The Impact of Parental Involvement on College Student Outcomes

By

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Abstract

There is growing concern that student development may be hindered by the current level of parental involvement experienced by college students (Cullaty, 2011; Pizzolato & Hicklen, 2011; Taub, 2008). To gain insight into this concern, this study sought to examine the relationship between the parental involvement of college students and their development of self-authorship. Specifically, this study attempted to quantitatively analyze the relationship between parental involvement and the development of self-authorship for a sample of traditional aged college students at a small liberal arts college in the Midwest. This analysis was attempted using the Self-Authorship portion of the Career Decision Making Survey (CDMS-SA), which displayed preliminary evidence as a reliable and valid measure of self-authorship (Creamer, Baxter Magolda, & Yue, 2010). The data obtained through the use of CDMS-SA in this study did not display acceptable reliability and thus this study was unable to answer the original research question.

Due to the rich data obtained on the parental involvement of the college student participants in this study, however, a Post Hoc analysis examined the relationship between parental involvement and college student grade point average (GPA). This analysis included the following parental involvement variables: 1) level of parental involvement, 2) autonomy-supportive parenting, 3) parental warmth, 4) helicopter parenting, 5) the specificity of the parent involved, and 6) the identification of who initiated (parent, student, or equal) the parental involvement. The results of a hierarchical regression analysis found that a student's year in school, their gender, their mother's involvement, student initiated parental involvement, their overall parental involvement, and their assessment of parental warmth were all statistically significant predictors of a GPA.

Acknowledgment

I am deeply grateful for all the support and encouragement that I received during my coursework and while writing my dissertation from so many people. I want to specifically thank my advisor, Dr. Lisa Wolf-Wendel, who provided invaluable insight, advice, encouragement, and inspiration, without which this dissertation would not have been possible. I learned so much from her and have deep admiration of her commitment to the success of her students. I am also grateful to Dr. Susan Twombly, Dr. Eugene Parker, Dr. Neal Kingston, and Dr. Marlesa Roney for serving on my defense committee and for their insight into my dissertation.

I want to thank Dr. Richard Mandeville and Fr. Brendan Rolling, my first two mentors in student development, who provided me with an invaluable foundation in my field. It is challenging to articulate the inspiration and conviction to serve the authentic needs of college students, which was instilled in me through their wisdom and personal example of self-sacrificial service for the good of others. I hope to always honor their investment in me by letting good things run wild on college campuses in support of students becoming the best version of themselves.

I also owe a debt of gratitude for the sacrifices and support of my family. First and foremost, to my wife, Grace, for the countless sacrifices made and the endless encouragement to preserve with excellence throughout my doctoral program. To my parents, who have always provided encouragement and have never wavered in their ability to serve as a secure base for me, which I have always returned to in times of need. Lastly, I dedicate this dissertation to my children, Paddy, Lucy, Flynn, and Mollie. I hope that my parental involvement in their life will encourage self-awareness, the discovery of their gifts, instill a sense of personal responsibility, challenges them to pursue excellence and failure, and motivates them to live life fully.

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Chapter 1: Introduction

Statement of the Problem

College is a critical time in which an individual, through their enrollment in higher education, should be aided in becoming a responsible and autonomous adult. Full-time, traditional aged, residential college students are aided in their progress toward these outcomes in part by moving out of their parents' home and living independently or with their peers, which facilitates establishing personal responsibility, the autonomous development of their identity and beliefs, and the development of intimate relationships (Chickering & Reisser, 1993; Cullaty, 2011, Lefkowitz, 2005). While today's traditional aged, residential college students continue to physically move out of their parent's houses, they are increasingly staying more connected to their parents (Cullaty, 2011; Howe & Strauss, 2007; Kennedy, 2009; Lefkowitz, 2005; Nelson, Padilla-Walker, Christensen, Evans, & Carroll, 2010). As a result, the inherent separation and autonomy that came from going away to college has changed as parents are now more highly involved in the lives of their adult children (Cullaty, 2011; Howe & Strauss, 2007; Lythcott-Haines, 2015; Nelson et al., 2010, Taub, 2008).

Scholars note that this parental involvement phenomenon has the potential to impact the development of college students, making it important to study and empirically examine the relationship between parental involvement and the development of college students (Cullaty, 2011; Pizzolato & Hicklen, 2011; Taub, 2008). This study examines the relationship between the parental involvement of college students and a students' development of self-authorship in the context of a small, residential, Catholic institution, which is referred to as Midwest Private College. Briefly, self-authorship is defined as an individual's ability to internally coordinate external influences in order to define their individual identity, their relationships, and their

beliefs (Magolda & King, 2012). This study seeks to better understand how the parental involvement of college students is related to their development of self-authorship. The research for this study involves full-time, traditional aged, undergraduate students, attending a small, private, religiously affiliated institution in the Midwest.

Purpose of the Study

There is currently a gap in the existing literature regarding the empirical examination of how the parental involvement of college students is related to their personal development. The gap in the existing literature is more pronounced when attempting to find research that examines the relationship of parental involvement to college student development, specifically through the application of college student development theory (Bradly-Geist & Olson Buchanan, 2012; Pizzolato & Hicklen, 2011). This is a missed opportunity, as there are numerous college student development theories that would be helpful in the examination of how parental involvement is related to the development of a college student. College student development theories have traditionally stressed the importance of a student establishing autonomy and independence in order to successfully accomplish the developmental tasks of emerging adulthood (Arnett, 2000; Chickering & Reisser, 1993; Erikson, 1963), which provides the foundation for successfully engaging important life tasks after graduation. To help fill the gap in the existing literature and to gain insight into this relationship, this study empirically examines the relationship between the development of self-authorship in college students and their experience of parental involvement.

There are a number of developmental theories about college students that stress the importance of college students establishing autonomy and independence in order to achieve the important cognitive and developmental tasks during a student's time at college (Arnett, 2000; Baxter Magolda, 2004; Chickering & Reisser 1993; Erikson, 1963). One of these theories is the

holistic, developmental, *Theory of Self-Authorship*, developed by Baxter Magolda (2004, 2008, 2009, 2014). Baxter Magolda's (2004, 2008, 2009, 2014) theory of self-authorship examines the cognitive, intrapersonal, and interpersonal development of college students, paying attention to how students use external sources of authority or internal commitments, values, and beliefs to define reality or make decisions in each of these areas. The Theory of Self-Authorship argues that development exists on a continuum, where on one end a student uses external sources of authority to define reality, their identity, and their relationships, while at the other end (the self-authoring and more fully developed end) the student uses solidified internal beliefs and commitments to define reality, their identity, and their relationships (Baxter-Magolda, 2004, 2008, 2009, 2012; Baxter Magolda, & King, 2007; 2012).

The Theory of Self-Authorship places particular emphasis on the importance of college students moving along this continuum away from external authorities (one of which could be parents) and toward an internal orientation of meaning-making to define what they know (cognitive development), who they are (intrapersonal development), and who they are in relation to others (interpersonal development) (Baxter Magolda, 2004; 2008; 2009). Before entering college, one of the primary forms of external authorities in the lives of most students is their parents (Pizzolato & Hicklen, 2011). Now that parents are more involved in the lives of college students (Howe & Strauss, 2007; Lythcott-Haines, 2015; Taub 2008), it is important to ask if students are still able to achieve important developmental tasks, such as moving away from external authorities and developing internal commitments and beliefs, as they define who they are, what they know and believe, and their relationships with others. Baxter Magolda (2001) acknowledged that the role of parents as external authorities was not a factor that she considered in her original longitudinal study. In a more recent study, Baxter Magolda et al. (2012) found

that 57 percent of college students relied primarily on external sources to define their beliefs, their identity, and their relationships. Does this finding have any relationship to the increase in the parental involvement of college students? The present study explores the answer to this question using quantitative measures of self-authorship and various forms of parental involvement.

Research Questions

The primary research question of this study is, "how does the parental involvement of college students relate to their development of self-authorship?" In addition to this primary research question, this study seeks to answer the follow sub-questions:

- Is the level of parental involvement experienced by college students related to their development of self-authorship?
- Is the type of parental involvement experience by college students related to their development of self-authorship?

Context

The study takes place at Midwest Private College, which is a small, private, Catholic, four-year, residential, liberal arts college, located in the Midwest. The college currently has an enrollment of approximately 1900 full-time, degree seeking, students and of these students, 97 percent, are traditional-aged college students, who are between the ages of 18-24. It is also a residential college, which currently houses 85% of the full-time, traditional aged students in residence hall and on-campus housing.

The student body at this institution has a couple of unique and noteworthy characteristics. First, there is a large homogeneity in the religious affiliation of the students as 84 percent of

students identify as Catholic. Additionally, thirteen percent of the student population come from a homeschooled background, for the duration of their primary and secondary education.

As a small private college, high contact and support between faculty, staff, and students is a priority for the college and an expectation from the students. Faculty members pride themselves on being available for their students and are known for the desire to be personally involved in the lives of students both inside and outside of the classroom. It is not uncommon for faculty to eat lunch with groups of students in the dining hall on-campus on a regular basis. The co-curricular experiences, the size of the residence halls and the staffing, the resources dedicated to the Student Success and Student Health Centers are aimed at high support and high contact between staff and students.

Conceptual Framework

This study is an examination into the relationship between the parental involvement that a college student experiences and their development of self-authorship during college. The conceptual framework that guides study uses Astin's (1993) Input-Environment-Outcome Model (I-E-O). The I-E-O Model promotes that in order to properly assess and gain understanding into any outcome variable of a student, one must consider both the input characteristics as well as the environmental experiences of that student (Astin & Antonio, 2012). Input characteristics refer to personal qualities that the student brings to the environment with them, the environment portion of the model refers to the experiences that a student has at college, and the outcome portion of the assessments refers to the quality or excellence of a student's knowledge and personal develop upon graduation (Astin & Antonio, 2012).

The application of the I-E-O model to a research inquiry can also be understood as evaluating the relationship between a dependent variable (the outcome) to an independent

variable (the environment), controlling for student characteristics (the input) (Astin & Antonio, 2012). This current study fits into the I-E-O model framework as it examines the relationship between the development of self-authorship (the outcome and dependent variable) with student's experience of parental involvement at college (the environment and independent variable) while considering a number of student input characteristics (the input), such as race, gender, high school background, and religious affiliation.

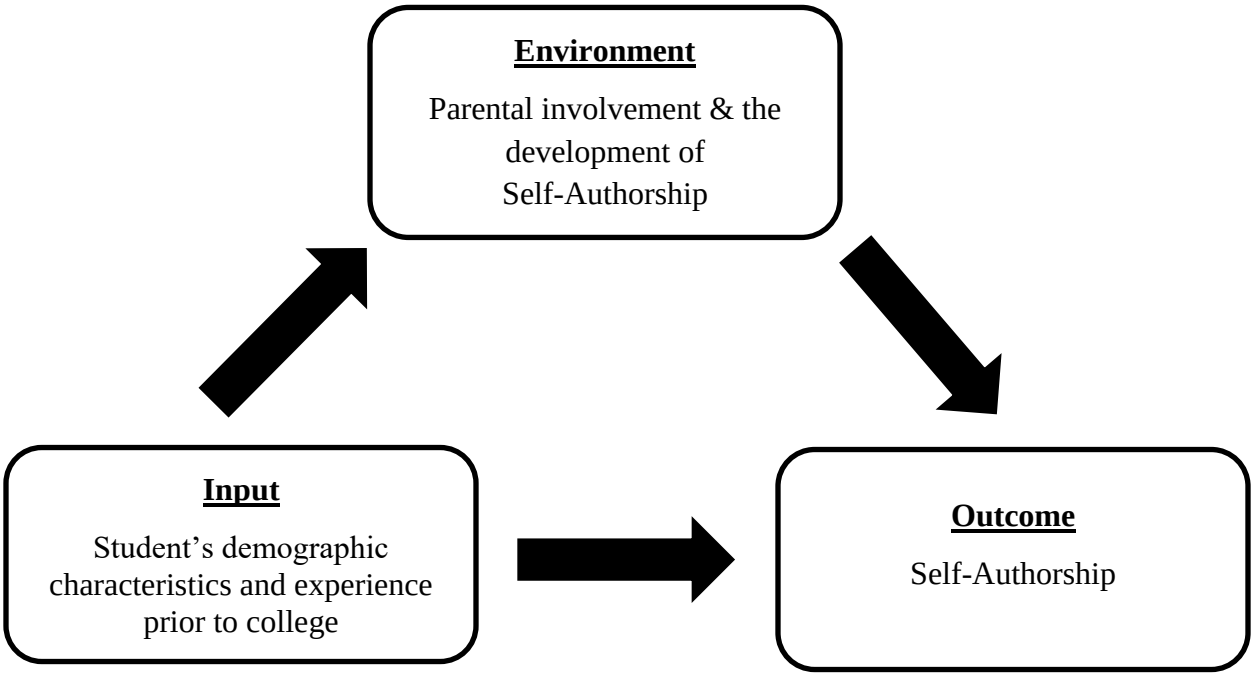

Figure 1. Conceptual Framework for the relationship of parental involvement to the development of Self-Authorship framed within the Input-Environment-Outcome Model.

The I-E-O Model seeks to enhance the educational and personal development of students through observing the conditions of the educational environment (Astin & Antonio, 2012). In doing so, one becomes aware of environmental conditions that can be controlled or changed in order to maximize student educational and personal development outcomes. This study engages in this process through examining how parental involvement (environmental condition) is related to the development of self-authorship in college students. As promoted by the I-E-O model,

gaining insight into this relationship would empower practitioners in higher education with knowledge about specific parental involvement behaviors that could be controlled or changed in order to maximize the development of self-authorship.

The conceptual framework for this study also guides the literature review of this study. First, in addition to the input variables of the personal characteristics of the student, it is also assumed that the development of self-authorship may be impacted by a student's personal experiences within the parent-child relationship before college. Two parent-child developmental theories are considered in this study to provide a lens into the relationship between the development of self-authorship and parental involvement experienced by emerging adults at college. The first is Bowlby's (1969; 1982) Attachment Theory, which promotes that the healthy development of a child is dependent upon a secure attachment to their parents. This secure attachment is facilitated when the parent is accessible, available, responsive, and able to provide security and aid, which results in a child viewing their parent as a secure based from which the child can explore and rely on in times of need or distress (Bowlby, 1969; 1982).

The second parent-child developmental theory considered in this study is the theory of Separation-Individuation (Blos, 1967), in which the child simultaneously psychologically establish themselves as an autonomous individual while maintaining an interdependent relationship with their parents (Daniels, 1990; Koepke & Denissen, 2012; Mattanah, Lopez, & Govern, 2011; Mattanah, Hancock, & Brand, 2004). Both theories have been found to impact the development of a child both in childhood and as an emerging adult (Blos, 1967; Bowlby, 1982; Daniels, 1990; Koepke & Denissen, 2012; Mattanah et al., 2011; Mattanah et al., 2004).

Developmental theories and the developmental phase of emerging adulthood is also used to provide an additional lens for evaluating the conditions of the environment portion of the I-E-

O Model. These developmental theories traditionally promote that the successful development of an emerging adult (traditional college students) is contingent upon the ability of an emerging adult to break away from external authorities and establish autonomy, independence, and personal responsibility, and the Theory of Self-Authorship seems to affirm this position (Arnett, 2000; Baxter Magolda, 2004, 2008, 2009, 2012, 2014; Chickering & Reiser 1993; Erikson, 1963). Attachment Theory, Separation-Individuation theory, and human developmental theories (such as emerging adulthood) all maintain that a parent's relationship and involvement in their child's life has major implications for the development of the child. These theories maintain that the healthy development of the child is related to their ability to establish oneself as autonomous and independent from the parent, but that the child may also benefited from some form of continued relationship and parental support (Bowlby, 1969; 1982; Blos, 1967; Arnett, 2000; Erikson, 1963). These theories are also used to establish the parental involvement variables examined in this study.

Finally, the Theory of Self-Authorship is reviewed extensively as is the relationship between a student's development of self-authorship and their experience of parental involvement. Although self-authorship is typically assessed using qualitative methods, this study uses a section of the *Career Decision Making Survey*, referred to as the CDMS-SA (Creamer et al, 2010), to operationalize and quantitatively measure self-authorship as an outcome variable. The data obtained in this study through the use of CDMS-SA did not display acceptable reliability. The implications of this result are discussed in this study. The data obtained in this study provided an opportunity to conduct a Post Hoc analysis supported by the I-E-O conceptual framework. The Post Hoc analysis will examine how the parental involvement of college

students is related to grade point average (GPA), which is an important educational outcome for college students.

Importance of the Study

Over time, institutions of higher education have experienced a shift in parental involvement on campus and they are still working to better understand the effects of this involvement on students, and how they ought to respond to this evolving relationship with the parents of students (Cullaty, 2011; Hamilton, Roksa, & Nielsen, 2018; Pizzolato & Hicklen, 2011; Wartman & Savage, 2008). It is important to increase the understanding of how parental involvement is related to the development of college students, in order for institutions of higher education to develop best practices for guiding parental involvement toward the educational and developmental outcomes of college students. While colleges and universities have experienced a substantial increase in parental involvement, resulting in increased demands on the institution and it's personnel (Coburn, 2006; Kennedy, 2009; Pizzolato & Hicklen, 2011; Wartman & Savage, 2008), institutional responses to this involvement has varied (Carney-Hall, 2008; Coburn, 2006; Cullaty, 2011; DiRuscio, 2006; Hamilton et al., 2018; Kennedy, 2009: Odenweller, Booth-Butterfield, & Weber 2014; Padilla-Walker & Nelson, 2012; Rainey, 2006; Taub, 2008; Wartman & Savage, 2008; Winter, 2000). Some institutions, guided by both the federal law, the Family Educational Rights and Privacy Act (FERPA), and the educational and developmental outcomes of college students, have pushed back on this parental involvement citing concerns that parental involvement may inhibit college student's development into autonomous adults (Cullaty, 2011; Kennedy, 2009; Wartman & Savage, 2008). Other institutions have responded by creating new full-time positions or even establishing entirely new offices (i.e., Office of Parent Relations) and encourage "partnerships" with parents through

offering parent orientation programs, dedicating portions of the website for parents, providing ongoing communication to parents, and actively responding to parent concerns (Coburn, 2006; Hamilton et al., 2018; Wartman & Savage, 2008).

The variance in the current institutional response may be driven by the mixed findings on the impact of parental involvement on college students. For example, on the positive side, the current findings on parental involvement have found positive impacts on the adjustment of first-year students to college life, higher levels of engagement, deep learning activities, self-reported educational gains, and satisfaction (Bradley-Geist & Olson-Buchanan, 2014; Cullaty, 2011; Shoup, Gonyea, & Kuh, 2009; Winter & Yaffe, 2000). In a separate study, Koepke and Denissen's (2012) found parental involvement to be negatively related to self-agency and a student's ability to form commitments. While other studies on the relationship between parental involvement, self-efficacy, epistemological orientation, and autonomy development suggest that parent involvement in and of itself is not necessarily related to positive or negative outcomes, rather it is the nature or type of involvement that is either positively or negatively related to the development of a college student (Cullaty 2001; Pizzolato & Hicklen, 2011). Further research efforts that attempt to apply college student development theories to examine the relationship between parental involvement and college student development can contribute new and valuable insight into the mixed findings on how parental involvement is impacting college students.

Central to the mission of colleges and universities is the education and development of their students (Astin & Antonio, 2012; Shapiro, 2005). Therefore, it is critical for new research in the parental involvement literature to examine how parental involvement is impacting the education and development of college students (Pizzolato & Hicklen, 2011). The field of student development has a broad base of research and theories that focus on the needs, developmental

tasks, experiences, which facilitate and hinder the development of emerging adults at college. Student development theory contains important insight into the developmental tasks of college students and how one can successfully or unsuccessfully navigate through these developmental tasks. Yet, there is a lack of research which uses student development theories to assess how parental involvement is impacting the development of college students (Bradly-Geist & Olson Buchanan, 2012; Pizzolato & Hicklen, 2011). This study seeks to provide this specific contribution to the existing literature in examining how parental involvement is related to the development of self-authorship in college students.

It is critical for college students to progress in their development of self-authorship, as it equips them to be autonomous and intentional about their choices and actions and enables them to meet various challenges in life (Baxter Magolda, 2008, 2014; Baxter Magolda & King, 2012). It is incumbent upon institutions of higher education, the parents of college students, and college students themselves, to understand the experiences at college that lead to the successful development of college students. Understanding how a student's experience with parental involvement is related to the development of self-authorship in college students can enable faculty and staff on college campuses to support parental involvement behaviors that can promote the development of self-authorship and minimizing the parental involvement behaviors that impede the development of self-authorship within college students. This study is an important attempt to gain further insight into this dynamic, which will be particularly applicable to full-time, traditional, residential college students at private religiously affiliated institutions.

Chapter 2: Literature Review

Introduction

The following literature review presents the relevant theoretical lenses and existing research on self-authorship and parental involvement in order to gain a thorough understanding these important concepts. Prior to fully reviewing the Theory of Self-Authorship, this literature review presents the relevant portion of Erikson's (1963) stages of psychosocial development and Arnett's (2000) theory of emerging adulthood in order to provide a lens into the development tasks of traditional-aged college students. This is followed by a brief overview of college student development theories, which provides context for how the Theory of Self-Authorship applies to college students. A robust overview of the Theory of Self-Authorship, including a definition of self-authorship and the meaning-making structures and distinctive meaning-making positions throughout the continuum of self-authorship is also presented. Lastly, the assessment of self-authorship, including traditional qualitative methods and the attempts to develop a quantitative assessment, is reviewed.

This chapter will also review two theories that address how parents impact their children's development. More specifically, Attachment Theory (Bowlby, 1982) and the Theory of the Second Separation-Individuation (Blos, 1967) are presented to provide a theoretical lens into dynamics of the parent-child relationship. These two theories help to provide an explanation for how a parent's involvement in their child's life, starting with birth and continuing through their time in college and emerging adulthood, has been found to have a significant impact on the development of their child. Finally, the research into the prevalence of the parental involvement of college students and the findings on the impact of parental involvement on college students is presented.

College Student Developmental Stage and Emerging Adulthood

In his seminal work *Childhood and Society,* Erikson (1963) proposed that human beings progress through eight distinctive psychosocial developmental stages. Further individuals progress through each stage throughout life in a linear fashion and are able enter into a new developmental stage as they grow older and develop new competencies. Each stage has unique developmental tasks that can be achieved through the engagement of particular central processes within that stage. For Erikson, today's traditional aged college students are transitioning out of the developmental stage of "Adolescence" and into the "Adulthood" stage (Erikson, 1963). Of important note, for Erikson (1963) the "Adolescence" stage contained the developmental tasks of establishing an individual identity, where as in the "Adulthood" stage an individual must confront the primary developmental task of achieving intimacy within their relationships.

There have been many adaptions to Erikson's psychosocial developmental theory. Arnett (2000) has promoted a new developmental stage, *Emerging Adulthood,* which he argues has resulted from changes in our society such as a delay in marriage, having children, and an increase in the participation in going to college. Arnett (2000) argues that during the years of 18-24, traditional-aged college students enter into to this developmental stage of, *Emerging Adulthood*. Identified by the "relative independence from social roles and from normative expectations" and the exploration of, "a variety of possible life directions in love, work, and world views" (p. 469), this developmental stage reflects a period of change and exploration. Having established a distinctive age range (18-24) and defined developmental tasks, the developmental stage of emerging adulthood provides a helpful and succinct categorization for traditional-aged college students. Throughout this study, the use of the term "college student"

refers to individuals enrolled in college, who are also between the ages 18-24 and in the developmental stage of emerging adulthood.

