental help and reminders and parental contact with resident life staff, professors, advisors, and/or administrators.	α = .81	Ordinal
	indirect_ involve	Indirect involvement consisting of parents emphasizing the importance of going to class, having a life plan, encouraging relationships with faculty, advisors and R.A.s and encouraging study strategies.	α = .75	Ordinal
Parent connect-edness	*Connect-edness*	Index of frequency of communication multiplied by the intensity of communication.	n/a	ratio
Parent Style	*acceptance*	*Acceptance* reflects a continuum of parent activities between actively accepting and actively non-accepting their child's actions, feelings and personality. These items included student perceptions of parents interrupting, blaming, recalling past mistakes, and giving the silent treatment. It also includes student perception of parents' praise, enjoyment of their company, showing affection, making the student feel loved, and providing comfort.	α = .90	y/n
	transparency	*Transparency*, categorized by open communication about the student's habits	α =.82	ordinal

		and opinions. This includes parents' knowledge of how students spend their money and time, and who their friends are. Includes items relating to parents solicitation of the student's reasons behind their actions, helping student to make sense of challenging times, support for student autonomy, and willingness to engage in debates about different beliefs.		
Parental influence	*influence*	Indicator of students' consideration of parental advice.	n/a	ordinal
Control variables				
Race/ ethnicity	*minority*	Self-identification of race/ethnicity	n/a	y/n
Sex	*sex*	Self-identification of male/female	n/a	y/n
Commuter	*commuter*	Students who live with parent(s) during the academic year.	n/a	y/n
Grade point average	gpa	Self-reported grade point average, reverse scored and collapsed into four categories.	n/a	ordinal
Verbal SAT score	*satverb*	Institution reported student verbal section SAT score.	n/a	ordinal
Math SAT score	*satmath*	Institution reported student mathematical section SAT score.	n/a	ordinal
Writing SAT score	*satwrit*	Institution reported student writing section SAT score.	n/a	ordinal
Combined SAT score	*satcomb*	Institution reported student SAT score, sections combined.	n/a	ordinal
Male support provider	*mspprt*	Presence of a male support provider in the student's life (father, grandfather, stepfather, adopted father, etc.)	n/a	y/n
Female support provider	*fsppt*	Presence of a female support provider in the student's life (mother, grandmother, stepmother, adopted mom, etc.)	n/a	y/n
Male marital status	*mmarital2*	Male support provider's marital status: married/not married	n/a	y/n
Female marital status	*fmarital2*	Female support provider's marital status: married/not married	n/a	y/n
Male education level	*dad_educ*	Male support provider's educational level: high school, some higher ed., Bachelor's degree, and post grad	n/a	nominal
Female education level	*mom_educ*	Female support provider's educational level: high school, some higher ed., Bachelor's degree, and post grad	n/a	nominal

Pell grant recipients	*pell*	Student status as a Pell grant recipient	n/a	nominal
Household income	*income*	Student estimate of family household income	n/a	nominal
Family financial contrib-ution	*famcontr*	Student estimate of family contribution towards the cost of college.	n/a	nominal

The control variables for economic indicators included parents' educational attainment level (*dad_educ* and *mom_educ*). The categories of some high school, high school diploma or GED, trade school, some college, Associate's degree, Bachelor's degree, Master's degree, and terminal degree resulted in thin cells. Therefore, I collapsed the categories into high school, some higher education, Bachelor's degree, or post graduate education. Students indicated if they were Pell grant recipients (*pell*), estimated the household income (*income*), and the family financial contribution towards college costs (*famcontr*). Using the variables described above, I generated a model, tested the model, and then critiqued the model, as described in the next section.

Model Generation

This section describes the development of a reasonable OLS model using regression criticism techniques to determine the existence of influential cases, multicollinearity, and that the regression residuals were normal, independent, and identically distributed (normal i.i.d.) thereby meeting necessary assumptions underlying Ordinary Least Squares (OLS) regression (Hamilton, 1992). First, I summarize the variables used to build the multiple regression model and then I discuss the process by which I tested for multicollinearity and normal i.i.d. errors.

A review of the literature led me to theorize that student success as measured by thriving is related to parental involvement, parenting style, and parent influence. The literature indicated that it was reasonable to control for sex, income, commuter status (*commuter),* the presence of a female and a male support provider (*fsppt* and *mspprt*), the educational level of those parents (*mom_educ* and *dad_educ*), family income (*income*), students' grade point averages (*gpa*), students' SAT scores (*satverb, satmath, satwrit,* and *satcomb*), and ethnicity (*minority*). While the literature did not mention it, I thought another indicator of parental income could be obtained through those students receiving a Pell grant (*pell*). I also added variables for parents' marital status (*fmarital2* and *mmarital2*).

I used multiple regression as a tool to investigate the effects of multiple predictor variables on the dependent variable, thriving. I checked for multicollinearity, or a redundancy of predictors. The initial mean VIF of the model using all of the variables was 2.11 (Table 14), indicating multicollinearity may be a concern, as the standard errors will be larger by a factor of more than two. Hamilton (2006) indicates that the standard errors grow exponentially when a 1/VIF falls below .7, therefore, I investigated the tolerance associated with each variable.

Table 14

Variance and Inflation Factor Tolerance for Initial Model

Variable	VIF	1/VIF
mmarital2	6.82	0.146834
mspprt	4.21	0.237485
fmarital2	3.86	0.259308
satwrit	3.28	0.304575
satverb	2.91	0.344208
satmath	2.11	0.474511
transparency	1.96	0.510757
dad_educ	1.94	0.514184
acceptance	1.91	0.523293
fsppt	1.87	0.534629
income	1.77	0.563825
influence	1.73	0.579135
mom_educ	1.52	0.657931
connectedness	1.43	0.701195
famcontr	1.41	0.707781
indirect_involve	1.37	0.732493
direct_involve	1.29	0.772203
gpa	1.26	0.790576
pell	1.23	0.811718
commuter	1.19	0.838675
minority	1.14	0.878916
sex	1.13	0.884011
cohort	1.11	0.898895
Mean VIF	2.11	

Testing the Regression Model

I ran zero-order correlations to further explore the relationship among the variables. The SAT scores for verbal, math, and writing correlated at a r=.62 or higher. For parsimony, I dropped the variables, and instead, used the SAT combined score. The male parental support provider (*mspprt*) presence correlated with male educational attainment level (*dad_educ*), male marital status (*mmarital2*), and with the female support provider presence (*fsppt*). Female support provider presence also correlated with female marital status (*fmarital2*). Because I had earlier dropped the cases of respondents

lacking both a male and female support provider, I knew all the cases had at least one "parent," making both the male support provider and the female support provider variable superfluous. Therefore, again for parsimony, I dropped *mspprt* and *fsppt*. Because there was neither theoretical nor statistical support to include male or female support provider's marital status, I dropped both *fmarital2* and *mmarital2* variables. These variables were dropped to address multicollinearity in SAT scores and family structure. Next, I investigated the multicollinearity within the economic variables.

Several of the economic variables had high zero-order correlations. Family income correlated with male educational attainment (*dad_educ*) and family contribution towards college costs (*famcontr*). I suspected that the income self-report data from students may not be accurate, but students were more likely to know their parents' educational level. Therefore, I dropped *income* from the model.

Literature indicated that a wide range is acceptable in regards to mean VIF, ranging from 1.0 as the maximum value (Hair, Anderson, Tatham, & Black, 1995; Kennedy, 1992; Marquardt, 1970; Neter, Wasserman, & Kutner, 1989), to 4.0 (Pan & Jackson, 2008) or even 5.0 (Rogerson, 2001). More recently, Allison stated that mean VIFs under 2.5 are acceptable (2012). After dropping the variables above, the resulting mean VIF was 1.34 (Table 15), under the 5.0, 4.0 and 2.5 limits cited above.

Table 15

Variance and Inflation Factor Tolerance without Multicolinear Variables

Variable	VIF	1/VIF
transparency	1.91	0.523420
acceptance	1.84	0.542621
influence	1.67	0.597366
connectedness	1.40	0.714055
dad_educ	1.37	0.731677
satcomb	1.36	0.733068
indirect_involve	1.38	0.756734
direct_involve	1.32	0.790972
mom_educ	1.23	0.810126
gpa	1.21	0.829136
commuter	1.17	0.855156
pell	1.13	0.888809
cohort	1.08	0.923143
minority	1.08	0.929456
sex	1.05	0.951117
Mean VIF	1.33	

The 1/VIF indicated that three variables were responsible for a minimal degree of multicollinearity; *transparency* correlated with both *acceptance* and *influence.* I tested the model with and without each variable. Because the 1.33 mean VIF is below Allison's 2.5 threshold (2012), and because all three variables are supported by theory, I retained all three.

I originally included the variable for family contribution (*famcont*) thinking that it may be a part of parental influence, as parents who contribute financially towards a student's education may have additional influence on the student. However, there was little correlation between the variables (.1670). I ran a residuals versus fitted values plot, which indicated an all-clear, but with some outliers. The leverage versus residuals squared plot showed no influential cases, but some poor fits. I ran a robust regression to confirm the OLS results. I also ran the regression with robust standard errors, and found

no noticeable differences in the results. Family contribution was not significant, and it wasn't theoretically supported, therefore, I removed it from the model. Dropping *famcont* simplifies the model and did not change the significance of any other variable.

Twenty-five percent of respondents did not know if they were or were not on a Pell grant. Repeating the process described above for *pell*, the regressions demonstrated that *pell* was not significant nor was it theoretically supported. For model parsimony, I also dropped *pell*.

Based on theory and statistical analysis, the resulting variables remained in the model: *direct_involve, indirect_involve, connectedness, acceptance, transparency, minority* (1=yes), *sex* (1=female), *commuter* (1=lives with parent), *sat, dad_educ* (1=high school, 2=post high school through associates degree, 3=bachelor's degree, 4= post bachelor's education), *mom_educ* (1=high school, 2=post high school through associates degree, 3=bachelor's degree, 4=post bachelor's education), *gpa, cohort* (1=freshman, 2=sophomore, 3=junior, 4=senior), *and influence* (1=low, 2=medium, 3=high). I specified indicator variables. The resulting model has an adjusted R^2 of .23, with the variables *commute, gpa, cohort, acceptance,* and *transparency* significant at the .05 level and with *indirect_involve* significant at the .10 level. The summary of the multiple regression appears in Table 16. The first part of the table shows the regression, and the second part of the table shows the joint effects of the categorical variables.

Table 16 *Initial OLS Regression for Thriving*

Variable	Coefficient	SE	t	*p*	*95% CI*
Constant	2.99				
Direct_involve	-.05	.04	-1.28	0.20	-.12
Indirect_involve	.07	.04	1.71	**0.09***	-.01
Connectedness	-.00	.02	-0.11	0.91	-.04
Acceptance	.15	.05	3.17	**0.00*****	.06
Transparency	.10	.04	2.81	**0.01*****	.03
Minority	.05	.09	0.57	0.57	-.12
Sex	-.05	.07	-0.63	0.53	-.10
Commuter	-.25	.10	-2.59	**0.01*****	-.44
SAT	.00	.00	-1.49	0.14	-.00

Joint Effects for Categorical Variables (>2 Categories)	*F*	*P>F*
Dad_educ	.50	.74
Mom_educ	1.06	.38
Gpa	7.72	**.00*****
Cohort	1.97	.12
Influence	2.35	**.10***

Note. N=400. Adjusted R^2 = .23. Prob > F =.00. *, **, *** indicates significant at the p<.05, p<.01, and p<.001 level, respectively.

After confirming the OLS assumptions regarding multicollinearity, I investigated if the model met the assumptions for normal i.i.d. The residuals versus fitted values plot is relatively sound but contained some distortion of the normal i.i.d. assumptions (Figure 18). Therefore, I used the more conservative OLS multiple regression with robust standard errors.

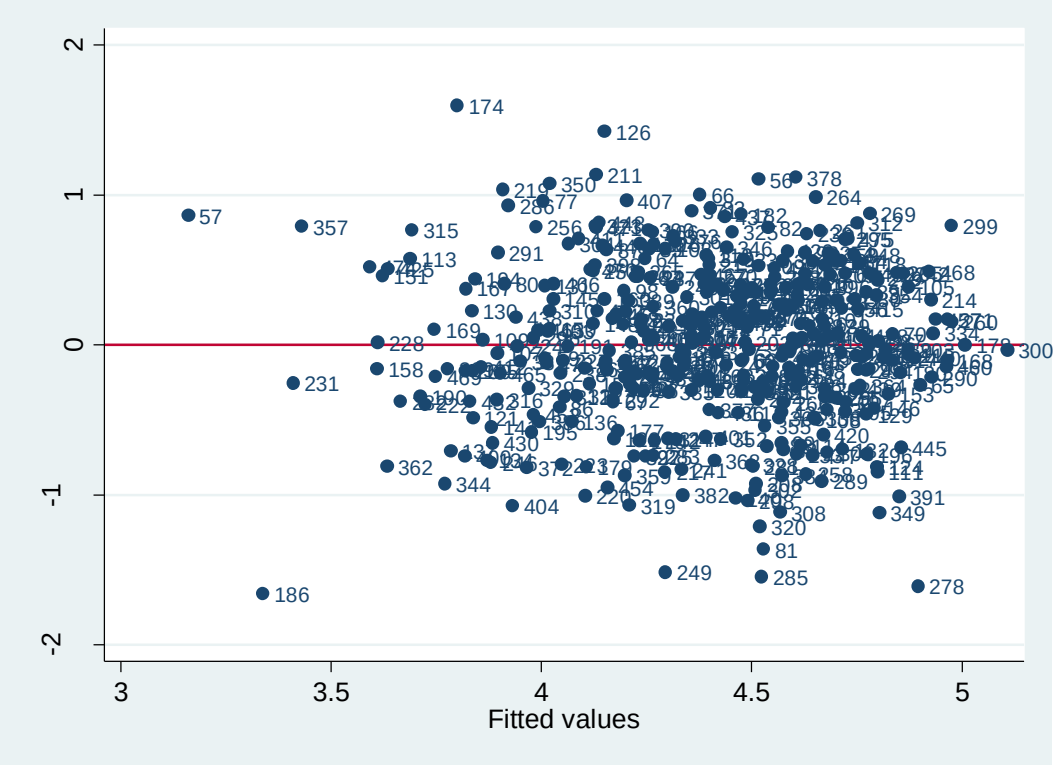

Figure 18. Residuals versus fitted values plot of model.

Next, I investigated the effect of outliers. I ran a leverage versus residuals squared plot (Figure 19), which indicated two cases were of concern, case 186 and 278. Further investigation showed that there were no real differences among significant variables in the full regression compared to the regression without case 186, therefore there was no statistical reason to drop the case. I reviewed the case looking for a theoretical issue or a data entry error, and found no aberrations. Because there was neither a statistical nor a theoretical reason to drop the case, I retained case 186.

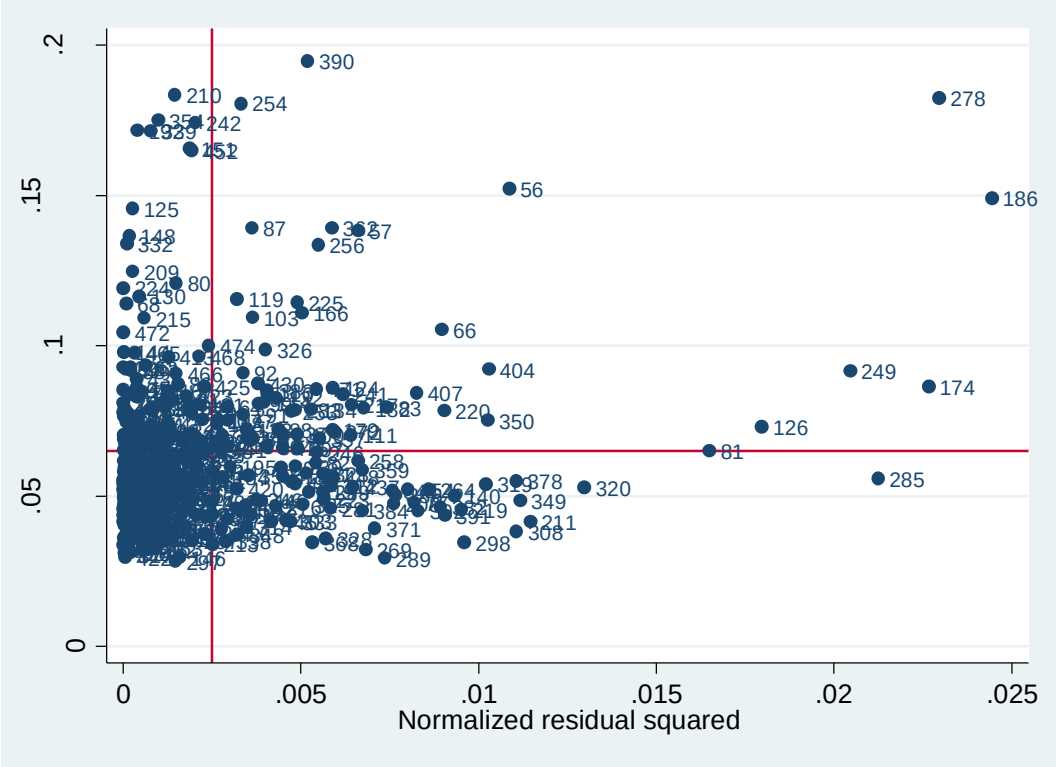

Figure 19. Leverage versus residual squared plot of model.

I repeated the process with case 186. The variable *influence* was not significant at the .05 level of confidence using the OLS regression (p =.0965); however, it was significant using the robust regression (p =.0137). Therefore, I re-ran the OLS regression without case 278. Dropping case 278 resulted in *influence* being significant at the .05 level (p =.0500) and significant using a robust regression (p =.0120). Case 278 was unusual in that it was a female without a mother support provider while having a father with an education of a master's degree or higher. Usually a high level of parental education correlated with high levels of connectedness. For case 278, the parental connectedness was extremely low. Dropping case 278 changed results in a theoretically sound direction. To confirm, I tested dropping all of the females lacking a mother support provider, and had the same results as when I dropped only case 278. Therefore, I dropped

case 278 from the analysis, but suggest parental influence and connectedness is an area for additional research.

I examined the model without case 278 first by using OLS regression (Table 17). The model explains 24.78 percent of the variance in student thriving, as indicated by the adjusted R^2. The residual versus fitted values plot (Figure 20) shows some distortion to the normal i.i.d. error assumption. To protect against these potential violations, I chose to use the Huber-White Sandwich Estimator, which is a robust estimator that provides confirmation of the OLS's validity and protects against distortions of the normal i.i.d. assumption (Hamilton, 1992). The leverage versus residual squared plot (figure ?) contained one potential influential case, case 186. However, it is not influencing to the degree of case 278, and I previously confirmed that dropping case 186 did not change the results nor was dropping 186 supported theoretically.

Table 17

OLS Regression without Case 278

Variable	Coefficient	SE	t	*p*	*95% CI*
Constant	3.28	.45			
Direct_involve	-.05	.04	-1.43	.15	-.13
Indirect_involve	.07	.04	1.78	**.08***	-.01
Connectedness	-.00	.02	-.23	.82	-.04
Acceptance	.14	.05	3.08	**.00*****	.05
Transparency	.11	.04	3.02	**.00*****	.04
Minority	.04	.09	.47	.64	-.13
Sex	-.04	.07	-.58	.57	-.19
Commuter	-.24	.09	-2.54	**.01****	-.43
SAT	.00	.00	-1.6	.11	-.00
Joint Effects for Categorical Variables (>2 Categories)				*F*	*P>F*
Dad_educ				.42	.79
Mom_educ				1.20	.31
Gpa				5.78	**.00*****
Cohort				1.73	.16
Influence				4.34	**.01****

Note. N=399. Adjusted R^2 =.2478. Prob > F= .00. *, **, *** indicates significant at the p<.05, p<.01, and p<.001 level, respectively.

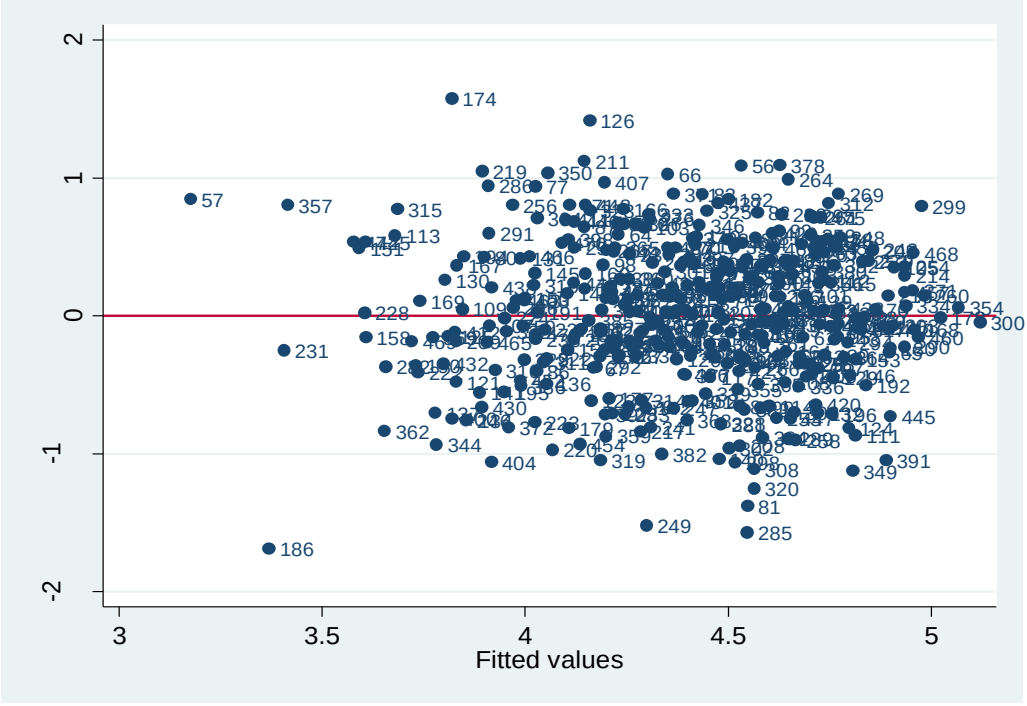

Figure 20. Residuals versus fitted values of model without case 286.

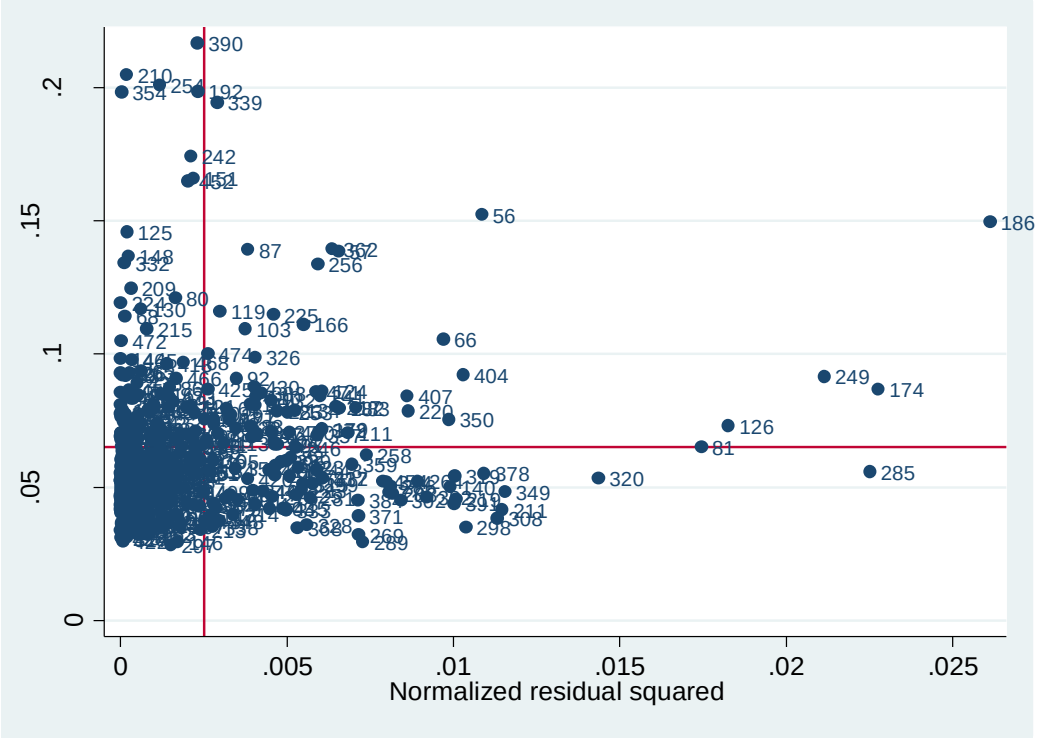

Figure 21. Leverage versus residual squared plot without case 286.