Both Erikson (1963) and Arnett (2000) promote the importance of establishing autonomy and independence for an emerging adult as well as the freedom to change and explore during this time in their lives. It seems that parental involvement of college students is contrary to the development of autonomy and independence, and may not allow for the freedom for the student's ability to explore and change. It seems reasonable, therefore, to wonder if it is possible for a college student to simultaneously experience parental involvement and still establish autonomy, independence, engage in exploration and change, and develop personal responsibility. Theories from the field of psychology are particularly helpful in gaining insight into the dynamics of the parent-child relationships and the impact that it can have on human development.

College Student Development Theories

College student development theories have built on the work of broader theories of human development and have provided helpful insight into the specific developmental needs and processes of college students. Many of these student development theories narrow the focus of their theory to one particular area of development in a college student's life. Some of the foundational theorist in college student development studied and developed theories in areas such as cognitive development Perry (1981), psychosocial development Chickering (1993), moral development Kohlberg (1984), and spiritual development Parks (1986), just to name a few. Each of these theories provide insight into the process and dynamics of the particular

developmental tasks that college students need to achieve during the phase of emerging adulthood.

Another classification of theories within college student development are the holistic theories. Holistic student development theories focus on the whole individual and on how different particular areas of college student development (i.e. cognitive, psychosocial, moral, spiritual, racial identity, etc.) interact with one another and collectively impact the development of the individual. Marcia Baxter Magolda's (2001), Theory of Self-Authorship is one example of a holistic developmental theory. As such, Baxter Magolda (2009) asserts that as a holistic theory, the Theory of Self-Authorship takes into account the intersections between an individual's cognitive, intrapersonal, and interpersonal development rather than viewing them as separate or completely independent constructs.

The Theory of Self-Authorship

One of the central concepts in the Theory of Self-Authorship is meaning-making. According to Baxter Magolda and King (2012), "meaning-making are strategies students use to understand what and how they are learning; each strategy provides the perspective that guides how the make meaning" (p. 4). They go on further to explain that meaning-making provides the structure for people to make sense of what to believe, who to be, and how to act. An individual's meaning-making structure also directs a person to decide whose advice to listen to, what to pay attention to, and how they will react to positive and negative experiences (Baxter Magolda & King, 2012).

A basic definition of self-authorship is the ability of an individual to internally define one's beliefs, identity, and social relations (Baxter Magolda, 2001, 2004, 2008, 2009; Baxter Magolda et al. 2010; & Baxter Magolda & King, 2012). As indicated in the definition, self-

authorship considers three developmental dimensions. The first, epistemological, is cognitive and is concerned with how one cultivates knowledge. The second is intrapersonal or how one develops self-knowledge, self-understanding, and ultimately their identity. The third component is the interpersonal, which involves how one understands other people and their relationships with these people (Baxter Magolda, 2001 2004, 2008, 2009; Baxter Magolda & King, 2012).

To further achieve a broad understanding of self-authorship, it is also important to understand that the development of self-authorship exists upon a continuum. This continuum contains ten positions within three primary meaning-making structures (Baxter Magolda & King, 2012). In broad terms, at one end of the continuum, an individual's meaning-making is grounded in an External Orientation in which one will look to external authorities to make-meaning and define knowledge, one's self, and one's relationships. At the other end of the continuum, the Self-Authoring end, an individual's meaning-making is grounded in an internal orientation, in which one will internally define knowledge, one's self, and one's relationships through firmly established values and beliefs, while using complex critical-thinking skills to make decisions and internally coordinator external sources of authority (Baxter Magolda, 2004, 2008, 2009; Baxter Magolda & King, 2012). Between these two points of the continuum is the developmental spectrum of meaning-making which ranges from an external orientation to an internal orientation through which one defines their beliefs, identity, and social relations. It is through the cultivation of an internal voice, which coordinates one's values and beliefs with one's cognitive, intrapersonal, and interpersonal development, that a student will move along this continuum toward the cultivation of self-authorship (Baxter Magolda, 2004, 2008, 2009; & Baxter Magolda & King, 2012).

The Three Meaning-Making Structures of Self-Authorship

As noted earlier, the developmental continuum of the Theory of Self-Authorship contains three meaning-making structures that contain ten distinctive positions (Baxter Magolda, 2001, 2008, 2009). An individual progresses through this continuum with a circular trajectory characterized by cycles of differentiation and integration rather than a linear progression (Baxter Magolda & King, 2010). The journey along this continuum of meaning-making from lacking complexity and the use of external authorities to growing complexity and increasing capability to use an internal voice for meaning making and each meaning-making structure and position is briefly described.

The first meaning-making structure is called the External Meaning-Making Structure (Baxter Magolda, 2004, 2008, 2009; Baxter Magolda et al. 2010; & Baxter Magolda & King, 2012). Within this structure, students do not show evidence of an internal voice and external authorities are solely relied upon for one's meaning-making of knowledge, self, and relationships (Baxter Magolda & King, 2012). Individuals in this position will hold other's perspectives and opinions in high regard, define one's self in a way that they believe other see as successful, and primarily seek the approval of others within their relationships (Baxter Magolda et al., 2010). There are three distinct positions within this meaning-making structure, which include Trusting External Authority, Tension with Trusting External Authority, and Recognizing Shortcomings with Trusting External Authorities (Baxter Magolda & King, 2012). Individuals who use any of the external meaning-making position share the commonality that they rely solely on external authorities to make-meaning for them, with slight variation existing between each of the positions.

As individuals progress out of the purely External Meaning-Making Structure, they transition into the second meaning-making structure called The Crossroads (Baxter Magolda, 2004; Baxter Magolda et al., 2010; & Baxter Magolda & King, 2012). This meaning-making structure has four positions in which an individual uses a mixture of external authorities and internal values, commitments, and beliefs to understand knowledge, one's self, and their relationships (Baxter Magolda & King, 2012). Baxter Magolda and King (2012) note that while each of the four positions within The Crossroads reflect a mixture of student's uses of external sources of authority and internal sources of authority there is a change that occurs between the first two and second two positions. Namely, students who use the Questioning External Authority and Constructing the Internal Voice positions, rely more so on external sources, while students who use the final two positions, Listening to the Internal Voice and Cultivating the Internal Voice, began to rely more on internal sources of authority to define knowledge, one's self, and their relationships (Baxter Magolda & King, 2012).

It is within the Crossroads meaning-making structure that a student begins to develop a recognition of the importance of cultivating an internal voice of authority, but while they are still in first two positions, they are too uncertain, lack the confidence, and do not know how to cultivate and act upon this voice (Baxter Magolda & King, 2012). Students in this meaning-making position experience the tension of taking on the responsibility for other's expectations and feeling guilty if they do not meet with expectations (Baxter Magolda et al., 2010). By engaging in critical behaviors of constructing and listening to an internal voice, students begin to define what they know, who they are, and who they are in relationship to others internally, as opposed to relying on the use of external sources (Baxter Magolda & King, 2012). As they enter they enter into the Cultivating the Internal Voice position, a student can now mediate most

external influences allowing the internal voice to stay in the foreground and the external voice to fade in the background (Baxter Magolda & King, 2012).

The final meaning-making structure, the Internal Meaning-Making Structure, is also known as the Self-Authoring structure (Baxter Magolda & King, 2012). This structure has the three meaning-making positions, Trusting the Internal Voice, Building an Internal Foundation, and Internal Commitments (Baxter Magolda, 2008, 2009; Baxter Magolda & King, 2012), each of which use one's internal voice as the source of meaning-making. The self-authoring individual now has an internally grounded structure for knowledge, their identity, and their social relations. At this point external influences are mediated and critically analyzed against this individual's internal values, commitments, and beliefs as a result of a student's ability to define and understand what who they are, their relationships, and what they believe (Baxter Magolda et. al 2010; & Magolda & King, 2012). Individuals who can self-author also possess an understanding that they cannot control what happens in life, rather they can control how they react to it, which empowers them with a greater capacity to deal with disappointments, difficulties, and adversity in their life (Baxter Magolda et al., 2010).

The Assessment of Self-Authorship

The assessment of a complex construct such of self-authorship, which includes ten different positions throughout three meaning-making structures, is challenging (Baxter Magolda & King, 2007; 2012). Due to the complex nature and nuances of self-authorship and the need to access and assess the meaning-making capacity of an individual, self-authorship has traditionally be assessed through structured interviewed with open-ended questions, conducted by highly trained interviewers, who can capture the rich material that emerges through each developmental dimension (Baxter Magolda & King 2007; 2012). In addition to the highly trained interviewers,

it is also necessary to have highly trained interpreters, who can properly assess the content of the interview, while managing their own biases, to identify themes of self-authorship (Baxter Magolda & King, 2012). Therefore, the assessment of self-authorship through traditional qualitative interviews is a very resource demanding and time-intensive endeavor. Further, in the absence of a properly trained interviewer and trained interpreter, practitioners on college campuses are not be able to assess the development of self-authorship within their students.

Because the capacity for self-authorship is related to achieving important college outcomes, as well as one's ability to meet the challenges and complexities of the world after college (Baxter Magolda, 2014; Baxter Magolda & King 2007; 2012), many practitioners on college campuses desire the ability to assess the development of self-authorship in their students (Baxter Magolda & King 2007). The desire to assess the capacity for self-authorship in a multitude of students on college campuses, in a less time-intensive manner, has resulted more recently in researchers putting forth effort into the development of a quantitative instrument (Baxter Magolda & King, 2012; Creamer et al., 2010; Pizzolato, 2007).

Among the researchers who have put forth effort into the development of a quantitative instrument is Pizzolato (2007) who developed a two-part assessment of self-authorship. The first part of the assessment was a twenty-four-item, Likert-scale, Self-Authorship Survey (SAS), in which students answered questions in four specific subscales that were indicators of the student's development of self-authorship (Pizzolato, 2007). The subscales used in the SAS included: Capacity for Autonomous Action, Problem-Solving Orientation, Perceptions of Volitional Competence, and Self-Regulation in Challenging Situations (Pizzolato, 2007). After completing the SAS, students then participated in an accompanying second part of the assessment, the Experience Survey (ES) in which written responses were provided regarding an important

decision that they had made. The written responses were then reviewed and scored (on a scale of one to four) in the same areas used in traditional self-authorship interviews (decision making, problem solving, and autonomy) (Pizzolato, 2007).

Pizzolato (2007) states that her instrument attempts to access both how students' reason and if their actions are congruent with their reasoning (decision-making), which serves as an appropriate reflection of self-authorship. Further, positive correlations between the SAS scores (higher SAS scores reflecting higher self-authorship) and the ES scores (higher ES scores also reflecting higher self-authorship) would be a strong indicator that this measure is a reliable and valid measure of self-authorship (Pizzolato, 2007). Ultimately, Pizzolato (2007) notes that the correlation between the two instruments, although statistically significant, was lower than originally hypothesized ($\rho = .51$, $p < .01$). Therefore, Pizzolato (2007) notes that although the two measures are related and do serve as an acceptable measure for self-authorship, there is still a need for further investigation and development that could lead to a stronger correlation between the two instruments. Due to the concerns with the lower than expected reliability between the two instruments and because these instruments measure items which serve as indicators of self-authorship, rather than measuring an operationalized representation of the self-authorship, this quantitative instrument is not used in this study.

The effort to develop a quantitative measure for self-authorship was also assumed by Creamer et al. (2010), through which they developed the Career Decision Making Survey (CDMS). The first version of the CDMS was a pencil and paper, Likert scale survey, containing 119 items and six scales including: Credibility, Receptivity, Information Sources, Self-Authorship-Intrapersonal, Self-Authorship-Interpersonal, and Self-Authorship-Epistemological (Creamer, 2010). There is a specific section of the CDMS called, "Diverse Viewpoints and

Decision Making", which contained 28 items specifically attempting to measure self-authorship, this section of the instrument is referred to as the CDMS-SA (Creamer, 2010). These 28 items were designed to capture some of the complexity and nuances of self-authorship as each one attempts to measure a specific meaning-making phase and developmental dimension of self-authorship (Creamer et al., 2010). Creamer et al. (2010) note that statistical analysis on the 28 items resulted in the elimination of 9 items that reduced the overall reliability of the instrument. Finally, one additional item was deleted after review and recommendation of Baxter Magolda (Creamer et al., 2010). The final set of items, which are displayed as table (Table 1) in the Creamer et al. (2010) article, displayed statistical evidence of a reliable and valid measure for self-authorship (Creamer et al., 2010).

The scores from the self-authorship items (CDMS-SA) are categorized into a 3x3 matrix with nine cells, in which each cell reflects the agreement one has with the phase of self-authorship a participant uses in each particular developmental dimension (Creamer et al., 2010). While the Theory of Self-Authorship contains ten distinct meaning-making positions, which reflect how a student uses external authorities or internal values, commitments, and beliefs to define their epistemology, intrapersonal identity, and interpersonal relationships (Baxter Magolda, 2001), Creamer et al. (2010) determined that their quantitative instrument was able to identify a participant's meaning-making positions broadly as one of the following three: External Formulas, Crossroads, and Early Self-Authoring.

Table 1
Questionnaire items from the CDMS-SA by phase and dimension of Self-Authorship, displayed as Table 1 in Creamer et al. (2010).

Phase and Dimension	Questionnaire Item (by Item Number)
Phase 1: External Formulas	
Epistemological	9. To make a good career choice about a career, I think that facts are the strongest basis for a good decision.
	11. To make a good career choice about a career, I think that experts are in the best position to advise me about a good choice.
Interpersonal	13. The most important role of an effective career counselor or advisor is to be an expert on a variety of career options.
	14. The most important role of an effective career counselor or advisor is to provide guidance about a choice that is appropriate to me.
Intrapersonal	1. My primary role in making an education decision …is to acquire as much information as possible
	2. My primary role in making and education decision…is to seek direction from informed experts
Phase 2: Crossroads	
Epistemological	10. To make a good career choice about a career, I think that it is largely a matter of personal opinion
	22. When people have different interpretations of a book, I think it is largely a matter of personal opinion.
Interpersonal	8. If a teacher or advisor recommended a career in a field that I have never considered before, I would try to explain my point of view.
	15. The most important role of an effective career counselor or advisor is to help students think through multiple options.
Intrapersonal	4. My primary role in make an educational decision…is to consider my own views
Phase 3: Early Self Authoring	
Epistemological	12. To make a good career choice about a career, it is not a matter of facts or expert judgment, but a match between my values, interests, and skills and those of the job.
	24. When people have different interpretations of a book, I think that multiple interpretations are possible, but some are closer to the truth than others.
	26. Experts are divided on some scientific issues, such as the causes of global warming. In a situation like this, I would have to look at the evidence and come to my own conclusion.
	27. Experts are divided on some scientific issues, such as the causes of global warming. In a situation like this, I think it is best to accept the uncertainty and try to understand the principal arguments behind the different points of view.
Interpersonal	6. If a teacher or advisor recommended a career in a field that I have never considered before, I would try to understand their point of view and figure out an option that would best fit my needs and interests.
	16. In my opinion, the most important role of an effective counselor or advisor is to direct students to information that will help them make a decision on their own.

Though this instrument does not capture every nuance within the Theory of Self-Authorship, the nuances it does capture, in obtaining the level of agreement that a participant has with three distinct phases of self-authorship in each of the developmental dimensions, serves as a beneficial representation of the development of self-authorship. This instrument was selected for use in this study as it specifically operationalizes self-authorship, in a way that contains a reflection of the nuances present in self-authorship. This instrument accomplishes this through identifying nine meaning-making positions, within the three developmental dimensions of self-authorship and three distinct phases of self-authorship.

Explanations for how Parents Impact the Development of Their Children

While there is a gap in the research addressing how the involvement of the parents of college students relates to their child's personal development while they are in college, research from the field of psychology provides insight into how parents impact their child's development, even in the developmental stage of emerging adulthood. Two of these theories, Attachment Theory (Bowlby, 1969) and the Theory of the Second Separation-Individuation (Blos, 1967), are used as a lens into the parent-child dynamic. These two theories inform this study as they explain the types of parental involvement behaviors that promote or prohibit the healthy development of the child within the parent-child relationship. This insight is used to inform the methodology and selection of the independent variables in this study, which is explained in further detail in the following section.

Attachment Theory

Proposed by Bowlby (1969 & 1982), Attachment Theory promotes that the healthy development of a child is dependent upon a secure attachment to their parents, from which the child will have a secure base to return to in times of need or distress and from which the child

can explore (Bowlby, 1982; Parade, Leerkes, & Blankson, 2010; Samuolis, Layburn, & Schiaffino, 2001; Schwartz & Buboltz, 2004). Bowlby (1982) later clarified that attachment theory is not only applicable to the relationship between a parent and a young child, but can also be observed through the lifespan. The primary conditions for attachment to occur is that the attachment figure is accessible, available, responsive, and able to provide security and aid, especially in difficult time or times of stress (Bowlby, 1982).

Studies have been conducted that examine the relationship between attachment and the development of emerging adults at college (Mattanah et al., 2004; Mattanah et al., 2011; Parade et al., 2010; Schwartz & Buboltz, 2004). Schwartz and Buboltz (2004) confirmed a relationship between aspects of attachment to parents and a college student's ability to psychologically separate. Attachment to parents has also been found to be related to the ability of college students to form satisfying friendships with others (Parade et al., 2010). Mattanah et al. (2011) found that a secure attachment had a strong effect on a student's ability to engage in the developmental task of separation-individuation. This effect supports the notion that the presence of secure attachments in a college student's life is the very mechanism that allows them to successfully individuate and establish autonomy. Mattanah et al. (2004) also found a positive association between students who had secure attachments to their parents and adjustment to college, making a recommendation to parents to cultivate a positive and emotionally supportive relationship with their children.

These studies show the powerful impact that the parent-child relationships have in the lives of emerging adults. Further, they suggest that some sort of involvement, at least as it manifests itself as supportive and reliable, is beneficial to an emerging adult at college. This type of relationship not only allows for appropriate engagement in development tasks, but seems

to encourage it. Attachment theory seems to promote the notion that supportive, caring, and reliable parental involvement could potentially result in positive outcomes for college student development. This study uses these findings in the research design, specifically with regard to the development and selection of the parental involvement variables analyzed for a relationship with self-authorship.

Separation-Individuation

Another theory that provides insight into the dynamics of the parent-child relationship and the potential impact of parental involvement on an emerging adult's personal development is Blos' (1967) theory of The Second Separation-Individuation process. The separation-individuation dynamic refers to how an emerging adult is simultaneously able to psychologically establish themselves as an autonomous individual while maintaining an interdependent relationship with their parents (Daniels, 1990; Koepke & Denissen, 2012; Mattanah et al., 2011; Mattanah et al., 2004). According to this theory, it is critical for emerging adults to maintain a relationship with their parents, but to also redefine this relationship in a way that is different and more independent than it was in childhood (Daniels, 1990). Research on the separation-individuation process has shown that it is possible for an individual in college to remain connected to their parents (experiencing differing types and levels of involvement) and to still individuate from them, developing autonomy and independence so long as that individual can psychologically separate and distinguish themselves from their parents (Daniels, 1990; Koepke & Denissen, 2012; Mattanah et al., 2011; Mattanah et al., 2004).

Numerous studies have not only supported the theory of The Second Separation-Individuation process, but they have also looked deeper into what facilitates the ability for emerging adults to successfully achieve individuation (Boles, 1999; Mattanah et al., 2004). In

one such study, Boles (1999) found that emerging adults are more likely to see themselves as differentiated from others and positively adjusted when they experience parental involvement that is warm, affectionate, and autonomy-supportive, whereas psychological dependence and maladjustment will result when those characteristics are lacking from their parents or significant others. A separate study found that secure attachment to parents and significant others is critical to the separation-individuation process and that students experience difficulty adjusting to college and successfully achieving the new developmental tasks of emerging adulthood when they feel isolated or are cut off from support (Mattanah et al., 2004).

The separation-individuation process integrates multifaceted findings throughout research that explains a critical dynamic in the parent-child relationship. With an understanding of this process, one should expect that conditions that lead an emerging adult to successful individuation, namely a redefined relationship in which the they have psychology differentiated themselves from their parents and in which their parents now assume a less controlling and more caring and autonomy-supportive relationship, would also be conducive to other important developmental areas of emerging adults.

Both Attachment Theory and the Second Separation-Individuation process inform this study. The existing literature supports that healthy parental attachment and the achievement of separation-individuation has been found to be related to positive outcomes for college students including the ability to psychologically separate and develop autonomy, form satisfying relationships, engagement in the developmental task of separation-individuation, and the adjustment to college (Parade et al., 2010; Mattanah et al., 2004; Mattanah et al., 2011; Schwartz & Buboltz, 2004). The specific type of parental behaviors that result in outcomes include, availability, responsiveness, warmth, affection, autonomy-supportive, ability to provide security

and aid especially in difficult time or times of stress and positive and emotionally supportive relationship with their children (Boles, 1999; Bowlby, 1969 & 1982; Mattanah et al., 2004). These two theories and the more research recent into how they are related to positive outcomes for college students guide the selection of variables for this study and the development of the instrument for this study. These variables include parental warmth and autonomy-supportive parenting, which are related to positive outcomes and helicopter parenting which is a form of parental involvement that is not warm or supportive of autonomy.

Parental Involvement in College

Howe & Strauss (2007) assert that when the cohort of Millennials (students born in or after 1982) came to college starting in the year 2000 that their parents became involved in their lives at college. They cite that this new and noticeable parental involvement at college was the continuation of the unique upbringing that the students had received from birth. A review of the childhood conditions of the Millennial generation, which led to a shift in parental involvement of college students follows. While the students and parents in the Millennial generation ushered in the heightened experience of parental involvement on college campuses, members of this generation are now all past traditional college student age.

The traditional-aged students at college today are now members of the generation following the Millennials, most commonly referred to as Gen Z. As this generation is young, the research on this generation in the context of higher education is just emerging (Seemiller & Grace, 2016). A review over what this research contains is also presented in this section. Although this body of research is still emerging, it will lend important insight into the participants of this study, as they are all members of Gen Z. It is also important to note that the portrait of these two generations is most applicable to the experience of the children in middle

class and upper middle-class families, whose families had the board resources to apply to the K-12 academic success and college readiness of their children.

The Parental Involvement of the Millennial Generation

Parents in the Millennial generation typically delayed childbirth until they were in their thirties and once they had children they were highly concerned and protective of their child's safety and well-being (Elam et al., 2007; Howe & Strauss, 2007). The earliest evidence of this was the "Baby on Board" stickers, which appeared in the same year that the first Millennials were born and started to become common on family vehicles. In addition to this, parental involvement was also driven by increased expectations from parents for their child's success, the services provided by colleges, society expectations of parental involvement, federal law, growing concern with the academic success of "A Nation at Risk", and the parent-child co-purchase of college driven by a rapid increase in college tuition (Howe & Strauss, 2007; Kennedy, 2009). As outlined below, public policy, political climate, and national attitudes regarding children and safety also influenced this trend.

The first area that this can be see is within public policy directed at students in kindergarten through high school. In 1983, the federal government released its report titled a, "Nation at Risk", which argued that American children were falling behind their global peers and called parents to do what they could in their child's life to help them overcome the mediocracy that had been found within the grade-school system (Howe & Strauss, 2007; Lythcott-Haims, 2015). Then in 1994, congress passed the "Goals 2000: Education America Act," which dedicate federal dollars to increase the level of parental involvement at school in a variety of ways including increased shared educational decision-making at school (Shoup et al., 2009). Finally, in 2001, the "No Child Left Behind" act dedicated more federal dollars, gave a statutory

definition to parental involvement, and reasserted how critical parental involvement was to the academic success of children. The act outlines both the responsibilities of the school (i.e., provide parents with frequent reports on their children's progress**;** provide parents reasonable access to staff; provide parents opportunities to volunteer and participate in their child's class, and to observe classroom activities**)** and of the parent (i.e., monitoring attendance; volunteering in my child's classroom; participating, as appropriate, in decisions relating to my children's education) aimed at the success of the child's education (U.S. Department of Education, 2004).