Findings

The final model used an OLS multiple regression with robust standard errors and explained 24.78 percent of the variance in student thriving (Table 18). Several variables were significant at the .05 level: c*ommuter* (p = .024), *transparency* (p = .003), and *acceptance* (p =.006). The greater the level of acceptance and transparency students felt in their relationships with their parents, the higher the levels of student thriving. Commuter students experienced lower levels of thriving regardless of other variables. There was a significant negative relationship between s*atcomb* and thriving at the .10 level, where every one point increase in students' SAT score correlated with a decrease in student thriving. Additional variables appeared to be of significance, but required the use of contrasts due to their categorical nature.

To determine which categorical variables to further investigate, I tested the joint effects to determine which levels had means that were significantly different to warrant pairwise comparisons. The bottom half of Table 18 contains the results of the joint effects; gpa (p =.0003) and *influence* (p = .0472) were significant at the .05 level and *mom_educ* (p = .0538) and *cohort* (p = .0732) approached significance at the .05 level.

Table 18

OLS Multiple Regression with Robust Standard Errors without Case 278

Variable	Coefficient	SE	t	*p*	*95% CI*
Constant	3.28	.44			
Direct_involve	-.05	.04	-1.28	.20	-.14
Indirect_involve	.07	.04	1.70	**.09***	-.01
Connectedness	-.00	.44	7.37	**.00*****	2.40
Acceptance	.14	.05	2.77	**.01****	.04
Transparency	.11	.04	3.04	**.00*****	.04
Minority	.04	.87	.46	.64	-.13
Sex	-.04	.07	-.60	.54	-.18
Commuter	-.24	.11	-2.26	**.02****	-.45
SAT	-.00	.00	-1.69	**.09***	.00

Joint Effects for Categorical Variables (>2 Categories)	F	P>F
Dad_educ	.58	.68
Mom_educ	2.35	**.05****
Gpa	6.41	**.00*****
Cohort	2.34	**.07***
Influence	3.8	**.05****

Note. N=399. Adjusted R^2 =.2478. Prob > F =0.00 *, **, *** indicates significant at the p<.05, p<.01, and p<.001 level, respectively.

I used the predicted margins along with Fisher's Protected Least Significant Difference method to verify the joint test before conducting pairwise comparisons. I examined the joint effects to compare the means of the categorical variables *commuter*, *gpa*, *influence*, *mom_educ*, and *cohort*.

Commuters

Figure 22 shows the difference between the means of commuters and non-commuters controlling for other variables. The effect is significant, indicating that commuting had a negative relationship on student thriving. I attributed the larger standard error for commuters to thin cells, an area for additional research. Based on the student data collected, students who commuted were less likely to thrive in college.

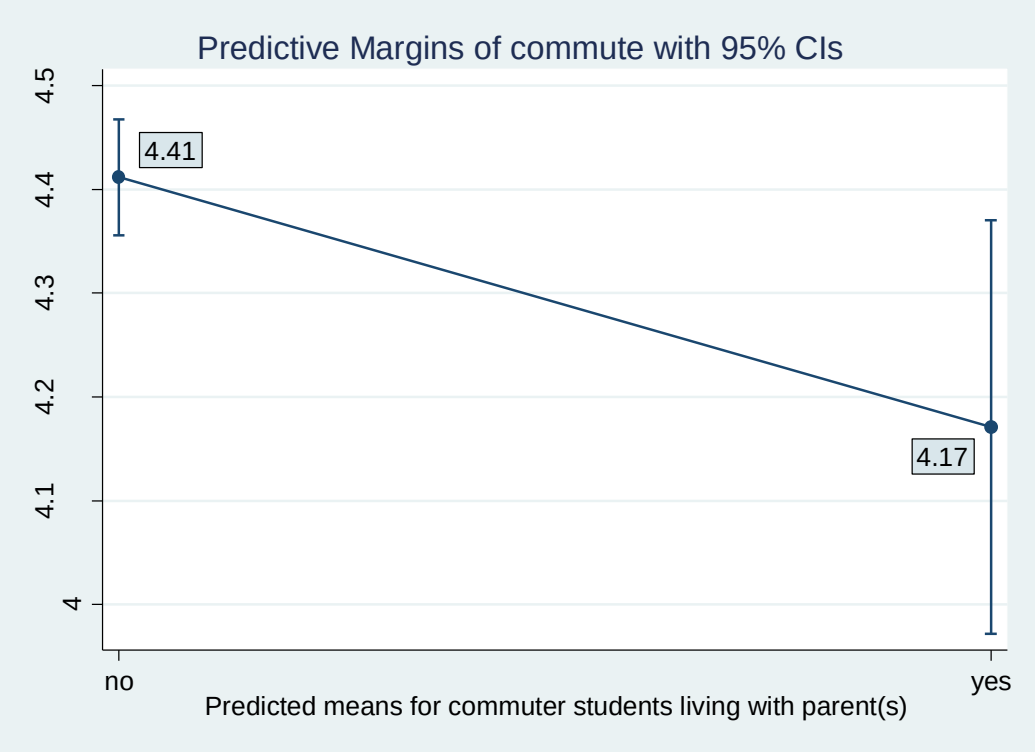

Figure 22. Predicted margins for commuting and thriving.

Mother's Educational Level

I repeated the process with the variable *mom_educ*, the female support provider (mom)'s educational attainment level. Table 19 contains the results of pairwise comparisons for *mom_educ* and Figure 23 shows the changes in student thriving across the levels of mother's educational levels. Overall, there was no difference in student thriving given the mom's educational level. However, the group of students without a

mother figure was thriving more than all groups of students with a mom or mother figure. I compared the educational levels of the mothers and the fathers, and determined that in this sample of students the mothers generally had higher levels of education than the fathers.

A possible explanation for students without moms thriving at higher levels than students with mothers present is that these students have already transitioned to and are accustomed to life without a mom present in their day to day lives. Students without mothers may have other coping mechanisms already in place, making thriving easier. They've already learned how to navigate the world independent of their mother, potentially developing autonomy at an earlier age. This warrants additional research into the role of mothers on college student success due to the small sample size of students without mothers.

Table 19

Test of Mean Differences of Mother's Educational Attainment

Groups compared	Contrast	SE	t	$P>\|t\|$
High school vs no support	-.50	.18	-2.76	.01***
Post HS-associate vs no support	-.45	.18	-2.45	.02**
Bachelor vs no support	-.36	.19	-1.95	**.05****
Post bachelor vs no support	-.40	.20	-2.05	.04**
Post HS-Associates vs high school	.05	.08	.68	.49
Bachelor vs high school	.14	.08	1.71	**.09***
Post bachelor vs high school	.10	.10	.98	.33
Bachelor vs post HS-associate	.09	.08	1.17	.24
Post bachelor vs post HS-associate	.05	.10	.49	.62
Post bachelor vs bachelor	-.04	.09	-.46	.65

Note. Model VCE: OLS with robust SE; *, **, *** indicates significant at the $p<.05$, $p<.01$, and $p<.001$ level, respectively.

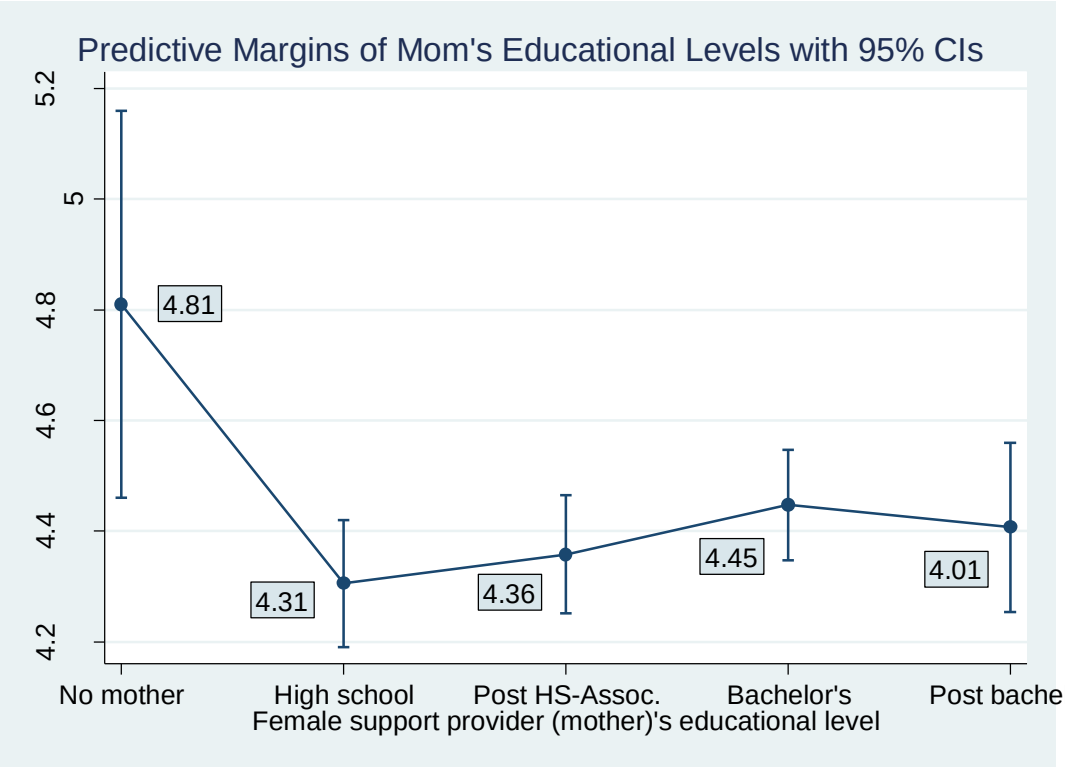

Figure 23. Predicted margins for mothers' educational level and student thriving.

Student Grade Point Average

Next, I repeated the process of pairwise comparisons and marginsplots for students's GPA. Table 20 contains the results of the pairwise comparison, and Figure 24 shows the predictive means for thriving and student grade point average, controlling for all other variables. There was a significant difference in the means between students with a 3.0-3.4 compared those with a 2.4 or lower, and between the levels of thriving with students earning a 3.5 -4.0 compared to students with a 2.4 or lower. Also, students earning between a 3.5 and 4.0 thrive significantly more than those earning a 2.4 or lower.

While this seems obvious, it's important to keep in mind that this study defines success more broadly than academic success measured by GPA. Thriving, the measurement of student success, consists of engaged learning, academic determination,

positive perspective, diverse citizenship and social connectedness (Schreiner, 2010). Based on this sample, thriving does not steadily increase with higher GPAs, which supports the idea that success encompasses more than academic achievement. It is interesting to note that there is a significant difference between students earning a 3.5 or higher compared to students earning a 3.0 -3.4. Students with a B+ to A were thriving significantly more than students earning a B to a B+.

Table 20

Test of Mean Differences of Grade Point Average and Thriving

Groups compared	Delta-method contrast	SE	t	*P>|t|*
2.5 - 2.9 vs 2.4 or lower	.41	.24	1.75	**.08***
3.0 - 3.4 vs 2.4 or lower	.52	.23	2.27	**.02****
3.5 - 4.0 vs 2.4 or lower	.68	.23	3.00	**.00*****
3.0 - 3.4 vs 2.5 - 2.9	.11	.09	1.23	.22
3.5 - 4.0 vs 2.5 - 2.9	.27	.08	3.22	**.00*****
3.5 - 4.0 vs 3.0 - 3.4	.16	.07	2.34	**.02****

Note. Model VCE: OLS with robust SE *, **, *** indicates significant at the $p<.05$, $p<.01$, and $p<.001$ level, respectively.

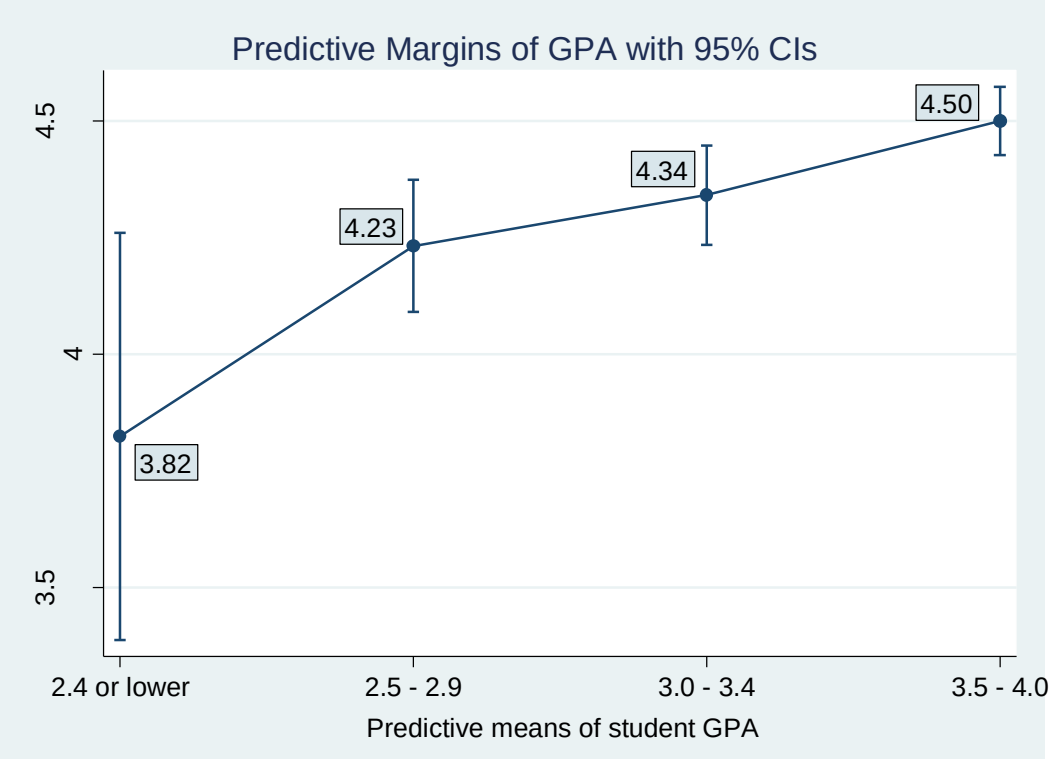

Figure 24. Predicted margins for student GPA and student thriving.

Cohort

Student cohort was not significant at the .05 level, but was significant at the .10 level (p = .0732), warranting a closer examination. Table 21 contains the results of the pairwise comparison, and Figure 25 shows the changes in thriving by student cohort. The standard errors for each group were more appropriate. While one might expect thriving to remain steady once students transition to the college setting, the data shows that thriving was significantly different between juniors and freshman students, and also significantly different between seniors and juniors.

Table 21

Test of Mean Differences of Cohort and Thriving

Groups compared	Delta-method contrast	SE	t	*P*>|*t*|
Sophomore vs freshman	.10	.10	1.06	.29
Junior vs freshman	.19	.09	2.19	**.03****
Senior vs freshman	.04	.09	.42	.68
Junior vs sophomore	.09	.08	1.10	.27
Senior vs sophomore	-.07	.08	-.86	.39
Senior vs junior	-.16	.07	-2.24	**.03****

Note. Model VCE: OLS with robust SE; *, **, *** indicates significant at the $p<.05$, $p<.01$, and $p<.001$ level, respectively.

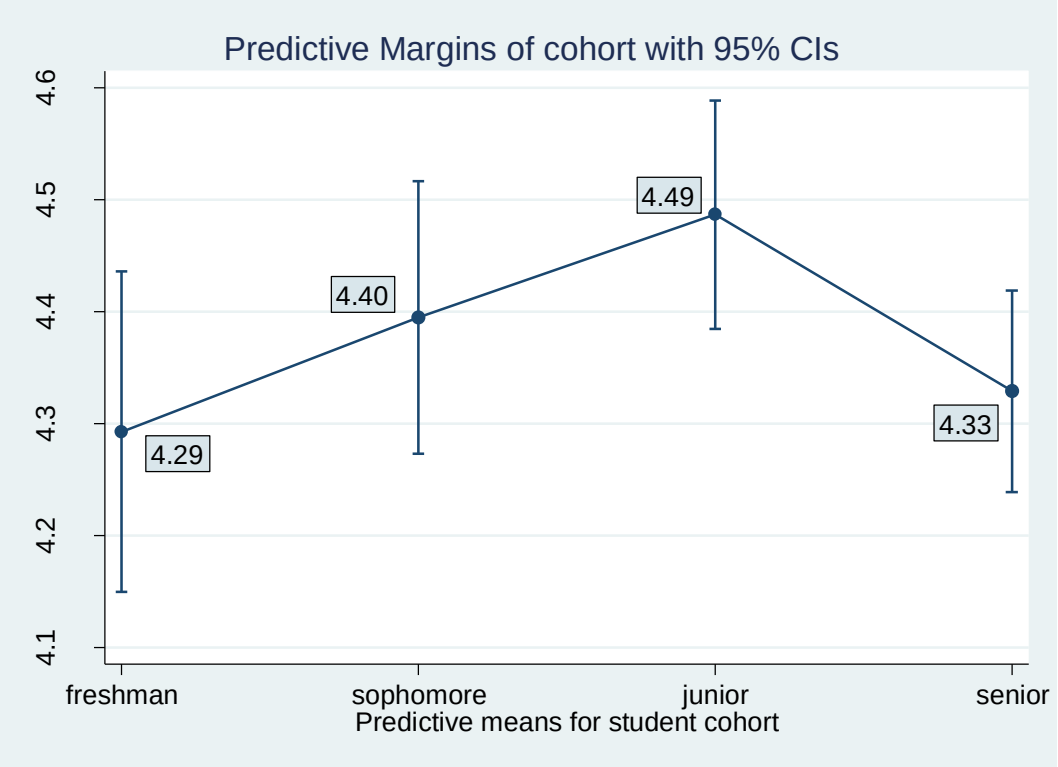

Figure 25. Predicted margins for cohort and student thriving.

The difference between juniors and freshman may be explained by students fully adjusting to college life and the academic expectations of their chosen major. Freshman

are finding their social niche, and students tend to switch majors during their freshman and sophomore year. By their junior year, students are established in their social settings and within their academic area. But seniors are wrestling with their impending graduation and launch into "the real world." That transition means leaving behind friends and a familiar setting without knowing where they will be landing.

Figure 26 shows the levels of thriving by transparency and by cohort group. Irrespective of the other variables, as transparency increased, thriving increased, and it's true for all cohorts. Juniors thriving the least were thriving at higher levels than the lowest levels of freshman, sophomores, and seniors. Juniors in the 75th percentile of thriving for their cohort were thriving more than seniors at the 100th percentile for their cohort. Juniors at the lowest levels of thriving were thriving as much as seniors at the 25th percentile. The highest level of senior thriving was below the highest levels of sophomores and juniors. This may indicate the need for specialized support for seniors.

While sophomores, juniors, and seniors thriving at the highest levels surpassed the highest levels of freshman thriving, the difference in thriving between freshman and seniors was slight. Recalling that the relationship between transparency and thriving was significant at the .00 confidence level, the more transparent students were, the more they thrived. It could be that when students experience times of uncertainty (for freshmen, entering a new environment; for seniors, the impending departure from their known environment) they exhibit more transparency with their parents.

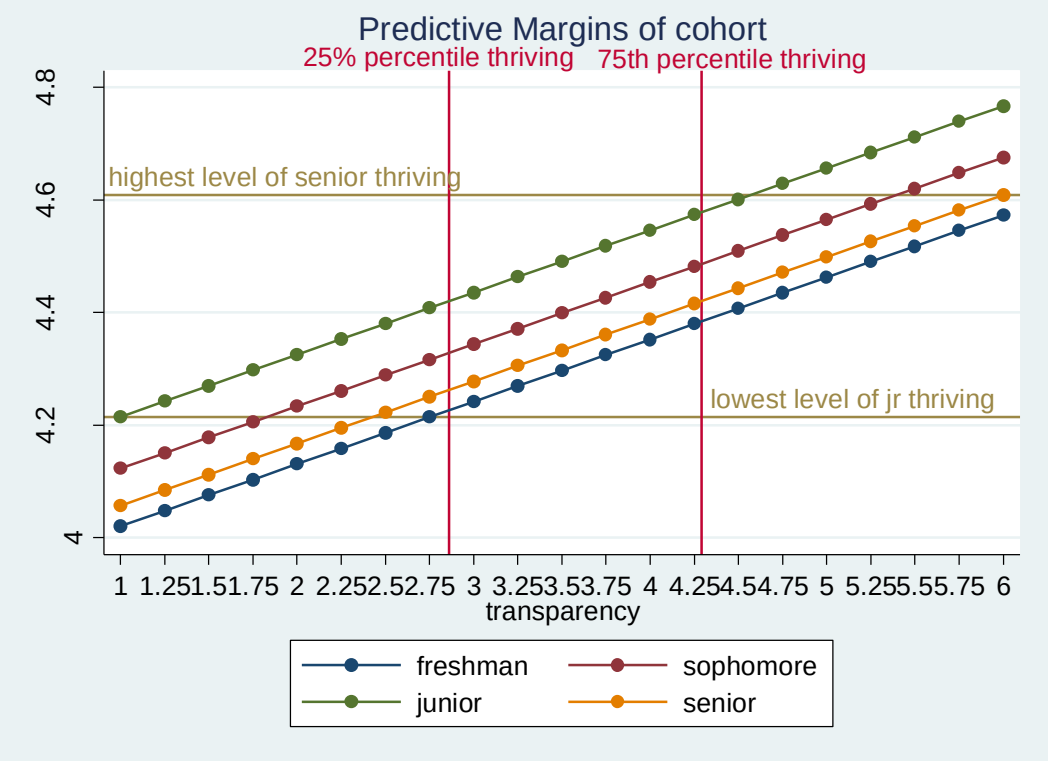

Figure 26. Relationship of transparency to student thriving by cohort.

Parental Influence

Parental influence, defined as the degree to which students took their parents' advice into consideration, was another significant variable. The coding for this variable was at three levels: low influence, medium influence, and high influence. The results of the pairwise comparison are in Table 22 and graphically shown in Figure 27. In examining the means of groups by parental influence, the pairwise comparison indicated that the significant difference between levels occurs between medium levels of influence and high levels of influence. Students that reported the highest levels of parental influence on their decisions thrived significantly more than students who reported a middle-level of influence. This indicated that students who valued their parents' opinions and advice by considering their input before making decisions thrived more than students

who are ambivalent about their parents' advice. It is possible that parents want their children to success, and because the student is influenced by their parent, the student works harder rather than giving up.

Table 22

Test of Joint Effects of Parental Influence and Thriving

Groups compared	Delta-method contrast	SE	t	*P*>|*t*|
Medium influence vs low	-.01	.89	-.12	.90
High influence vs low	.15	.10	1.53	.13
High influence vs medium	.16	.07	2.45	**.02****

Note. Model VCE: OLS with robust SE; *, **, *** indicates significant at the $p<.05$, $p<.01$, and $p<.001$ level, respectively.