State and federal law was also focused on children's safety outside of the classroom. One piece of evidence was the adaptation of seatbelt and car seat laws by every state between the years 1978 and 1985 (Lythcott-Haims, 2015). The political environment during the Millennials childhood was also focused on them. Howe and Strauss (2007) note that during the 1996 election, the presidential candidates debated about the impact of "soccer moms" on children and by 1998 the general public held that getting children off to the right start should be the nation's top priority. Remembering that the Millennial generation began in 1982 (Howe & Strauss, 2007) the above outline of educational public policy asserts that educational intuitions were underperforming. This combined with the focus on child safety called parents to become more involved in lives of their children to ensure their general safety and educational. This shaped parental attitudes and behaviors that would be brought into the college environment when this generation arrived on campus.

Rapidly evolving technology also influenced the types of relationships parents and their children could have, especially from a distance. This cohort of students grew up with the evolution internet and cellphones, which allowed for more frequent communication and greater involvement of their parents in their lives regardless of distance (Wartman & Savage, 2008;

Lythcott-Haims, 2015; Twenge, 2017). This involvement didn't change when the child started to attend college as most students and parents e-mail, call, text, or instant message each other on a daily basis or even throughout the day (Wartman & Savage, 2008).

Finally, economic conditions around higher education influenced the trend of parental involvement for this generation (Howe & Strauss, 2007, Kennedy, 2009; & Wartman & Savage, 2008). By the time these students arrived at college, tuition had risen to an amount that often necessitated a parent-child co-purchase of higher education, sometime through the use of a Parent PLUS Loan, which resulted in parents having more personally invested in the services that their child received while in college and ultimately their child graduating from college (Howe & Strauss, 2007, Wartman & Savage, 2008).

By 2004, the rise in parental involvement on college campuses along with the type of involvement lead to the adaptation of the term "helicopter parent" (Howe & Strauss, 2007). Helicopter parent is a term used to describe parents who seemed to always be hovering over what was happening with their adult son or daughter on-campus, ready to swoop in and intervene whenever they thought it was necessary (Howe & Strauss, 2007; Somers & Settle, 2010). Howe and Strauss (2007) further note that the behavior of these parents was viewed as "intrusive, time-consuming, and annoying" (p. 165) by faculty and staff on college campuses. In a 2012 study Padilla-Walker and Nelson sought to examine if "helicopter parenting" was in fact a unique and identifiable parenting construct. They determined that "helicopter parenting" was a unique parenting approach in emerging adulthood that is characterized by high guidance, involvement, and emotional support, as well as, a lack of autonomy granted to their emerging adult children. Helicopter parenting then is a cause for concern when it comes to the development of self-authorship in college student, which entails the ability to coordinate external sources of authority

against one's internal commitments. This study attempts to gain further insight into this particular relationship.

A variety of surveys have been administered to examine the specific behaviors that parents engage in with their children at college in order to gain some insight into the phenomena of parental involvement on college campuses. One such survey, The Datatel 2006 College Parent Survey (Howe & Strauss, 2007), provides a helpful illustration for how parents interacted with their children in college as well as what these parents expected from their child's college. In the survey 75 percent of parents indicated that they were involved in their child's choice of a major. Almost 70 percent stated that they had some involvement in selecting specific courses their child would take each semester. The majority of these parents thought colleges should be more transparent in allowing them to see their child's grades, academic attendance, health records, and other information. The survey also revealed that parents talk to their child at college three to four times a week and that the average child comes home seven to eight times during the course of one school year.

Another survey published in *The Chronicle of Higher Education* was administered to 839 parents provides continued insight into parental involvement on college campuses (Rainey, 2006). This survey corroborated the findings in the Datatel Survey regarding parent and student cellphone communication. Ninety percent of parents surveyed indicated they use cellphones to keep in touch with their children. Seventy-four percent indicated that communicate with their child two or three times a week, while 33 percent indicated that they communicate once a day. Further, 75 percent of parents in this survey also revealed that they went to the college to visit their child once or twice a semester, with 17 percent indicating that they visit their child at college once a month more.

A survey published in *Business Wire* took a different approach than the previous two and surveyed recent college graduates to gain insight into parental involvement after college (DiRuscio, 2006). In this survey, 38 percent of students indicated that their parents had either called into, or physically attended meetings with academic advisors. Thirty-one percent of these students also reported that their parents had called professors to complain about a grade that they had received. Taub (2008) also notes that helicopter parents have been known to contact potential employers, accompanying their student to job interviews, negotiate job offers with employers, and discuss their child's performance review with the employer.

The Business Wire survey further revealed that this behavior may not be entirely parent initiated, as 65 percent of the college graduates surveyed indicated that they still seek their parents counsel on their academic and career paths. Taub (2008) corroborates this finding promoting that today's students are equal partners in the increase in parental involvement. Each of these surveys provides insight into the increased involvement that parents are taking in the lives and activities of their children in college. As such, this study seeks to gain further clarity as to whether it is more likely to be the students or the parents who are responsible for initiating this parental involvement.

Emerging Research on the Parental Involvement of Gen Z

Although some debate exists on the exact dates in which members of Gen Z were born, the research agrees that the first members of this generation were born at some point between 1993 and 1995, while the last members of the generation were born between 2010 and 2012 (Seemiller & Grace, 2016; Twenge, 2017). Therefore, the first college students in this generation arrived on campus in the year 2013 (Seemiller & Grace, 2016). Some of the most significant experiences and events that shaped this generation during their childhood, included

September 11, the conflict in the Middle East, the great recession, elevated unemployment rates, school shootings, and sexual assault (Beck & Wright, 2019; Seemiller & Grace, 2016; Twenge, 2017). The members of Gen Z have also experienced the worst mental health, which has seen rates of teen depression, anxiety, and suicide skyrocket since 2011 (Twenge, 2017). The development of technology has also had a major impact on this generation, through the commercialization of the Internet in 1995 and the release of the iPhone in 2007 (Twenge, 2017). In fact, research has found that 78 percent of the individuals in Gen Z owned a cellphone prior to college, which is found at similar rates among individuals regardless of socioeconomic status (Beck & Wright; Seemiller & Grace, 2016).

The research on Gen Z supports the notion that the parental involvement ushered in by the Millennial generation would continue with Gen Z (Beck & Wright, 2019; Seemiller & Grace, 2016; Twenge, 2017). Generally speaking, the individuals in Gen Z do not want to separate from their parents, and are accustom to high parental involvement in their life (Beck & Wright, 2019; Seemiller & Grace, 2016; Twenge, 2017). Seemiller and Grace (2016) found the 88 percent of individuals in Gen Z indicated that they felt extremely close to their parents and viewed them as an advisor, trusted mentor, or friend. In fact, 69 percent of Gen Z indicated that they viewed their parents as their role models, which has grown substantially when compared to past generations, wherein 54 percent of Millennials and the 29 percent of members of Gen X viewed their parents in a similar way (Seemiller & Grace, 2016). Gen Z has also been found to view their parents as a source of emotional and financial support and 50 percent of them indicating that they consult their parents on important matters and take their opinion and perspectives into consideration for their decision-making (Seemiller & Grace, 2016).

The sentiment that Gen Z has toward their parents, seems to have switched the approach of parental involvement from the "helicopter parenting" style common within the Millennials to more of a "Co-Pilot" or "Drone" style of approach (Beck & Wright, 2019; Seemiller & Grace, 2016; Twenge, 2017). This type of parental relationship is facilitated through childhood, as 71 percent of adults indicate that they would not let their child go to a park alone and Gen Z teens have been found to be less likely to be at home without their parents as well as less likely to go out, even on dates, without their parents (Twenge, 2017). Further, Twenge (2017) found that one out of five Gen Z high school seniors, prefer to ask their parents for what they need to purchase, rather than managing their own finances. Seemiller and Grace (2016) also note that this co-pilot approach is facilitated by the fact that 70 percent of Gen Z indicated that their parents listen to them and value their opinion.

The parental involvement that Gen Z experience is made possible through advances in technology (Beck & Wright, 2019; Seemiller & Grace, 2016; Twenge, 2017). The cellphone has made it easy for members of Gen Z to remain in constant contact through calling and texting (Beck & Wright, 2019; Seemiller & Grace, 2016; Twenge, 2017). Further, this generation uses a variety of social media platforms and apps within their relationship with their parents (Seemiller & Grace, 2016; Twenge, 2017). Although the rates of this generation using Facebook is decreasing compared to the Millennial generation, it appears that one of Gen Z's primary motivations in using Facebook is to maintain relationship with their family (Seemiller & Grace, 2016). Twenge (2017) also notes that the parents of this generation use apps designed to specifically track the location of their child and that members of this generation do not seem to mind that this is happening.

At face value, it seems that some of these parental behaviors would have an impact on the development of college students. If, the development of self-authorship requires moving away from a reliance on external authority, it seems that the relationship between today's college students and their parents may be preventing the student from this developmental need. As noted earlier, the examination of parents as external authorities had not been explicitly considered in the self-authorship literature, though more recent evidence has found parents to be a primary source of external authority in the lives of college students (Baxter Magolda, 2005). There would be great benefit to an increased examination and understanding of what particular types of parental involvement have an effect on the development of self-authorship in college students. This study is attempts to add insight into this gap in the research.

The Impact of Parental Involvement on College Students

Even with the findings from the previously mentioned surveys, there is a lack of scholarly research to examine the impact of parental involvement on college student development. While research has left a gap in this area of college student development, there has been research that has examined the effects of parental involvement in other areas of the college student experience. In one such study, Winter and Yaffe (2000) found parental involvement to have a positive impact on the adjustment of first-year college students to college life. In further support of the positive relationship of parental involvement, Shoup et al. (2009), found that students with highly involved parents excelled in higher levels of engagement, deep learning activities, self-reported educational gains, and satisfaction. Additionally, Pedersen (2017) found that female students who reported parental autonomy-support also reported higher levels of satisfaction at college.

Research can also be found that contains an examination of some isolated aspects of college student develop theory. In one such study, Bradley-Geist and Olson-Buchanan (2014) found that the experience of some parental involvement resulted in positive outcomes for students, namely higher self-efficacy and graduate school intentions, what they termed "over-parenting" resulted in negative outcomes for college students, namely, lower self-efficacy. A separate study by Odenweller et al., (2014) suggest that helicopter parents' tendency to intervene in difficult situations and protect their children from discomfort actually impairs the physical, social, and emotional development, and well-being of college students. Similarly, Schiffrin, Liss, Mile-McLean, Geary, Erchill, and Tasher (2014) found that when the parent of college student engages in helicopter parenting that student reported higher levels of depression and lower life satisfaction due to the restriction on the student's autonomy and competence. Finally, Reed, Duncan, Lucier-Greer, Fixelle, and Ferraro's (2016) study added further insight into the impact of both helicopter parenting and autonomy-supportive parenting on college students. Their findings support that hovering and intrusive parenting fosters reliance on parents and others for guidance in difficult situations as well as lower self-efficacy, whereas autonomy-supportive parenting develops a college student's confidence, abilities, and higher self-efficacy (Reed et al., 2016).

A few studies have focused on the impact of parental involvement on the areas of college student's autonomy and self-agency support. One such study by Cullaty (2011) sought to examine how the parental involvement of college students affects their development of autonomy. Cullaty (2011) found when parental involvement is supportive of independent decision-making students gained confidence in their development of autonomy, while parental involvement that was intrusive and demanded excessive influence hindered student's

development of autonomy. Koepke and Denissen (2012) found that when parents engage in rigid control of their emerging adult child, agentic capacities and the capacity for deliberate formation and evaluation of commitments is inhibited. This finding reveals that particular types of parenting can prohibit the two essential components of emerging adulthood development; exploration and commitment.

The aforementioned studies show that parental involvement has been found to have both positive and negative impacts on college students. First, they show that parental involvement can have a positive impact on the experience of college students in the areas of transition, adjustment, engagement, self-confidence, abilities, and satisfaction (Bradley-Geist & Olson-Buchanan, 2014; Cullaty, 2011; Pedersen, 2017; Schiffrin et al., 2014; Shoup et al., 2009; Winter & Yaffe, 2000). They also show that parental involvement can impact a student negatively in the personal areas of self-efficacy, agentic capacities, well-being, and the ability to engage in exploration and make commitments (Bradley-Geist & Olson-Buchanan, 2014; Koepke & Denissen, 2012; Odenweller et al., 2014; Reed et at., 2016; Schiffrin et al. 2014). While these studies shed some light into the impact that parental involvement has on some isolated aspects of the developmental tasks of emerging adult, there is a need for empirical research to examine how the parental involvement of college students is related to the development of college students, specifically through the lens and application of student development theories. The present study attempts to accomplish this through examining how parental involvement is related to a college student's development of self-authorship.

Student development theories, such as the Theory of Self-Authorship, provide a holistic development view of the college student. Therefore, rather than just finding how parental involvement is related to agency or independence, which are just pieces of an emerging adult's

developmental tasks, the application of student development theory to a research inquiry would provide a more comprehensive and holistic understanding. More specifically, examining the relationship between parental involvement and college student development can provide insight into how the parental involvement experienced by an emerging adult may impact broader, more comprehensive and complex developmental tasks, such as epistemology, identity development, and relationships.

While there is a lack of empirical research that explicitly uses student development theory to study how parental involvement is related to college student development, the research that has been conducted is valuable. In one such study, the impact of parental involvement was examined to assess the impact on traditional theoretical notions of the epistemological development of college students. In this study, Pizzolato and Hicklen (2011) found a student's epistemological orientation to be related to the type of parental involvement that students experience rather than predictive of the quantity of involvement experienced. This study affirms the body of knowledge that differing types of parental involvement can result in positive outcomes, in this case even in further epistemological development. Yet, the majority of the participants in Pizzolato and Hicklen's (2001) study described their relationship with their parent in a way that seems they had already established a significant amount of autonomy and independence. An assessment of a wider variety of parental type and level of involvement is needed.

In addition to this research, Taub (2008) argues that the notion that parental involvement will impact the development of college students, as a reasonable proposition. Taub's (2008) article makes this argument through juxtaposes the current research on parental involvement against Chickering's theory of college student development, in which he identifies seven

developmental tasks (known as vectors) of college students. Taub (2008) further asserts that without the right balance of challenge and support, parental involvement has the potential to negatively interfere specifically with the four vectors of Developing Competence, Moving through Autonomy Toward Interdependence, Development of Purpose, and Developing Integrity.

Summary

The existing literature has shown that parent involvement is an important, complex, and relatively new phenomenon (Howe & Strauss, 2007; Lythcott-Haims, 2015; Somers & Settle, 2010; Wartman & Savage, 2008). Numerous surveys have shown that college students experience parental involvement in a variety of ways including the selection of courses and majors (Howe & Strauss, 2007), parents contacting the student's professors or advisors about grades, and students seeking their parent's advice in academic and career pursuits (DiRuscio, 2006). Studies have also shown that students experience a high level of parental involvement. Advances in technology have greatly contributed to the rise in the parental involvement of college students as one study found that ninety percent of parents use their cellphone to keep in touch with their child at college (Rainey, 2006) and that this involvement through cellphone communication happens multiple times a week (Howe & Strauss, 2007; Rainey, 2006).

Juxtaposing this level of parental involvement of college students against the development theories of emerging adulthood, there is reasonable cause for concern regarding how this current level of parental involvement is affecting college students. The review of the literature promoted that the primary developmental tasks of emerging adulthood includes identity development and developing intimate relationship, which is facilitated by establishing autonomy, independence, and engaging in exploration (Erikson, 1963, Arnett, 2000). College student

development theories, including the Theory of Self-Authorship, further support the need for students to establish autonomy and independence in order to achieve important developmental tasks (Chickering, 1993, Baxter Magolda, 2001). More specifically, the Theory of Self-Authorship asserts that in order for college students to progress in their development of self-authorship, they must break from their reliance on external authorities (one of which could be parents) in order to internally define their beliefs, identity, and their social relationships (Baxter Magolda, 2001, 2004, 2008, 2009; Baxter Magolda et al. 2010; & Baxter Magolda & King, 2012). This understanding of the need of autonomy, independence, exploration and internal authoring of one's life that is gained through the existing literature, especially in light of the current level of parental involvement found in recent research, serves as motivation for the development of the research questions for this study.

Previous research into how the parental involvement of college students relates to the educational outcomes and personal developmental of students has resulted in mixed findings. When parental involvement has been examined at a basic level, research has found it to have a positive impact in the areas of adjustment to college, levels of engagement, deep learning activities, self-reported educational gains, and satisfaction (Winter & Yaffe,2000; Shoup et al., 2009). Separate research attempts have suggested that "over-parenting" will have a negative impact in the areas of self-efficacy, agentic capacities, and the ability of students to engage in exploration and make commitments (Bradley-Geist & Olson-Buchanan, 2014; Koepke & Denissen, 2012; Odenweller et al., 2014). Still others studies promote that it is the type of parental involvement that students experience rather level of involvement that will influence the way that it impacts a student (Pizzolato & Hicklen, 2011)

To gain clarity into these mixed findings and the complexity of parental involvement and how it is related to a college student's development, this study also reviewed the literature from Attachment Theory, the Second Separation-Individuation, and helicopter parenting. Previous studies on Attachment Theory and the Second Separation-Individuation found that parental involvement has positive outcomes for college students when it takes the form of being available, responsive, warm, positive, affectionate, autonomy-supportive, emotionally supportive, or provides security and aid in difficult times (Boles, 1999; Bowlby, 1969 & 1982; Mattanah et al., 2004). The research on helicopter parenting suggest that it negatively related to the physical, social, and emotional development, and well-being of college students (Odenweller et al., 2014).

These theories and the findings from related research are used in the research design and instrument develop of this study. This study attempts provide clarity on the mixed findings in the existing literature regarding the impact of parental involvement on college students. It also attempts to fill the gap in the existing literature on how the parental involvement of college students is related to their development, specifically through the use of the Theory of Self-Authorship.

Chapter 3: Methodology

Introduction

This study empirically examines the relationship between the parent involvement experienced by college students and their development of self-authorship. The Theory of Self-Authorship is concerned with the cognitive, intrapersonal, and interpersonal development of an individual, paying attention to how the students either uses external sources of authority or internal commitments and beliefs to define reality or make decisions in each of these areas (Baxter Magolda, 2001, 2004, 2008, 2009; Baxter Magolda et al. 2010; & Baxter Magolda & King, 2012). The purpose of this study is to gain insight into how the level of parental involvement and type of parental involvement that a college student experiences is related to their development of self-authorship. This study hypothesizes that parental involvement in and of itself is not necessarily negatively correlated to a college student's development of self-authorship, rather different levels and types of parental involvement can be positively and negatively related to a college student's development of self-authorship, respectively. This hypothesis is tested through a quantitative analysis on data collected from a survey instrument administered to full time students at a Catholic liberal arts college. This instrument used in this study collects information on both the development of self-authorship for a student as well as the level and type of parental involvement that they experience at college.

The results of this study provide information that can guide the efforts of faculty and staff, especially at small, religiously affiliated, liberal arts colleges, as they work with students and their parents toward maximizing the educational and developmental outcomes of their students. In particular, this study attempts to give insight into parental involvement behaviors that could facilitate the development of self-authorship as well as parental involvement behaviors

that may hinder the development of self-authorship in students. This chapter outlines the methodology for this study, including the research questions, definition of variables, setting and participants, an explanation of the survey instrument, statistical data analysis, and the limitations of this study.

Research Questions

The primary research question guiding this study is, "how is the parental involvement of college students related to their development of self-authorship?" The sub-questions of this examination are:

- Is the level of parental involvement experienced by college students related to their development of self-authorship?
- Is the type of parental involvement experience by college students related to their development of self-authorship?

These research questions are analyzed through quantitative analysis.

Research Design

The research design for this study is an exploratory research design in that it seeks to gain further insight into the relationship between parental involvement and college student development, specifically assessing for the development of self-authorship. This is a quantitative study that seeks to examine the relationship of a dependent variable (self-authorship) with multiple independent variables, which include: 1) level of parental involvement, 2) warmth of parental involvement, 3) autonomy-supportive parental involvement and, 4) helicopter parenting, which are all different dimensions of parental involvement behaviors. Briefly, the level of parental involvement refers to the amount of parental involvement experience by an individual. Autonomy-supportive parenting refers to an individual's parent support of their ability to have an

internal frame of reference and make decisions independently (Robbins, 1994). Parental warmth is shown by a parent's tendencies to be supportive, affectionate, and sensitive to their child's need, and through the expression of approval and positivity toward the child (Zhou et al., 2002). Finally, helicopter parenting refers to a parent who is overly involved, autonomy-restrictive, personally invested in their children's goals, and intervenes in difficult situations (Odenweller et al., 2010). More specific and detailed definitions of the independent variables are provided later in this chapter.

The methods described in this chapter are driven by a review of the existing literature, which determined the four dimensions of parental involvement that were selected as variables in this study, the theory of self-authorship, and the method for examining the relationship between these variables. This quantitative method used in this study allows this study to observe the relationship of parental involvement behaviors to the development of self-authorship in the college students who participate in this study. The development of the survey instrument was also informed by the literature review. The single survey instrument used in this study allows for the assessment of an individual student's development of self-authorship along-side their experienced parental involvement while at college. The development of this instrument is described in complete detail in this chapter. A pilot survey was administered to a small sample of students in order to test the design and properties of the survey instrument. Following the pilot study, the final survey instrument was distributed to approximately 1,500 full-time, traditionally aged, college students at a single small, private, religiously affiliated, liberal arts institution.

Population and Setting

The setting for this study was Midwest Private College. Midwest Private College is a small, private, four-year, residential, liberal arts, Catholic college, located in the Midwest. The

college was founded in 1858 and at the time of this study had a record enrollment with 1,955 full-time students. The faculty to student ratio is 14:1 and nearly 50% of the classes have 20 or fewer students. Midwest Private College is a residential college, which means that all traditional, full-time, undergraduate students are required to live on-campus in the college owned residence halls for all four years (although the residential facilities can only currently hold 85% of the students, therefore 15% of seniors can choose to live off-campus through a housing lottery process).

The population for this study includes all traditional aged (18-24) college students, enrolled full-time at the college. Participants include freshmen, sophomores, juniors, and seniors. The current enrollment at Midwest Private College is approximately 1,955 total students, 1,925 of which are enrolled full-time at the college, and 1,904 are traditional-aged college students, between the ages of 18-24. The gender composition of the student population is 54 percent women and 46 percent men. While 49 states are represented within the student population at Midwest Private College, only 23 percent of the students come from within the state of Kansas. The majority of student population at Midwest Private College identify as White (77.4 percent) whereas the remaining student population identify as follows: 6.1 percent are Hispanic/Latino, 3.2 percent are Black, 0.8 percent are Asian, and 9.6 percent identify as "other or unknown". The vast majority, 84 percent, of students at Midwest Private College identify as Catholic. Twenty percent or approximately 391 students are eligible to receive the Pell Grant through Title IV of Federal financial aid. The students within the freshman class had an average ACT score of 24.4 and an average high school grade point average (GPA) of 3.55. Finally, the high school background of the student population is quite diverse wherein 43 percent

of student attending a public high school, 41 percent attended a private Catholic high school, 13 percent were homeschooled, and 2 percent attended a private, non-Catholic high school.