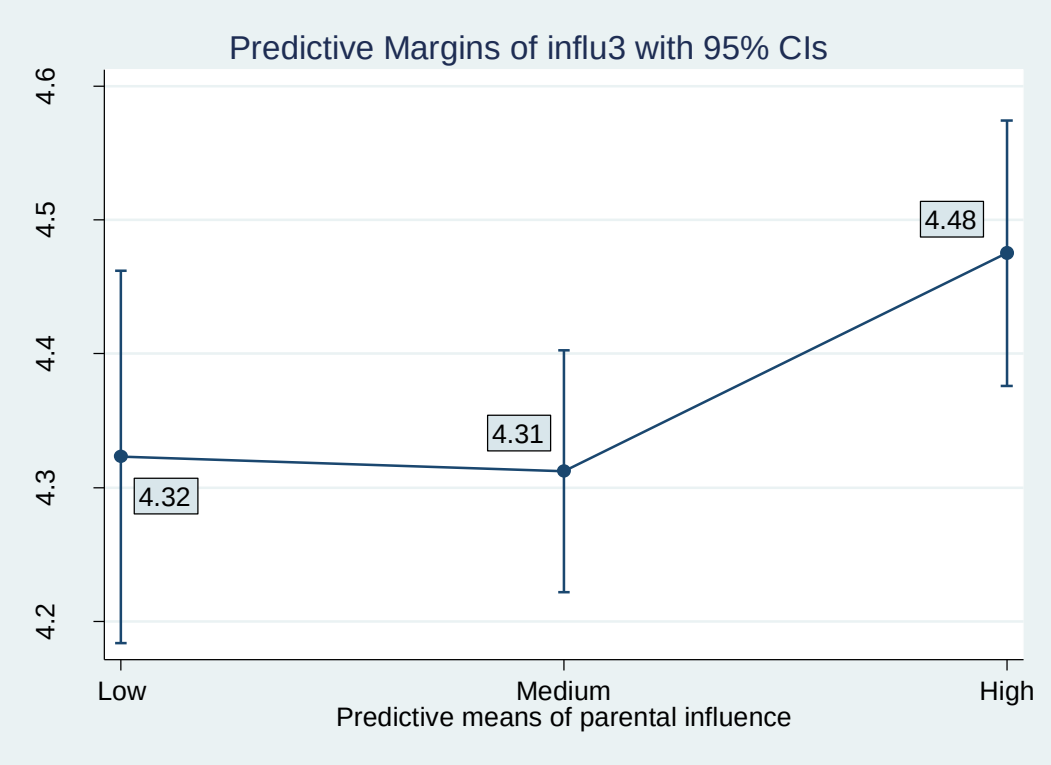

Figure 27. Predicted margins for parental influence and student thriving.

There was no significant difference in thriving between groups reporting the highest levels of parental influence on decisions and the lowest level of influence. This

may indicate that students who don't value their parents' advice are able to thrive regardless, and is an area for future research.

The low influence group, while reasonable, influenced the results as evidenced by the larger standard error. The standard error for the low influence group compared to the high level group caused the change in significance. While the robust regression hinted that influence may be a factor in student thriving, there were outlying cases. This suggests a need for further research in the area of parental influence. Figure 28 shows the relationship between influence, transparency and thriving, holding the other variables constant.

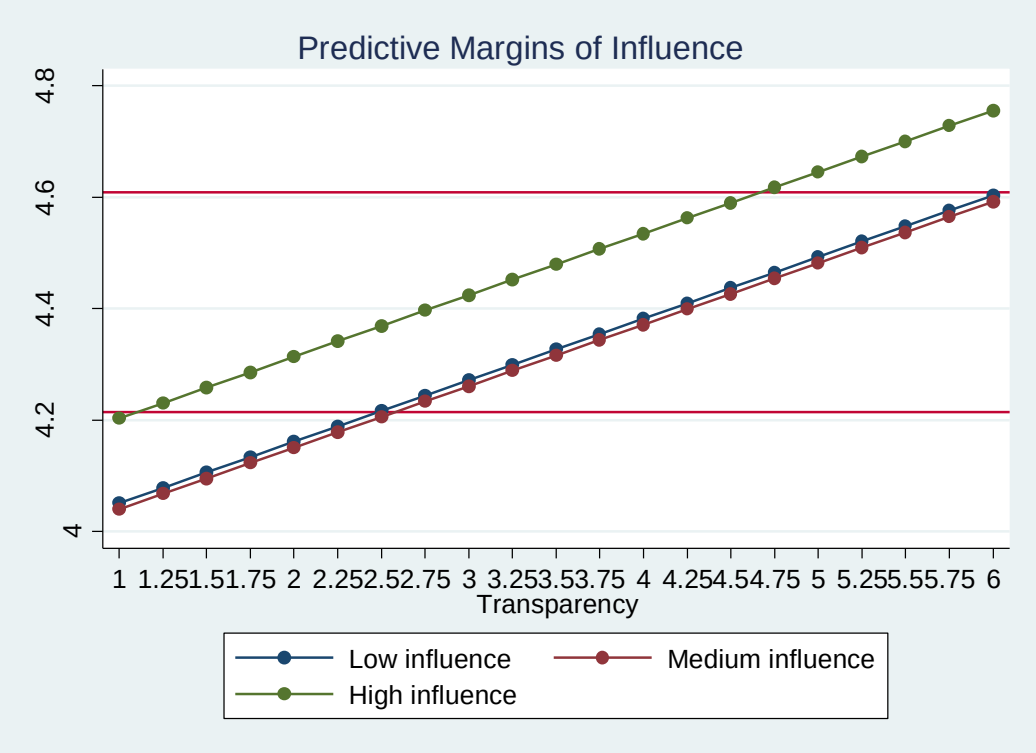

Figure 28. Relationship of transparency to student thriving by level of parental influence.

Interactions

One of the research questions for this study was to identify if interactions existed between parental style, parental involvement or parental influence relative to success. I tested for interactions between the variables; none existed.

The previous section summarized the findings of the study by examining the independent variables' relationship to overall student thriving. The next section reports the findings by each subdomain of thriving.

Subdomains of Thriving

I used the Thriving Quotient (Schreiner, et al., 2009) to measure student success. This instrument consists of five subdomains: social connectedness, engaged learning, academic determination, positive perspective, and diverse citizenship. The following sections report findings specific to each subdomain of student thriving.

Social connectedness. Schreiner described the subdomain of social connectedness (*sconnectA*) as having friends who listen and experiencing a sense of community within the college setting (2010). I repeated the process described above, using *sconnectA* as the dependent variable. The number of observations increased from 399 in the model of thriving to 402 observations for social connectedness because more participants completed all the survey questions relating to social connectedness, but did not complete all the questions necessary to compute the entire thriving quotient. The regression model had an adjusted R^2 of .1117, indicating that 11% of the variation in social connectedness is explained by the independent variables.

The residual versus fitted values plot (figure 29) showed some distortion to the normal i.i.d. error assumption. To protect against these potential violations, I used the

more conservative vce robust regression. Table 23 contains the results of the OLS multiple regression with robust standard errors using social connectedness as the dependent variable. To determine which categorical variables to further investigate, I ran a contrast test of the joint effects to determine which levels had means that were significantly different to warrant pairwise comparisons. The bottom half of Table 23 contains the results of the contrast.

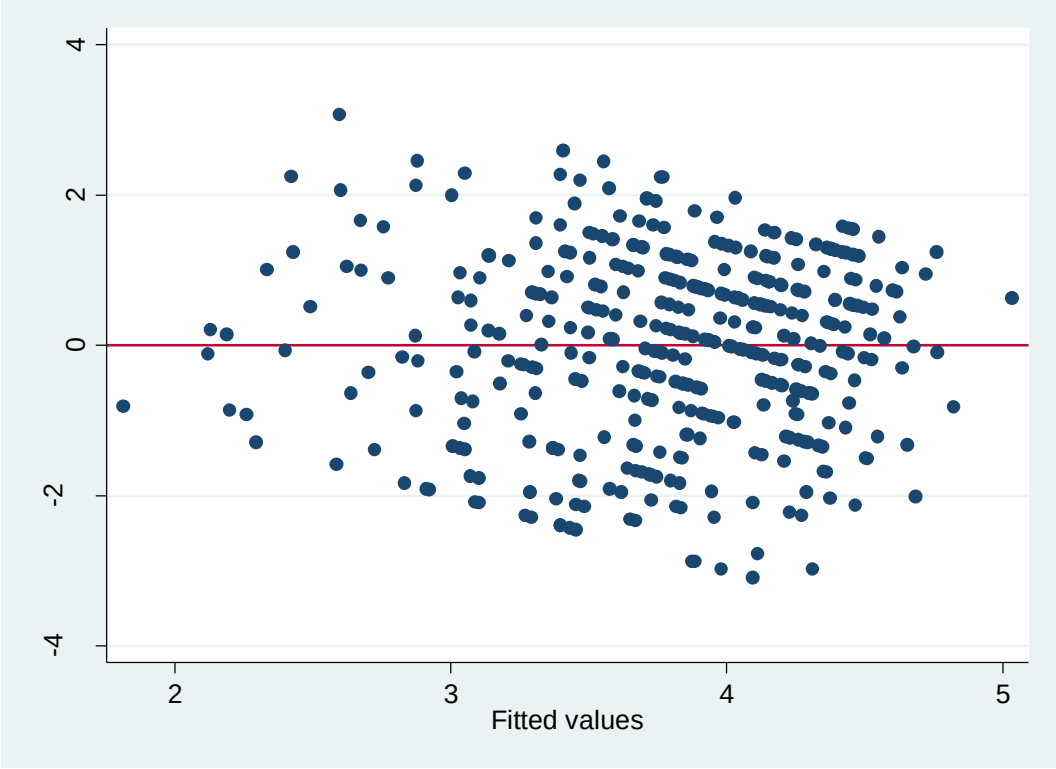

Figure 29. Residuals versus fitted values plot for social connectedness.

Table 23

OLS Multiple Regression with Robust Standard Errors on Social Connectedness

Variable	Coefficient	SE	t	*p*	*95% CI*
Constant	3.33	.96			
Direct_involve	.00	.09	.04	.97	-.17
Indirect_involve	-.03	.09	-.36	.72	-.22
Connectedness	-.04	.05	-.79	.43	-.13
Acceptance	.43	.11	3.99	**.00*** **	.22
Transparency	.02	.09	.25	.80	-.15
Minority	-.26	.22	-1.18	.24	-.68
Sex	.04	.17	.27	.79	-.29
Commuter	-.40	.21	-1.92	.06	.01
SAT	-.00	.00	-1.97	**.05***	-.00

Joint Effects for Categorical Variables (>2 Categories)	*F*	*P>F*
Dad_educ	.47	.76
Mom_educ	3.57	**.01****
Gpa	.21	.89
Cohort	1.01	.39
Influence	1.01	.39

Note. N=402. Adjusted R^2 =.11. Prob > *F* =.00. *, **, *** indicates significant at the $p<.05$, $p<.01$, and $p<.001$ level, respectively.

Acceptance. *Acceptance* was significant ($p = .000$) at the $p = .05$ level for social connectedness. Parent-student relationships characterized by parental acceptance increased students' social connectedness with their college peers. For every increase in the level of acceptance in the parent-student relationship, social connected increased by .434. The unit increase, therefore, is 2.6 (.434 multiplied by 6, the scale used for social connected). If a student was at a lower level of social connectedness, and their parent became more accepting of the student, the result could be an increase of 2.6 points on the social connectedness scale. Future research is needed to see if a causal relationship exists. The added variable plot of this relationship is in Figure 30.

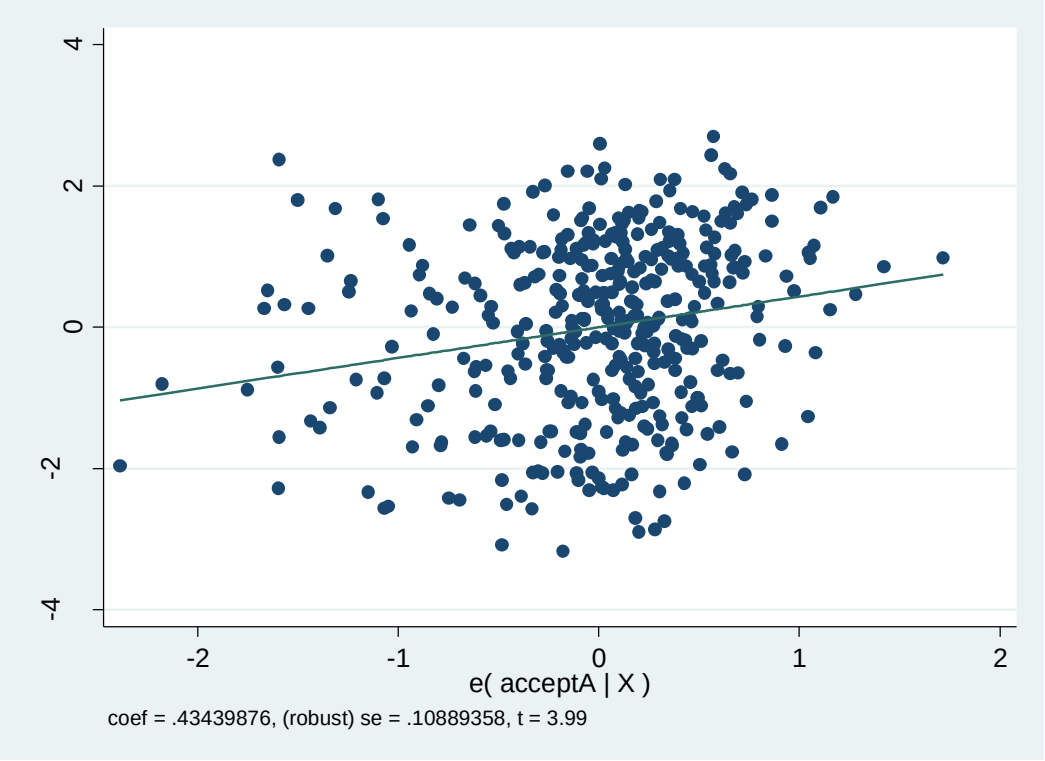

Figure 30. Added variable plot of acceptance and social connectedness.

SAT scores. The variable *satcomb* approached significance at the .05 level with a P>|t| of .051. There was a negative relationship between SAT score and social connectedness; for every one point increase in students' SAT scores, student social connectedness decreased. The added variable plot in Figure 31 shows the relationship graphically. This may indicate that smarter students tend to be less socially engaged due to a focus on academics. It could also be an instance of a finding, while being statistically significant, is not meaningful. I ran the model with a beta and found that for every standard deviation increase in SAT scores, the predicted social connectedness decreased by .11 of a standard deviation. (For comparison, for every one standard deviation increase in acceptance, the predicted social connectedness increased by .25 standard deviation.)

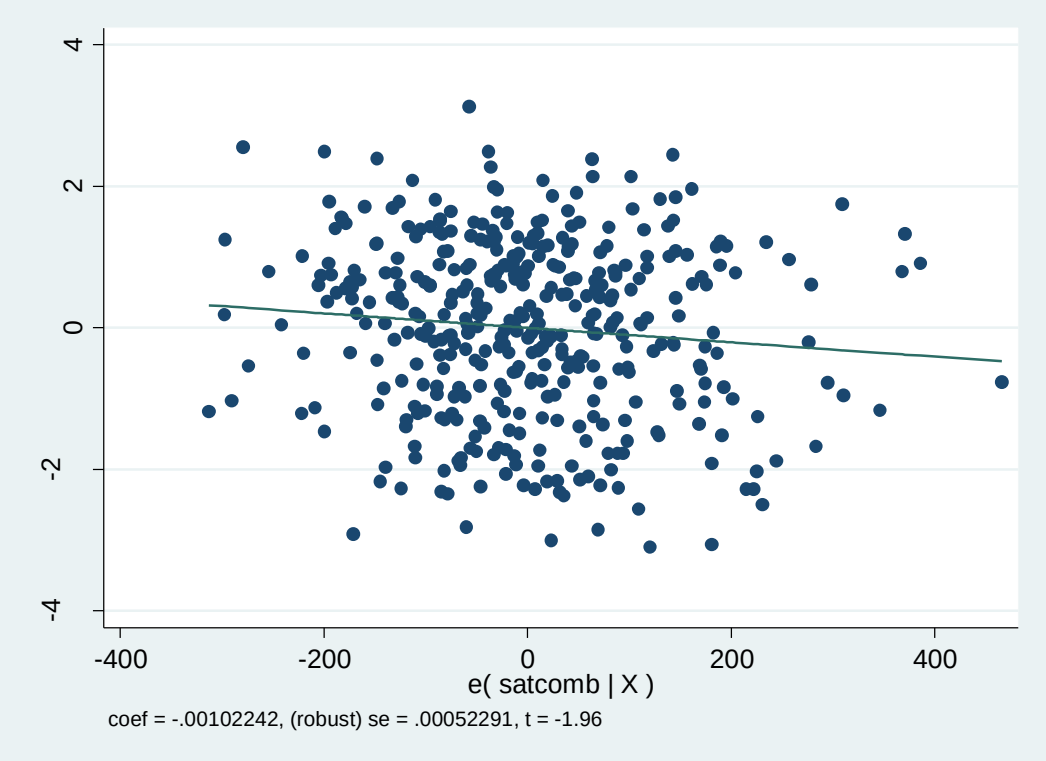

Figure 31. Added variable plot of SAT score and social connectedness.

Commuter students. *Commuter* approached significance at the .05 level (*p* = .056). Commuter students experienced lower levels of social connectedness irrespective of other variables. However, due to the large standard error, we can't be certain. Future research could explore this further. Figure 32 shows means between the two groups related to social connectedness.

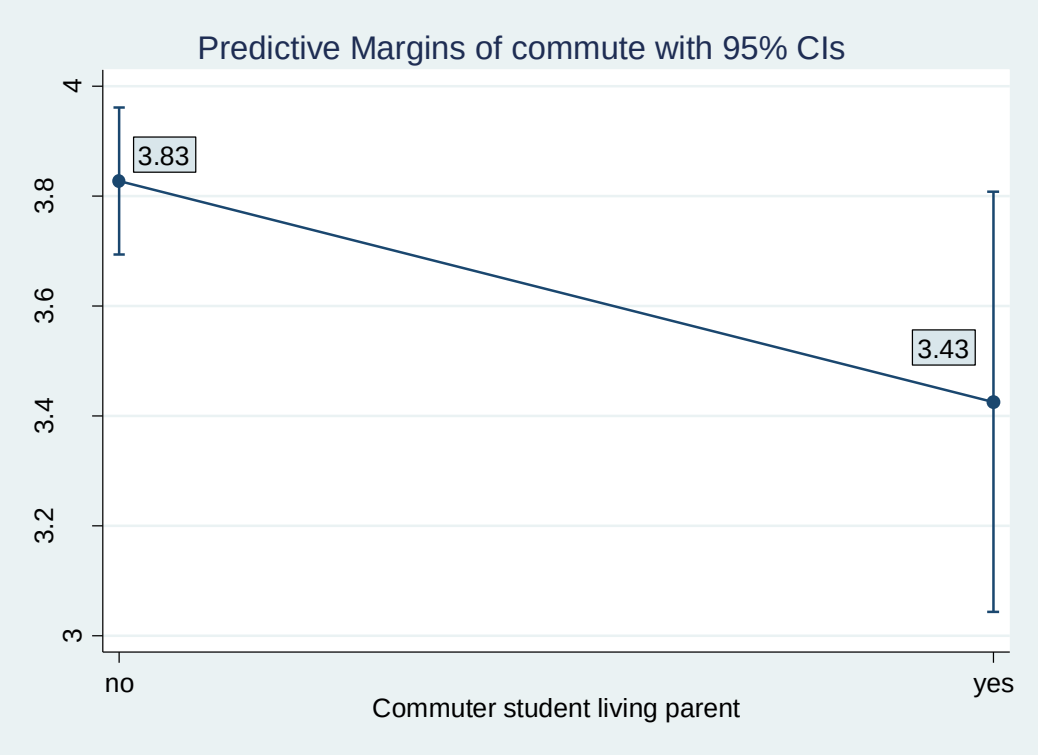

Figure 32. Marginsplot of commuter on social connectedness.

Mothers' educational level. Mother's educational level was significant (*p* =.0072). Table 24 contains the results of pairwise comparisons for *mom_educ* and Figure 33 shows the changes in social connectedness across the levels of mother's educational levels. Students without a mom had significantly higher levels of social connectedness than students with a mother figure in their life; however, this group had a large standard error, indicating thin cells and the need for further research. Students without moms may connect more with peers to offset the lack of a mother or mother-figure. They may also be more experienced in developing their own social supports having more time to develop autonomy than peers with a mother.

Table 24

Test of Mean Differences of Mothers' Educational Attainment

Groups compared	Contrast	SE	t	$P>\|t\|$
High school vs no support	-1.24	.40	-3.14	**.00*** **
Post HS-associate vs no support	-.76	.39	-1.97	**.05***
Bachelor vs no support	-.71	.39	-1.81	.07
Post bachelor vs no support	-.75	.41	-1.84	.07
Post HS-Associates vs high school	.48	.18	2.59	**.01** **
Bachelor vs high school	.53	.20	2.60	**.01** **
Post bachelor vs high school	.49	.22	2.23	**.03***
Bachelor vs post HS-associate	.05	.18	.29	.77
Post bachelor vs post HS-associate	.02	.20	.08	.93
Post bachelor vs bachelor	-.04	.19	-.19	.85

Note. Model VCE: OLS with robust SE; *, **, *** indicates significant at the $p<.05$, $p<.01$, and $p<.001$ level, respectively.

Students whose mothers had formal education beyond a high school diploma experienced significantly more social connectedness at college compared to the group of students whose mothers did not attend college. However, the gain in students' social connectedness did not increase with additional higher educational attainment such as completing a bachelor's degree or post-bachelor's education. The gain in social connectedness was the nearly the same regardless of how much additional education the mother attained beyond high school. This indicates the children of moms who attended some additional formal education beyond high school learned the value of friendship and belonging from their mothers' higher educational experience or that the moms encouraged those connections and/or communicated their importance.

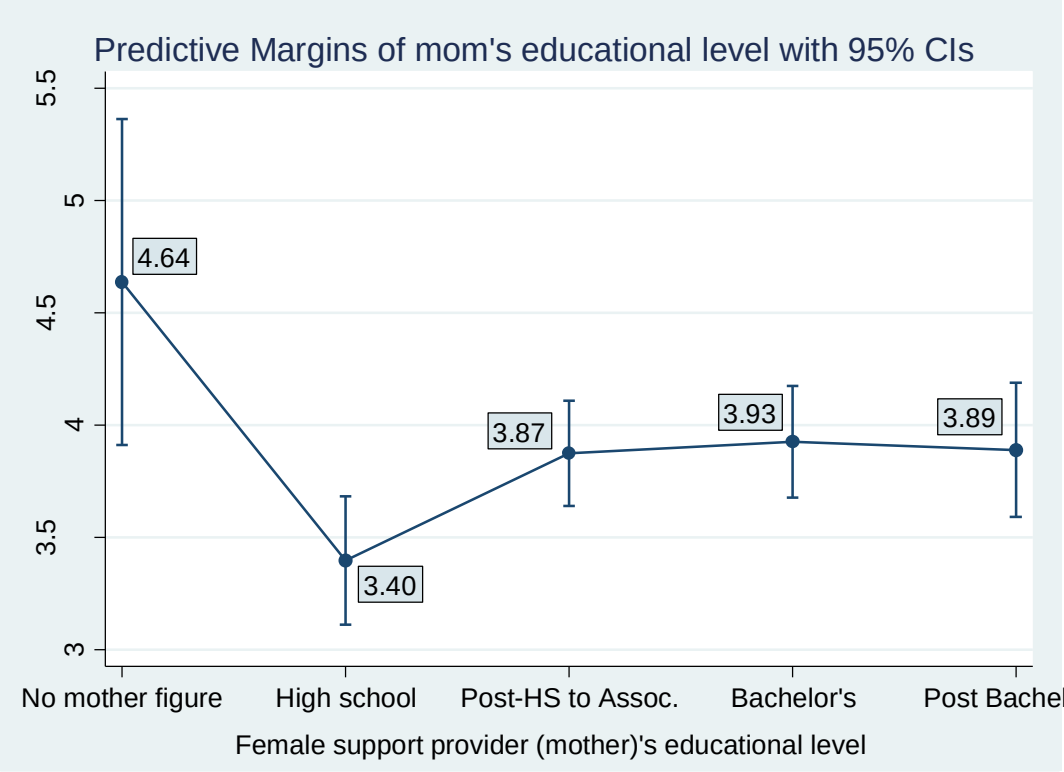

Figure 33. Marginsplot of mom's educational level on social connectedness.