The co-curricular opportunities and structure are also aimed at a high level of staff involvement and support in the lives of students. Midwest Private College has a four-year residential policy that requires all full-time, traditional, undergraduate's students to live on-campus. The total residential population is currently 1550 students, who live in 12 different residence halls on campus. The largest residence hall has a total of 150 students, while the smallest residence hall can house 42 students. Each residence hall is staffed with an average of five paraprofessional staff members, who serve in the Resident Assistant position, and one professional staff member in the Resident Director position. The design behind the size of the residence halls and the staffing is to ensure that have an experience of a small community where they are personally known by their peers and staff members alike. Tuition, including fees, room, and board, is approximately $35,000 per year and the institution is considered to be selective in admission.

Other student support services include a standalone Student Success Center, which has five professional staff members who ensure that students can receive additional support for their academic courses, including tutoring and academic testing and accommodation services. There are also staff member who help students apply for graduate schools and/or find a job after graduating. Finally, there is a Student Health Center on campus, which serves both the physical and mental health needs of the student population. All of the medical and mental health services provided at the Student Health Center are free of cost to all students, in order to ensure that they are supported in these areas of their life so that they can succeed in the classroom.

The student population and setting provide unique opportunities to analyze the collected data. First, the homogeneity in the age of the student population reduces the variance in age that has become more common place in American higher education and allow for the results to be more generalizable to traditional aged students. In addition to the homogeneity in age, the residential requirement of this college provides a common environmental experience among the student population. Most other institutions of higher education typically have more variance in where students live while they attend college. In these other settings, students may never live on campus, they may live at home, or in the residence halls for a year or two, or off-campus by themselves or with friends. But at Midwest Private College nearly every student participant lived in the residence hall each year during their time at college. Finally, the small size of the community and commitment to providing students with personal attention, gives the student plenty of institutional support in order to establish autonomy and independence. On the other hand, it also creates an expectation for regarding the support and services a student expects to receive, so that when this expectation is not met, it may seem more justified for parents to become involved in the lives of their students at this institution.

Specification of Variables and Instrumentation

The instrument in this study is a single survey instrument containing questions aimed at measuring the phase of self-authorship that a student identifies with, in each developmental domain (epistemology, interpersonal, and intrapersonal) as well as the parental involvement experienced in each of the four dimensions (level, autonomy-supportive, warmth, and helicopter parenting) of parental involvement considered in this study. A survey instrument is appropriate for this research design as it enables the collection of original data from a large and random population (Babbie, 2004). The survey used in this study is a questionnaire aimed at eliciting

responses regarding both self-authorship and parental involvement using a Likert Scale. A Likert Scale questionnaire provides the participant with a question or statement to read and allows the participant to rate the level to which they agree or disagree with the statement, often displayed as “strongly agree”, “agree”, “disagree”, and “strongly disagree” (Babbie, 2004). The Likert Scale answers provides a researcher the ability to quantify the relative level of intensity that a participant has in regard to a particular item on the survey (Babbie, 2004).

The instrument in this study enables this study to examine how varying levels of the specific dimensions of parental involvement selected for this study are related to the development of self-authorship for each participant. The survey instrument was developed through combining four previously developed survey instruments. Each of these four instruments have all been independently tested and found to have statistical reliability and validity. The inclusion of each of these four particular survey instruments is necessary as it is only through incorporating each of them into a single survey that this study captures the data for each variable under observation.

Dependent Variables

The dependent variable for this study is self-authorship. A review of the literature revealed that self-authorship is a complex construct, the development of which can be conceptualized as existing on a continuum (Baxter Magolda, 2004, 2008, 2009; Baxter Magolda & King, 2012). On one end of the self-authorship continuum is the External Orientation, in which an individual use external sources of authority to define their epistemological beliefs, interpersonal identity and relationships, while the other end of the continuum is the Self-Authoring orientation, in which an individual uses internal values, commitments and beliefs to coordinated external sources of authority and define their epistemological beliefs, interpersonal

identity and relationships (Baxter Magolda, 2004, 2008, 2009; Baxter Magolda & King, 2012). It is important for the operational definition of self-authorship for this study to attempt to capture the complex nature of this meaning-making continuum and the meaning-making phase that each participant identifies with in each of the developmental dimensions of self-authorship. Therefore, self-authorship is operational defined in this study as the primary mean-making phase that a college student identifies within the developmental dimensions of epistemology, intrapersonal identity, and interpersonal relationships.

This study quantitatively assesses each participants' level of self-authorship through use of the *Career Decision-Making Survey (CDMS)* measure of self-authorship, which was developed by the Women in Information Technology (WIT) team, of which Dr. Elizabeth Creamer was one of principal investigators (Creamer et al., 2010). Permission was granted from Dr. Creamer to use the CDMS and adapt it to this study. Although self-authorship is typically assessed through qualitative procedures (Baxter Magolda & King, 2012), the items measuring self-authorship in the CDMS survey have been tested and demonstrated effective reliability and validity as a quantitative instrument for the assessment of self-authorship (Creamer et al., 2010). The CDMS instrument as a whole, was developed to measure the development of self-authorship in in the context of their career decision-making. Therefore, this study did not use the questions from this survey that specifically gathered data about career choice. This study used all of the self-authorship items, which is referred to as CDMS measure of self-authorship (CDMS-SA) (Creamer et al., 2010).

The specific items for CDMS-SA are displayed as a table in the Creamer et al. (2010) publication and contains 17 questions, all of which were incorporated in this study's instrument. Table 2 (below) displays the original CDMS-SA survey question numbers, the question numbers

used in this study, and the corresponding developmental dimension and phase of self-authorship reflected in the question. Each of the questions provide a statement and a four-point Likert Scale to which a participant can rate the level to which they disagree (1) or agree (4) with the statement. Each of the questions also reflect a specific developmental domain and meaning-making position or phase of self-authorship. Although there are ten distinct meaning-making positions within the Theory of Self-Authorship (Baxter Magolda, 2001), the quantitative measure developed in the Creamer et al. (2010) identifies a participant's meaning-making position more broadly, as one of the following three: External Formulas, Crossroads, and Early Self-Authoring.

Upon completing the survey, each participant received a score (between 1-4) indicating the level of agreement with the mean-making position (External Formulas, Crossroads, and Early Self-Authoring) used in each developmental dimension (epistemology, interpersonal development, and intrapersonal development) (Creamer et al., 2010). These scores produce a 3x3 matrix with nine cell scores (Figure 2), from which one can derive the level of agreement with the phase of self-authorship used within each developmental dimension (Creamer et al., 2010). Creamer et al. (2010) explain that the developmental dimensions of self-authorship are represented by each row of the matrix, whereas the columns of the matrix represent each meaning-making position. Calculating the average scores from each of the three phases of self-authorship (the columns of the matrix) is used to determine each participants level of agreement with that specific phase.

Table 2

CDMS-SA Question Numbers and Correlating Question Numbers for this Dissertation. Table Adapted from the Dissertation Assessing Self-Authorship among Athletic Training Students (Williams, 2016).

Original Question #	Adapted Question #	Phase of Self-Authorship	Developmental Dimension
1	1	External Foundations	Intrapersonal
2	2	External Foundations	Intrapersonal
9	8	External Foundations	Epistemological
11	10	External Foundations	Epistemological
14	14	External Foundations	Interpersonal
13	15	External Foundations	Interpersonal
4	3	Crossroads	Intrapersonal
8	7	Crossroads	Interpersonal
10	9	Crossroads	Epistemological
15	13	Crossroads	Interpersonal
22	16	Crossroads	Epistemological
6	5	Early Self-Authoring	Interpersonal
12	11	Early Self-Authoring	Epistemological
16	12	Early Self-Authoring	Interpersonal
24	17	Early Self-Authoring	Epistemological
26	18	Early Self-Authoring	Epistemological
27	19	Early Self-Authoring	Epistemological

Through this matrix, it can the overall primary meaning-making phase of self-authorship that a participant identifies with can also be determined. The average of the scores in each of the column produces a number representing a participant's overall identification with each meaning-making position (External Foundations, Crossroads, and Early Self-Authoring). More specifically, a participant with a 3-1-1 score reflects an individual who primarily uses the External Authorities phase, whereas a 2-3-1 reflects an individual who uses the Crossroads phase, and a score of 1-1-3 would indicate an individual who use the Early Self-Authorship

phase (Creamer et al., 2010). The detailed statistical method of analyzing the data produced in the 3x3 matrix is explicated later in this chapter.

Quantitative Results Matrix indicating The Development of Self-Authorship		**Meaning-Making Position**		
		External Formulas	**Crossroads**	**Early Self-Authoring**
Developmental Dimension	**Epistemological**	#8 #10	#9 #16	#11 #17 #18 #19
	Intrapersonal	#1 #2	#3	
	Interpersonal	#14 #15	#7 #13	#5 #12

Figure 2. The 9 cell, 3X3 matrix produced by the CDMS-SA for the quantitative measure of the development of self-authorship. The cells contain the corresponding question numbers from this study's instrument.

Independent Variables

There are four different dimensions of parental involvement used as independent variables in this study. These independent variables are: 1) level of parental involvement, 2) warmth of parental involvement, 3) autonomy-supportive parental involvement and, 4) helicopter parenting. Level of parental involvement is defined as the amount of involvement that a student experiences from their parents, through any means (ex. in person, email, text, skype, Facebook, etc.) while they are at college. This variable was measured using the *Parental Involvement Scale* survey, which presents questions to a participant regarding how often the experience parental involvement in the form of parents offering help, guidance, and advice in various aspects of their college experience. Warmth of parental involvement is defined as the parent's general

tendencies to be supportive, affectionate, and sensitive to the child's need, as well as to express approval and direct positive emotion and behaviors toward the child (Zhou et al., 2002). This is operationalized through the use of the *Perceptions of Parents Scales (POPS): College-Student Version* survey, which is explained below. The operational definition for autonomy-support in this study is defined in the development of the *Perceptions of Parents Scales (POPS): College-Student Version* survey. Therefore, autonomy-support is defined as the degree to which a college student perceives their parents to be responsive to one's internal frame of reference, and supportive of one's choice of initiation (Robbins, 1994). Finally, Helicopter Parenting was measured as a single construct, which refers to parents who are overly involved, autonomy-restrictive, make decisions for their children, personally invest in their children's goals, and who intervene for their children in difficult situations. This variable is operationalized through the use of the *Helicopter Parenting Instrument (HPI)*. Each of these instruments are described in further detail below.

The first parental involvement survey instrument that was incorporated into this study's final comprehensive survey instrument is the *Parental Involvement Scale* (Bradley-Geist & Olson-Buchanan, 2014). This instrument provides valuable information in the parental involvement dimension of the level of parental involvement experienced by a participant. The *Parental Involvement Scale* contains nine questions that measure the total level of the parental involvement that a participant experiences in their time at college. Each item presents the participant with a question regarding the level of parental involvement they have experienced in different areas of their life at college, which they can then respond to using a five-point Likert Scale, which ranges from never (1) to always (5).

The scores for these nine items were averaged and used as one composite score, which represents the total level of parental involvement experienced by the participant. A participant with an average score closer to one, indicates a student who experiences no to rare levels of parental involvement, whereas a participant with an average score closer to five indicates a participant who experiences a level of parental involvement as frequent or always. The use of the *Parental Involvement Scale* (Bradley-Geist & Olson-Buchanan, 2014) in this study's instrument provides unique data to this study in regard to the total level of parental involvement experienced by a participant.

The next parental involvement survey instrument that was incorporated into this study's survey instrument is the *Perceptions of Parents Scales (POPS): College-Student Version*. The original version of this instrument measures the degree to which parents are involved and provide autonomy-support and warmth (Padilla-Walker & Nelson, 2012). The full POPS instrument contains 42 questions, which ask the same questions twice, once about the perceptions that one has regarding their mother and then the same question regarding the student's perception of their father.

For the purposes of this study, the POPS instrument was shortened for a couple of reasons. First, this study is interested in parental involvement, which can be the involvement of a father, mother, or any other person that the participant identifies as a "parent". The POPS instrument is interested in an individual's "parental involvement", from both their "mother" and their "father" respectively. Because of this, this instrument presents the same question twice, once with regard to the participant's mother's involvement and once with regard to the participants father's involvement. Therefore, one set of these 21 questions were deleted from the instrument in this survey since this study collects information on the most involved parent, as

opposed to the involvement of both parents. After eliminating these questions, six questions that collect data on the level of parental involvement were eliminated from the POPS survey instrument, as this study is using a different instrument to collect this data. This decision was made as the questions on the level of parental involvement from this instrument were seen as providing less valuable information as compared to the questions from the *Parental Involvement* Scale, which contains items more specific and relevant for parental involvement behaviors experienced by college student's today.

The portion of the POPs survey that used in this study contains 15 questions that collect data on both the dimensions of parental warmth and parental autonomy-support. More specifically, nine of the 15 questions collect data on parental autonomy-support, whereas six collect data on parental warmth experienced by a participant. The scores for autonomy-support and warmth for each participant were averaged and used as distinct independent variables.

The last instrument that was incorporated into this study's survey instrument is the *Helicopter Parenting Instrument (HPI)* (Odenweller et al., 2014). This instrument has also demonstrated strong construct validity and statistically significant reliability and was chosen for this study in order to obtain a measure of helicopter parenting (Odenweller et al., 2014). All 15 questions from the HPI instrument were incorporated into the instrument in this study. Each of these questions present the participant with a statement and provides them with a five-point Likert Scale, which they can indicate their level of experienced parental involvement on that item, from never (1) to always (5). The questions within this instrument ultimately measure the prevalence of the parenting style of "helicopter parenting" which is overly involved, protective, in constant communication with their children, consistently intervene in their children's affairs, make decisions for their children, personally invest in their children's goals, and removing

obstacles their children encounters (Odenweller et al., 2014). The scores from the 15 questions were summed and then averaged into a single score representing the participants experience of "helicopter parenting". A participant with a final score closer to one indicates an individual who does not experience helicopter parenting, where as a participant who scores closer to seven, would indicate a high experience of helicopter parenting.

In addition to the four dimensions of parental involvement explicated above, this study gathered data on additional independent variables in an attempt to gain clarity in some important areas of the parental involvement phenomenon. These variables help to gain insight into the "who", "how", and "why" dimensions of parental involvement. More specifically, these independent variables include the parental figure who is most involved (mother, father, or other specified), the medium (phone call, text, email, video chat, in-person visit) and the frequency of parental involvement through that medium, and the identification of who the responsible party is for initiating the parental involvement (parent initiated, student initiated, or equally shared responsibility in the initiation).

To better isolate and attempt to understand the relationship between the independent variables and the dependent variables a number of demographic characteristics are used in the analysis of the data. The use of these variables is critical to ensure that they do not confound the correlation between parental involvement and self-authorship. The specific demographic variables that included in this study are: race, gender, religious affiliation (Catholic or Non-Catholic), type of high school (public, private, homeschool), year in school (freshman, sophomore, junior, senior), and current accumulative grade point average (GPA). The table below (Table 3) displays all of the variables included in this study.

Table 3

Specification of Variables

Type of Variable	Name of Variable
Dependent Variables	External Formulas Meaning-Making Structure Crossroads Meaning-Making Structure Early Self-Authoring Meaning-Making Structure Primary Phase of Self-Authorship
Independent Variables	Level of Parental involvement Warmth of Parental Involvement Autonomy-Supportive Parental Involvement Helicopter Parenting Type and Frequency of Parental Involvement Most Involved Parent Responsible Party for Initiating Involvement
Demographic Variables	Race Gender Religious Affiliation Grade Point Average (GPA) High School Background Year in School

Data Collection

The survey instrument for this study was an electronic, web-based survey administered using Qualtrics, which contained 64 questions. After the survey was created a pilot study was administered to test the functionality, usability, and wording of the survey instrument. A separate, but similar institution was used for the pilot study phase. During the pilot study, the survey was distributed to the official college email address of 20 currently enrolled, full-time, traditional, undergraduate students at a small, private, religiously affiliated institution. After the

pilot study, an evaluation of the content, delivery, and collection of the survey was performed to determine if any adjustments needed to be made to the survey.

Once this analysis was complete, the survey was distributed to the official college email address for every currently enrolled, full-time, traditional, undergraduate student at Midwest Private College. A consent and authorization form was presented to the respondent before the participant could access any portion of the survey. The respondent was required to agree with the conditions of the informed consent page and electronically sign, before the survey questions became accessible. The respondents were also given the option, after reading the informed consent page, to decide to no longer participate in the survey, at which point that individual could simply close their web browser.

The informed consent page of the survey contained information on the purpose of the survey, procedures, discomfort and risks, benefits, duration, statement of confidentiality, the right to ask questions, and the voluntary nature of participation in the survey. Confidentiality was maintained for the participants through the use their student ID number on the survey. Upon completion of the survey, the student ID numbers were collected and sent to an employee in the Office for Institutional Research at Midwest Private College, who obtained the demographic information for each participant. This demographic information was then sent back to the principal researcher for use in the statistical analytic plans of this study and matched to the survey response for each participant. After the demographic information was matched to the survey responses for each participant, the ID number was be disassociated with the survey response data.

Pilot Study

A pilot study was used to test the design and properties of the survey instrument. More specifically, the aim of the pilot study was to test the effectiveness, functionality, usability, and wording of the survey instrument. One specific area that needed to be tested was the functionality of the survey distribution. The online survey tool administered through Qualtrics has multiple methods for distributing a survey to a participant's email address. The first distribution method tested involved the Qualtrics program generating a link to the survey, which is copied and embedded in an email to the participants. After attempting this method, participants in the pilot study reported that could not access the survey. Based on this feedback, a second method was tested in which a distribution list was uploaded into the Qualtrics program and an email was sent directly to the participant from Qualtrics program. This method was successful as all pilot study participants were able to access and submit the survey.

With the functionality of the survey successfully tested, an evaluation for the usability and wording of the survey was sent to the pilot study participants to collect feedback. The majority of the pilot study participants reported that the survey was clear and user friendly. One piece of feedback received was that the variety of terms used to reference parents was included too many different terms. For example, a question would ask, "My parent…" and then could refer to the parent as he, she, himself, herself, their, and they, to name a few. Based on this feedback the survey was updated to provide uniform terms in reference to a participant's parent, to make the survey more user friendly. More specifically, it was decided that each question would on the instrument would start with, "My parent…" and if the same question referred to the parent again the parent would be referred to as their, they, or themselves, as needed (i.e., "my parent discourages me from making decisions that they disagree with"). The participants of the

pilot study also provided the feedback that it was unclear when the survey ended. It was reported that after a participant answered the final question, the screen simply turned black. To address this, a prompt was developed, which would appear after the respondent submitted their last answer, which read, "Thank you for your participation in this survey! You have completed the survey and your answers have been recorded. Please feel free to close your browser window at this time. Thank you!".

Survey Dissemination and Response

After successfully testing the survey through the pilot study and revising it to ensure it was effective, functional, understandable, and user friendly the final version of the survey was disseminated to the participant pool. The participant pool included all students who were full-time students between the ages of 18 years-old to 24 years-old. An email (Appendix B) was sent to the institutional email address of 1,482 students who met this classification. The survey was accessible for 30 days and participants could access it 24 hours a day each day during this time period. The first page of the survey was the Informed Consent Form (Appendix A), which a participant was required to acknowledge that had read it and understand the research they were participating in prior to being permitted to participate in the survey.

Two reminder emails were sent during this 30 day period. The Qualtrics program has the ability to send reminder emails only to the individuals in the original participant pool who had not had not completed survey, while excluding participants who had taken the survey. The first reminder email was sent to 1,308 remaining eligible participants, approximately two weeks after the initial survey. The second and final reminder email was sent one week later to 1,264 potential participants. After the 30 days, the survey link was closed and participants could no longer access the survey.

Analytical Procedures

This study attempted to examine the relationship between self-authorship, measured as a multidimensional construct in which a student received a score for their agreement with three meaning-making phases, operationalized as External Meaning-Making, the Crossroads, and the Self-Authoring and four dimensions of parental involvement behaviors. Therefore, the design of this study sought to evaluate the relationship between multiple dependent variables and multiple independent variables. The computational data analysis for this study was carried out using the statistical software, SPSS, version 22. The analytic procedures for statistical tests used this study included basic descriptive statistics, bivariate analysis of each independent and dependent variables, producing a correlation matrix, and finally a series of multiple regression analyses. Prior to performing the aforementioned statistical analysis, reliability testing was performed to evaluate the reliability of the questions and internal consistency of the constructs for the meaning-making phases measured by the CDMS-SA instrument.

The CDMS-SA instrument has displayed effective reliability and validity as a quantitative instrument for the assessment of self-authorship (Creamer et al., 2010). Specifically, Creamer et. al (2010) report that the original CDMS-SA instrument was shown to support a reliable measure for each of the phases of self-authorship, wherein External Foundations (α = .58), Crossroads (α = .62), and Early Self-Authoring (α = .70), each displayed "moderately strong" reliability respectively. Because this instrument has had limited use, the data analysis of this dissertation performed a series of tests on the data obtained from the CDMS-SA survey items.

More specifically, a Cronbach's Alpha reliability test was used to test the reliability of composite scores obtained for each phase of self-authorship. The Cronbach's Alpha reliability

test is an internal consistency analysis, used to determine the accuracy of an instrument, when the instrument is taken by more than one participant and each of those participants answer two or more of the same single-item questions within that instrument (Cronbach, 2004). Therefore, it is used in a statistical analysis to test if the composite score for a single construct, which results from multiple items on a survey instrument, is internally consistent (reliable measuring the same thing) or not. A reliability analysis should produce a number between 0 and 1 (or negative numbers between 0 and -1), wherein the closer the score is to 1 the single items are found to be internally consistent or reliably measuring what the composite score for the construct claims to be measuring. The guidelines for acceptable alpha reliability vary within the existing literature, .60 is generally viewed as a minimum for acceptable reliability, whereas a reliability coefficient of .70 to .80 is good or strong, and .90 or higher is excellent (Ponterotto & Ruckdeschel, 2007).

The alpha reliability for the data obtained through the use of the CDMS-SA instrument in this study did not display acceptable reliability (the specific result is displayed and discussed in Chapter Four of this study). The specific alpha reliability results and a brief discussion regarding how this result impacted this study will be presented in Chapter Four of this study. Due to lack of reliability displayed form the data obtained through CDMS-SA instrument and because of the rich data collected in this study, a Post Hoc analysis was performed to gain insight into the relationship between parental involvement and a college student's GPA. The analytical procedures for the Post Hoc analysis included, obtaining descriptive statistic on GPA (the new dependent variable), analyzing the bivariate relationship between each independent variable and the dependent variable, and running a hierarchical multiple regression analysis, to determine if any parental involvement variables have a predictive relationship with a student's GPA.

Limitations

A majority of the limitations in this study stem from the site and the population used in this study. First, this study was conducted at one institution. The mission, institutional characteristics, and demographics of the institution all have the potential to have a relationship to the development of self-authorship in college students. Administering the survey instrument at a single site as opposed to multiple institutions precludes this study from being able to analyze the differences between institutional types. Therefore, while the results of this study may be somewhat generalizable to other small, private, residential, religiously affiliated institutions, they are not generalizable to institutions of other sizes and types. Further, the sample size is somewhat small and homogeneous. The final sample included 208 participants, which represents a small portion of the college student population at Midwest Private College. Further, this population is homogeneous in race, in their faith identity, and in gender.

Another limitation is that this study is a single snapshot of each student's experience with parental involvement and the correlating level of self-authorship. It is reasonable to think that the level of parental involvement experienced by an individual may change over time. If this is the case a longitudinal study with the same participants could further isolate the strength of the relationship between college student developmental and educational outcomes and parental involvement.

Chapter 4: Results

Introduction

The purpose of this study was to examine the relationship between parental involvement and a student's development of self-authorship. Participants completed a web-based, survey instrument, containing questions aimed at measuring the current phase of self-authorship that they utilize in the three developmental dimensions of self-authorship, as well as the parental involvement experienced in each of the four dimensions of parental involvement under consideration for this study. This chapter provides a summary of the participants, the response rate for the survey, and details the process of determining the final sample of the participants used in the analysis of this study. This chapter also details the results of the statistical analyses run on the data obtained in this study. This chapter includes a Post Hoc analysis examining the relationship between parental involvement and a participant's GPA, which includes descriptive statistics, the bivariate relationship between each independent variable and the dependent variable, and a hierarchical multiple regression analysis.

Descriptive Statistics

Participants

There were 1,482 students enrolled at Midwest Private College who met the classification of full-time, traditional-aged (ages 18-24), college students who were eligible to participate in this study. After distributing the survey to the qualified students via email, a total of 287 students started the survey and of those students 241 completed and submitted the survey, producing a response rate of 16.2%. Of these 241 respondents who submitted the survey, 22 respondents were eliminated from the final participant pool as the majority of their submitted survey contained missing responses and an additional 11 respondents were eliminated due to missing

demographic information. After eliminating these 33 students, the final group of participants for this study was 208 total student-respondents. The demographic information included as variables in this study are: race/ethnicity, gender, religious affiliation, high school type (public, private, homeschool), year in school, and accumulative grade point average (Table 4). This study intended to use as use major and socioeconomic status as demographic variables in this study, but these variables were eliminated due to the inability to capture this data for a significant amount of the participants.

There were four demographic variables in this study, which are highly skewed. The most skewed variable is race/ethnicity of the participants, in which 183 of the respondents identified as White, which accounts for nearly nine out of every ten participants or 88 percent of total respondents. The race/ethnicity of the remaining participants are as follows: eight students identified as "Two or More Races", six students identified as Hispanic, five students identified as Non-Resident Alien, three students identified as Unknown; and two students identified as Black or African American or Asian, respectively. This sample is even more skewed than the representation of race/ethnicity within the student body, in which 77.4 percent identify as White. Due to the overwhelming majority of the respondents who identified as White, the statistical analysis for this study operationalizes the demographic variable of race as White or Non-White.

The two other highly skewed demographic variables for this study are the religious affiliation and gender of the respondents. The identified religious affiliation for 172 of the respondents was Catholic, accounting for nearly 82 percent of respondents this is reflective of the percentage of Catholic students at the institution setting where this study was conducted. The gender of the respondents, on this other hand, while also very skewed, with nearly three times as many female

respondents (151) as there were male respondents (57), which is not reflective of the gender make-up of the institutional setting which is much closer to 50 percent, respectively.

Table 4

Demographic characteristics of participants

Demographic Variable		Frequency	Percent
Race			
	Non-White	25	12%
	White	183	88%
Gender			
	Female	151	72.6%
	Male	57	27.4%
Religious Affiliation			
	Non-Catholic	36	17.3%
	Catholic	172	82.7%
High School Type			
	Private	100	48.1%
	Public	52	25.0%
	Homeschool	48	23.1%
	Unknown	8	3.8%
Year in School			
	Freshman	24	11.5%
	Sophomore	56	27.0%
	Junior	52	25.0%
	Senior	76	36.5%
Grade Point Average (GPA)			
	Below 2.00	6	2.7%
	2.00 – 2.49	11	5.0%
	2.50 – 2.99	18	8.1%
	3.00 – 3.49	51	23.1%
	3.50 – 3.99	111	56.1%
	4.00	11	5.0%

The high school type attended by participants in this study is unique and also highly skewed when organized as public or non-public school settings. A total of 148 of the participants attended a non-public school setting at either a private high school or they were homeschooled

for high school. These participants were nearly three times the number of respondents who attended a public-school setting. The largest of the two non-public school settings was private school, which accounted for 100 participants. The number of participants from a homeschool setting and from a public-school setting are nearly equal, with 48 participants having been homeschooled in high school, while 52 participants attended a public high school. The high school background represented in this sample has some notable difference when compared to the entire student population at Midwest Private College. Namely, 23 percent of the participants in this student came from a homeschool background, although students from a homeschool background only make up 13 percent of the entire student population at Midwest Private College. Further although 43 percent of student population at Midwest Private College attended a public high school, only 25 percent of the participants in this study had a public high school background.

There are participants from every class standing at the college in this study. The 76 seniors who participated in this study made up the largest class standing. The junior and sophomore classes had similar numbers of participants. There are 52 participants classified as juniors and 55 participants classified as sophomores. The freshmen class contributed the lowest number of participants for this study in which just 24 total freshmen completed the survey. The representation of participants from each academic class enables this study to investigate how the parental involvement may evolve over time, at least in the pervasiveness within each academic class.

The range of the participants' GPA ranged from 0.00 to 4.00 with a mean GPA of 3.41 and a standard deviation of 0.623. Although the entire range of possible GPAs was represented among the participants in this study, the majority of participants had a strong GPA (as reflected

by a 3.41 mean GPA) with more than half of the participants, a total of 122, having an earned accumulative GPA of 3.5 or higher. In order to display the GPAs of the participants in a meaningful way in the demographic table below, participants were sorted into the six following groups: 1) Below 2.00; 2) 2.00-2.49; 3) 2.50-2.99; 4) 3.00-3.49; 5) 3.50-3.99; and 6) 4.00.

The Parental Involvement of Participants

Next, this statistical analysis ran the descriptive statistics for all of the parental involvement variables, which were used as independent variables. More specifically, the independent variables included the identification of the parental figure most involved (mother, father, or other), the identification of who was the primary initiator of the involvement (the student, the parent or if initiation of involvement was equally shared), and the four domains of parental involvement behaviors (Parent Involvement Score, Autonomy-Supportive Parenting, Parental Warmth, and Helicopter Parenting). The descriptive statistics for this data are presented below.

First, this study obtained the frequency with which the student communicated with the parent on a weekly basis, through various forms of communication. More specifically, the forms of parental involvement were phone calls, texts, emails, video chat, and in person visits (Table 5). Participants were able to use a sliding scale (between zero and 20) in which they could indicate the frequency of a particular form of involvement. Texting was the most frequently used form of communication between students and parents followed by phone calls, video chats, and emailing. Having a parent visit in-person was the least frequent means of parental involvement.

Table 5

Type and frequency of parental involvement over the course of a week.

Original Question #	Minimum	Maximum	Mean	Standard Deviation
Phone Calls	0	17	2.90	3.432
Text	0	20	7.22	5.829
Email	0	5	1.30	1.352
Video Chat	0	7	1.32	1.677
In Person Visit	0	11	.38	1.561

This finding supports the notion that technology has been a significant variable within the parental involvement of college students. The frequency of texting, particularly reinforces this point as the mean frequency of parental involvement through text message reflects an average of parental involvement of once per day. There were also over 30 participants who texted with their parents over 14 times per week, with 16 of those participants indicating a frequency of 20 times per week. These particular participants may even text with their parents more often than this, but the highest number that a participant could select was 20. Further supporting the notion of technology as a major factor of increased parental involvement is that fact the one form of parental involvement that is not facilitated by technology, making an in person visit, had a significantly lower mean response of 0.38 time per week.

In addition to the aforementioned means through which parents are involved in the participants' life at college, this study sought to determine specifically who the participant identified as the most involved parental figure and who was responsible for the initiation of the parent's involvement. The overwhelming majority of participants, approximately every three out of four, identified their mother as being involved in the life at college (Table 6).

Table 6

Participant's identification of the parent most involved in the life at college

Parental Figure	Frequency	Percent
Mother	158	75.9%
Father	50	24.1%

When they participants were asked to identify who was most responsible for their parental involvement, the results revealed that a large majority of the participants, nearly 70 percent, reported that they share equal responsibility with their parents for initiating the parental involvement that they experience. Additionally, when participants did not equally share the responsibility for initiating their parental involvement, it was more likely that they were more responsible for being the primary initiators of their parental involvement as opposed to their parent (Table 7). This finding supports the notion that students are as much, if not more, responsible for the current level of parental involvement on college campuses.

Table 7

Participant's identification of who responsible for initiating the involvement.

Initiator of Involvement	Frequency	Percent
Equal	141	67.7%
Parent	28	13.5%
Student	39	18.8%

Dimensions of Parental Involvement

The next group of descriptive statistics run in this study were for each of the parental involvement dimensions, Parental Involvement, Autonomy-Supportive Parenting, Parental Warmth, and Helicopter Parenting, used as independent variables in this study. The table below displays (Table 8) the summed scores for each of the survey instruments used for the four dimensions of parental involvement in this study.

Table 8

Four dimensions of parental involvement.

Dimension	Minimum	Maximum	Mean	Standard Deviation
Paternal Involvement Score	12	38	25.19	5.195
Autonomy-Support	17	63	50.39	9.204
Parental Warmth	16	42	38.10	4.710
Helicopter Parenting	18	82	42.81	12.171

These statistics provide interesting insight into the level and type of parental involvement experienced by the participants in this study. First, the results for the Parental Involvement questionnaire show a wide range of the level of parental involvement experienced by the participants in this study. This instrument contained nine questions and used a five-point Likert scale in which participants could select their parents to be rarely (one) or always (five) involved in various aspects of their life at college. The mean score for this study of 25 is within half of a standard deviation for the true mean score of the scale (27) which indicates a participant's parents as "sometimes" involved. This result provides a diverse sample from which this study can evaluate the relationship between the level of parental involvement experienced by the participants and other interesting demographic characteristics and environmental outcomes.

The descriptive statistics for the second dimension of parental involvement, autonomy-supportive parenting, provide further insight into the type or quality of the parental involvement experienced by the participants in this study. The Likert scale for this instrument had a range from one (Not True at All) to seven (Very True) in which participants could indicated their level of agreement with various autonomy-supportive statements about their parent's involvement. Interestingly, the maximum possible score for this measure, indicating the highest level of agreement with autonomy-supportive parental involvement is 63, which was the score for six of

the participants in this study. In addition to this, 107 students, which is over 50 percent of the participants, received a score of 53 or higher, which is within one standard deviation from the maximum possible score. Therefore, a majority of the participants indicate that their parents are supportive of their autonomy within their parental involvement.

The results of the parental involvement dimension of warmth show that the participants have an even higher level of experience within this dimension of parental involvement. The Likert scale for this dimension of parental involvement was the same as the Likert scale for autonomy-supportive parenting. There were fewer question regarding parental warmth, resulting in a maximum possible score from this this scale of 42 and the true mean score from the scale of 24. The results show that all but two participants received a score of 24 or higher. Further, the mean participant score of 38 is within one standard deviation of the maximum score of 42, with 123 total participants receiving a score of 38 or higher.

Finally, the descriptive statistics from the helicopter parenting scale provide insight into the participant's experience of a dimension of parental involvement that stands in contrast to the previous two dimensions. The Likert scale for this instrument also had a range from one to seven, but this scale had the participant indicate their level of agreement with a statement on a scale of Very Strongly Disagree (one) to Very Strongly Agree (seven) in which participants could indicated their level of agreement with various helicopter parenting behaviors within their experience of their parent's involvement. While the results from the previous two dimension of parental involvement (autonomy-supportive and parental warmth) show a high level of agreement with the dimension for the participants, the result from the helicopter parenting measure show that some of the participants in this study also experience a high level of helicopter parenting.

The maximum score from this measure is 105, which not a single participant received. The highest score received from any participant in this sample was 82, which results from a participant selecting a Likert scale agreement of slightly higher than five, which indicates a "Slight Agreement" with the experience of helicopter parenting. The scores from 130 participants on this measure are within one standard deviation of the mean. This result confirms that the participants in this study align more with autonomy-supportive and warmth in their experience of parental involvement and less with the helicopter parenting. That being said, when analyzing the whole picture of the descriptive statistics from the four dimensions of parental involvement, the results display wide total range regarding the parental involvement experienced by the participants in this study.

Self-Authorship

The descriptive statistics for the three phases of self-authorship obtained through the use of the CDMS-SA instrument were also examined. Participants received a score for each of the three phases of self-authorship, which represented their level of agreement with that particular phase of self-authorship. The overall mean scores for each of the three phases of self-authorship for all of the participants in this study were 3.15 (External Foundations), 3.35 (Crossroads) and 3.45 (Early Self-Authoring). It is also noteworthy that the standard deviations found for each of the three phases of self-authorship were all less than 0.40 (Table 9).

Table 9

Descriptive Statistics for the phases of self-authorship.

Phase of Self-Authorship	Minimum	Maximum	Mean	Standard Deviation
External Formulas	2.16	4.00	3.15	0.38
Crossroads	2.33	4.00	3.35	0.36
Early Self-Authoring	2.50	4.00	3.45	0.32

** The data in the Minimum, Maximum and Mean columns represent the sum-scores for all items contributing each phase of self-authorship.

The homogeneity of sum scores from the three separate phases of self-authorship, as well as the small standard deviation, was problematic in classifying individual participants within a distinctive phase of self-authorship. The CDMS-SA instrument uses a Likert scale that ranges from 1.00 to 4.00. Participants with a summative phase score of 1.00 – 2.00 would reflect disagreement with that phase of self-authorship while a summative phase score of 3.00-4.00 would reflect an agreement with that phase of self-authorship (Creamer et al., 2010). Therefore, Creamer et al. (2010) note that a score 1-1-3, would reflect a participant in low agreement with both the External Foundations and the Crossroads phases, but in high agreement with the Early Self-Authoring Phase. From this, participant can be classified within their primary phase of self-authorship depending on their three-part score (i.e., 3-1-1 = External Foundations; 2-4-2 = Crossroads; and 1-1-4 = Early Self-Authoring).

At face value, the data obtained in this study displays that the participants are in high agreement with all three of the phases of self-authorship, which is theoretically problematic. Baxter Magolda and King (2012) describe the development of self-authorship as a complex process in which an individual experiences periods of growth toward self-authorship as well as periods of regression in their development of self-authorship. There are also distinctive milestones in each individual's development through the phases of self-authorship (Baxter

Magolda & King, 2012). These milestones are marked by either External Authorities orientation in which an individual has uncritical reliance on external authorities in determining what they believe, who they are, and their social relationship or at the other end of the continuum Self-Authorship orientation, in which the individual is internally coordinating and determining their beliefs, identity, and social relations. Based on the theoretical difference between the phases of self-authorship, a high level of agreement between all three meaning-making phases of self-authorship cannot simultaneously coexist, in an individual. Yet, the results from the data obtained in this study displayed that nearly all of the participants had a similarly high level of agreement with each of the phases of self-authorship, as reflected in the averaged scores of 3.15 (External Foundations), 3.35 (Crossroads) and 3.45 (Early Self-Authoring), which is theoretically problematic.

Alpha Reliability Testing

The Quantitative Assessment of Self-Authorship

A series of Cronbach's Alpha reliability tests were run to determine the construct reliability of the three phases of self-authorship examined in this study. Similar to the Creamer et al. (2010) study, a Cronbach's Alpha reliability test was performed on each of the three phases of self-authorship under examination in this study. This analysis included alpha reliability test on the sum score for each phase of self-authorship and an alpha reliability test for the single-items within each of the three phases of self-authorship. The alpha reliability analyses displayed unacceptable reliability coefficients for each of the phases of self-authorship, for both the summed scores and the single-item reliability tests (Table 10).

More specifically, the data displayed an alpha reliability of .401 for the summed score of the External Foundations construct and an alpha reliability of .510 for the single item questions

that contribute to the External Foundations construct. This was the highest reliability coefficient displayed among the three constructs of self-authorship. The alpha reliability for the Crossroads construct was only .349 for the summed score of Crossroads and .420 for the single item reliability analysis for Crossroads. Finally, the lowest reliability coefficients were displayed for the Early Self-Authoring construct, in which the reliability for the summed scores displayed a coefficient of .305 and the single item reliability displayed a coefficient of .249.

Table 10

Reliability testing for the phases of self-authorship.

Construct for Self-Authorship Phase	Cronbach's Alpha
External Foundations (EF)	
Composite Scores for EF Phase	.401
Single Item	.510
Crossroads (CR)	
Composite Scores for CR Phase	.349
Single Item	.420
Early Self-Authoring	
Composite Scores for ESA Phase	.305
Single Item	.249

The Cronbach's Alpha reliability coefficients are displayed for both the composite scores for each phase of self-authorship and the single item reliability scores for all of the items within each phase of self-authorship

The alpha reliability analysis conducted for single item questions allowed for the ability to analyze if the removal of any specific items would increase the reliability of the construct. The results of this analysis (Table 11) revealed that the removal of any single item did not result in acceptable reliability for any of the three constructs of self-authorship. More specifically, the removal of any item in the External Foundations construct resulted in a lower reliability coefficient, whereas the removal of some particular single item questions for the Crossroads and

Early Self-Authoring constructs resulted in only a slight increase in the reliability coefficient, although this increase was still not enough to result in an acceptable reliability coefficient.

Table 11

Alpha reliability for phases of self-authorship if any single-item was deleted.

Question #	Phase of Self-Authorship	Developmental Dimension	Cronbach's Alpha if Item Deleted
1	External Foundations (EF)	Intrapersonal	.483
2	External Foundations (EF)	Intrapersonal	.425
8	External Foundations (EF)	Epistemological	.482
10	External Foundations (EF)	Epistemological	.457
14	External Foundations (EF)	Interpersonal	.475
15	External Foundations (EF)	Interpersonal	.463
3	Crossroads (CR)	Intrapersonal	.348
7	Crossroads (CR)	Interpersonal	.444
9	Crossroads (CR)	Epistemological	.265
13	Crossroads (CR)	Interpersonal	.391
16	Crossroads (CR)	Epistemological	.360
5	Early Self-Authoring (ESA)	Interpersonal	.194
11	Early Self-Authoring (ESA)	Epistemological	.210
12	Early Self-Authoring (ESA)	Interpersonal	.071
17	Early Self-Authoring (ESA)	Epistemological	.186
18	Early Self-Authoring (ESA)	Epistemological	.313
19	Early Self-Authoring (ESA)	Epistemological	.306

The coefficient displayed in the left column represents what the construct reliability would be for that phases of self-authorship if that particular item was deleted.

To summarize this analysis, the reliability testing for each of the three phases of self-authorship produced coefficients of .510 (External Foundations), .420 (Crossroads) and .249 (Early Self-Authoring). Each of these coefficients fall below the general minimum acceptability guideline for alpha reliability of at least .60 (Ponterotto & Ruckdeschel, 2007). Further, the removal of any single item from the construct measure did not result in achieving acceptable

reliability for any of the three constructs for the phases of self-authorship. It is noteworthy that each of the scales used for the construct measuring the phases of self-authorship in the CDMS-SA instrument are all generally small. The External Foundations construct included six items, the Crossroads construct included five items, and the Early Self-Authoring construct included six items (Early Self-Authoring). The small number of items in each construct makes it more difficult for these scales to produce an acceptable reliability coefficient (Ponterotto & Ruckdeschel, 2007).

In an attempt to gain further insight into the properties and theoretical assumptions of the CDMS-SA instrument a series of exploratory factor analyses (EFAs) were run. But, because this is not an instrument validation study and the results from the EFAs are not central to research question of this study, this analysis will not be presented or discussed in this study. The results of the EFAs and a brief discussion will be included in appendices (Appendix C) as it may provide useful data for future research attempts that are interested in an instrument validation study on the CMD-SA instrument.

The Four Dimensions of Parental Involvement

A Cronbach's Alpha Reliability test was also run on the data collected for each of the parental involvement dimensions, Parental Involvement, Autonomy-Supportive Parenting, Parental Warmth, and Helicopter Parenting, used as independent variables in this study. This study selected these instruments they have been used in previous research for each of these variables and had been found to be reliable and valid measure of the constructs under consideration. The results from the alpha reliability analysis displayed strong reliability coefficients for each of the constructs used as independent variables (Table 12). More specifically, the following reliability coefficients were found for each of the independent

variables in this study: 1) Parental Involvement Score = .779; 2) Autonomy-Supportive Parenting = .888; 3) Parental Warmth = .833; and 4) Helicopter Parenting = .789.

Table 12

Alpha reliability for the dimensions of parental involvement used as independent variables.

Dimension of Parental Involvement	**Cronbach's Alpha**
Parental Involvement Score	.779
Autonomy-Supportive Parenting	.888
Parental Warmth	.833
Helicopter Parenting	.789

The strength of the alpha reliability coefficients displayed in this analysis supports using the data collected on each of the independent variables as meaningful representations of the constructs each instrument intended to measure.

Revised Analytic Plan

Although the relationship between parental involvement and a college student's development of self-authorship was the primary focus of this study, the unacceptable alpha reliability displayed on the data obtained from the CDMS-SA did not allow for a meaningful analysis of this question. Given the CDMS-SA measure did not provide meaningful data for self-authorship, this study now includes a Post Hoc analysis answering a slightly different question. The purpose of the Post Hoc analysis is to use the rich data obtained through this study to gain further insight into the relationship between the parental involvement and a different, but still important college student outcome.

An examination of the data obtained in this study, resulted in the identification of the opportunity to gain insight into the relationship between the parental involvement of college students and GPA. GPA was selected as the dependent variable in this Post Hoc analysis,

because similar to self-authorship, GPA is an important college student outcome. Therefore, the Post Hoc analysis changes the GPA of the participants from a demographic variable and uses it as the dependent variable. The primary research question of the Post Hoc analysis was, is there a relationship between the four dimensions of parental involvement and a college student's GPA? The examination of the relationship of a participant's GPA and their parental involvement can provide insight into how the experience of parental involvement influences an important outcome within the college student environment.

The computational data analysis for the Post Hoc analysis was carried out using the statistical software, SPSS, version 22. The descriptive statistics were obtained for the new dependent variable (GPA) including the mean, standard deviation, and range. After completing the statistical analysis for the descriptive statistics, the bivariate relationships between the dependent variable and each independent variable, respectively, were examined. This step in the data analysis provided the Pearson correlation coefficient (the strength of relationship between the two variables under examination) and the level of statistical significance for these relationships. Assessing the bivariate relationships allows for an understanding of the strength, direction, and significance (the confidence level that a relationship between two variables does exist) of the relationship between each independent and the dependent variable. Finally, a hierarchical multiple linear regressions analysis was run, to understand if any of the independent variables were significant predictors of the dependent variable.

The Relationship between Parental Involvement and GPA

Descriptive Statistics for GPA

The first step in the Post Hoc statistical analysis was to run the descriptive statistics for GPA, as the dependent variable in this Post Hoc analysis and included the range, mean, and standard deviation (Table 13). The participants' GPA ranged from 0.00 to 4.00 with a mean GPA of 3.44 and a standard deviation of 0.53. Although the entire possible range for GPA is present in the participants of this study, the majority of the participants in this study have a strong GPA, nearly 3.50.

Table 13

Descriptive statistics for participant's GPA.

Dependent Variable	Minimum	Maximum	Mean	Standard Deviation
GPA	0.00	4.00	3.44	.53

The Relationship between Parental Involvement and GPA

The next steps in the Post Hoc analysis was to run and examine the bivariate relationships between the dependent variable (GPA) and all independent variables. The variables gender, race, Catholic or non-Catholic, high school background, the parent involved, and the initiator of involvement (parent, student, or equal) are all nominal variables. In order to use nominal variables in this analysis, each of these variables were dummy coded. The interpretation of the correlations between GPA and these nominal variables must consider the specific setup for the dummy coding in order for the interpretation of the correlation to be correct. The Year is School variable is an ordinal variable, as it included the class name for the year in school for each participant, Freshmen, Sophomore, Junior, or Senior, all of which are ordered in relationship with each other, as they are progressive years in school. The last two variables Parental

Involvement Score and Parental Warmth, are represented by the score that a participant received on for theses measure when they participated in the survey for this study, and therefore are continuous variables.

Table 14 displays the correlation between GPA and each of the independent variables and the significance levels for the correlations.