Engaged learning. The next subdomain of student thriving was engaged learning. Engaged learning was defined as actively participating in the learning process beyond showing up for class and completing assignments (Schreiner, 2010). I ran a regression of the independent variables using engaged learning as the dependent variables. The resulting adjusted R^2 was .1316, indicating that the independent variables explained 13% of the variance in engaged learning. The residual versus fitted values plot (Figure 34) showed some distortion to the normal i.i.d. error assumption. To protect against these potential violations, I chose to use the Huber-White Sandwich Estimator, a robust estimator that provided confirmation of the OLS's validity and protected against distortions of the normal i.i.d. assumption (Hamilton, 1992).

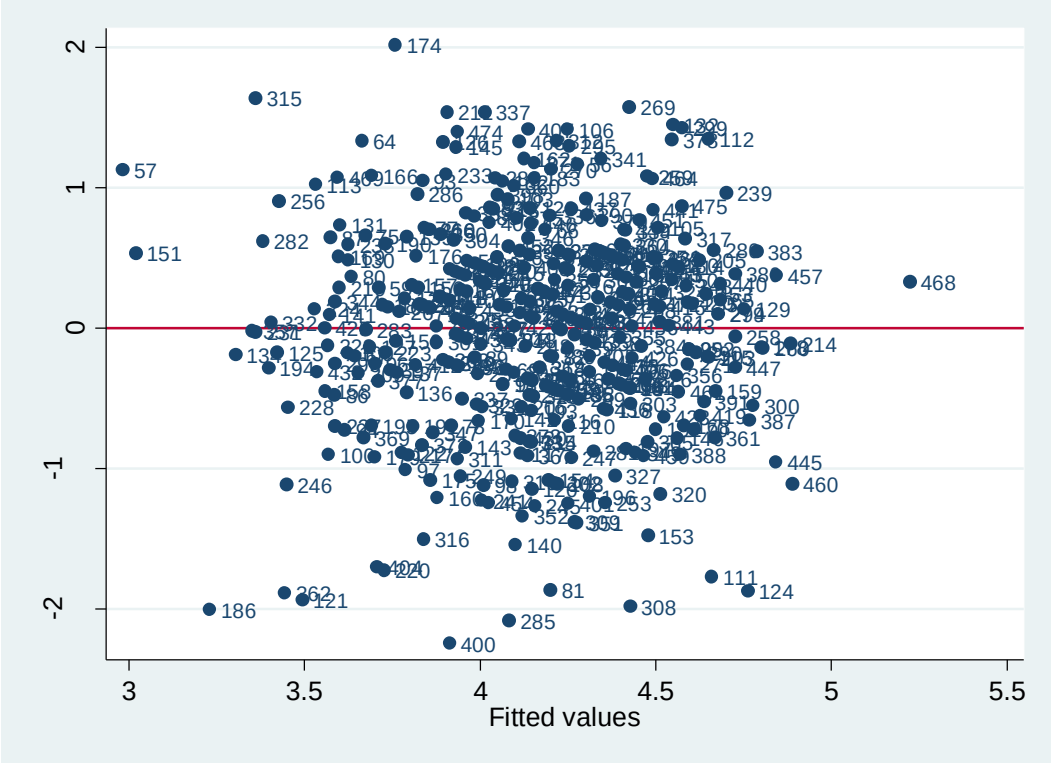

Figure 34. Residuals versus fitted values for engaged learning.

The OLS multiple regression with robust standard errors results indicated that both *transparency* (p = .006) and *indirect_involve* (p = .004) were significant at the .05 level for engaged learning (Table 25). I ran a contrast test of the joint effects to determine which levels of the categorical variables had means that were significantly different to justify pairwise comparisons. The results are in the bottom half of Table 25. *Gpa* was significant at the .05 level for engaged learning (p = .0165) as was *cohort* (p = .0072).

Table 25

OLS Multiple Regression with Robust Standard Errors on Engaged Learning

Variable	Coefficient	SE	t	*p*	*95% CI*
Constant					
Direct_involve	-.09	.05	-1.65	.10	-.19
Indirect_involve	.18	.06	2.91	**.00*** **	.06
Connectedness	-.02	.03	-.77	.44	-.08
Acceptance	.10	.08	1.25	.21	-.06
Transparency	.15	.05	2.75	**.01** **	.04
Minority	.15	.13	1.09	.03	-.12
Sex	-.03	.10	-.26	.80	-.22
Commuter	-.11	.14	-.77	.44	-.39
SAT	.00	.00	1.31	.19	-.00

Joint Effects for Categorical Variables (>2 Categories)	*F*	*P>F*
Dad_educ	.52	.72
Mom_educ	.27	.90
Gpa	3.46	**.02***
Cohort	4.08	**.01** **
Influence	.15	.86

Note. N=402. Adjusted R^2 =.1316. Prob > *F* =0.0. *, **, *** indicates significant at the $p<.05$, $p<.01$, and $p<.001$ level, respectively.

Transparency. The added variable plot for transparency (Figure 35) showed the positive relationship between transparency and engaged learning, irrespective of other variables ($p = .006$). Students who reported a relationship with their parents characterized by transparency or openness were more engaged in their learning, irrespective of other variables. For every increase in the reported level of transparency, engaged learning increased by .75 on a 6-point scale.

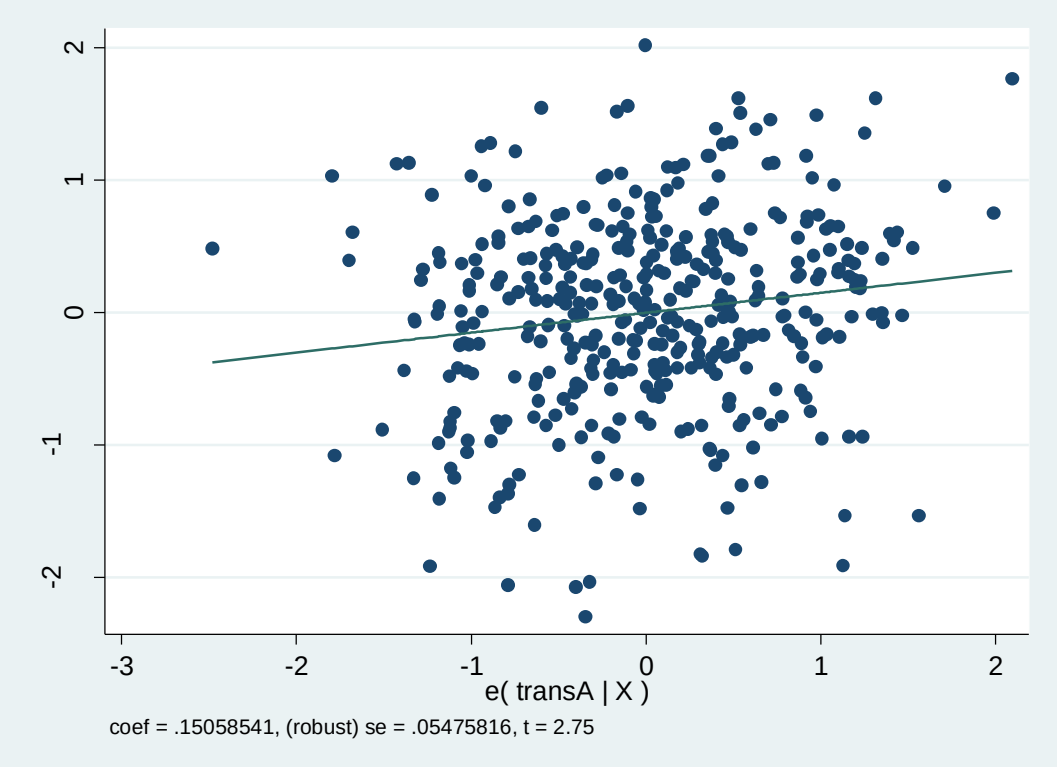

Figure 35. Added variable plot for engaged learning and transparency.

Indirect involvement. Indirect involvement, defined as parents stressing the importance of going to class, of having a life plan, of developing relationships with advisors, professors and resident life staff, and encouraging academic strategies to help with learning was significantly related to engaged learning at the .05 level (p = .004). Students who reported their parents were indirectly involved in their education had higher levels of engaged learning, irrespective of other variables. Figure 36 shows the positive relationship between indirect parental involvement and engaged learning. For every one point increase in reported indirect involvement, engaged learning increased by .89, nearly a full point on a 6-point scale. Students who reported being engaged at an average level may move up to the above average level by parents becoming more indirectly involved.

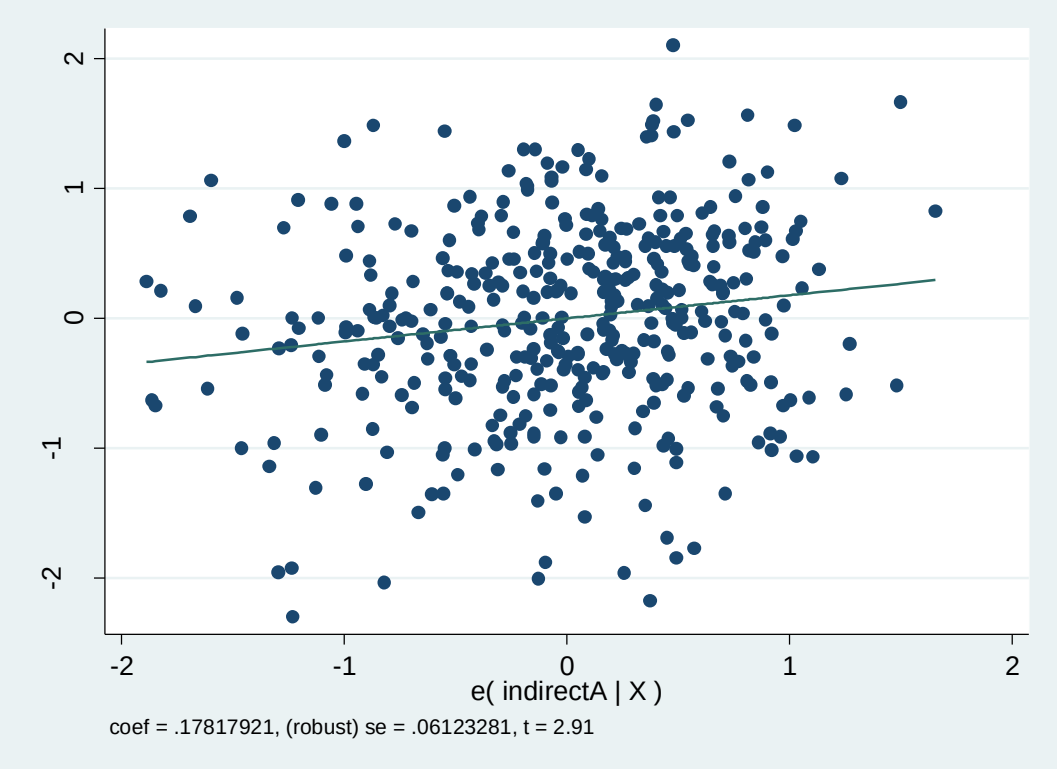

Figure 36. Added variable plot for engaged learning and indirect involvement.

GPA. The pairwise comparison for *gpa* indicated that significant differences existed in the means between students earning a 3.5-4.0 compared to those earning a 2.4 or lower (Table 26). The predicted margins are presented graphically in Figure 37. It is worth noting that the differences in the means between the groups did not consistently increase as GPA increased. Another significant difference in the means occured between the groups of students with GPAs of 3.5 to 4.0 (B+ to A) compared to students who with GPAs of 3.0 to 3.4 (B). Students who were more engaged in their learning earned higher grades, and this difference was significant between B students and students earning a B+ or higher.

Table 26

Test of Mean Differences of GPA and Engaged Learning

Groups compared	Delta-method contrast	SE	t	*P*>|*t*|
2.5 - 2.9 vs 2.4 or lower	.52	.31	1.68	.09
3.0 - 3.4 vs 2.4 or lower	.52	.30	1.74	.08
3.5 - 4.0 vs 2.4 or lower	.72	.30	2.24	**.02***
3.0 - 3.4 vs 2.5 - 2.9	.00	.12	.03	.98
3.5 - 4.0 vs 2.5 - 2.9	.21	.11	1.83	.07
3.5 - 4.0 vs 3.0 - 3.4	.21	.09	2.20	**.03***

Note. Model VCE: OLS with robust SE; *, **, *** indicates significant at the $p<.05$, $p<.01$, and $p<.001$ level, respectively.

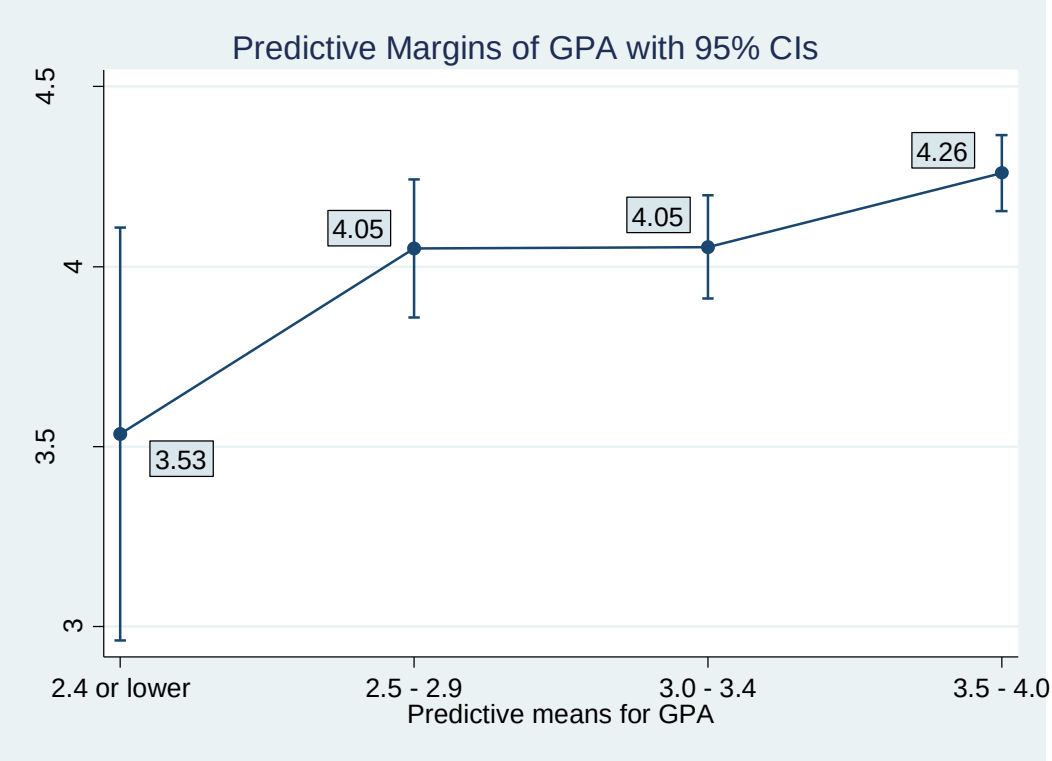

Figure 37. Predicted margins of engaged learning and GPA.

Cohort. Next, I repeated the process of pairwise comparisons and marginsplots for *cohort.* Table 27 contains the results of the pairwise comparison for cohort, and Figure 38 shows the predictive means for engaged learning and cohort. Three comparisons had significant differences in the means: juniors compared to freshman (p =

.001), juniors compared to sophomores (p = .050), and (in a negative direction) seniors compared to juniors (p =.011).

Table 27

Test of Mean Differences of Cohort and Engaged Learning

Groups compared	Delta-method contrast	SE	t	$P>\|t\|$
Sophomore vs freshman	.15	.13	1.18	.24
Junior vs freshman	.38	.12	3.22	**.00*** **
Senior vs freshman	.13	.12	1.09	.28
Junior vs sophomore	.22	.11	1.96	**.05***
Senior vs sophomore	-.03	.11	-.27	.79
Senior vs junior	-.25	.10	-2.57	**.01****

Note. Model VCE: OLS with robust SE; *, **, *** indicates significant at the p<.05, p<.01, and p<.001 level, respectively.

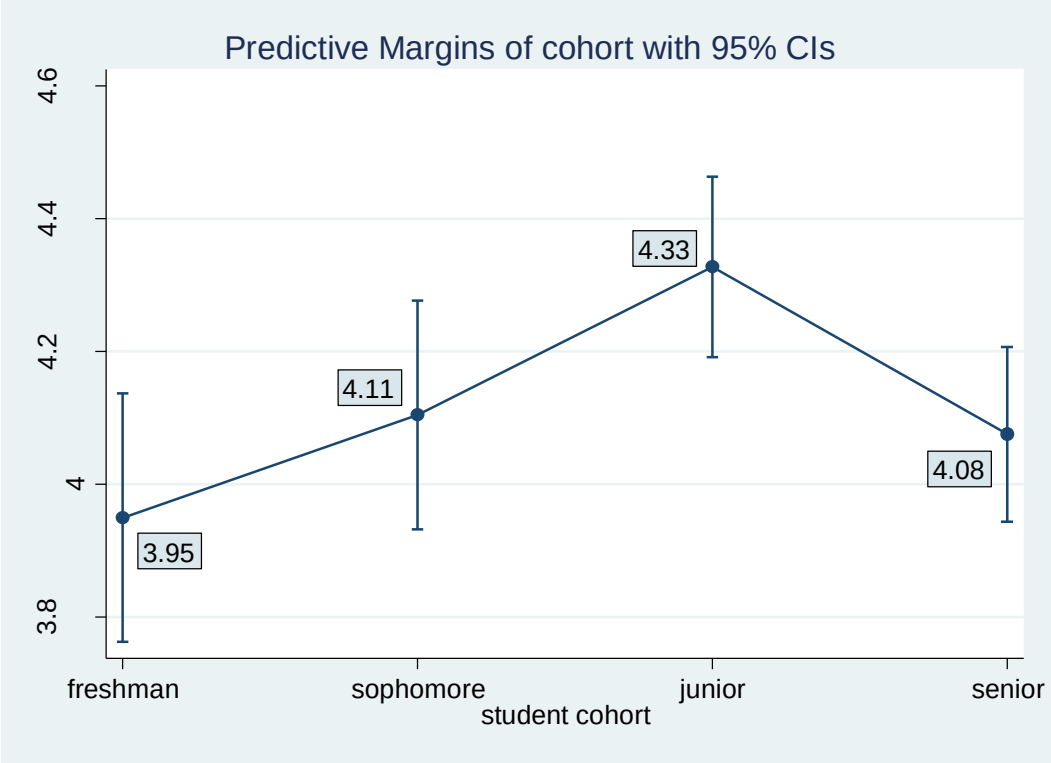

Figure 38. Predicted margins of cohort and engaged learning.

The predicted margins showed that engaged learning increased by cohort, but only up to the junior year. As students progressed through their undergraduate academic

career, they became increasingly engaged in their own learning. However, this positive trend ends after their junior year. Seniors were less engaged than juniors and were nearly at the same level of engaged learning as sophomores. Figure 39 shows the levels of engaged learning by *transparency* and *cohort.*

Cohort and transparency. As student transparency with their parents increased, engaged learning increased. The lowest rate of transparency for juniors corresponds to the 25th percentile of transparency for freshman. Conversely, the highest level of freshman transparency corresponds to the 25th percentile of junior transparency. Transparency appeared to be very important in the freshman year for engaged learning. Future research could investigate this relationship further.

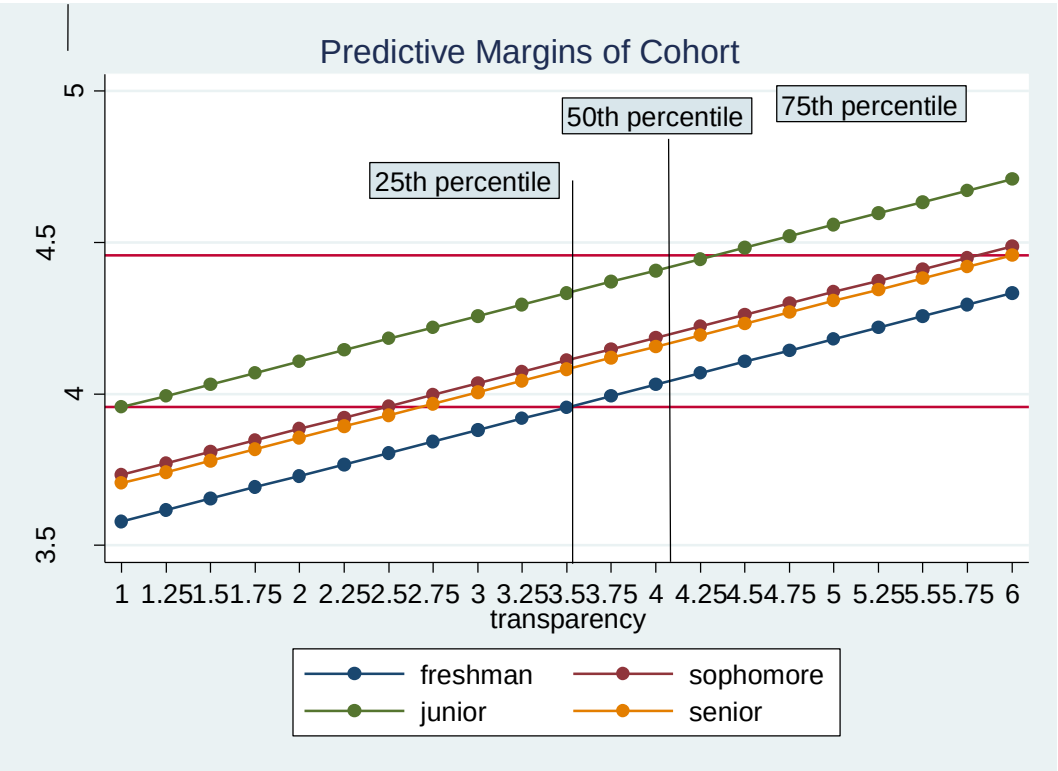

Figure 39. Predicted margins of cohort and transparency.

The previous section presented the finding relative to the thriving subdomain of engaged learning. The next section presents the findings relative to the subdomain of academic determination.

Academic determination. Schreiner described academic determination as the investment of effort, the motivation to succeed, the ability to manage personal and academic responsibilities, and the intentional pursuit of goals (2010). I ran a regression of the model using academic determination as the dependent variable. The adjusted R^2 for this regression was .2538, indicating that the independent variables predicted 25.38% of the variance in academic determination. The residual versus fitted values plot (Figure 40) showed some distortion to the normal i.i.d. error assumption. To protect against these potential violations, I chose to use the Huber-White Sandwich Estimator to protect against distortions of the normal i.i.d. assumption (Hamilton, 1992). Table 28 contains the results of the regression. I tested the joint effects to determine which levels had means that were significantly different to warrant pairwise comparisons. The bottom half of Table 28 contains the results of the contrast.

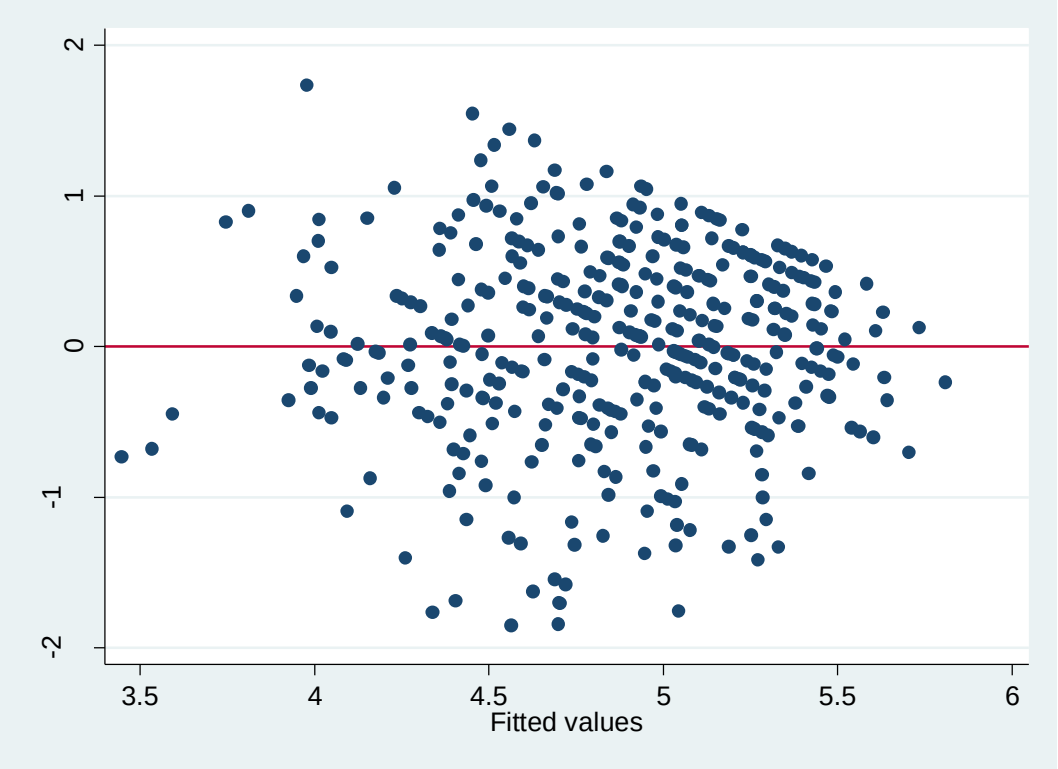

Figure 40. Residual versus fitted plot and academic determination.

Table 28

OLS Multiple Regression with Robust Standard Errors on Academic Determination

Variable	Coefficient	SE	t	*p*	*95% CI*
Constant	3.84	.54			
Direct_involve	-.05	.05	-1.15	.25	-.14
Indirect_involve	.07	.05	1.33	.18	-.03
Connectedness	.01	.02	.37	.71	-.04
Acceptance	.01	.06	.14	.89	-.11
Transparency	.09	.04	2.07	**.04***	.00
Minority	.02	.11	.21	.83	-.20
Sex	.07	.09	.87	.38	-.09
Commuter	-.26	.11	-2.24	**.03***	-.48
SAT	-.00	.00	-1.28	.20	-.00

Joint Effects for Categorical Variables (>2 Categories)	*F*	*P>F*
Dad_educ	2.62	.03*
Mom_educ	3.08	.02*
Gpa	21.65	.00**
Cohort	2.26	.08
Influence	2.50	.08

Note. N=402. Adjusted R^2 =.2538. Prob > F=0.00; *, **, *** indicates significant at the p<.05, p<.01, and p<.001 level, respectively.

Transparency. The OLS multiple regression with robust standard errors indicated that two variables were significant at the .05 level: *commuter* (p = .025) and *transparency* (p = .039). The more students categorized their relationship with their parents as transparent, the higher the students' level of academic determination, irrespective of other variables. For every increase in the level of transparency, academic determination increased by .09 which translates to a half a point increase on the 6-point scale. The added variable plot of this relationship is in Figure 41.

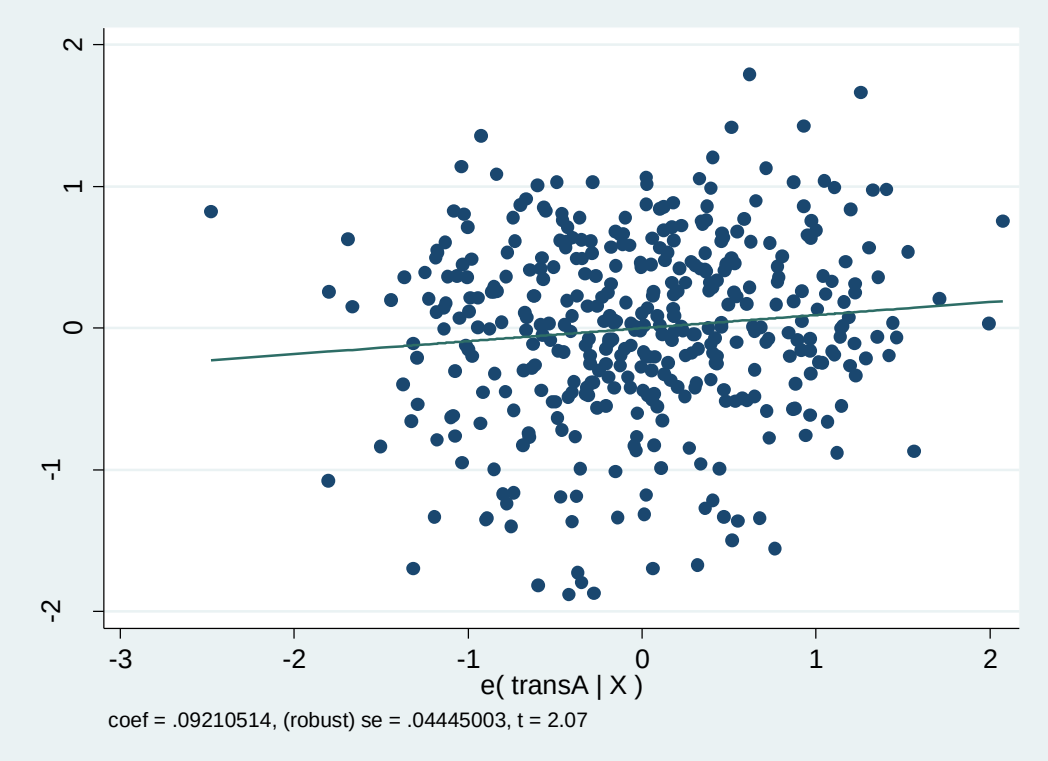

Figure 41. Added variable plot of transparency and academic determination.

Commuter students. There was a significant, negative relationship between academic determination and students who lived with their parents while attending college. Figure 42 shows the difference between the means of commuters and non-commuters controlling for other variables. I attributed the larger standard error for commuters to thin cells; this is an area for additional research. Based on the student data collected, students who commuted reported lower levels of academic determination in college.

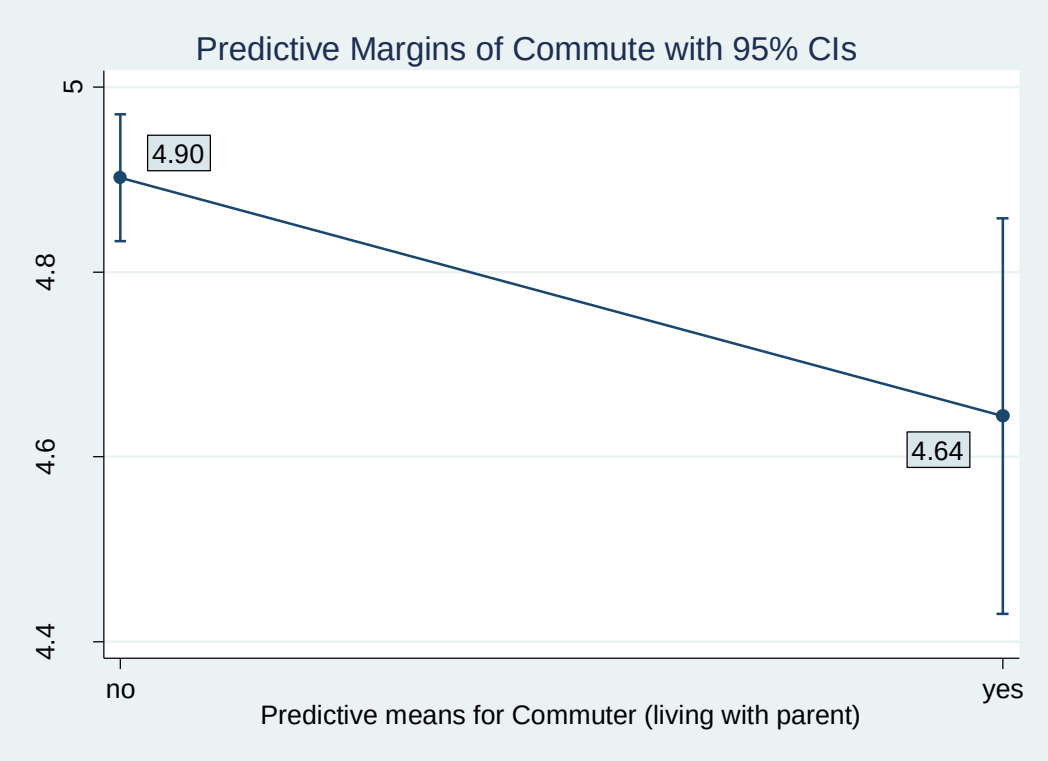

Figure 42. Predicted margins for commuting and academic determination.

The contrast indicated that three variables are significant at the .05 level, suitable for pairwise comparisons: *dad_educ* (p = .03), *mom_educ* (p = .02), and *gpa* (p = .00). I used the predicted margins along with Fisher's Protected Least Significant Difference method to verify the joint test before conducting pairwise comparisons. I tested the joint effects to determine which levels had means that were significantly different to warrant pairwise comparisons for *dad_educ, mom_educ,* and *gpa.* Table 29 contains the results of the pairwise comparisons for *dad_educ* and Figure 43 shows the differences between the means of the groups for father's educational level.

Table 29

Test of Mean Differences of Father's Educational Attainment

Groups compared	Contrast	SE	t	*P*>|*t*|
High school vs no support	.17	.13	1.33	.18
Post HS-associate vs no support	-.07	.14	-.50	.61
Bachelor vs no support	.18	.14	1.25	.21
Post bachelor vs no support	-.00	.16	-.01	.99
Post HS-Associates vs high school	-.24	.09	-2.77	**.01****
Bachelor vs high school	.01	.10	.05	.96
Post bachelor vs high school	-.18	.12	-1.45	.15
Bachelor vs post HS-associate	.24	.11	2.32	**.02***
Post bachelor vs post HS-associate	.07	.12	.56	.57
Post bachelor vs bachelor	-.18	.12	-1.46	.15

Note. Model VCE: OLS with robust SE; *, **, *** indicates significant at the $p<.05$, $p<.01$, and $p<.001$ level, respectively.

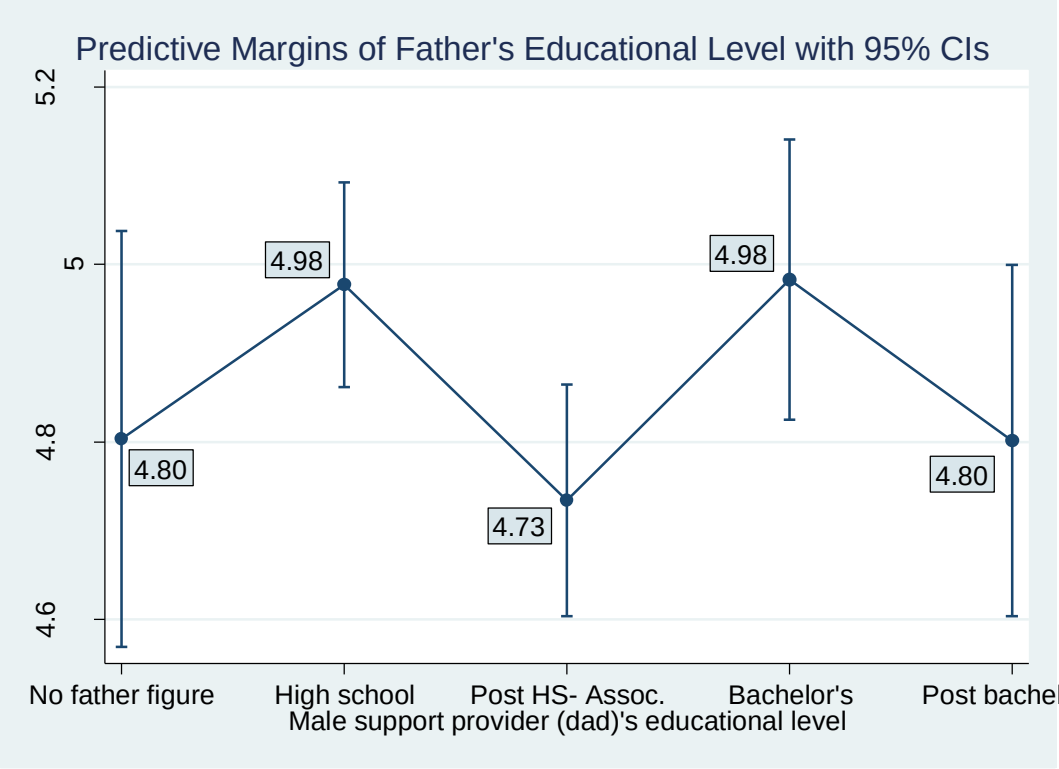

Figure 43. Predictive margins of father's educational level and academic determination.

Fathers' educational level. There was a significant difference in the means between two groups. The first significant difference occurred between the group of

students whose fathers attended high school but had no additional formal education and those whose fathers attended a trade school, earned an associate's degree or attended some college. There was also a significant difference in the means between the groups of students whose fathers earned their bachelor's degree compared to the group whose fathers attended a trade school, earned an associate's degree or attended some college. One possible explanation is that completing a degree, whether it is the high school diploma or the completion of a bachelor's degree correlates with the determination to dig into tough academic tasks and persist in the pursuit of goals. Future research could investigate the role of fathers in setting and persisting at academic goals and academic retention. There was a large standard error for both the group that had no father figure and for those whose fathers had no formal education beyond a bachelor's degree. This was due to thin cells, and calls for additional research into these groups.

Mothers' educational level. I repeated the process to investigate the relationship between academic determination and the levels of mothers' educational achievement (*mom_educ)*. Table 30 contains the results of pairwise comparisons for *mom_educ* and Figure 44 shows the changes in academic determination across the levels of mother's educational levels.

Table 30

Test of Mean Differences of Mothers' Educational Attainment

Groups compared	Contrast	SE	t	*P*>|*t*|
High school vs no support	-.20	.21	-.98	.33
Post HS-associate vs no support	-.43	.21	-2.03	**.04***
Bachelor vs no support	-.19	.21	-.89	.37
Post bachelor vs no support	.40	.23	-1.75	.08
Post HS-Associates vs high school	-.22	.09	-2.37	**.02**
Bachelor vs high school	.02	.10	.18	.89
Post bachelor vs high school	-.19	.13	-1.44	.15
Bachelor vs post HS-associate	.24	.09	2.59	**.01***
Post bachelor vs post HS-associate	.03	.13	.22	.83
Post bachelor vs bachelor	-.21	.12	-1.81	.07

Note. Model VCE: OLS with robust SE; *, **, *** indicates significant at the p <.05, p<.01, and p<.001 level, respectively.

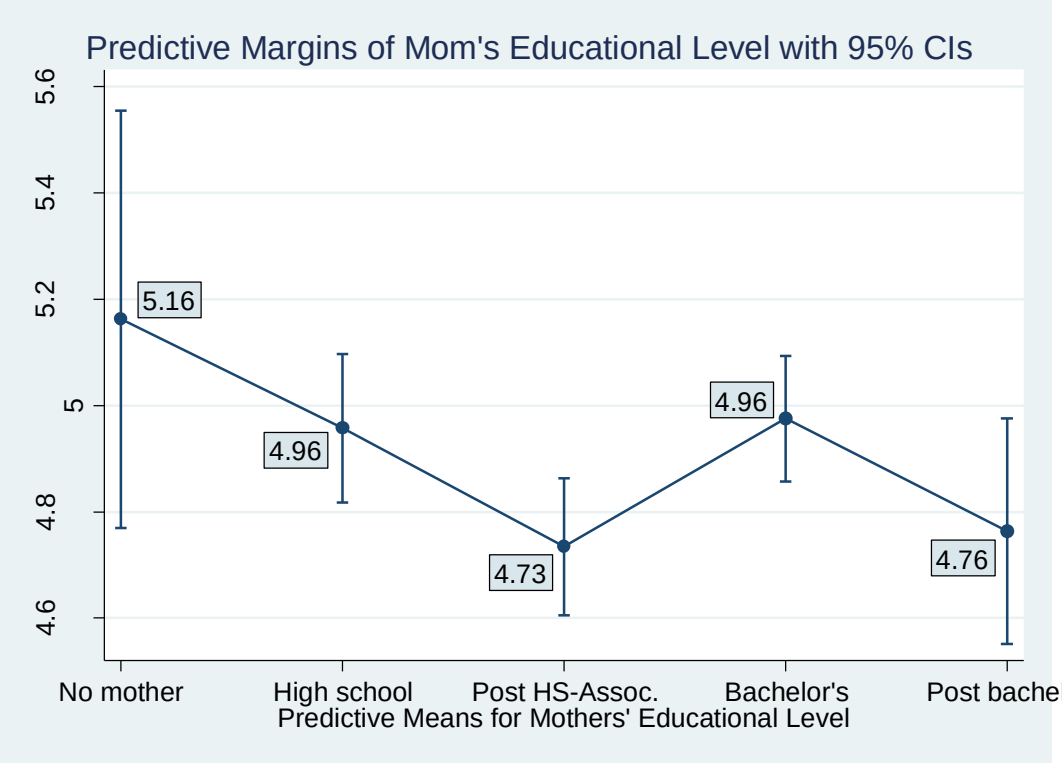

Figure 44. Predictive margins of mother's educational level and academic determination.

In comparing the means of academic thriving by groupings of students based on their mom's educational level, three groups had significant differences in the means. The

group of students who did not have a mother figure present had higher levels of academic determination than the group of students whose mothers attended a trade school, earned an associate's degree or attended some college after high school. While a high standard error exists for the group without moms due to thin cells, it could indicate that the students without a mother are more determined to pursue their academic goals. For students with a mother, they may be able to rely on a mother to help pick up the pieces when things don't work out. Students without a mom may feel like their academic pursuit is all or nothing – if they fall short, there is no back up plan. There isn't a mom to help make things right, or to comfort them in times of setbacks, therefore, students without a mom may dig in rather than give up.

The group of students whose mothers had education beyond high school without earning a bachelor's degree reported lower levels of academic determination than the group whose moms who did not pursue additional education beyond high school. These students may be hearing from their moms that things work out even without a formal degree.

Finally, the groups of students whose moms earned their bachelor's degree had higher levels of academic determination than those who attended college but did not complete a bachelor's degree. This may be due to the mom modeling academic persistence and/or discussing the increase in life options due to completing a bachelor's degree.

GPA. I repeated the process of pairwise comparisons and marginsplots for students's GPA. Table 31 contains the results of the pairwise comparison, and Figure 45

shows the predictive means for academic determination and student grade point average, controlling for all other variables.

Table 31

Test of Mean Differences of Grade Point Average and Academic Determination

Groups compared	Delta-method contrast	SE	t	*P>|t|*
2.5 - 2.9 vs 2.4 or lower	.35	.28	1.23	.22
3.0 - 3.4 vs 2.4 or lower	.71	.27	2.58	**.01****
3.5 - 4.0 vs 2.4 or lower	1.07	.27	3.96	**.00*****
3.0 - 3.4 vs 2.5 - 2.9	.36	.11	3.25	**.00****
3.5 - 4.0 vs 2.5 - 2.9	.72	.11	6.86	**.00****
3.5 - 4.0 vs 3.0 - 3.4	.36	.08	4.71	**.00****

Note. Model VCE: OLS with robust SE; *, **, *** indicates significant at the $p<.05$, $p<.01$, and $p<.001$ level, respectively.

There was a significant level of difference between the all students as grouped by GPA, with one exception. The group of students who earned a 2.5 – 2.9 (C+) do not have a significant difference in the means of their academic determination when compared to the group of students who earned a 2.4 or lower (C – F). Figure 45 shows the differences between the group means. Academic determination, therefore, was a function of grades. As students' GPA increased, so did their academic determination. As discussed earlier, grades are also a function of acceptance. As parental acceptance increased, academic determination increased.

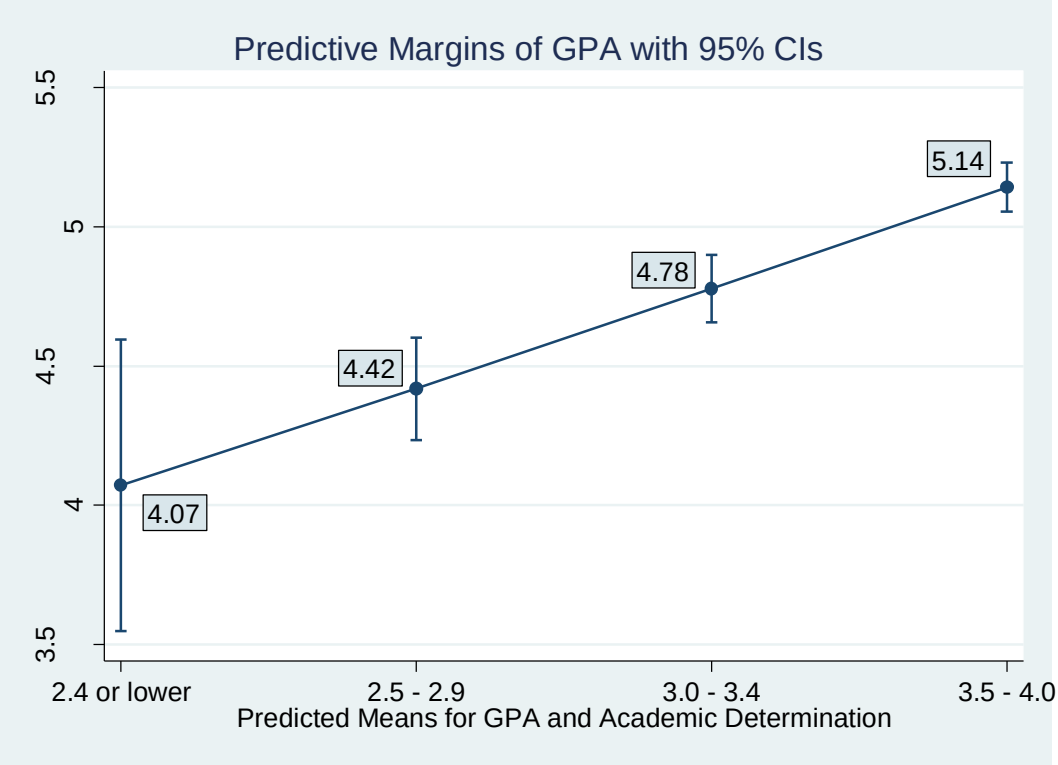

Figure 45. Predicted margins for student GPA and academic determination.

Positive perspective. Schreiner characterized the fourth subdomain of thriving, positive perspective, as a proactive response to life's events and having a positive, optimistic approach (2010). I investigated this subdomain by OLS multiple regression with robust standard errors using positive perspective as the dependent variables due to the distortion of the normal i.i.d. error assumption on the residual versus filled values plot (Figure 46). The adjusted R^2 was .1887, indicating that 18.87% of positive perspective was explained by the variables within the model.

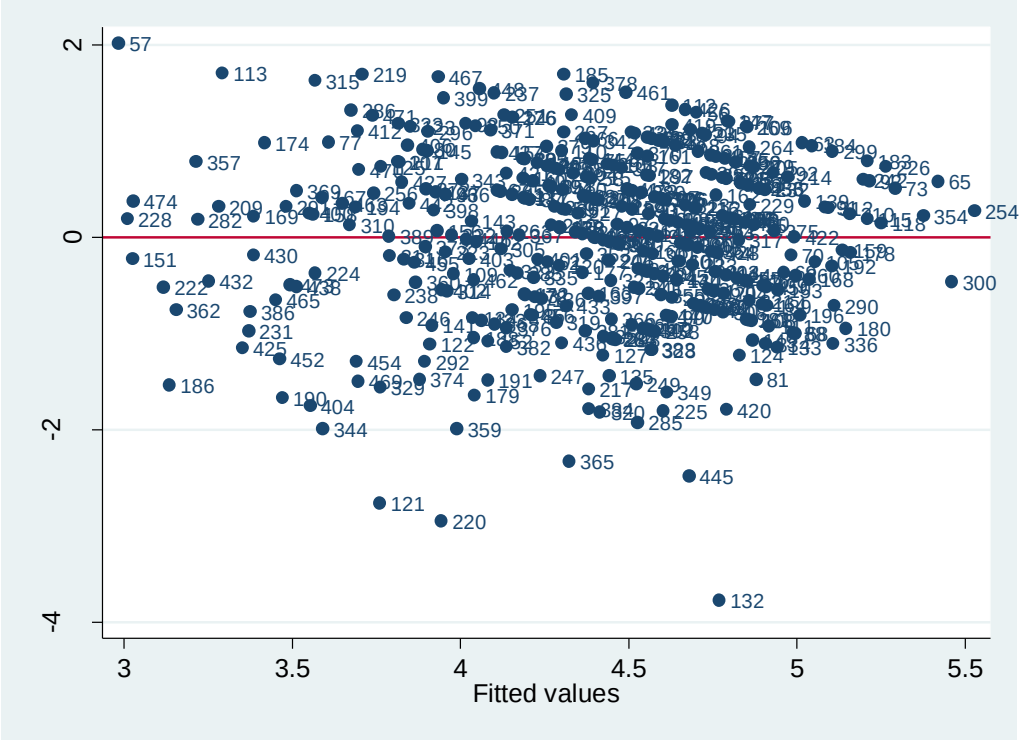

Figure 46. Residual versus fitted values for positive perspective.