Table 14

Bivariate correlations and significance levels for all variables and GPA.

Variable	r with GPA	Sig. (1-tailed)
Gender	.174	.007**
Race	.070	.162
Catholic or Non-Catholic	.115	.053
Private High School	-.012	.431
Homeschooled	.049	.244
Year in School	.203	.002**
Parent Involved	.238	.000**
Equal Initiation of Involvement	.002	.486
Student Initiated Involvement	.135	.028*
Parental Involvement Score	-.246	.000**
Autonomy-Supportive Parenting	.124	.040*
Parental Warmth	.105	.070
Helicopter Parenting	-.121	.044*

* indicates a statistically significant relationship at the .05 level
** indicates a statistically significant relationship at the .01 level

As displayed in table above, the strength of the correlations between each of the independent variables and GPA are low to moderate correlations. Although the strength of the relationship between the independent variables and GPA is low to moderate, the significance column affirms that some the relationships between some of the independent variables and GPA are statistically significant, while others are not. The race, high school background, and equally initiated parental involvement, are all not statistically significant, and therefore the relationship between these variables and GPA are not discussed further.

The variables that are statistically significant include: Gender: $r = 0.174$, $p < .01$; Year in School: $r = 0.203$, $p < .01$; Parent Involved: $r = 0.238$, $p < .001$; Student Initiated Involvement: $r = 0.135$, $p < .05$; Parental Involvement Score: $r = -0.246$, $p < .001$; Autonomy-Supportive Parenting: $r = 0.124$, $p < 0.05$; and Helicopter Parenting: $r = -0.121$, $p < 0.05$. These results display that five of the statistically significant variables are positively correlated with GPA including, Gender, Year in School, Parent Involved, Student Initiated Involvement, and Autonomy-Supportive Parenting. When interpreting the nominal and continuous variables, the positive correlation indicates that as Year in School, Autonomy-Supportive Parenting, or Parental Warmth increase, a participant's GPA will increase. Therefore, the more years in school you have completed, the more autonomy-supportive parenting you experience, or the more parental warmth you experience, respectively, the more likely you are to have a higher GPA.

In order to understand how to interpret the positive correlation between GPA and the nominal variables, of Gender, Catholic or Non-Catholic, Parent Involved, and Student Initiated Involvement, the dummy coding must be taken into consideration. First, Gender ($r = 0.174$) was dummy coded using male as the reference group. Therefore, the positive correlation displayed in the table indicates that identifying as female has a positive relationship with GPA, as opposed to identifying as male. The Parent Involved ($r = .238$) variable, had either a student's mother or father as options and was coded with the father as the reference group. The positive correlation indicates that a mother's involvement is more likely to be related to a higher GPA for students compared to when the father is involved. Student Initiated Involvement ($r = 0.135$), was dummy coded in a way that all non-student initiated parental involvement (parent or equal initiation) was coded as the reference group. Therefore, when a student initiates the parental involvement that

they experience it is more likely for that student to have a higher GPA, when compared to student's who equally share in the responsibility for their parental involvement or when the parent is responsible for initiating the parental involvement that the student experiences.

There were also two variables, Parental Involvement Score and Helicopter Parenting, which displayed a statistically significant, but negative relationship with GPA. Both of these variables are continuous variables. Therefore, the interpretation for both of these variables is that the higher the Parental Involvement score or Helicopter Parenting that a student experiences, the more likely they are to have a lower GPA. The negative relationship between Helicopter Parenting and GPA seems to make sense as face value, as this form of parental involvement is suspected to inhibit the development and success of the student. The negative relationship between the Parental Involvement Score is particularly interesting. This result gives some indication that higher levels of parental involvement is significantly related to the likelihood of a lower GPAs for a participant.

Understanding the strength and direction of the relationship between the independent variables and GPA, as well as the statistical significance of these relationships, is valuable insight into how parental involvement is related to the GPA of students. Yet at this point, all that these results allow for is an understating of a positive or negative relationship between the independent variables and a participant's GPA. The next step in this analysis was to determine if any of these independent variables serve as statistically significant predictor variables of a student's GPA. Gaining an understanding as the whether any of the independent variables can predict a student's GPA, is even more valuable insight into how the parental involvement of college students is related to their GPA. The next section of this study displays the results from this analysis.

A Predictive Model for Parental Involvement and GPA

While the correlations provide the direction and strength of the relationship between the variables, a hierarchical multiple regression analysis was run to identify if any of the independent variables could predict a participant's GPA. All of the demographic variables and independent variables under consideration in this study were entered into the hierarchical regression analysis in three separate groups. The first group of variables entered into the hierarchical regression were the demographic variables, which included gender, race, Catholic or not, type of high school, year in school. The next group of variables entered into the regression analysis included the specific parent involved (mother or father) in the participants life at college as well as the primary initiator of parental involvement (equal, parent, or student). The final group of variables entered into the regression were the independent variables, which included Parental Involvement Score, Autonomy-Supportive Parenting, Parental Warmth, and Helicopter Parenting. The independent variables were entered into these three separate blocks in this order as this analysis is ultimately seeking to determine if any forms of parental involvement are meaningful predictors of a participant's GPA.

The hierarchical regression analysis utilized in this study used the stepwise entry method for entering variables into the regression. The stepwise entry method builds a predictive regression model, which only includes statistically significant independent variables in the regression model, based on the level of statistically significant predictive capacity of the variables. The stepwise entry method continues to build a model until all statistically significant variables are included in the regression model (Chen, Goo, & Shen, 2014).

The results of the hierarchical multiple regression analysis identified a statistically significant regression model, which included six variables, as statistically significant predictor

variables of a participants' GPA. Specifically, the regression model (Table 15) included the following variables as statistically significant predictor variables for GPA: Year in School, Gender, Parent Involved, Student Initiated Involvement, Parental Involvement Score, and Parental Warmth. The following variables, which were also included in the regression analysis, were not statistically significant predictors for GPA: race, Catholic or Non-Catholic, High School Background, Autonomy-Supportive Parenting, and Helicopter Parenting. It is interesting to note that although the variables of Catholic or Non-Catholic, Autonomy-Supportive Parenting, and Helicopter Parenting displayed statistically significant correlation in the bivariate analysis, the regression model did not display these variables as statistically significant predictor variables of GPA. This finding supports that notion that just because two variables are related to each other, in a statistically significant way, it does not mean that have a causal or predictive relationship with each other when other variables are controlled.

Table 15

Hierarchical multiple regression model for the six predictor variables. This model account for the most variance in GPA at a statistically significant level.

Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	df1	df2
6	.465[f]	0.206	0.181	0.480527708	1	193

Predictors: Year in School, Gender, Parent Involved, Student Initiated Involvement, Parental Involvement Score, Parental Warmth

* The regression model is statistically significant at the .001 level as displayed in the ANOVA table.

The regression model summary for this study is statistically significant ($F [6,193] = 8.35$, $p < .001$ (significance level displayed in Table 16)) and accounts for 20% ($R^2 = 0.206$) of the variance in a participant's GPA. Therefore, the regression model displays that 20% of the

variance in a student's GPA can be accounted for using the six predictor variables included in the regression model (Year in School, Gender, Parent Involved, Student Initiated Involvement, Parental Involvement Score, and Parental Warmth). The variables included in this model were also analyzed for multicollinearity. This analysis revealed that each of the variables in this model displayed a tolerance factor within the range of .909 – .984 and a variance inflation factor (VIF) within the range of 1.016 – 1.100.

Table 16

ANOVA table including the statistical significance for the R^2 from the regression model.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
6	Regression	11.568	6	1.928	8.350	.000*
	Residual	44.565	193	0.231		
	Total	56.133	199			
Predictors: Year in School, Gender, Parent Involved, Student Initiated Involvement, Parental Involvement Score, Parental Warmth						

Finally, the Beta coefficients (Table 17) provide the specific weight or degree of change that each predictor variable has on GPA. In order for an independent variable to be a valid predictor of the dependent variable, the Beta coefficient must also be statistically significant. The table shows that following predictor variables included in the regression model were all statistically significant predictors of GPA at the following levels: Parent Involved: $\beta = 0.252$; $p < .05$; Student Initiated Involvement: $\beta = 0.197$, $p < .05$; Year in School: $\beta = 0.101$, $p \leq .01$; Parental Involvement Score: $\beta = -0.025$. $p < .001$; and Parental Warmth: $\beta = 0.020$, $p < .01$. Additionally, the Gender of participants was also included as a variable in the statistically significant regression model, this variable had a Beta coefficient of 0.137, but was only statistically significant at the $p < .09$.

Table 17

Beta coefficients for the predictor variables.

Model 6	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Constant	2.688	0.340		7.899	0.000**
Year in School	0.101	0.033	0.198	3.049	0.003**
Gender	0.137	0.079	0.116	1.726	0.086
Parent Involved	0.252	0.083	0.203	3.025	0.003**
Student Initiated Involvement	0.197	0.088	0.144	2.229	0.027*
Parental Involvement Score	-0.025	0.007	-0.242	-3.615	0.000**
Parental Warmth	0.020	0.008	0.174	2.624	0.009*

Dependent variable: GPA
* indicates a statistically significant Beta coefficient at the .05 level
** indicates a statistically significant Beta coefficient at the .01 level

More specifically, the Beta coefficients for each of the predictor variables can be interpreted in the following way. First, the positive coefficient for a participant's year in school ($\beta = 0.101$) indicates that being farther along in school is a significant predictor for a for a higher GPA. Similarly, when accounting for dummy coding for gender, which used males as the reference group, the Beta coefficient ($\beta = 0.137$) indicates that being female is predictive of a higher GPA as compared to being male. The next two predictor variables, a mother involvement ($\beta = 0.252$) and the student as the initiator of the involvement ($\beta = 0.197$), both have positive Beta coefficients. This result is interpreted to mean that when a mother is involved (as compared to fathers), because the student has reached out to initiate her involvement (as compared to when

the mother initiates her own involvement or even when the initiation of the involvement is equally shared) that an increase of the student's GPA is predicated.

The next predictor variable in the model is the Parental Involvement Score ($\beta = -0.025$), which has a small and negative Beta coefficient. When interpreting this Beta coefficient it is important to remember that this is a continuous variable. As a continuous variable a participant could score a wide range on the measure for this variable. Therefore, the small and negative coefficient for this variable is interpreted to mean that as the parental involvement behaviors identified on this specific measure increase, a decrease in the participant's GPA is predicted. This is an interesting result as it seems to be somewhat in conflict with the positive predictive capacity of a mother's involvement when the student is the initiator of the involvement, a more thorough discussion of this result follows in the next chapter of this study. Finally, the positive Beta coefficient for Parental Warmth ($\beta = 0.020$) is interpreted to mean that an increase in a student's GPA is predicted when the student perceives their experience of parental involvement as warm and supportive.

Summary

The purpose of this study was to examine the relationship between the parental involvement experienced by college students and the student's development of self-authorship. Although Creamer et al. (2010) reported evidence for the reliability and validity of a quantitative assessment of self-authorship, this study was not able to replicate or produce this evidence. The analysis on the data obtained through the use of the CDMS-SA instrument in this study revealed unacceptable reliability coefficients, all below .60, for each of the three phases of self-authorship measured by the CDMS-SA. This finding resulted in a modification of the original research question and analytical plan for this study.

Due to the rich data collected in this study and an interest in a further understanding into the college student parental involvement phenomena, a post hoc analysis was conducted to gain insight into how parental involvement is related to a different but important college student outcome, GPA. The post hoc analysis included descriptive statistics, an analysis of the bivariate relationships between each independent variable and a participant's GPA, and a hierarchical multiple regression analysis selecting GPA as the outcome variable. A hierarchical regression analysis was selected in order to determine if any forms of parental involvement were meaningful predictors of a student's GPA, when controlling for a student's demographic characteristics. The results of the regression analysis identified six of the 11 variables entered in the regression model in this study as statistically significant predictors of a participant's GPA, including: Year in School, Gender, Mother's Involvement, Student Initiated Involvement, Parental Involvement Score, and Parental Warmth.

A more in-depth and detailed discussion of the results in this chapter, the limitations of this study, considerations for the future development of a quantitative self-authorship instrument, future considerations for the study of the relationship between parental involvement and self-authorship, as well as the post hoc analysis, are presented in the next chapter.

Chapter 5: Discussion, Limitations, and Recommendations

Introduction

The purpose of this study was to examine the relationship between the parental involvement in college students' experiences and their development of self-authorship. The motivation behind this study resulted from a recognition that the parental involvement of college students is an important college environment phenomenon in need of further research. This study also recognized the importance of gaining a deeper understanding into how the parental involvement phenomenon may be related to the outcomes that institutions of higher education intend for their students. These outcomes include students developing the capacity to assume personal responsibility for one's own beliefs and actions, the ability to autonomously and actively participate in our workforce, and the ability to engage in healthy relationships (Baxter Magolda & King, 2012; Shapiro, 2005). In order for students to achieve these outcomes they need to develop the capacity to autonomously evaluate and coordinate external sources of authority, new information, and relationships against their internal commitments and beliefs as they assume a variety of roles in their life after college.

Therefore, this study attempted to answer the following research question:

- How does the parental involvement of college students relate to their development of self-authorship?

And the following sub-questions:

- Is the level of parental involvement experienced by college students related to their development of self-authorship?
- Is the type of parental involvement experience by college students related to their development of self-authorship?

To answer these questions, students completed an online survey, which collected data regarding their development of self-authorship and the level and type of parental involvement they experience at college. Although the development of self-authorship is typically assessed through qualitative interviews, the time-intensive nature of these interviews has resulted in a call for a quantitative measure of self-authorship. This study attempted to use the CDMS-SA instrument (Creamer et al., 2010), which serves as a quantitative measure of self-authorship. There was prior evidence that CDMS-SA was a valid and reliable measure of self-authorship (Creamer et al., 2010). The data obtained in this study was not able to replicate the acceptable reliability and validity findings from the Creamer et al. (2010) study.

Due to the lack of reliability and validity displayed for the data measuring self-authorship in this study, it was not possible to analyze the relationship between self-authorship and parental involvement. In other words, the original questions posed in this dissertation could not be answered. Although the data collected on self-authorship could neither be used as meaningful representation of self-authorship or used to examine the relationship between parental involvement and self-authorship, this study possessed the opportunity to gain insight into how parental involvement was related to another important college student educational outcome. Therefore, a Post Hoc analysis was conducted to examine how the parental involvement of college students is related to their GPA. A regression analysis determined that specific types of parental involvement as well as the level of parental involvement were significant predictors of the GPA for the population of college students who participated in this study. This chapter presents an in-depth discussion of the findings regarding parental involvement and the Post Hoc analysis. This chapter also address the significance of these findings, the limitations of this study, and makes recommendations for future research.

Discussion

Parental Involvement Phenomena

Despite the inability to use the data on self-authorship as initially intended, this study was able to make noteworthy contributions to the literature regarding the parental involvement of college students. This study obtained insights into parental involvement as to who is involved, why they are involved, how they are involved, and how often they are involved. A discussion of some of the more significant findings are presented in this section. This discussion and the recommendations also take into consideration the I-E-O model used as the conceptual framework for this study (Astin & Antonio, 2012).

First, the parental involvement reported by the participants in this study is high. This study confirmed that the notion of students going to college and becoming autonomous or independent from their parent is no longer true, at least in the context of traditional aged students attending a small, private, residential Catholic college. The findings reported in this study revealed that, on average, the participants experienced some form of parental involvement on a daily basis. This high level of involvement is not in-person involvement, rather it is made possible by the current capacity of technology.

The cellphone, perhaps even more specifically the smart phone, has made possible the medium through which parental involvement takes place on college campuses today. It is important to recognize that this form of involvement was simply not possible approximately ten years ago. The primary form of parental involvement for the participants in this study was texting, through which the average participant experienced parental involvement on a daily basis, while nearly ten percent of the participants indicated the highest number allowable on the scale, which indicated texting more than three times per day. In addition to parental involvement

through text messaging, participants also reported using technology to speak on the phone or video chat with their parents an average of four times per week. The frequency of phone call or video chatting, in and of itself, would amount to the average student experiencing a form of parental involvement equal to every other day. If you combined phone calls and video chatting with texting, it results in the average student experiencing some form of parental involvement more than once per day.

The high level of parental involvement found in this study affirms the motive for this study and its importance. As stated at the onset of this study, college is an important time for students to develop the capacity to assume personal responsibility for one's own beliefs and actions, the ability to actively and autonomously participate in our workforce, to engage in healthy relationships (Baxter Magolda & King, 2012; Shapiro, 2005). Traditionally, this process was aided by moving out of one's parents' home, which resulted in either complete lack of parental involvement or a decrease in the least (Chickering & Reisser, 1993; Cullaty, 2011, Lefkowitz, 2005). This study confirms that the inherent separation and autonomy from one's parents that came from going away to college is no longer occurring as parents are still involved in the lives of their college student child on a daily basis.

In addition to finding that parental involvement is a daily experience for the participants in this study, valuable insight was gained into the two facets of the "who" and the "why" of parental involvement. More specifically, this study identified who the most involved parental figure was in the participant's life at college. Additionally, this study identified the party (either the parent, the student, or equally shared) responsible for the initiation of the parental involvement that is occurring on campus today. The results from the data collected in both of

these facets of parental involvement show a shared experience in these areas for the overwhelming majority of the participants.

First, over three-fourths of the students in this study indicated that their mother was the parent most involved in their lives. While this finding is interesting and shows a very clear pattern of involvement, it seems does not seem to be an area to draw any major conclusions, but rather an area for further investigation. The finding of who is responsible for today's parental involvement seems to be more noteworthy.

One of the assumptions at the onset of this study was that the student's parents were primarily responsible for their own parental involvement on college campuses. This was based on a loose notion these parents possessed an inability to let go of their emerging adult child and allow them to establish autonomy, independence, and a life of their own. The literature review guiding this assumption is based on the notions that parents have been told to be "hyper-safety" focused and constantly involved in their child's education and if they weren't their child would be harmed or not succeed in school (Elam et al., 2007; Howe & Strauss, 2007; Lythcott-Haims, 2015). This assumption further came from the notion that 18-24 year-old emerging adults would eagerly look forward to the new freedom and independence that is developmentally appropriate, comes along with going to college. Therefore, the primary way in which they would try to experience this freedom and independence would be from separating from their parents.

Yet, this study found that over two-thirds of all of the participants identified that they equally shared the responsibility with their parents for initiating the parental involvement they experience at college on college campuses. In addition to this, it was also found that when the responsibility for parental involvement was not equally shared by the student and parent, that it was more likely for the student to be responsible for initiating parental involvement. The

combination of these two groups results in nearly ninety percent of the participants in this study indicating that they desire and actively seek their parent's involvement in their life at college. Synthesizing the findings, particularly from the "how often" and "who is responsible for" facets of parental involvement from this study, clearly indicates that parents are involved in the lives of college students on a daily basis, because the student wants them to be. This finding indicates that parental involvement is a large and important environmental factor clearly present at the institution of higher education in this study.

It is important to recall that the I-E-O Model (Astin & Antonio, 2012), which was used as the conceptual framework for this study, seeks to enhance the educational and personal development of students through the conditions of the educational environment. Therefore, this finding, in light of the I-E-O model, has major implications for practitioners on college campuses who recognize the need to ensure that environmental factors support the educational and personal development outcomes they have identified. This is another topic that is addressed in the section on recommendations for future research.

One final point of discussion (that will be discussed further in the Limitations section of this chapter) is the institutional context in which this finding occurred. This high level of student-initiated parental involvement was reported from traditional aged students, the overwhelming majority of whom were white and Catholic, and the majority of whom came from a private or homeschool background. The students in this study also selected a small, private, institution, which provides a high level of faculty and staff involvement in the academic and personal lives of the students while they are at college. Prospective students are aware of this institutional culture and it is commonly known that part of their college choice included a desire to at least easily access faculty and staff to help with academic and personal concerns. It is

reasonable to consider if the high-level-student-initiated type of parental involvement reported in this study may be related to specific demographic characteristics of the participants in this study as well as their motivation for choosing this particular institution. This is yet another area that merits future research.

Dimensions of Parental Involvement

It is important for this section to include a discussion on the findings regarding the four dimensions of parental involvement. The findings from each of the four dimensions of parental involvement (parental involvement score, autonomy-supportive parenting, parental warmth, and helicopter parenting) all provide an additional layer of insight into the parental involvement phenomena. The most important insights are included in the discussion below.

First, the findings from the parental involvement scale allowed for additional understanding into the level of parental involvement experienced by college students, through providing a lens into the perception that students have about the level of involvement that they experience. This scale prompted students to indicate "how often" their parents ask about a variety of college issues (i.e., schoolwork, grades, social life) and "how often" they give advice about these topics. The participant is then able to answer on a five-point Likert Scale, between never and always. The results for the parental involvement scale portion of the survey given in this study displayed an average participant score of roughly 25. This score indicates that the participants reported parental involvement, according to this scale, which is equal to "sometimes".

Juxtaposing this finding, the average participant reported their parents as "sometimes involved", to the earlier finding that the participants in this study experienced parental involvement on a daily basis, provides an interesting opportunity for discussion. One

explanation for this could be that even though the participants experience parental involvement on a daily basis, they consider this involvement to be minimal or "normal" (i.e. a text message) and that they do not experience it as having a significant effect on their perception or experience of parental involvement. It could also be that the parental involvement experienced by the participants in this study is not reflected in the specific items measured in the parental involvement scale.

Another explanation could be in how the question is presented to the student. Each question asks, "How often do your parents…", this inherently puts the initiation of the question on the parent as opposed to the student. This discussion has already established that the participants in this study indicated that they were either responsible for initiating the involvement with their parents or it was equally shared. Therefore, it may be more likely that the student is sharing about these topics without a specific prompt or question from their parents. It could also be the case that it is only just as likely for the parent to ask these questions, as it is for the student to share about these topics without prompt, which would likely result in answer these questions with "sometimes". This can be seen as further affirmation to the notion that the students want their parents involved, even on a daily basis. While some faculty, staff, and administration on college campus may see this level of involvement as high and overly involved, the students do not. This is an area of opportunity for future research into college student parental involvement.

Based on a review of the existing literature, the next two dimensions of parental involvement selected in this student were autonomy-supportive parenting and parental warmth. The existing literature found evidence that these two dimensions of parental involvement could lead to positive or healthy development for the students (Blos, 1967; Boles, 1999; Mattanah et al., 2004; Mattanah et al., 2011; Parade et al., 2010; Schwartz & Buboltz, 2004). As indicated in

the results section, the participants in this study experienced both autonomy-supportive parenting and parental warmth at very high levels. Autonomy-supportive parenting reflects a student's perception that their parent listens to them, is interested in their perspective, and ultimately allows them to choose what to do. Parental warmth reflects a student's perception that their parent accepts them and conveys love for them. The existing literature citing in chapter two of this study found that parental involvement had both positive and negative effects on college student outcomes (Bradley-Geist & Olson-Buchanan, 2014; Cullaty, 2011; Koepke & Denissen; 2012; Odenweller et al., 2014; Shoup et al. 2009; Winter and Yaffe; 2000). The literature review also promoted that the effect of parental involvement on college student may have more to do with the type of involvement that they experience rather than the level of involvement (Cullaty 2001; Pizzolato & Hicklen, 2011). The overwhelming experience of autonomy-support and warmth in parental involvement contributed to the motivation behind the Post Hoc analysis in this study, as it presented a great opportunity to analyze if this type of parental involvement was related to an important college student educational outcome, namely GPA. A more detailed and specific discussion of the findings for how autonomy-supportive parental involvement and parental warmth is related to a student's GPA is presented in the discussion section of the results from the Post Hoc analysis.

Finally, the results of this study showed that generally speaking, participants did not experience helicopter parenting. This finding aligns with the fact that the majority of the participants experienced autonomy-support and parental warmth, as helicopter parenting contains an autonomy-restrictive element. That being said, there seems to be an interesting distinction between when a student believes that their parents are engaging in helicopter parenting and when the faculty, staff, or administration believes that a student's parent is engaging in helicopter

parenting. The original conception of helicopter parenting as a construct first identified parents who were always "hovering", present, and ready to intervene (Howe & Strauss, 2007). As the notion of helicopter parenting evolved, it began to couple this "always hoovering or present" component with an autonomy-restrictive component as well (Padilla-Walker & Nelson, 2012). The particular instrument used to assess helicopter parenting in this study focused almost exclusively on the autonomy-restrictive quality of this parent involvement construct.

Based on the findings in this study, college students may readily seek and enjoy the highly involved aspect of helicopter parenting. Yet, this high level of parental involvement, in and of itself, may be seen as annoying and unwelcomed by the faculty, staff, and administration on college campuses (Howe & Strauss, 2007). While there seems to be disagreement between the students and college faculty, staff, and administration regarding the qualitative aspect of the high level of parental involvement, this study suggests that there would be agreement from the students, faculty, staff, and administrations, that an autonomy-restrictive form of parental involvement is undesirable by all parties.

The Relationship between Parental Involvement and GPA

The last topic for this discussion is the findings on the relationship between parental involvement and a student's GPA. GPA was selected for the dependent variable in the Post Hoc analysis as it is one of the more important educational outcomes in college. It also serves as a positive indicator of an individual who is engaged and successful at college. The results from the hierarchical analysis displayed a significant and predictive relationship between particular types of parental involvement experienced by a college student and that student's GPA.

Specifically, the regression model displayed in the results section of this study revealed that a student's year in school, gender, their mother's involvement, parental involvement

initiated by the student, and the student's Parental Involvement Score and Parental Warmth score, are statistically significant predictors of a student GPA. While the student's year in college and gender are interesting findings, this discussion does not dedicate much time to these two variables, as the main variables of interest involve aspects of parental involvement. That being said, it is important to mention that the regression model displayed that identifying as female was predictive of a higher GPA as compared to identifying as male. Additionally, the model also displayed that the a more advanced year in school was also predictive of a higher GPA, compared to lower year in school. Using this model, it would be predicted that freshmen men, as a group, would have the lowest GPA of all participants in this study, whereas senior women would have the highest. This finding provides interesting evidence that college males and underclassmen, are in need of additional or perhaps different resources and support than they are currently receiving on campus, in order to experience a more similar GPA to their female and upperclassmen peers.

Shifting the focus of this discussion to the parental involvement variables, which were included in the regression model, each parental involvement variable included in the model is discussed. The first two parental involvement variables in the regression model address who is involved and who is responsible for their involvement. The regression model shows that a mother's involvement is predictive of an increase in a student's GPA, as opposed to a father's involvement. Generally speaking, this isolated portion of the equation indicates that, at a basic level, parental involvement is positive for college students.

The next variable in the regression model shows that parental involvement is also predictive and positively related to a student's GPA when the individual who is most responsible for the involvement is the student, rather than when a parent initiates the involvement or when

the initiation of the involvement is equally shared. This finding provides valuable information to practitioners as they develop initiatives to educate both students and parents about helpful forms of parental involvement. Specifically, practitioners should encourage students to solicit their parent's involvement, preferably their mother's involvement. Practitioners can also seek to educate parents that rather than taking the initiative upon themselves to engage in their unprompted involvement, it is more advantageous to wait for their college student to be the one who requests their help or initiates their involvement. Said another way, if a parent actively desires to be involved in their student's life at college and this desire stems from the parent wanting their child to be as successful as possible, parents need to understand that they should wait until their child initiates their involvement. Parents with this desire could be directed to engage in conversations with their student encouraging them to reach out for help or support whenever they need it.

The next piece of the regression model adds another interesting component to the complexity of the relationship between parental involvement and a college student's GPA. This study established that a mother's involvement, when initiated by the student, predicts a higher GPA for the student. The model also displayed that a student's score on the Parental Involvement Scale is negatively related to GPA. Remembering that the Parental Involvement Scale is an instrument that measures the level of the parental involvement experienced by a college student, this finding seems to somewhat contradict the basic notion that a mother's involvement when initiated by the student has a positive effect on GPA. Yet, it seems possible that this finding is not necessarily contradictory, rather it provides evidence of the complexity and nuances in the parental involvement phenomenon.

More specifically, this finding suggests that while a student receiving help or involvement from their mother, when they have initiated it, will experience a positive benefit to their GPA, that as this involvement continues to rise there may possibly be a point when the involvement begins to lose the fullness of the initial positive effect. Said another way, this result seems to suggest that parental involvement could be a phenomenon that contains within it a point of diminishing returns. This result corroborates the findings from the Bradley-Geist & Olson-Buchanan (2014) study, which also found that lower levels of parental involvement were related to positive outcomes for college students, but that "over-parenting" was related to negative outcomes for students. This study supports this distinction within the parental involvement of college students in that it supports that there may be a point of "over involvement" when a student's GPA would be predicted to lower due to much higher level of parental involvement. A more simplistic interpretation of this finding is to say that that while some basic level of parental involvement is beneficial for college students, the results from this study seem to suggest "parental over-involvement" may not contain the same benefit.

Adding an additional layer to the complexity of the relationship between parental involvement and a student's GPA is the fact that parental warmth has a positive relationship to GPA. Therefore, the data obtained in this study indicates that an experience of parental warmth is positive for a student's GPA and could serve as a buffer to an overly involved parent. As the totality of the regression model is analyzed, it seems that a particular type of parental involvement experienced by a traditional- aged college student, should maximize a student's GPA. More specifically, the research suggests that when a college student's mother becomes involved, because the student has initiated this involvement, and the parent is able to provide

warmth, but does not become overly involved, that this student should experience the maximum positive effect from parental involvement on their GPA.

Speaking more generally this finding is important to the parental involvement literature as it relates to the educational outcomes for college students. First, this study supports that parental involvement is an environmental factor that influences the educational outcomes of college students. Secondly, it supports that both parental involvement and its effects are complex. This complexity includes, who is involved, why are they involved, how are they involved, and how much are they involved. Understanding more clearly that parental involvement is a complex environmental phenomenon with varying effects requires the attention of those who seek to maximize the educational and personal outcomes for college students.

Limitations

The CDMS Self-Authorship Instrument

This study sought to examine the relationship between the parental involvement of a college student and their development of self-authorship. Unfortunately, due to a lack of acceptable reliability obtained from the data, this study was not able to use self-authorship as a variable in a meaningful way. This is a major limitation of the study as it was the primary variable of interest in the original research design. A large portion of the literature review was dedicated to the Theory of Self-Authorship. Further, although data was collected using the CDMS-SA instrument, the data analysis could not include the relationship of any aspect of parental involvement to any component of self-authorship. Therefore, although a deeper understanding of the relationship between parental involvement (which is a college environment

factor) and college student's development of self-authorship was one of the primary interests of this study, this study was not able to contribute to this important area of interest.

Sample Size and Population

The sample size, single site data collection, and the demographic characteristics of the population are all limitations. First, the sample size in this study was slightly larger than 200 participants. While this is an acceptable sample size from a statically sampling perspective, there are currently approximate 16 million students enrolled in institutions of higher education in the United States of America. Therefore, the data gained from the 200 participants in this study are not highly generalizable. To gain more accurate insight into the parental involvement phenomenon and how it is related to college student educational or student development outcomes, this study would need to be replicated to a much larger population of college students.

Secondly, the survey was distributed at one single institution and to one cohort of students. The limitations that result from these two factors is that every institution is different and each cohort of students have different experiences as well. This limits the results of this study because the institution itself may be responsible for encouraging or discouraging parental involvement. As noted in the literature review, there is a wide variety of institutional response to the parental involvement phenomena. These institutional responses may not only increase or decrease the parental involvement experiences, but they could also influence the type of parental involvement that parents engage in. The institution for this study is highly inclusive of parents in the college recruitment and selection phase for the student. Parents are included at prospective and admitted student events. This may be a unique or confounding variable, which contributed to the high level of parental involvement experienced by the students. It may also be possible

that students who choose a small private school versus a larger state institution are more likely to experience higher levels of parental involvement.

Additionally, these findings are just a snapshot of a student's current experience parental involvement at a fixed point in the year with one group of students. A participant's responses on this survey could be impacted by the time of the year (initial transition, mid-terms and finals, going home for summer or winter break), which could influence the level of parental involvement that they are experience at the moment they take the survey. The parental involvement of each cohort of student could be impacted by different life experiences of the students (or their parents) in the study. It could prove helpful if the same student took the same survey once over the course of their four years in college. This way, the results could analyze if parental involvement changes as a student develops or if student development changes parental involvement.

All of the findings in this study are limited by the homogeneity of the participants in this study. The demographic characteristics which included large areas of homogeneity were age, race, gender, and religious affiliation. First, it should be noted that the term "college student" as it applies to this study, does not reflect the diversity of age found at institutions of higher education. This survey was only distributed to 18-24-year-olds, so while the findings have some generalizability to the emerging adult population on college campuses, it is well known that there are many college students who do not fit into this age range.

Further demographic limitations arise from the fact that the predominant groups in the demographic areas of race, gender, and religious affiliation were also highly skewed. Nearly seventy-five percent or higher of all the participants identified as white, female, and Catholic. More specifically, eighty-eight percent of the participants identified as white, eighty-three

percent of the participants identified as Catholic, and seventy-three of the participants identified as female. Therefore, the results in this study should have the strongest predictive capacity for 18-24-year-old, white, Catholic, women.

An additional demographic limitation is that study was not able to identify or analyze the parental involvement of first generation college students. First generation college students are a group within the college student population that is disadvantaged in the college environment specifically because their parents did not attend college. This disadvantage results from their parents not having first-hand-experiential-knowledge of the college environment, from which they could advise their child. The parental involvement of first generation college students and the analysis of how it is related to important college student education and developmental outcomes is another important area of future research.

Recommendations

This study provides insight into both the parental involvement phenomena, in and of itself, and the relationship between parental involvement and an important college student educational outcome. The insight gained from these findings can be used to make recommendations to institutions of higher education in order to develop best practices around encouraging parental involvement that can aid college student success in educational outcomes. Applying the parental involvement findings from this study to the I-E-O Model (Astin & Antonio, 2012) we can confidently assert that parental involvement is a daily environmental factor in the lives of college student. Therefore, it is important to evaluate the amount of control or the specific opportunities institutions have to influence this specific environmental variable in a way that would maximize student educational and personal development outcomes.

Institutions of higher education can start by recognizing that they cannot outrightly control the parental involvement of college students, as it is primarily happening through the student's personal cell phone. It must also be recognized that even if parental involvement could be controlled, that, as counterintuitive as it may be, the overwhelming number of emerging adult students want their parents to be involved in their live at college and that this involvement can have a positive effect on the student. Therefore, if a college invests effort into initiatives to help students learn skills on how to establish full autonomy and independence from their parents, it should be expected for this to be meet with resistance or rejected by students. With this knowledge, colleges can focus their efforts on developing initiatives that recognizes parental involvement as an environmental factor, which impacts the educational success of their students and therefore is important to develop initiatives toward that encourage the outcomes that they want for their students.

More specifically, based on the findings in this study, it is advisable for colleges to recommend to their students that they should seek to involve their parents in their life at college. That being said, there should be specific recommendations in regard to the quantity and quality of the parental involvement. Firstly, it is recommended to intentionally encourage that the initiation of parental involvement should come from the student. The results of this study indicate a positive effect that comes from the student seeking support. Along with encouraging the students to seek to involve their parents, students need an understanding that not all parental involvement is equal. First, students should understand that there may be such a thing as parental over-involvement. Students should understand that actively seeking parental involvement that is warm, caring, or autonomy-supportive in nature, can result in positive outcomes for the student. Yet, it should also be stressed that too much involvement may

diminish this positive effect. The question that remains is what is the specific level of involvement that maximizes this effect and how can a student recognize when a parent has become overly involved? This is an important area for future research.

In addition to developing initiatives that inform and encourage students to seek a beneficial form of parental involvement, based on this study it is also recommended that colleges seek to directly educate the parents of their students on the parental involvement topic. This can be done through "parent newsletters" or new parent orientation, especially to the parents of incoming freshmen. The letters can address how to be involved in their student's life at college in a helpful level and manner. Parents should also be informed on the topic of the importance of letting the student seek help and then provided help that is sufficient and warm, but not overly involved. Parents can use this information to increase their understanding and confidence regarding the effectiveness of their involvement and to ultimately help support the success of their student, rather than trying to figure out on their own. This particular education of the parent could also serve to dissuade parents from becoming overly involved or in ways that have not been found to be helpful.

Areas for Future Research

While the aforementioned recommendations are based on the findings from this study, these findings provide evidence for the importance of this topic and should encourage future research to gain more insight into how parental involvement is related to college student educational and developmental outcomes. While this study provides evidence that quantitative and qualitative aspects of parental involvement do influence college student success, there are still some many more specific forms of parental involvement that merit future analysis. This analysis should also seek to identify the desired educational and personal development outcomes

of college students that are influenced by parental involvement. One example of an area that is ripe for future research is concerning the original intention of this study, the relationship between parental involvement and self-authorship. The finding that parental involvement does influence the success of college students in an educational outcome further validates the need to study if it is related to or may influence the personal development of college students. Future studies seeking to understand how the parental involvement of college students is related to their personal development in college are still needed. The success of this research will in part depend on the ability to develop reliable and valid instruments for measuring these developmental outcomes.

It is also recommended that future research is conducted to determine if parental over-involvement is a unique construct and if so, to gain further evidence to the relationship that it has with college student developmental and education outcomes. This research could aim to identify a clear distinction between the level of beneficial parental involvement and the level of non-beneficial parental over-involvement. Research conducted by Bradley-Geist and Olson-Buchanan (2014) corroborates the notion that while initial levels of parental involvement are beneficial to college students, parental "over-involvement" is not. This study supports the notion that parental involvement is complex and that while some experience of parental involvement is good, there may be a point when too much parental involvement or parental over-involvement is not. Taken together, this study and previous research promotes the need and importance for future research to attempt to more clearly identify the levels of beneficial involvement and levels of unbeneficial or perhaps negative parental over-involvement.

Another recommended area for future research is in regard to college student perceptions of parental involvement as compared to the perceptions of the faculty and staff on campus. This

study was in part motivated by countless stories from colleagues and personal experiences with parental involvement that would be categorized as helicopter parenting. While the participants in this study reported the experience of parental involvement on a daily basis, they reported low levels of helicopter parenting, and high levels of parental warmth and autonomy-supportive parenting. It seems highly possible that the faculty and staff on college campuses would report that their experience of the parental involvement of the student on their campuses to be the inverse of what the students in this study reported. That is to say, that while the faculty and staff on college campuses have certainly had experience with some of their students' parents in which warmth and autonomy-supportive parenting was displayed, the majority of the interactions would be reported as over-involvement or autonomy-restrictive parenting. It would be beneficial for future research to attempt to provide an explanation for this. It could be that these students may be experiencing helicopter parenting, but do not see it as such. It could also be that parental involvement, even from the same parents, is autonomy-supportive and warm when directed at the student, but takes on the form of helicopter parenting when directed at faculty and staff on college campuses.

Lastly, it is recommended for future research to be conducted into how institutions might attempt to replicate the conditions or experience of parental involvement for the students at their institutions who do not have involved parents. The fact that not all college students have involved parents and that there is a predictive positive relationship between certain levels and types of parental involvement and student GPA, should result in some concern that students without parental involvement may be disadvantaged. Future research could be conducted into the particular levels and types of parental involvement variables that were found to be predictive of a positive relationship with GPA. Acquiring a deeper understanding into this could serve to

guide institutional efforts to determine the feasibility of providing a proxy for parental involvement, whether that be intentional programming efforts or potentially a faculty, staff, or student mentorship program. If it is possible to identify and implement an effective proxy for students without parental involvement it would be a worthwhile pursuit.

This study has maintained that the parental involvement of college students is a relatively new phenomenon that is best understood as a variable ever-present in the college environment. The existing research on parental involvement has shown that it is a complex variable that has been found to be related to both positive and negative outcomes for college students (Bradley-Geist & Olson-Buchanan, 2014; Cullaty, 2011; Koepke & Denissen, 2012; Odenweller et al., 2014; Shoup et al., 2009; Winter & Yaffe, 2000). As an environmental variable, which can impact college students in their achievement of the educational and developmental outcomes during college, it is critical to continue to engage future research effort on this topic. This study can provide needed contributions to provide more clarity on this complex topic. This clarity is needed to better ensure that colleges are developing and providing initiatives for their students (and their parents) during college which ensure that students are prepared for the complexities of life after college.

In pursuit of a Quantitative Measure of Self-Authorship

Lastly, although the data obtained using the CDMS-SA instrument did not display acceptable reliability for use as a meaningful measure of self-authorship, it seems reasonable to believe that although it would be a difficult pursuit, a quantitative measure of self-authorship is possible and should continue to be pursued in future research. The ability to assess the development of self-authorship among college students is a powerful indicator of their educational and personal development, and their ability to meet the challenges and complexities

of life after college. The current qualitative interview approach, although highly effective in assessing nuances within the development of self-authorship, is too time intensive for institutions of higher education to effectively and broadly administer to a large percentage of their student populations.

Even with the acknowledgement that a quantitative measure of self-authorship may never provide the richness obtained in the qualitative interview format, the ability to obtain even a basic assessment of a student's development of self-authorship could help to more specifically inform the educational and personal development initiatives tailored to individual students. The effort conducted to develop a question-and-answer quantitative instrument up to this point, has provided valuable progress and evidence that can be used to direct the future efforts to develop a meaningful and reliable quantitative instrument.

One of the primary considerations in future efforts to develop a quantitative instrument should be to determine the most basic, but still acceptable, representation of a meaningful construct of self-authorship. It seems important for an ongoing conversation to occur as to whether it would be enough to create a simplistic quantitative measure of self-authorship, which could capture a basic, but reliable, measure for an individual's primary meaning-making phase or if it is necessary for a quantitative instrument to capture a theoretically robust and nuanced representation of self-authorship. When considering that the totality of meaning-making within the theory of self-authorship occurs on a continuum that includes, three developmental dimensions, with three primary phases of self-authorship, of which there are ten distinctive meaning-making positions, a quantitative instrument that could capture all of this seems unlikely. That being said, it seems likely, that a quantitative instrument could be developed to capture the board meaning-making phase of a participant, which although not as rich as a qualitative

interview, could still provide meaningful information for higher education practitioners to use in their attempts to help their students achieve important educational and developmental outcomes.

If the primary motivation behind a quantitative measure of self-authorship is to simply identify the primary phase of self-authorship used by an individual, questions could be developed that would attempt to achieve reliability and validity with just a phase of self-authorship. That is to say, if practitioners want to understand an individual's development of self-authorship, it would be helpful to know if their thinking, actions, relationships, and behaviors are primarily driven from external sources of authority or if they use internal values, commitments, and beliefs from which they coordinate external authorities and new information. It could prove beneficial to dedicate the efforts to further develop a quantitative measure of self-authorship toward identifying questions that would reflect an individual's predominate identified phase of self-authorship, without regard to the specific developmental dimension.

Having a quantitative measure of self-authorship, even if it is a simplistic one, could still be used on-campus to assess the self-authorship among large groups of students. This simplistic measure could still help those working with college students understand what their current primary meaning-making structure is so that they can design interventions to help students achieve deeper levels of self-authorship. The quantitative measure of self-authorship used in this study attempts to identify nine unique constructs, which are summed to produce a three-part score, which can be evaluated to make a determination about the level of agreement with a primary meaning-making phase for each participant. Although, this instrument does not attempt to capture all the complexities and nuances of self-authorship, what it does attempt to capture is still a massive task. This task includes each of the nine cells, which represent distinctive meaning-making positions, would need enough internally consistent questions to produce an

acceptable reliability score. Theoretically, within reliability testing it is not advisable to identify less than four questions which accurately and consistent represent each single construct. Therefore, if it was decided that the current nine-cell matrix is a minimal, but meaningful representation of self-authorship, it is the recommendation of this study for this questionnaire to contain no less than 36 questions, four internally consistent questions for each cell.

Yet, within reliability testing, the identification of even more questions would serve to increase the reliability of the measure. At some point, too many questions would start to become a concern regarding time and attention need from the participants to complete the quantitative measure. This fact again leads back to the importance of identifying the most simplistic, but still meaningful representation of self-authorship. If all that is needed from a quantitative instrument is the identification of the primary phase of self-authorship (external foundations, crossroads, or self-authoring) that an individual identifies with, then efforts could be focused on developing specific questions, which are intended to identify the three primary meaning-making phases without regard for the developmental dimension. While this would certainly cause theoretical concerns regarding the totality of self-authorship, it would still be helpful to know if a student generally uses external foundations, the crossroads, or self-authoring behaviors to make meaning in their lives. With even just this information, practitioners on college campus could identify specific initiatives to help individual students on their journey toward self-authorship.

Summary

The involvement of parents in the lives of their traditional-aged-college-students, while they are at college, is a relatively new and growing phenomenon on college campuses. This study sought to gain a deeper understanding into how the parental involvement phenomenon may be related to the outcomes that institutions of higher education intend for their students. In order

to do so, this study attempted to examine how the parental involvement of college students is related to their development of self-authorship, as the capacity for self-authorship is related to many college student development and educational outcomes. Further, although self-authorship is traditionally assessed through qualitative interviews, this study sought to examine this relationship quantitatively. This method of examination was selected as the quantitative assessment of self-authorship would empower practitioners to widely and efficiently assess the development of self-authorship within their student population.

While the initial purpose of this study was to examine the relationship between the parental involvement experienced by college students and their development of self-authorship, due to a lack of statistical reliability and validity from the data obtained from the quantitative self-authorship instrument, this study was not able to provide any meaningful insight into the specific relationship of these two variables. This study was still able to collect rich data which was used to gain insight into the phenomenon of parental involvement in-and-of-itself, and examine the relationship between parental involvement and another important college student outcome, GPA. A brief summary of the findings, insights, and contribution for each of the aforementioned areas follows.

Quantitative Measure of Self-Authorship

The ability for practitioners to engage in assessment efforts regarding the success of their attempts to aid the students at their institutions in the intended educational and developmental outcomes is critical. The assessment of the development of self-authorship would provide practitioners with data to support if their efforts were achieving these outcomes and preparing their students to be well equipped to thrive in the complexities of the world in their life after college. The current assessment format for self-authorship, time intensive, one-on-one

interviews, requiring a trained interviewer and interpreter is not a practical mechanism for practitioners to broadly assess the development of self-authorship for the students at their institution. The development of a reliable and valid quantitative instrument for self-authorship is still needed.

While this study was not able to further support the evidence of the CDMS-SA as a reliable and valid measure of self-authorship (Creamer et al., 2010), this study is an important contribution to the development of a quantitative instrument for self-authorship. First, this study can serve as cautionary evidence for other considering using the CDMS-SA to quantitatively assess self-authorship. The knowledge that the validity and reliability found in the Creamer et al. (2010) research of the CDMS-SA instrument, was not replicated in this study, can more fully inform the research design of future attempts to quantitatively assess the develop the of self-authorship.