Table 32 contains the results of the OLS multiple regression with robust standard errors using positive perspective as the dependent variable. I tested the joint effects to determine which levels had means that were significantly different to warrant pairwise comparisons. The bottom half of Table 32 contains the results of the contrast.

Table 32

OLS Multiple Regression with Robust Standard Errors on Positive Perspective

Variable	Coefficient	SE	t	*p*	*95% CI*
Constant	3.35	.70			
Direct_involve	-.00	.06	-.10	.92	-.13
Indirect_involve	.07	.07	.88	.38	-.08
Connectedness	.01	.04	.42	.67	-.05
Acceptance	.30	.09	3.24	**.00*** **	.12
Transparency	.08	.07	1.15	.25	-.06
Minority	.09	.15	.64	.52	-.19
Sex	-.19	.13	-1.47	.14	-.44
Commuter	-.17	.16	-1.02	.31	-.49
SAT	-.00	.00	-2.74	**.01** **	-.00

Joint Effects for Categorical Variables (>2 Categories)	*F*	*P>F*
Dad_educ	.83	.50
Mom_educ	6.95	**.00*** **
Gpa	5.19	**.00*** **
Cohort	2.35	.07
Influence	1.92	.15

Note. N=402. Adjusted R^2 =.1887. Prob > F=0.00; *, **, *** indicates significant at the p<.05, p<.01, and p<.001 level, respectively.

SAT. Two variables were significant at the .05 level: *satcomb* (p = .006) and *acceptance* (p = .001). There was a negative relationship between SAT score and positive perspective; for every point increase in students' SAT scores, positive perspective decreased. However, the coefficient was extremely small (-.001), so the while the relationship was significant, it was not particularly meaningful. The graph of this relationship appears in Figure 47.

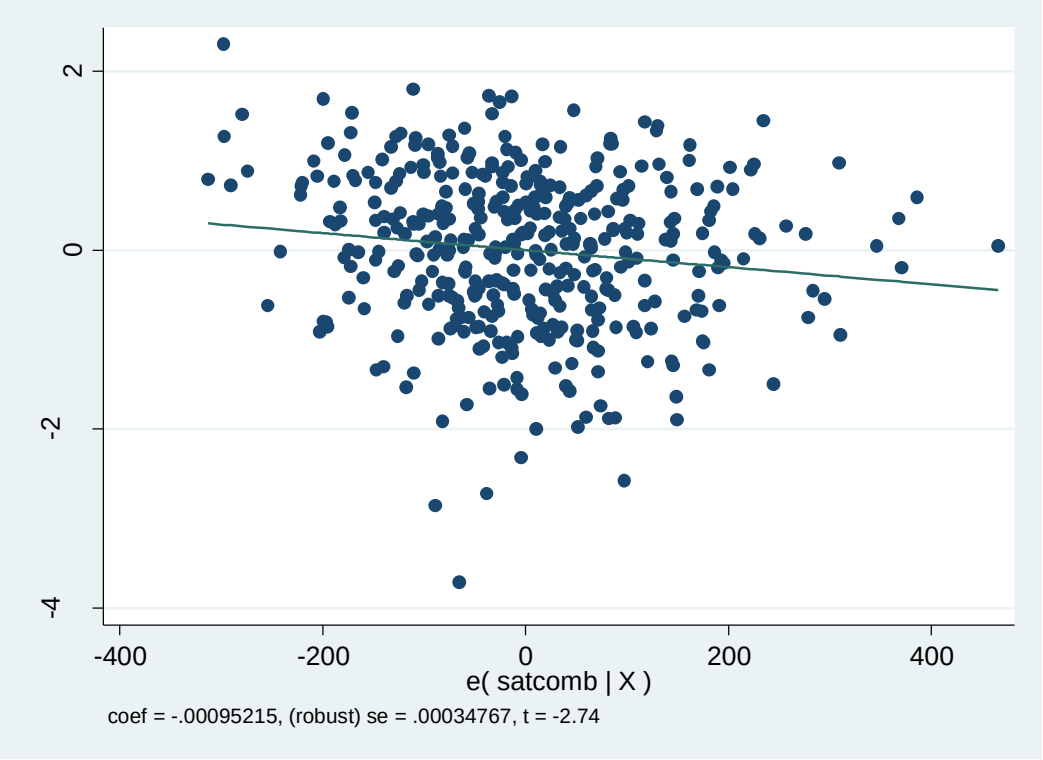

Figure 47. Added variable plot of SAT combined score and positive perspective.

Acceptance. There was a significant positive relationship between *acceptance* (*p* = .000) and positive perspective at the .05 level. The more students characterized their parents as accepting them for who they are, the greater the student's positive perspective. For every increase in the level of acceptance in the parent-student relationship, positive perspective increased by .30. If we multiple .30 by 6, the scale used for positive perspective, the total is 1.8, the unit increase. This indicates that for every increase in the child's perception of acceptance, their positive perspective may increase by nearly 2 points on the positive perspective scale. The graph of this relationship appears in Figure 48.

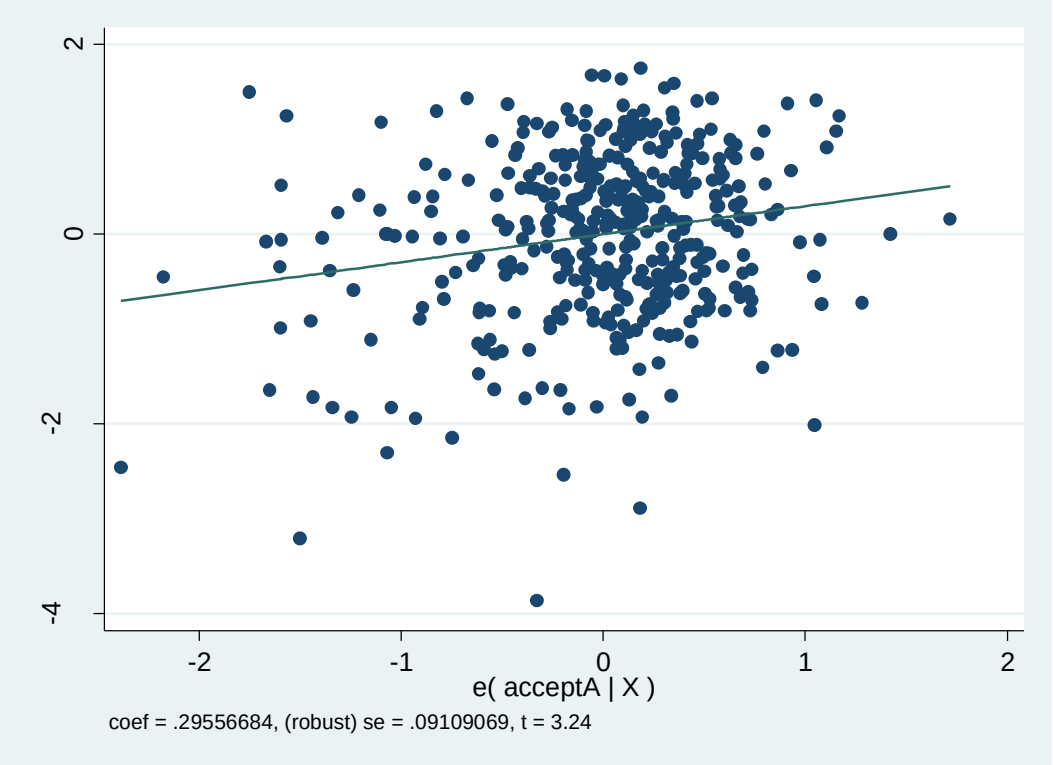

Figure 48. Added variable plot of acceptance and positive perspective.

The mother's educational level was significant (*p* =.00). Table 33 contains the results of pairwise comparisons for *mom_educ.* The predictive margins for *mom_educ*

indicated that pairwise comparisons are appropriate and Figure 49 illustrates the changes in positive perspective across the levels of mother's educational levels. The group of students without a mother had significantly higher means for positive perspective than the groups of students with mothers, regardless of educational level. A possible explanation for students without moms having higher levels of positive perspective is that these students may be more mature and autonomous. They are accustomed to being on their own, and taking responsibility for their actions, because they do not have a mother figure on whom to rely. They have learned to use a proactive, positive approach at an earlier age, compared to their peers that are "on their own" for the first time in college.

Table 33

Test of Mean Differences of Mother's Educational Attainment

Groups compared	Contrast	SE	t	*P*>|*t*|
High school vs no support	-.76	.16	-4.68	**.00*** **
Post HS-associate vs no support	-.73	.15	-4.77	**.00*** **
Bachelor vs no support	-.65	.16	-4.12	**.00*** **
Post bachelor vs no support	-.78	.19	-4.11	**.00*** **
Post HS-Associates vs high school	.04	.13	.29	.78
Bachelor vs high school	.11	.13	.85	.40
Post bachelor vs high school	-.02	.17	-.11	.91
Bachelor vs post HS-associate	.07	.11	.65	.51
Post bachelor vs post HS-associate	-.06	.15	-.36	.72
Post bachelor vs bachelor	-.13	.15	-.88	.38

Note. Model VCE: OLS with robust SE; *, **, *** indicates significant at the $p<.05$, $p<.01$, and $p<.001$ level, respectively.

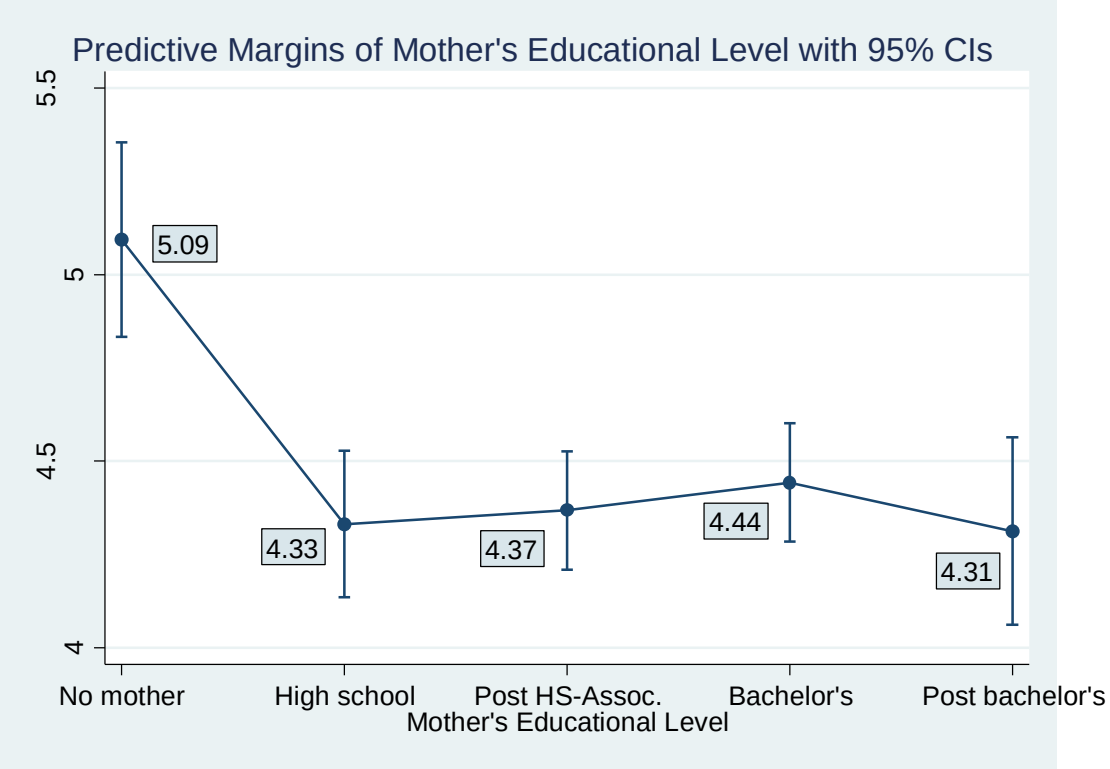

Figure 49. Predicted margins of mother's educational level and positive perspective.

GPA. Next, I repeated the process of pairwise comparisons and marginsplots for students' GPA. Table 34 contains the results of the pairwise comparison, and Figure 50 shows the predictive means for positive perspective and student grade point average, controlling for all other variables. The student group with GPAs of 2.4 or lower had significantly lower means of positive perspective when compared to the grouping of other students by GPA, controlling for other variables. The better students performed in regards to GPA, the higher their positive perspective, with the largest difference in groups occurring for students who earn higher than a C+. This is similar to the relationship with engaged learning. Students who earn a C+ or higher were both more positive about their academic abilities and more engaged in their learning.

Table 34

Test of Mean Differences of Grade Point Average and Thriving

Groups compared	Delta-method contrast	SE	t	*P*>|*t*|
2.5 - 2.9 vs 2.4 or lower	.70	.28	2.54	**.01****
3.0 - 3.4 vs 2.4 or lower	.81	.27	3.04	**.00*****
3.5 - 4.0 vs 2.4 or lower	.98	.27	3.66	**.00*****
3.0 - 3.4 vs 2.5 - 2.9	.11	.15	.79	.43
3.5 - 4.0 vs 2.5 - 2.9	.27	.13	2.04	.04
3.5 - 4.0 vs 3.0 - 3.4	.16	.11	1.43	.15

Note. Model VCE: OLS with robust SE; *, **, *** indicates significant at the $p<.05$, $p<.01$, and $p<.001$ level, respectively.

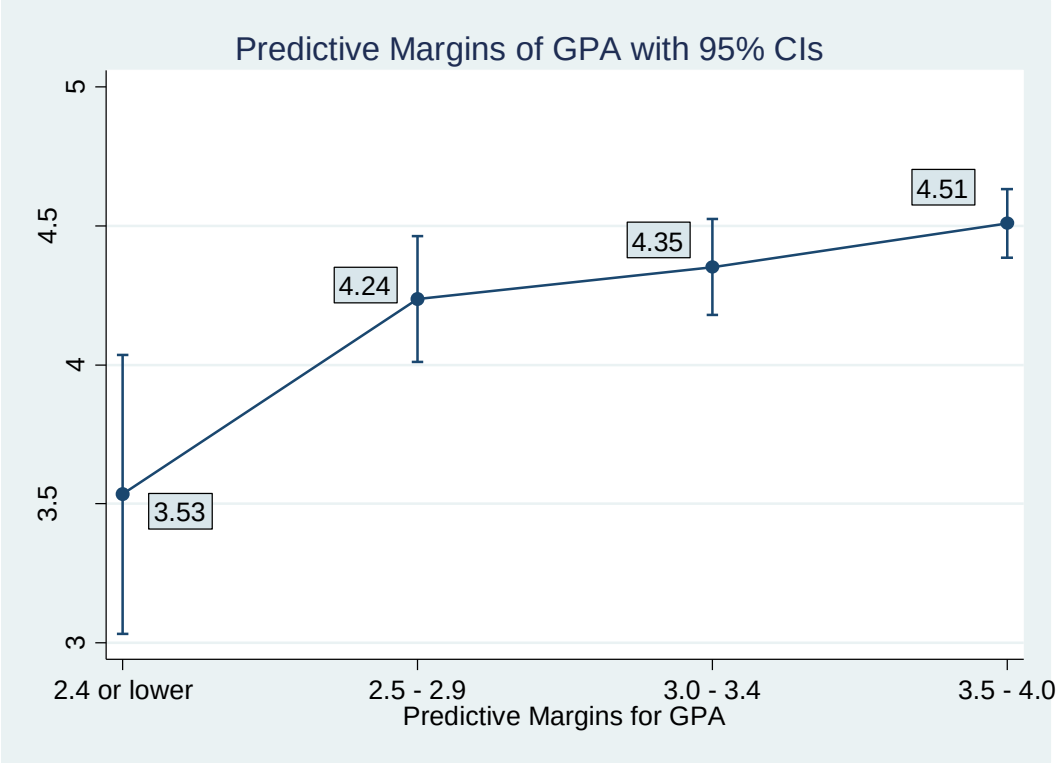

Figure 50. Predicted margins of mother's educational level and positive perspective.

Diverse citizenship. The final subdomain of thriving was diverse citizenship, described as a valuing of differences in others, having an openness to relating to others who are different, and the belief that change is possible (Schreiner, 2010). I repeated the

process described above, using diverse citizenship as the dependent variable. The adjusted R^2 from this regression (p = .1187) indicated that 11.87% of the variation in diverse citizenship was explained by the independent variables.

The residual versus fitted values plot (Figure 51) showed some distortion to the normal i.i.d. error assumption. To protect against these potential violations, I used the more conservative vce robust regression. Table 35 contains the results of the OLS multiple regression with robust standard errors using diverse citizenship as the dependent variable. To determine which categorical variables to further investigate, I ran a contrast test of the joint effects to determine which levels had means that were significantly different to warrant pairwise comparisons. The bottom half of Table 35 contains the results of the contrast.

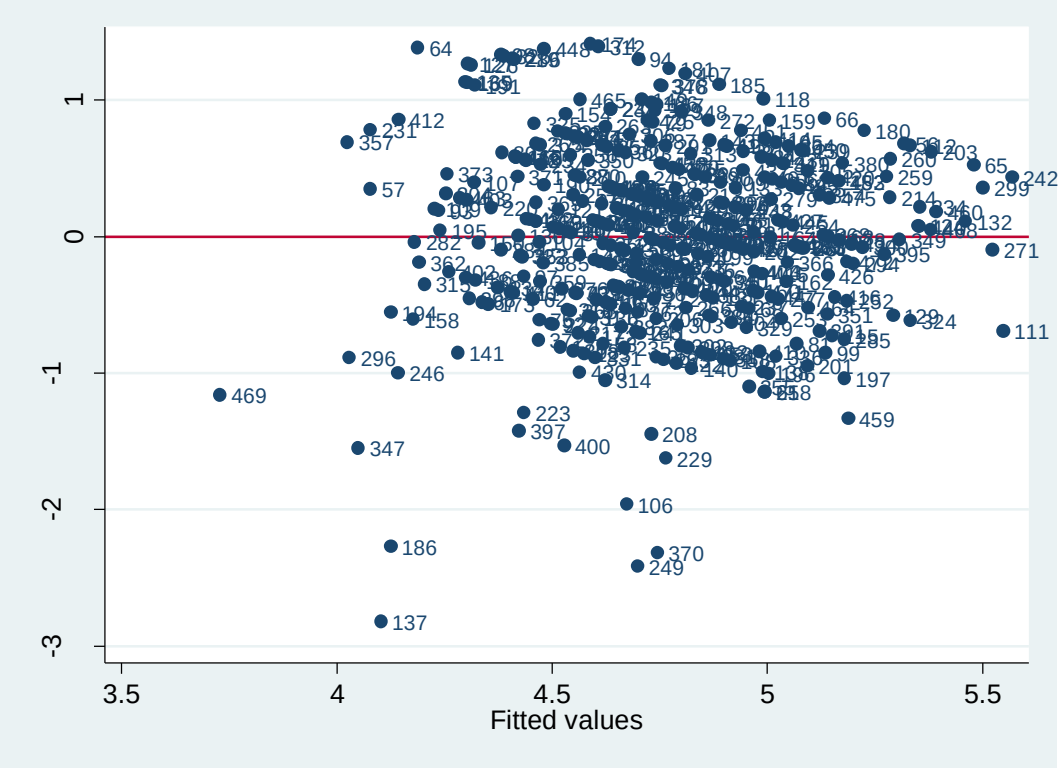

Figure 51. Residuals versus fitted values for diverse citizenship.

Table 35

OLS Multiple Regression with Robust Standard Errors on Engaged Citizenship

Variable	Coefficient	SE	t	*p*	*95% CI*
Constant	4.20	.50			
Direct_involve	-.13	.06	-2.23	**.03****	-.25
Indirect_involve	.09	.05	1.66	.10	-.01
Connectedness	.01	.02	.43	.67	-.03
Acceptance	-.12	.06	-2.08	**.04***	-.23
Transparency	.21	.04	4.80	**.00*****	.12
Minority	.17	.11	1.58	.11	-.04
Sex	-.13	.09	-1.41	.06	-.31
Commuter	-.27	.15	-1.85	.07	-.51
SAT	.00	.00	.23	.82	-.00

Joint Effects for Categorical Variables (>2 Categories)	*F*	*P>F*
Dad_educ	1.11	.35
Mom_educ	1.52	.19
Gpa	.68	.57
Cohort	.65	.48
Influence	1.33	.27

Note. N=402. Adjusted R^2 =.1187. Prob > F=.00; *, **, *** indicates significant at the p<.05, p<.01, and p<.001 level, respectively.

Direct involvement and diverse citizenship. Three continuous variables were significant at the .05 level: *direct_involve* (p = .03) *acceptance* (p = .04), and *transparency* (p = .00). Indirect involvement (p = .10) was significant at the .10 level. Direct parental involvement in education had a negative relationship with diverse citizenship. The more directly involved parents were in their child's education, the lower the level of diverse citizenship for the student (Figure 52). For every increase in direct parental involvement, the diverse citizenship score decreased by .13. Multiplying that number by 6 (the diverse citizenship scale) indicated that every 1 unit increase in parental involvement results in a .78 decrease in diverse citizenship, nearly a full point. The more directly involved parents were in their college-student's education, the less open the

student was to new ideas, the less open to change, and the less the student valued diversity.

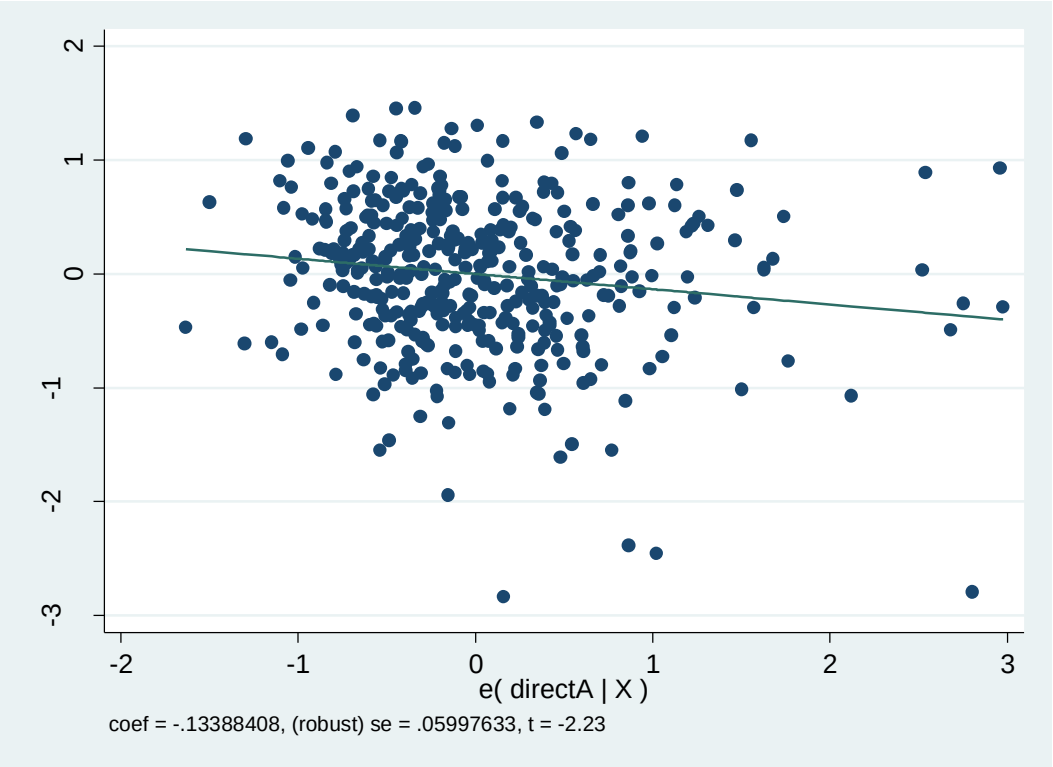

Figure 52. Added variable plot for direct involvement and diverse citizenship.

Acceptance and diverse citizenship. There was a negative relationship between acceptance and diverse citizenship. For every increase in students' perception of parental acceptance, they experienced a ¾ point drop in their diverse citizenship score (.72 of a point on the 6-point scale). This relationship appears in the added variable plot in Figure 53. The inverse relationship is puzzling, as one would think the more accepted a child feels, the more receptive they would be to diversity, new ideas and change. Additional research is needed in this area.

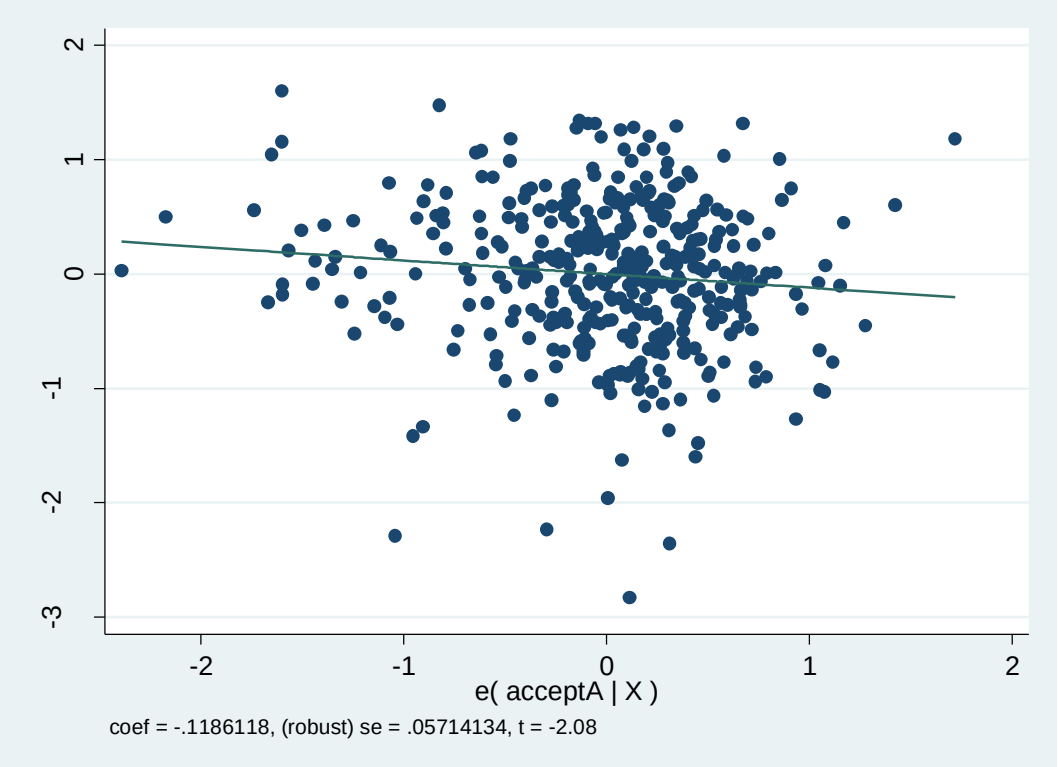

Figure 53. Added variable plot for acceptance and diverse citizenship.

Transparency and diverse citizenship. There was a significant, positive relationship (p = .00) between students' perception of a transparent relationship with their parents and students' level of diverse citizenship (Figure 54). Students who feel they may openly share their new experiences and ideas may feel "permission" to further investigate new ideas, and be open to interact with people from different backgrounds. For every one unit increase in transparency, students' diverse citizenship score increased by .21 (about ¼ of a scaled score point). This relates to a 1.26 point increase on the diverse citizenship scale across the entire 6-point transparency scale (.21*6 = 1.26).

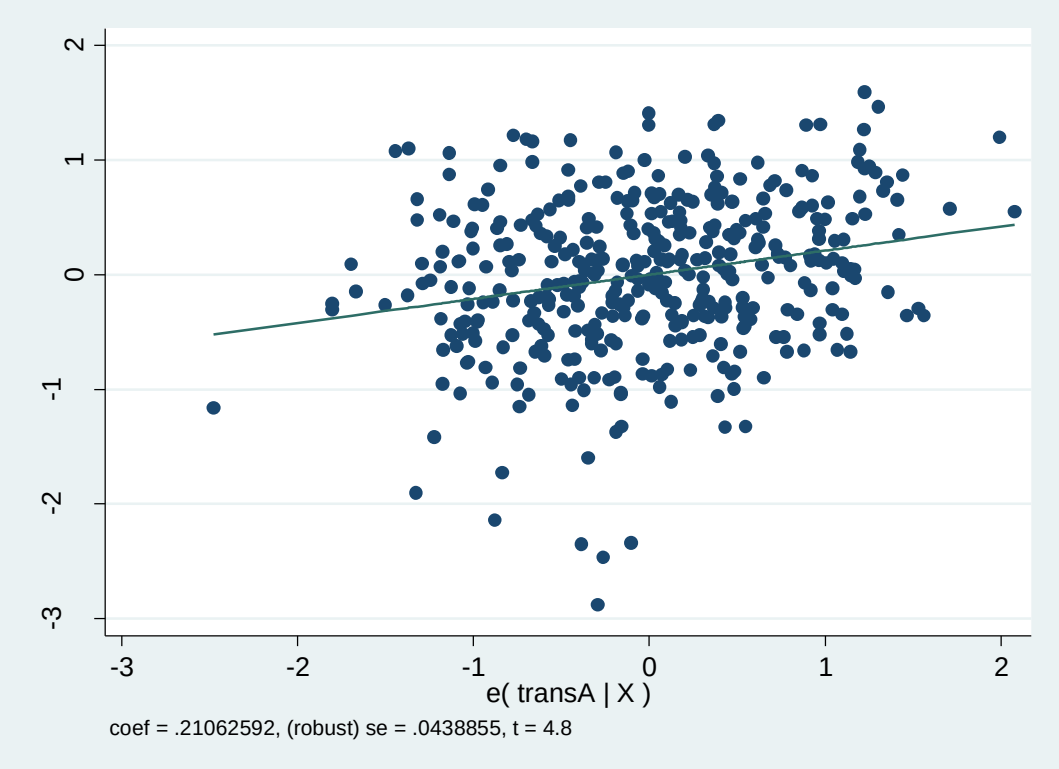

Figure 54. Added variable plot for transparency and diverse citizenship.

Chapter Summary

The purpose of this study was to explore if undergraduate student perception of parental involvement, parenting style, and parental influence relate to student success. I used Schreiner's construct of thriving as a measure of student success. After building and testing the statistical model using Stata statistical software (StataCorp, 2013), I analyzed the findings overall, and then by the five subdomains of thriving: social connectedness, engaged learning, academic determination, positive perspective, and diverse citizenship.

In overall student success measured by thriving, there was a positive relationship with parenting styles characterized by acceptance (p = .006) and transparency (p = .003). Drilling down, there was a positive relationship between acceptance and social connectedness (p = .000) and positive perspective (p = .001). There was also a positive

relationship between transparency and engaged learning (p = .006), academic determination (p =.039) and diverse citizenship (p = .000). However, parenting styles characterized as accepting had a negative relationship with diverse citizenship (p = .039).

A second purpose of this study was to explore the relationship between types of parental involvement, and student success. Overall, there were no significant relationships between direct and indirect parental involvement on student success. However, there were significant relationships in some of the subdomains of thriving. There was a negative relationship between direct parental involvement and diverse citizenship (p = .026). There was a positive relationship between indirect parental involvement and engaged learning (p = .004).

The third question this study explored was the relationship between parental influence and student success. Overall, there was a significant, positive effect between student success and parental influence (p = .0472).

Other findings of interest included a significant negative relationship between students commuting from their parents' home during college and student success (p = .0243). This negative relationship existed on three of the thriving subdomains. Students who commuted had lower levels of social connectedness, lower levels of academic determination, and lower levels of diverse citizenship.

Student success was related to cohort group in overall thriving (p = .0732). Success varied by academic year, as measured by the means between cohort group in overall thriving, and by the subdomain of engaged learning. Juniors experienced the highest levels of engaged learning. A significant drop in engaged learning occurred in the senior year.

I theorized that the level of student-parent connectedness as measured by the number and intensity of contact would relate to student success. However, there was no evidence connecting the two. A chart summarizing all the significant finding appears in Table 36. Chapter Five contains a discussion of the findings, limitations, and recommendations for further research.

Table 36

Summary of p-Values for Significant Findings

Independent Variables		**Dependent Variables**					
		Full Scale	Subscales				
		Thriving	Social Connectedness	Engaged Learning	Academic Determination	Positive Perspective	Diverse Citizenship
Grouping	Name	${}_aR^2$=.248	${}_aR^2$=.112	${}_aR^2$=.132	${}_aR^2$=.254	${}_aR^2$=.189	${}_aR^2$=.119
Parent style	*acceptance*	.006	.000			.001	.039 (-)
	transparency	.003		.006	.039		.000
Parent Involve-ment	*direct involvement*			.100			.026 (-)
	indirect involvement			.004			.097
Parent influence	*influence*	.047			.083		
Controls	*connectedness*						
	SAT score	.092	.051			.006 (-)	
	commuter	.024 (-)	.056 (-)		.025 (-)		.065 (-)
	dad_educ				.035		
	mom_educ	.054	.007		.016	.000	
	gpa	.000		.017	.000	.002	
	cohort	.073		.007	.081	.072	

Note: (-) Indicates negative relationship.

CHAPTER 5

DISCUSSION

Given that only 60 percent of incoming college students complete their four-year degree (Schreiner, 2012), the looming student debt non-completers face, and the increased scrutiny on the effectiveness of higher education institutions; students, parents, and higher education institutions want strategies to promote student success. This study explored the relationship among parenting style, parental involvement and parent influence on undergraduate student success using a cross-sectional quantitative survey of 399 undergraduate students from a medium-sized, public institution. This chapter provides a review of the study findings and a discussion of the implications. The discussion also includes the limitations and delimitations of the study and suggestions for future research.

Summary of Study and Methodology

Parental style research in the fifty years focused on distinguishing the child outcomes associated with specific parenting typologies, and established that authoritative parenting relates to positive outcomes in cognitive, behavioral, and social domains. Recent research explored the effects of confrontive control and coercive control (Barber, Stolz & Olsen, 2005; Gray & Steinberg, 1999; Grolnick & Pomerantz, 2009). Daily (2008) added a vein of research focusing on the concept of parental challenge as a mechanism to develop autonomy in children. This study investigated the construct of parenting style as an independent variable by using a factor analysis from the variables associated with Baumrind's parenting style typology (1966; 2005; Baumrind, Larzelere & Owens, 2010) along with variables associated with parental control and challenge.

The second independent variable came from a factor analysis of parental involvement. Evidence exists that parental involvement positively correlates with academic success in K-12 schools (Fan, 2001; Fan & Chen, 2001; Mattingly, Prislin, McKenzie, Rodriguez & Kayzar, 2002; Sheldon & Epstein, 2005; Jeynes 2011), and that the form of parental involvement changes as students age (Fan, 2001, Oyserman, Brickman & Rhodes, 2007; Wolf, Sax & Harper, 2009; Green, Walter, Hoover-Dempsey & Sandler, 2007). Lareau's (2011) theory of concerted cultivation supports the idea that parental involvement could better equip students to succeed on the college level, but that parental involvement varies by social class.

Finally, the third area of exploration, parental influence, is due to a dearth of literature relating to parental influence on students' success. It is logical that influence addresses the intensity of parental involvement. Therefore, my framework included parental influence as an intervening variable to explore if influence and involvement or influence and style interact.

This study addressed the gap in the literature investigating the relationships among parenting style, parental involvement and parent influence on undergraduate student success. The multidimensional model incorporated multi-item variables construction via exploratory factor analysis to re-conceptualize both parenting style and parental involvement.

I had an initial response rate of 12.5% to a Qualtics survey of undergraduate students at a medium-sized, public, four-year institution. I analyzed the data using tabulations, univariate analysis, multivariate analysis, exploratory factor analysis, and OLS regressions. The final model explained 24.78% of variation in student success.

Findings and Recommendations

Parenting Style

This study investigated how previous definitions of parenting styles may relate to student success in college. The survey questions included aspects of Barber's work on emotional warmth/support (2005), Maccoby & Martin's responsiveness (1983), Dailey's work on parental challenge (2008) and parental control (Baumrind, 2005, 2013; Baumrind, Larzelere & Owens, 2010; Dailey, 2008; Grolnick & Pomerantz, 2009). I theorized that these definitions may need adjusting for emerging adults, following Hill & Tyson's (2009) work that parenting style changes with age. The resulting factor analysis indicated two new areas used in this study that are now available for future research in regards to parenting style for emerging adults: acceptance and transparency.

Acceptance and transparency. Acceptance reflects a continuum of parent activities between actively accepting and actively non-accepting their child's actions, feelings and personality. These items included student perceptions of parents interrupting when they speak, blaming the student for situations, recalling past student mistakes, and giving students the silent treatment if the parent does not agree with their opinions or behaviors. It also included student perception of parents praising the student, enjoying the student's company, showing affection, making the student feel loved, and comforting them in challenging times. The Cronbach's alpha score for this factor was .93, indicating strong internal consistency.

The second factor, transparency, reflects a parenting style categorized by open communication where the child is transparent about their habits and opinions. These included questions pertaining to a student's report of their parents' knowledge of how

they spend their money, spend their time, and who their friends are. It also includes items relating to parents solicitation of the student's reasons behind their actions, helping a student to make sense of challenging times, support for student autonomy, and willingness to engage in debates about different beliefs. The alpha score for this factor was .82, indicating strong internal consistency.

Acceptance, transparency and student success. Taken together, the two factors of acceptance and transparency explain 93% of the variability in parenting style. This study found that undergraduate student success is positively related to parental relationships categorized by acceptance (p = .006) and by transparency (p = .003). This finding suggests that future research should further explore the mechanisms of how parents establish relationships with their children where children feel accepted by their parents, and are able to be transparent with their parents as they mature and leave their parents' home. Uncovering such mechanisms would help parents build positive, supportive relationships with their children, could provide family therapists, high school guidance counselors and parent relations offices in higher education with specific examples of how to coach parents in developing accepting relationships with their children to support student success in college. Scant research currently exists on how parents can cultivate relationships with their emerging adult offspring.

Acceptance and social connectedness. For every increase in the level of acceptance in the parent-student relationship, the social connectedness of the student increased by .434 (p = .000). This indicates that students at a low level of social connectedness may benefit socially if their parents became accepting. Future research

should investigate how parents can express acceptance of their child in ways students notice and appreciate.

Seminal retention literature highlights the role of social connectedness to student persistence, another method of measuring success. Pietras' (2009) literature review noted that retention models share a common element: the role of social integration. Spady (1971) refers to it as *social integration* and *structural relations*. Tinto (1975) references it as *structural relations* and *peer group interactions*. Bean's (1980) model includes the concept of *environmental* factors, which encompasses social integration, as does Astin's (1984) concept of *student involvement*. Pascarella (1980) term of *other college experiences*, connects to the idea of social connectedness, as does Cabrera's (1993) variable *encouragement from family and friends*.

Each of these researchers, while articulating the concept differently, includes the social component of student life within their models of student retention. This study indicates that parents may facilitate the social connectedness of their child in college by incorporating an accepting parenting style: listening to their child without interruption, praising their child, enjoying their child's company, showing affection, making the student feel loved, and comforting them in challenging times.

Acceptance and diverse citizenship. There is a negative relationship between acceptance and diverse citizenship. For every increase in students' perception of parental acceptance, they have a ¾ point drop in their diverse citizenship score. The inverse relationship is puzzling, as one would think the more accepted a child feels, the more receptive they would be to diversity, new ideas and change. A possible explanation may be that new experiences and interactions with those who are different cause anxiety

(Stephan & Stephan, 1985). Ruble (1994) asserts that a common reaction to transitions into the unknown is to revert to the familiar in an attempt to reify one's world view. Students who experience higher levels of acceptance may find it emotionally easier to retreat to their established worldview rather than valuing differences in others or being open to new experiences with new groups. According to Dailey (2008) parents can provide encouragement to engage, debate or struggle with new ideas, which promotes autonomy development. Institutions interested in enrollment efforts with traditionally underserved populations should be aware of this effect, and work to mitigate it to promote retaining underserved students. Future research could investigate if preparing parents to challenge students to wrestle with and engage in new experiences promotes increases in diverse citizenship.

Sorensen, et al. (2009) identify structural supports that may help intergroup relationships including course readings from diverse backgrounds or projects where team members are from diverse backgrounds, but focused on a common goal. From an institutional perspective, future research should investigate if these activities within courses increase the diverse citizenship score for students from highly accepting parents.

Transparency. As student transparency with their parents increases, thriving, academic determination, engaged learning and diverse citizenship increases. The lowest rate of transparency for juniors corresponds to the 25th percentile of transparency for freshman. Conversely, the highest level of freshman transparency corresponds to the 25th percentile of junior transparency. Juniors are more transparent with their parents than freshman and experience higher levels of engaged learning. Emerging adults who are transparent with their parents report higher levels of engaged learning.

Transparency and diverse citizenship. There is a significant, positive relationship (p = .000) between students' perception of a transparent relationship with their parents and students' level of diverse citizenship. Students who feel they may openly share their new experiences and ideas may feel "permission" to further investigate new ideas, and be open to interact with people from different backgrounds. For every one unit increase in transparency, students' diverse citizenship score increases by .21 (about ¼ of a scaled score point). This relates to a 1.26 point increase on the diverse citizenship scale across the entire 6-point transparency scale (.21*6 = 1.26).

Future research should investigate this relationship to determine if transparency is malleable, and what aspects of parental behavior support increase levels of student transparency. Nelson et al. (2007) indicates that emerging adults want their relationships with their parents to evolve from the parent-child dynamic to a more equal relationship of peers. Nelson et al. (2011) theorize that parents providing autonomy along with warmth and support generate connects with their emerging adult children, who respond by divulging information about their lives. Investigating the changing relationships of parents with their emerging adult children could help parents navigate the transition of their children into adulthood while fostering student success in college. Higher education institutions could use this information (1) to develop programming for parents of freshman and seniors (the cohorts reporting the lowest levels of transparency), (2) to help parents understand the uncertainties their children are facing during these transition years, (3) to encourage transparency in parent-child relationships, and (4) to help parents respond to their children in ways that foster continued dialogue and increased autonomy.

Parental Involvement

Parental involvement is defined as the way in which parental support provider(s) engage in their child's college education. Based on the work of Hill & Tyson (2004), I included survey questions regarding parental involvement in their college student's life. Based on the variables that loaded in each factor, I named the factors *direct involvement* and *indirect involvement.*

Direct involvement consists of parental help in editing papers or projects, reminders of due dates for course work, reminders to study, and reminders to go to class. Direct involvement also encompasses parental contact with resident life staff (R.A.s and R.D.s), contact with professors or advisors, and contact with administration, such as school deans, the Registrar's Office, or the Provost. The Cronbach's alpha for *direct involvement* is .81 indicating a reasonably reliable measure.

Indirect involvement consists of parents stressing the importance of going to class, having a life plan, relationships with advisors, professors and resident life staff, and teaching academic strategies to help with learning. The Cronbach's alpha for *indirect involvement* is .75, also supporting a reasonably reliable measure (Nunnally, 1967).

Direct involvement and engaged learning. While neither of these variables were significant on the overall model of student success, direct involvement was negatively related to the diverse citizenship subdomain of thriving (p = .026). Every one unit increase in parental involvement results in a .78 point decrease in diverse citizenship, nearly a full point. The more directly involved parents are in their college-student's education, the less open the student is to new ideas, the less open to change, and the less the student values diversity. Additional research could investigate if parents would

become less directly involved if they understand they may be detrimental in their child's development in the area of openness to change and valuing diversity.

Indirect involvement and engaged learning. Indirect involvement is positively related to the engaged learning subdomain. (p = .004). For every one point increase in reported indirect involvement, engaged learning increases by .89, nearly a full point on a 6-point scale. Students who report being engaged at an average level could move up to the above average level by parents becoming more indirectly involved. Future research should explore the relationship between parental involvement and engaged learning. Parents may, by modeling an engaged interest in student learning, contribute to students investing more actively in their own success.

Parental Influence

Students reported their perception of their parents' influence on their decision making. The negative skew in the data provides a testament to parental influence on emerging adults' decision making during their college career. For the parents that wonder if their words go in one ear and out the other, this study indicates that college students are not only listening, but weighing their parents' words carefully in their decision making. Out of 399 responses, 195 students – 42% -- indicated they consider their parents' advice very seriously, and 75% scored their response as a four or a five out of five on the Likert scale, with 5 being very seriously.

The data demonstrates that parental influence is positively related to undergraduate student success (p = .0472), and positively related to academic determination at the .10 level (p = .0834). I tested to see if parental influence was part of the indirect involvement factor or part of the parenting style factors and found it was not.

Future research should investigate the concept of parental influence on college students at more depth, as this study included only one question for measuring the construct. A more comprehensive measure might uncover important nuances in the effects.

This study found that students who report the highest levels of parental influence on their decisions thrive significantly more than students who report a middle-level of influence. This indicates that students who value their parents' opinions and advice by considering their input before making decisions thrive more than students who are ambivalent about their parents' advice.

However, there is no significant difference in thriving between groups reporting the highest levels of parental influence on decisions and the lowest level of influence. This may indicate that students who don't value their parents' advice are able to thrive regardless. This is an area for future research, as it could reflect the quality of the parental advice (if it's poor) and indicate the student may be mature or discerning to not ask or not follow poor advice. It could also indicate students not considering parental advice on their decisions are more autonomous than their peers, and less in need of parental guidance.

Additional Findings

Lack of a mother figure. The group of students without a mother-figure thrived at a higher level when compared to groups of students with a mother-figure. This same pattern existed for the subdomains of social connectedness, academic determination and diverse citizenship. A possible explanation for students without moms thriving at higher levels than students with moms is that these students have already transitioned to and are accustomed to life without a mom present in their day to day lives. Students without

mothers may have other coping mechanisms already in place, making thriving easier. They've already learned how to navigate the world independent of their mother, potentially developing autonomy at an earlier age. A qualitative investigation into this matter may shed more light on the reasons behind these results.

Academic determination. In comparing the means of academic determination by groupings of students based on their mom's educational level, the group of students who did not have a mother figure present had higher levels of academic determination than the groups of students with mothers. While a high standard error exists for the group without moms due to thin cells, a large difference between groups must have existed to uncover significance. The result could indicate that the students without a mother are more determined to pursue their academic goals. For students with a mother, they may be able to rely on a mother to help pick up the pieces when things don't work out. Students without a mom may feel like their academic pursuit is all or nothing – if they fall short, there is no back up plan. There isn't a mom to help make things right, or to comfort them in times of setbacks, therefore, students without a mom may dig in rather than give up. The results from this study warrant additional research into the role of mothers on college student success due to the small sample size of students without mothers available in this study.

Positive perspective. The group of students without a mother has significantly higher means for positive perspective than the groups of students with mothers, regardless of educational level. A possible explanation for students without moms having higher levels of positive perspective is that these students may be more mature and autonomous. They are accustomed to being on their own, and taking responsibility for

their actions, because they do not have a mother figure on whom to rely. They have learned to use a proactive, positive approach at an earlier age, compared to their peers that are "on their own" for the first time in college. Again, due to the small sample size, further investigation is needed.

Educational level of mothers. Based on Hill & Tyson's (2009) concept of academic socialization, I expected that the educational level of mothers would be related to student success, and that the more experienced the mother with the educational system, the greater the level of student thriving. However, the data did not support this. For example, the group of students whose mother had some post-high school education (trade school, some college coursework or an associate's degree) had a significantly lower level of academic determination than the group of students whose mother's formal education culminated with high school. The same dropped occurred when comparing those students whose mothers earned bachelor's degrees compared to those who pursued graduate-level work. And the group of students whose mothers had pursued some form of graduate work beyond the bachelor's degree had lower levels of thriving than students whose mothers' education culminated with a bachelor's degree. Future research could investigate if parental aspiration for the students' educational level relates to student thriving rather than the level of education the parent achieved.

Educational level of mothers and academic determination. The group of students whose mothers had education beyond high school without earning a bachelor's degree had lower levels of academic determination than the group whose moms who did not pursue additional education beyond high school. These students may be hearing from their moms that things work out even without a formal degree.

Finally, the groups of students whose moms earned their bachelor's degree had higher levels of academic determination than those who attended college but did not complete a bachelor's degree. This may be due to the mom modeling academic persistence and/or discussing the increase in life options due to completing a bachelor's degree. These findings indicate that additional research should investigate the role of mothers in college students' academic determination.

Educational level of fathers. The educational level of fathers was not significantly related to overall student success. However, it was significantly related to one subdomain of thriving: academic determination (p = .035). Students whose fathers had a high school education and those whose fathers completed a bachelor's degree had significantly higher means for goal-directedness, investment of effort, and time management than the groups of students whose fathers had some post-high school education, the group of students whose fathers had graduate school experience or degrees, and the group of students without a father figure.

One possible explanation is that completing a degree, whether it is the high school diploma or the completion of a bachelor's degree correlates with the determination to dig into tough academic tasks and persist in the pursuit of goals. Future research could investigate the role of fathers in setting and persisting at academic goals and academic retention.

There is a large standard error for both the group that had no father figure and for those whose fathers have formal education beyond a bachelor's degree. This is due to thin cells, and calls for additional research into these groups.

Grade Point Average. I chose to measure the dependent variable of this study, student success, using the Thriving Quotient measure developed by Schreiner, et al. (2009). The Thriving Quotient provides a more holistic measure of student success because it encompasses both cognitive and psychosocial components. This study provided an opportunity to investigate the relationship between GPA and student thriving.

GPA and thriving. I investigated the differences in the means between students grouped by GPA and their thriving. The largest difference between means of thriving occurs between students who are earning a 2.4 or lower and a 2.5 -2.9. If students earn a C+ or higher, they tend to have significantly higher levels of thriving in their college experience than those earning a 2.4 or lower. However, there is a large standard error for students earning a 2.4 or lower, indicating additional research is needed.

Data for this study was collected in early November, before the conclusion of the fall semester. Therefore, freshman students were not able to report their first semester GPA. The survey requested freshman to self-report their high school GPA in place of their college GPA. The result was very thin cells in the lower levels of GPA, which required me to collapse cells for analysis. Future studies should instead request freshman students to report their mid-term GPA, and also treat the variable as a continuous variable instead of categorical.

Thriving does not steadily increase with higher GPAs, which supports the idea that success encompasses more than academic achievement. Students who earn B's (3.0 – 3.4) are not experiencing significantly higher levels of thriving than their peers earning a C+ (2.5 – 2.9). However, once students earn a B+ or higher, they thrive significantly

more than the students earning a C+ to a B. The plateau in thriving that occurs for students earning a C+ or a B is interesting; one expects that GPA and thriving would be positively related. The plateau that occurs between C+ and B students warrants additional research to determine what hinders overall thriving in students earning a 3.0- 3.4.

GPA and positive perspective. In regards to the positive perspective aspect of thriving and GPA, the largest difference in means occurs between students earning a 2.4 or lower and students earning a 2.5- 2.9. Students who earn between a C+ and B- are significantly different from their peers earning less than a C+ in regards to their proactive approach to life situations and their optimism. According to Schreiner (2010), students with higher levels of positive perspective take initiative, seeing out information to ensure their success. Future research could investigate if interventions with students earning less than a C+ designed to teach these traits results in higher GPAs.

GPA and engaged learning. The same difference in means occurs for engaged learning: students who earn between a C+ and B- are significantly different from their peers earning less than a C+ in regards to meaningfully processing what they learn in class and continuing to think about it outside of class report. Future studies could investigate if coaching students on how to engage in their learning or coaching students on being proactive with their coursework would increase their overall thriving in college.

GPA and academic determination. There is a significant difference in the means between all groups in regards to GPA and academic determination with one exception: the group of students who are earning a 2.5 – 2.9 (C+) do not have a significant difference in the means of their academic determination when compared to the group of students earning a 2.4 or lower (C – F). This should serve as a red flag to students,

instructors and academic advisors; students earning 2.9 or lower may be at risk for attrition, as they have lower levels of academic determination. Additional research should investigate how to increase academic determination for this group of students to support institutional retention efforts.

The increase in academic determination for students earning a B minus or higher demonstrates that academic determination is a function of grades. As students' GPA increases, so does their academic determination. As discussed earlier, grades are also a function of acceptance. As parental acceptance increases, academic determination increases.

Connectedness. I requested information on students' frequency of communication with their parents, and the mode of communication used. I used the information to develop a weighted index, the *connectedness* variable. This variable was not significant in the model for overall thriving, or for any of the subdomains. The lack of a negative relationship between hyper-connected parents with their children and the students' thriving indicates that helicopter parenting does not have a negative impact on college students when controlling for the other variables. It also does not help the student to succeed. Parents who think their connectedness is helpful to the student may need to reconsider that opinion. It seems probable that such parental behavior only affects the emotional status of the parent. I also investigated if connectedness was part of the indirect or direct factor of parental involvement; it was not. While critiquing the model and investigating outliers, the variation between regular and robust regression in the significance of parental influence indicated that researchers in the future may want to investigate if *connectedness* is an indicator of independence/autonomy. Knowing if

connectedness relates to autonomy in emerging adults would help higher education institutions coach parents during the transitions of emerging adulthood, especially during the freshman and senior years.

Commuter students. Living at home is negatively correlated to thriving in undergraduate students. (p = .024). College students who live with their parents have significantly lower levels of academic determination (p = .025). At the .10 level, students living with their parents also have lower levels of social connectedness (p = .056) and diverse citizenship (p = .065). Students and parents may not be aware of commuter impact on student success.

Institutions should consider sharing this information with accepted students and their parents before housing decisions and deposits are due. For many commuters, the decision to live at home is based on financial constraints. In those instances, institutions should examine their existing structures and look for ways to help their commuters connect socially during welcome week as new friendships are forming, and throughout the semester. This can include programs and creating inviting spaces for students to gather and connect, or changing existing policies to facilitate social connectedness. Examples include creating inviting, centrally located commuter lounges with lockers, microwaves, refrigerators, and computers, or allowing commuters to bring food items into the cafeteria so that they may dine with friends who are residential students. Other supports could include faculty or staff mentors that check in regularly with commuter students to hear about their experiences and provide information on campus activities, encouragement for perseverance and to share strategies for goal setting.

Cohort. Cohort group was significant at the .10 level for overall thriving (p=.073) academic determination (p=.081) and positive perspective (p=.072), with juniors reporting the highest levels for each category. Cohort was significant at the .05 level for the domain of engaged learning (p =.007). As a group, juniors had a significantly higher level of engaged learning than freshman, sophomores or seniors. After the junior year, however, the mean for thriving fell, and was significantly lower for seniors. Seniors were less engaged than juniors and were nearly at the same level of engaged learning as sophomores. Institutions should consider focusing academic advising to help seniors prepare for their transition into the "real world" by concertedly helping them make connects with the career planning or internship office to find internships, networking connections, help with preparing portfolios and resumes and a mentor to practice interviewing so that students are engaged in connecting classroom learning with life after college. The study's findings support the institutional trend to provide targeted support by cohort (first year seminars, sophomore experiences, etc.) and indicate the need to create supports for the senior year. Additionally, parents may better be able to support students if they understand the unique stress students experience during their freshman and senior years. Future research could investigate if parental awareness of these trends helps parent/child relationships during these transitional years.

Interactions

One of the research questions for this study was to identify if interactions existed between parental style, parental involvement or parental influence relative to success. I tested for interactions between the variables; none existed.

The previous section discussed the study's findings in terms of the independent and control variables, as well as provided specific recommendations for adapting practices to support students and recommendations for future research. The next section discusses the study's limitations and delimitations.

Limitation and Delimitations

I limited this study to full-time undergraduate students between the ages of 18 and 24, enrolled at the institution's main campus during the fall semester of 2014-15. The restriction to full-time students between the ages of 18 and 24 confines the study to traditional students entering college shortly after graduating from high school, rather than non-traditional students. Full-time students are transitioning away from their role as a high school student, but have not yet adopted an adult or career persona. Little research exists on emerging adults with respect to parental involvement, which makes this research particularly significant. I limited the study to students at this institution because it is a public state school, more likely to attract a wider variation in population demographics than a private school, and increases the likely transferability of the study. These restrictions provided a sample frame that focuses on emerging adults in an undergraduate college setting.

A second delimitation involves collecting data from only one institution. However, by using a medium-sized public institution, the population is both larger and more diverse than a smaller institution or a private college. Thus, the school choice provides a good estimate of the general population.

Limitations and Weaknesses

One purpose of this study involved identifying the relationship of specific aspects of parental involvement with student success. Because cross-sectional studies capture a snapshot of a phenomenon's attributes and frequency, this design is appropriate for the research question. The cross-sectional approach provides information from a single point in time; therefore, causal assertions cannot be made.

As in all cross-sectional and quasi-experimental designs, concerns exist regarding internal validity. Selection poses a threat, as there may be underlying differences in the academic years beyond those for which I controlled. History may also be an issue in looking at differences in data by academic cohort. After considering the inherent limitations of a longitudinal design including concerns regarding maturation, testing statistical regression, attrition, cost and time constraints, I determined that a cross sectional student survey sampling across four academic cohorts (i.e., freshman, sophomore, junior, senior) best suited the research question.

The response rate of 12.5% is modest. The response rate for high profile institutionally-supported surveys range from 9% (2010 Career Development survey of undergraduate students) to 17% (the 2014 NSSE for undergraduate first-year students). The sex and minority distribution of respondents indicates that females and Caucasians were over-represented, while African-American student respondents were under-represented. An area of future research could investigate how to encourage more responses from male students and from African-American students.

I discovered the research on Dweck's (2008) growth mindset and Tough's (2013) concept of grit after gaining IRB approval for the study. Both off these concepts explore student success and it would be interesting to see how they connect to parenting. A future

project would be to investigate if a relationship exists between a growth mindset and the positive perspective subdomain in thriving. Another area to investigate is if grit relates to academic determination. For both concepts, it would be interesting to investigate how parents may encourage and support these traits in college-aged students.

Recommendations for Future Research

There a several areas for future research to explore. One area is the mechanisms for cultivating accepting and transparent relationships between parents and emerging adults. It would also be helpful to determine if these mechanisms are established or set by a specific age or developmental stage. A second area to research further is explore if student growth mindset and grit are qualities related to parenting style and undergraduate student success. The negative relationship between direct involvement and diverse citizenship and between acceptance and diverse citizenship is an area to explore further. I also recommend exploring the mechanisms and role of parental influence on college students. Additionally, future research should explore the specific role of mothers in undergraduate student success, and the role of fathers in students' academic determination.

Conclusion

This study explored the relationship among parenting style, parental involvement and parent influence on undergraduate student success by collecting self-reported data from traditional, college-aged students. Most research pertaining to parenting style aggregates data using Baumrind's typology. This study contributes to the body of knowledge by disaggregating the dimensions of authoritative parenting. It added to the research on parenting style by incorporating parental challenge. The result is two new

constructs for future researchers to use: parental acceptance and transparency. This study is distinct in that it connected dimensions of parenting style with direct and indirect forms of parental involvement in education. It also expanded the body of knowledge by investigating parental influence on student success. Finally, it extended parenting research into the population of college-aged students.

Parental involvement in education on the college-level is not related to overall undergraduate student success. It seems that indirect involvement has an influence on engaged learning but direct involvement, while having only a minor effect on engaged learning, does have a significant negative effect on diverse citizenship. It seems, therefore, that indirect parental involvement offers more positive benefit than direct involvement for college students.

Parenting style, in regards to parental acceptance and student transparency positively relates to undergraduate student success. Furthermore, parenting style varies in effects: an accepting style improves social connectedness and the student's positive perspective, but reduces diverse citizenship. Transparency has a positive effect on engaged learning, academic determination, and citizenship. The dimensions of acceptance and transparency are not exclusive of each other; parents can be both accepting and transparent. It may be that the best parenting style to facilitate college student success is one that offers acceptance and transparency but specifically encourages (via indirect involvement) diverse citizenship.

Parental influence has a positive relationship on undergraduate success. Students who report being strongly influenced by their parents experience higher levels of success than students who report a medium level of influence. Additionally, students who report

that they strongly consider their parents advice have higher levels of academic determination. It may be that as students move from the high school setting into college, the positive effects of direct parental involvement on student success diminishes. For college students, it appears that parental influence is more relevant to student success than parental involvement.

By isolating which aspects of parenting style, parental involvement and parent influence positively relate with student success, higher education institutions can develop policies and parental programs to better inform and coach administrators, instructors, advisors and parents on behaviors that positively impact college students. This study may help students understand their own development, and how their efforts may promote personal thriving, and positive ownership of their educational experience to support their efforts as a successful undergraduate students and emerging adults.

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Appendix A

Survey Questions for the Independent and Control Variables

Q1 Are you a full-time undergraduate student during the 2013-14 academic year?

- ❍ Yes (1)
- ❍ No (2)

If No Is Selected, Then Skip To End of Survey

Q2 Are you between the ages of 18 and 24?

- ❍ Yes (1)
- ❍ No (2)

If No Is Selected, Then Skip To End of Survey

Q3 In terms of my academic progress, I am a:

- ❍ Freshman/first year student
- ❍ Sophomore
- ❍ Junior
- ❍ Senior

Q4 My race/ethnicity is best described as:

- ❍ African-American
- ❍ Asian-American
- ❍ Caucasian
- ❍ Hispanic/Latino
- ❍ Other

Q5 I am:

- ❍ Male
- ❍ Female

Q6 What is your cumulative college grade point average (G.P.A.)?

- ❍ 3.5-4.0
- ❍ 3.0.- 3.4
- ❍ 2.5-2.9
- ❍ 2.0 - 2.4
- ❍ 1.9 or lower
- ❍ I am a freshman. My cumulative high school G.P.A. was (insert below).

_____

Q7 I receive a Pell Grant
- ❍ Yes
- ❍ No
- ❍ I don't know.

Q8 In the household where you grew up, what would you estimate was the combined annual household income for last year?
- ❍ Up to $21,800
- ❍ Between $21,801 and $51,000
- ❍ Between $51,001 and $81,000
- ❍ Between $81,001 and $122,800
- ❍ Over $122,801

Q9 Do you live at home with your parent(s) during the fall semester?
- ❍ Yes
- ❍ No

Q10 This survey uses the term parental support provider, which refers to one or two key adults in your life that provide you with parental support. It may be your parent, grandparent, step parent, foster parent, or another guardian/ support figure. Please keep that person (or persons) in mind when answering the remainder of the survey questions.

The highest level of education my female parental support provider (for example: mom) achieved is:
- ❍ Some high school
- ❍ High school diploma or GED
- ❍ Trade school
- ❍ Some college
- ❍ 2-year degree (Associates degree)
- ❍ 4-year college degree (B.A., B.S., etc.)
- ❍ Master's degree
- ❍ Terminal degree (Ph.D., Ed.D., M.D., PharmD, etc.

Q11 What best describes my female parental support provider (for example, mom)?
- ❍ Single
- ❍ Cohabitating
- ❍ Married
- ❍ Divorced
- ❍ Divorced and remarried

Q12 The highest level of education my male parental support provider (for example: dad) achieved is:

- ❍ Some high school
- ❍ High school diploma or GED
- ❍ Trade school
- ❍ Some college
- ❍ Associates degree (2-year degree)
- ❍ Bachelor's degree (4-year degree)
- ❍ Master's degree
- ❍ Terminal degree (Ph.D., Ed.D., M.D., PharmD, etc.)

Q13 What best describes my male parental support provider (for example: dad)?

- ❍ Single
- ❍ Cohabitating
- ❍ Married
- ❍ Divorced
- ❍ Divorced and remarried

Q14 My parental support provider(s) contribute:

- ❍ No financial assistance for college
- ❍ Less than half the cost of college.
- ❍ Half the cost of college.
- ❍ More than half the cost of college.
- ❍ All of the cost for college.

Q15 What is the number of times per day your parental support provider(s) initiate a conversation with you in a typical day during this semester?

Parental support provider is defined as the one or two key adults in your life that provide you with parental support. It may be your parent, grandparent, step parent, foster parent, or another guardian/ support figure. Please keep that person (or persons) in mind when answering the remainder of the survey questions.

	None	1-2 times per day	3-4 times per day	5-6 times per day	more than 7 times per day
# of times parental support provider initiates by text message	❍	❍	❍	❍	❍
# of times parental support provider initiates by email	❍	❍	❍	❍	❍
# of times parental support provider initiates by phone call	❍	❍	❍	❍	❍
# of times parental support provider initiates by face time, skype or other video chat	❍	❍	❍	❍	❍
# of times parental support provider initiates conversations in person, face to face.	❍	❍	❍	❍	❍

Q16 On a scale of 1-5, how much emphasis do your parental support provider(s) place on the following activities:

	Not a priority	Low priority	Medium priority	High priority	Essential
The importance of attending class	❍	❍	❍	❍	❍
Having a plan for life after college	❍	❍	❍	❍	❍
Cultivating good relationships with professors, advisers, and/or other campus professionals	❍	❍	❍	❍	❍
Strategies on how to improve my grades, such as note-taking strategies, using campus resources (the learning/writing center, peer tutoring, etc.)	❍	❍	❍	❍	❍

Q17 How likely are my parental support provider(s) to do the following activities to help me with college (on a scale of 1 to 5):

	Not very likely	----------	Likely	----------	Very likely
Edit my paper/project for a college course.	❍	❍	❍	❍	❍
Remind me when a project/paper is due.	❍	❍	❍	❍	❍
Remind me to study for a specific test.	❍	❍	❍	❍	❍
Call or text a reminder to get up or to go to class.	❍	❍	❍	❍	❍
Contact my R.A. or R.D. regarding a problem I'm experiencing with my roommate or other person on campus.	❍	❍	❍	❍	❍
Contact my professor regarding an academic such as a class policy or grade.	❍	❍	❍	❍	❍
Contact a college administrator regarding an administration issue such as registration, billing, etc.	❍	❍	❍	❍	❍

Q18 When my parental support provider(s) offer me advice...

	Not very seriously	----------	Somewhat seriously	----------	Very seriously
I consider my parental support provider(s) advice:	❍	❍	❍	❍	❍

Q19 Select the response that best describes your parental support provider(s) on a scale of 1-5. My parental support provider(s):

	Not very likely	----------	Likely	----------	Very likely
Try to change how I feel or think.	❍	❍	❍	❍	❍
Change the subject whenever I have something to say, or interrupts me.	❍	❍	❍	❍	❍
Blame me for other family members' problems.	❍	❍	❍	❍	❍
Bring up past mistakes when they criticize me.	❍	❍	❍	❍	❍
Is less friendly with me if I do not see things their way.	❍	❍	❍	❍	❍
Stop talking to me if I hurt their feelings, until I please them again.	❍	❍	❍	❍	❍

Q20 Select the response that best describes your parental support provider(s) on a scale of 1-5. My parental support provider(s):

	Rarely	----------	Sometimes	----------	Often
Smiles at me often or praises me.	❍	❍	❍	❍	❍
Enjoys spending time together or doing things with me.	❍	❍	❍	❍	❍
Is affectionate and caring towards me.	❍	❍	❍	❍	❍
Makes me feel special and loved.	❍	❍	❍	❍	❍
Makes me feel better after we talk.	❍	❍	❍	❍	❍

Q21 On a scale of 1-5, how well do your parental support provider(s) really know…

	Rarely	----------	Sometimes	----------	Often
What I spend my money on.	❍	❍	❍	❍	❍
What I do with my free time.	❍	❍	❍	❍	❍
Who my friends are.	❍	❍	❍	❍	❍

Q22 On a scale of 1-5, how often do your parental support provider(s):

	Rarely	----------	Sometimes	----------	Often
Ask me what I learned from my bad experiences or tough situations, or help me to make sense of what happened.	❍	❍	❍	❍	❍
Ask me to explain the reasoning behind my decisions.	❍	❍	❍	❍	❍
Encourage me to make my own decisions even though I might make a few mistakes.	❍	❍	❍	❍	❍
Engage in discussions or debates with me about ideas or complex issues.	❍	❍	❍	❍	❍
Expect me to deal with the consequences of my decisions or behaviors.	❍	❍	❍	❍	❍

Q23 If you would like your name to be entered in the drawing for one of four $25 Amazon gift cards, please enter your email address below. This information will NOT be connected with your answers.

Appendix B

The Thriving Quotient (Schreiner, McIntosh, Nelson, & Pothoven, 2009).

These questions are scored on a Likert scale of 1-6.

1. I often discuss with my friends what I'm learning in class.
2. I regularly participate in class discussions in most of my classes.
3. I feel as though I am learning things in my classes that are worthwhile to me as a person.
4. It is hard to pay attention in many of my classes
5. I find ways of applying what I'm learning in class to something else in my life
6. I ask my professors questions during class if I do not understand something.
7. In the last week, I've been bored in class most of the time.
8. I find myself thinking about what I'm learning in class even when I'm not in class.
9. I feel energized by the ideas that I am learning in most of my classes
10. I give time to making a difference for someone else.
11. I have the power to make a difference in my community
12. I value opportunities that allow me to contribute to my community
13. I am willing to act for the rights of others.
14. Knowing how a person differs from me greatly enhances our friendship.
15. I can best understand someone after I know how he/she is both similar and different from me.
16. I can best understand someone after I know how he/she is both similar and different from me.
17. No matter what kind of person you are, you can always change substantially.

18. When course work is difficult, I give up or only study the easy parts.
19. Even when course materials are dull/uninteresting, I manage to keep working until I finish.
20. I am good at managing the many responsibilities of my daily life.
21. I am good at managing my time so that I can fit everything in that needs to be done.
22. I am motivated to do well in school.
23. I actively pursue my educational goals.
24. When confused about something I'm reading for class, I go back and try to figure it out.
25. When things are uncertain for me, I usually expect the best.
26. I always look on the bright side of things.
27. I'm optimistic about what will happen to me in the future.
28. I am satisfied with my life.
29. The conditions of my life right now are excellent.
30. Other people seem to have more friends than I do.
31. I often feel lonely because I have few close friends with whom to share my concerns.
32. I don't have many people who want to listen when I need to talk.

Appendix C
Informed Consent Form for Web Survey

Hello!
You are invited to participate in a research study investigating the relationship between undergraduate student success, parenting style, and parental involvement. I selected you because you are an undergraduate student enrolled at Indiana University of Pennsylvania. Students who complete the survey are eligible for a random drawing for one of four $25 gift cards.

The survey is part of my dissertation study for the Administration and Leadership program at Indiana University of Pennsylvania. If you accept this invitation to participate, you will be directed to a web-based questionnaire. It should take approximately 10 - 15 minutes to complete. Your participation is voluntary. You are free to answer all, some or none of the questions. If you chose to withdraw from the study, you may do so by closing your browser. Closing the browser removes you from the study.

If you participate, your responses are recorded without any personal identifiers; there is no way to connect you with your individual answers. The data will be stored securely, accessible by password only. Survey responses will be considered only in combination with other participants, without personal identifiers. This information may be published in journals or presented at scholarly meetings, but your identity will be anonymous. This study involves minimal risk to participants. Potential benefits of the study include identifying the relationship among parenting style, involvement, and student success.

If you have questions about this survey or experience technical difficulties while taking the survey, please contact Susan Donat at (717) 802-0998 or s.r.donat@iup.edu. This study is under the direction of John A. Anderson, Ph.D.

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THIS PROJECT HAS BEEN APPROVED BY THE INDIANA UNIVERSITY OF PENNSYLVANIA INSTITUTIONAL REVIEW BOARD FOR THE PROTECTION OF HUMAN SUBJECTS (PHONE 724.357.7730)

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