The complexity and nuances present in the theoretical development of self-authorship contribute to making the task of developing a meaningful and reliable quantitative measure of self-authorship a difficult one. The CDMS-SA quantitative measure of self-authorship was selected for this study in part due to the instrument's attempt to capture a large amount of the complexity and nuances of self-authorship through specific questions reflecting nine distinct positions among the self-authorship continuum. The inability of this study to replicate the reliability and validity found for the CDMS-SA as a measure of self-authorship, served as the basis for the discussion of the future efforts to development of a quantitative measure of self-authorship. The need to identify the most simplistic and yet still meaningful representation of self-authorship is of primary concern. Even a simplistic representation could provide valuable information that could be used by practitioners to specifically trailer the efforts to challenge and

support a student's development of self-authorship toward their leading developmental edge. The benefits to practitioners on college campuses, that would result from a reliable and valid quantitative measure of self-authorship, makes this difficult undertaking well worth the time.

Parental Involvement Phenomenon

This study further supports the notion that technology has enabled parents to be very involved in the lives of their traditional-aged-college-students, while they are at college. The data from this study supports the conclusion that parental involvement is an important college environment variable and as such practitioners on campus would do well to recognize that it influences the educational and personal development of their students. In order to ensure that practitioners can intentional guide parental involvement to enhance the education and develop of their students, they must seek to understand as much as possible about this variable and its relationship to desired college student outcomes. This study provides valuable insight into this effort specifically in regard to the following facets of parental involvement: what parent is involved, why are they involved, and how and how much are they involved.

In summary, the college students who participated in this study experienced some form of parental involvement on a daily basis. The parental involvement experienced by students is rarely in person, rather the advances in technology has made this level of parental involvement possible. The participants in this study reported, on average, texting with their parents on a daily basis, as well as talking or video chatting with their every other day. The daily experience of parental involvement found in this study highlights the importance of understanding parental involvement as a consistently present variable in the college student environment. The students in this study also reported their daily experience of parental involvement to be warm and

autonomy-supportive in nature, rather than an autonomy-restrictive, helicopter-parenting type of involvement that it is often assumed to be.

In addition to the findings on the high level and the warm, autonomy-supportive qualitative nature of parental involvement experience, this study contributed further important findings about this phenomenon. This study found that the nearly all participants, almost ninety percent, reported either being primarily responsible or share equal responsibility for the initiation of parental involvement they experience. This finding asserts that college students desire parental involvement and are the primary drivers of this growing phenomenon on college campuses.

These findings should also influence the efforts of practitioners on college campuses in their efforts to effectively guide parental involvement to achieve college student outcomes. At a basic level, it must be recognized that college students' parents are going to be involved because the students want them to be. Therefore, knowing that students are initiating the parental involvement they experience, efforts to influence the qualitative nature of this involvement, rather the elimination of involvement, would seem to be most effective.

Parental Involvement and GPA

The relationship between parental involvement and GPA found in this study, can serve to guide practitioners as they seek to maximize how parental involvement can contribute to their students' educational outcomes. The Post Hoc analysis conducted in this study revealed that particular types of parental involvement can predict a college student's GPA. Specifically, it was found a student's year in college, gender (female participants resulted in predicatively higher GPAs), a mother's involvement, student initiated parental involvement, and the student's Parental Involvement Scale and Parental Warmth score, are statistically significant predictors of

a student GPA. The findings of this study display the complexity of the parental involvement phenomenon and promote these defined areas as a great starting point for practitioners to develop initiatives to support their student's success toward this educational outcome.

Conclusion

It was noted at the onset of this study that college is a time of preparation for emerging adults to become educated, responsible, and autonomous individuals who can actively participate in and contribute to society. This preparation includes formalized education inside of the classroom and informal learning opportunities outside of the classroom, which are aimed at preparing students to be highly functional, responsible, autonomous adults who can actively participate in our workforce and contribute to our democratic society. Parental involvement is a more recent and complex environmental variable, which merits additional research in order to gain deeper understanding into how it is related to the educational and developmental outcomes in college, which promote a student's preparedness for life after college.

This study supports the complexity of the college student parental involvement phenomenon. This study shows that different types and levels of parental involvement experienced by college students can contribute either positively or negatively to college student outcomes. Further, while parental involvement has caused concern for some faculty, staff, and administration, this study supports that students want the parental involvement they are experiencing and that many aspects of this involvement are predictive of an increase in a student's GPA. Yet, this study also provides evidence that suggests that there may be a point of "over-involvement" when students may start to experience diminishing returns from the parental involvement they experience. Practitioners can use the findings of this study to more intentional direct their efforts to ensure that the parental involvement their students experience result in the

intended educational and developmental outcomes for their students. In doing so, they will not only aid their student in achieving their institutions identified educational and developmental outcomes, but they will also help prepare their students for the complexities they will experience in their life after college.

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APPENDIX A

PARTICIPANT RECRUITMENT EMAIL

Hello,

I am a doctoral student in the Educational Leadership and Policy Studies for Higher Education program at the University of Kansas. I am doing a study on the parental involvement of college students and really need your input. The survey should only take 15 minutes to complete and I would be so grateful for your participation! All answers will be confidential.

To participate in this study please follow this link to the survey:

Take the Survey

Or copy and paste the URL below into your internet browser:

https://kusurvey.ca1.qualtrics.com/jfe/preview/SV_77LwDNkItWvBKWp?Q_CHL=preview

Thank you for your consideration and willingness to participate!

Sincerely,

Sean Mulcahy
Doctoral Candidate, Higher Education
University of Kansas
[redacted]

APPENDIX B

Informed Consent

Title of Project: College Students and Parental Involvement

- **Purpose of this Survey:** The purpose of this survey is to learn more about the relationship between college students and their parents.

- **Procedures to be Followed:** You are being asked to complete an online questionnaire about some aspects of your relationship with your parents. To ensure confidentiality you are being asked to provide your Student ID Number. Your name will not be associated with your answers and your ID number will be matched to a survey response number helping to ensure confidentiality while also enabling this research to identify the following demographic variables: race, gender, socioeconomic status, religious affiliation, high school setting, year in school, major, and current accumulative grade point average. An institutional representative will link the two data sets but will not have access to your survey answers. Once your survey answers are linked to the demographic information, your ID number will be deleted. The answers to your survey will be stored in a secure data base. Once the analysis is completed, the connection to the results will be severed, and all results will be deleted.

- **Discomforts and Risks:** There are no risks in participating in this research beyond those experienced in everyday life. All questions involve your personal experience.

- **Benefits:** This research will help college faculty, staff, and administrators better understand trends and outcomes of the relationship that college students have with their parents. It will also help college students and their parents gain insight into their own relational dynamics.

- **Duration:** This questionnaire should take approximately 20 minutes to complete.

- **Statement of Confidentiality:** This questionnaire is confidential. Only the researchers for this study will have access to the ID number that is matched with survey responses. Your identifiable information will not be shared unless (a) it is required by law or university policy, or (b) you give written permission. It is possible, however, with internet communications, that through intent or accident someone other than the intended recipient may see your response.

- **Voluntary Participation:** Your decision to participate in this research is voluntary. You can stop at any time. You may skip questions you do not want to answer.

- **Participant Certification:** I have read this Consent Form. I have had the opportunity to ask, and I have received answers to, any questions I had regarding the study. I understand that if I have any additional questions about my rights as a research participant, I may call (785) 864-7429 or (785) 864-7385, write the Human Research Protection Program (HRPP), University of Kansas, 2385 Irving Hill Road, Lawrence, Kansas 66045-7568, or email irb@ku.edu. You may also ask questions about this research by contacting the researcher or the researcher's faculty advisor for this project using the contact information listed below.

  By selecting the survey link below and responding to this survey, I affirm that I am at least 18 years old and I indicate my understanding of my rights and protections as a respondent and agree to participate.

Researcher Contact Information:

Sean Mulcahy
Doctoral Candidate, Higher Education
[redacted]

Dr. Lisa Wolf-Wendel
Professor, Educational Leadership and Policy Studies
University of Kansas
[redacted]

APPENDIX C

Parental Involvement of College Students Survey

Informed Consent

Click HERE to Acknowledge your Understanding of the Informed Consent and to Participate

Please enter your [redacted] Student ID# _____

As you answer the questions on this survey, please do so when thinking about your most involved parental figure. Please indicate the person you have chosen:

- ○ Mother
- ○ Father
- ○ Grandmother
- ○ Grandfather
- ○ Other (Please Indicate who:) _____

In a typical week while you are at college, how many times per week do you communicate with your selected parental figure in the following ways:

	0 5 10 15 20
Talk on the Phone ()	
Text ()	
Email ()	
FaceTime or Skype ()	
Visit in Person ()	

Who is most responsible for initiating the communication:

- ○ I usually initiate communication with my parent.
- ○ My parent usually initiates communication with me.
- ○ My parent and I share equal responsibility for initiating communication between us.

Select the statement that indicates how much you experience the following item.

	Never 1	Rarely 2	Sometimes 3	Frequently 4	Constantly 5
How often does your parent ask you about school?	○	○	○	○	○
How often does your parent help you with your schoolwork (e.g. studying for exams, proof-reading papers)?	○	○	○	○	○
How often does your parent ask you about your grades?	○	○	○	○	○
How often does your parent ask you about your social life?	○	○	○	○	○
How often does your parent ask you about your career plans?	○	○	○	○	○

Select the statement that indicates how much you experience the following item.

	Never 1	Rarely 2	Sometimes 3	Frequently 4	Constantly 5
How often does your parent give you advice regarding school?	○	○	○	○	○
How often does your parent give you advice regarding your social life?	○	○	○	○	○
How often does your parent give you advice about your future career or job?	○	○	○	○	○
How often has your parent visited campus?	○	○	○	○	○

Select the number that indicates how much the following statement is True or Not True.

	Not at all True 1	2	3	Somewhat True 4	5	6	Very True 7
My parent seems to know how I feel about things.	○	○	○	○	○	○	○
My parent tries to tell me how to run my life.	○	○	○	○	○	○	○
My parent accepts me and likes me as I am.	○	○	○	○	○	○	○
My parent, whenever possible, allows me to choose what to do.	○	○	○	○	○	○	○
My parent clearly conveys their love for me.	○	○	○	○	○	○	○

Select the number that indicates how much the following statement is True or Not True.

	Not at all True 1	2	3	Somewhat True 4	5	6	Very True 7
My parent listens to my opinion or perspective when I've got a problem.	○	○	○	○	○	○	○
My parent makes me feel very special.	○	○	○	○	○	○	○
My parent allows me to decide things for myself.	○	○	○	○	○	○	○
My parent is often disapproving and unaccepting of me.	○	○	○	○	○	○	○
My parent insists upon me doing things their way.	○	○	○	○	○	○	○

Select the number that indicates how much the following statement is True or Not True.

	Not at all True 1	2	3	Somewhat True 4	5	6	Very True 7
My parent is typically happy to see me.	○	○	○	○	○	○	○
My parent is usually willing to consider things from my point of view.	○	○	○	○	○	○	○
My parent helps me to choose my own direction.	○	○	○	○	○	○	○
My parent seems to be disappointed in me a lot.	○	○	○	○	○	○	○
My parent isn't very sensitive to my needs	○	○	○	○	○	○	○

Select the number that indicates how much you agree or disagree the following item.

	Very Strongly Disagree 1	Strongly Disagree 2	Slightly Disagree 3	Slightly Agree 4	Strongly Agree 5	Very Strongly Agree 6
My parent tries to make all of my decisions.	○	○	○	○	○	○
My parent discourages me from making decisions that they disagree with.	○	○	○	○	○	○
If my parent doesn't do certain things for me (e.g., laundry, making doctor appointments), they will not get done.	○	○	○	○	○	○
My parent overreacts when I encounter a negative experience.	○	○	○	○	○	○
My parent doesn't intervene in my life unless they notice me experiencing physical or emotional trauma.	○	○	○	○	○	○

Select the number that indicates how much you agree or disagree the following item.

	Very Strongly Disagree 1	Strongly Disagree 2	Slightly Disagree 3	Slightly Agree 4	Strongly Agree 5	Very Strongly Agree 6
My parent invests more time and energy into my projects than I do.	○	○	○	○	○	○
My parent thinks that they are a bad parent when they do not step in and "save" me from difficulty.	○	○	○	○	○	○
My parent feels like a bad parent when I have made poor choices.	○	○	○	○	○	○
My parent voices their opinion about my personal relationships.	○	○	○	○	○	○
My parent considers themselves a good parent when they solve my problems for me.	○	○	○	○	○	○

Select the number that indicates how much you agree or disagree the following item.

	Very Strongly Disagree 1	Strongly Disagree 2	Slightly Disagree 3	Slightly Agree 4	Strongly Agree 5	Very Strongly Agree 6
My parent insists that I keep them informed of my daily activities.	○	○	○	○	○	○
When I have to go somewhere, (e.g., doctor appointments, the bank, academic meeting) my parent accompanies me.	○	○	○	○	○	○
When I am going through a difficult situation, my parent tries to fix it.	○	○	○	○	○	○
My parent encourages me to take risks and step outside of my comfort zone.	○	○	○	○	○	○
My parent thinks it is their job to shield me from adversity.	○	○	○	○	○	○

Select the number that indicates how much you agree or disagree with the following item, using the following statement: My primary role in making an educational decision, like the choice of a major or career, is to:

	Disagree 1	Slightly Disagree 2	Slightly Agree 3	Agree 4
Acquire as much information as possible.	○	○	○	○
Seek direction from informed experts.	○	○	○	○
Consider my own views.	○	○	○	○

Select the number that indicates how much you agree or disagree with the following item, using the following statement: If a parent recommended a major or career in a field that I have never considered, I would:

	Disagree 1	Slightly Disagree 2	Slightly Agree 3	Agree 4
Listen, but probably wouldn't seriously consider it because I have already made my decision.	○	○	○	○
Try to understand their point of view and figure out an option that would best fit my needs and interests.	○	○	○	○
Give it some thought because they probably know better than I do about what might suit me.	○	○	○	○
Try to explain my point of view.	○	○	○	○

Select the number that indicates how much you agree or disagree with the following item, using the following statement: To make good choices about a major or career choice, I think that:

	Disagree 1	Slightly Disagree 2	Slightly Agree 3	Agree 4
Facts are the strongest basis for a good decision.	○	○	○	○
It is largely a matter of personal opinion.	○	○	○	○
Experts are in the best position to advise me about a good choice.	○	○	○	○
It is not a matter of facts or expert judgement, but a match between my values, interests, and skills and the major or career choice.	○	○	○	○

Select the number that indicates how much you agree or disagree with the following item, using the following statement:
In my opinion, the most important role of an effective advisor is to:

	Disagree 1	Slightly Disagree 2	Slightly Agree 3	Agree 4
Direct students to information that will help them to make a decision on their own.	○	○	○	○
Help students think through multiple options.	○	○	○	○
Provide guidance about a choice that is appropriate to me.	○	○	○	○
Be an expert on a variety of career options.	○	○	○	○

Select the number that indicates how much you agree or disagree with the following item, using the following statement:
When people have different interpretations of a book, I think:

	Disagree 1	Slightly Disagree 2	Slightly Agree 3	Agree 4
Some books are just that way, it is possible for all interpretations to be correct.	○	○	○	○
Multiple interpretations are possible, but some are closer to the truth than others.	○	○	○	○

Select the number that indicates how much you agree or disagree with the following item, using the following statement:
Experts are divided on some scientific issues, such as global warming, in a situation like this:

	Disagree 1	Slightly Disagree 2	Slightly Agree 3	Agree 4
I would have to look at the evidence and come to my own conclusion.	○	○	○	○
I think it is best to accept the uncertainty and try to understand the principle arguments behind the different points of view.	○	○	○	○

APPENDIX D

Data Analysis on the CDMS-SA Instrument

Due to the lower alpha reliability coefficients and in an attempting to gain further insight into the CDMS-SA instrument, which serves as a quantitative measure for self-authorship, a series of exploratory factor analyses (EFA) on the data. Exploratory factor analysis is a statistical procedure used to test the theoretical assumptions of distinct constructs contained within an instrument (Fabrigar & Wegener, 2012). Further, exploratory factor analysis is also used to test a set of items to determine if the items belong together as part of the same construct, (Fabrigar & Wegener, 2012). Fabrigar and Wegener (2012) note that factor analysis provides additional information in the assessment of the psychometric properties, the reliability and validity of specific items, through providing information on how different items within an instrument are related to and influenced by other items. Items that are strongly influenced by other items within the same factor suggest that these items are effectively measure the intended construct, while items with "weak factor loadings on a factor that strongly influences other items intended to measure the same thing are likely poor measures of the intended construct" (Fabrigar & Wegener, 2012). Finally, exploratory factor analysis is useful in when different subsets of items are intended to measure different constructs, as a researcher can evaluate if items are strongly influenced by more than one factor (Fabrigar & Wegener, 2012).

Four separate EFAs were conducted to determine what questions loaded together within all 17 self-authorship questions, as well as what factors loaded together when separately analyzing the three constructs of self-authorship. Each of the EFAs performed included a varimax rotation method with Kaiser normalization. Since this dissertation was able to obtain over 200 participant responses, the results from these analyses use the threshold of 0.400 as a significant coefficient factor loading for the inclusion of any single item within a factor (Hair,

Tatham, & Anderson, 1998). The next section of this dissertation displays and discusses the results of the EFAs for the measure of self-authorship.

The first EFA used all 17 self-authorship questions. The results of this EFAs revealed six different factors within the 17 items used from the CDMS-SA instrument (Table 1D). The factors identified through this analysis did not reflect the three-construct structure for the phases of self-authorship. There was some grouping within the factor loadings from this EFA, of the developmental dimensions of self-authorship, however even the developmental dimension did not reflect the three-construct structure of self-authorship. There was however, three component groupings (Group One, Group Two, and Group Six), which did contain just the same phase of self-authorship and the same developmental dimension within those specific groupings, in a way that reflects the theoretical assumption of the instrument, yet each of these only contained two questions and did not contain all of the questions that they theoretically should have.

After conducting the EFA using all 17 self-authorship items and determining that this EFA did not display groupings, which reflected the intention of the CDMS-SA instrument, the researcher conducted three additional EFAs for the each set of question items attempting to measure the three separate phases of self-authorship, respectively. This was done to see how the questions from each developmental dimension would group in an EFA when conducting an EFA for each of the phases of self-authorship independent of the others.

Table 1D

Exploratory factor analysis for all 17 self-authorship items.

Q#	Phase of Self-Authorship	Developmental Dimension	Rotated Component Matrix					
			1	2	3	4	5	6
13	CR	Interpersonal	.738					
14	EF	Interpersonal	.729					
12	ESA	Interpersonal	.577					
15	EF	Interpersonal	.482					
10	EF	Epistemological		.696				
8	EF	Epistemological		.639				
11	ESA	Epistemological						
16	CR	Epistemological			.787			
9	CR	Epistemological			.718			
1	EF	Intrapersonal				.837		
3	CR	Intrapersonal				.495		
2	EF	Intrapersonal				.479	.445	
5	ESA	Interpersonal					.754	
7	CR	Interpersonal					.557	
17	ESA	Epistemological					.421	
18	ESA	Epistemological						.831
19	ESA	Epistemological						-.466

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
Rotation converged in 8 iterations.
Data below 0.400 not displayed in the Rotated Matrix.

The EFA for the items intending to measure the External Foundation phase of self-authorship produced a rotated component matrix, which contained three significant factor loadings. The three factors displayed in this analysis grouped the questions together in a way that reflected the intended function of the instrument (Table 2D). Stated differently, the two questions attempting to measure the interpersonal dimension of self-authorship grouped together, as did the two questions measuring the intrapersonal dimension and the epistemological dimension, respectively. Grouping each developmental dimension together in a way that reflects the intended construct measured for each item, this EFA seems to provide evidence for face

validity for the items in the External Foundations phase of the CDMS-SA instrument. While this is an encouraging indicator for the validity of this measure this result must be interpreted along with the reliability of the construct, which at a current level of .510 is not strong support for the consistency of this measure.

Table 2D

Exploratory factor analysis for the external foundations phase.

Q#	Phase of Self-Authorship	Developmental Dimension	Rotated Component Matrix 1	2	3
14	EF	Interpersonal	.829		
15	EF	Interpersonal	.758		
1	EF	Intrapersonal		.882	
2	EF	Intrapersonal		.667	
10	EF	Epistemological			.843
8	EF	Epistemological			.718

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
Rotation converged in 8 iterations.
Data below 0.400 not displayed in the Rotated Matrix.

The EFA for the items attempting to measure the Crossroads phase of self-authorship produced a rotated component matrix, which only contained two significant factor loadings, when it was designed to contain three (Table 3D). While this EFA included all questions from the quantitative self-authorship survey that were attempting to measure the Crossroads phase, it only contained five questions, which inherently diminished the possibility of a three-factor component loading. The EFA revealed significant loading for the items that measure the epistemological and interpersonal developmental dimensions of self-authorship, but also loaded the one question which attempts to measure the intrapersonal developmental dimension with the questions attempting to measure the epistemological dimension. The grouping of the questions for the epistemological dimension and the intrapersonal dimension within this phase of self-

authorship together, is further support that the quantitative measure for self-authorship used in this study does not measure the distinctive phases and developmental dimension that it intends to measure.

Table 3D

Exploratory factor analysis for crossroads phase of self-authorship.

Q#	Phase of Self-Authorship	Developmental Dimension	Rotated Component Matrix 1	2
16	CR	Epistemological	.792	
9	CR	Epistemological	.715	
3	CR	Intrapersonal	.534	
7	CR	Interpersonal		.772
13	CR	Interpersonal		.672

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
Rotation converged in 3 iterations.
Data below 0.400 not displayed in the Rotated Matrix.

Finally, the EFA for the items attempting to measure the Early Self-Authoring phase of self-authorship produced a rotated component matrix, which also did not reflect factor loadings consistent with the distinctive developmental dimensions that the questions intended to measure (Table 4D). Theoretically, the EFA for this phase of self-authorship should have only produced a two-factor loading, as opposed to three, as the survey instrument used only contained questions for two of the three developmental dimensions. Yet, the factor revealed three factor loadings. It first grouped the two questions from the interpersonal dimension with one of the questions from the epistemological dimension as a distinct factor. In addition to this, the factor loading for the three remaining questions, which theoretically would be grouped together as one factor loading, were loaded into two separate groups. This result suggests that these questions, which were designed to measure the same construct, are in fact measure different things. This result also supports the conclusion that the quantitative self-authorship instrument used in this study does

not have the capacity to measure the distinctive phases and developmental dimensions of self-authorship.

Table 4D

Exploratory factor analysis for the early self-authorship phase of self-authorship.

Q#	Phase of Self-Authorship	Developmental Dimension	Rotated Component Matrix 1	2	3
12	ESA	Interpersonal	.757		
11	ESA	Epistemological	.741		
5	ESA	Interpersonal	.487		
18	ESA	Epistemological		-.739	.442
19	ESA	Epistemological		.720	
17	ESA	Epistemological			.858

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
Rotation converged in 5 iterations.
Data below 0.400 not displayed in the Rotated Matrix.

Discussion of the Exploratory Factor Analyses

The exploratory factor analyses (EFA) for all 17 items on the CDMS-SA instrument revealed a stronger factor loading on the developmental dimension of self-authorship, rather than the phases of self-authorship. An exploratory factor analysis for each phase of self-authorship respectively was run, displaying inconsistent factor loadings among the developmental dimensions of self-authorship. The EFA for the External Foundations phase of self-authorship displayed a factor loading that reflected the theoretical assumption of self-authorship and the intended purpose of each questions, which provide face validity for this construct. That being said, the low alpha reliability on the data form this measure still does not support the notion of even this specific phase of self-authorship as a meaningful construct. The Crossroads and Early Self-Authoring phases displayed inaccurate factor loadings, in which questions from different developmental dimensions grouped in a factor loading together, which is not reflective of the

theoretical assumptions of self-authorship. As a result, the researcher determined that the data obtained from the self-authorship survey was not be a meaningful dependent variable for this study.

Furthering a Quantitative Measure of Self-Authorship

The original intention of this study included the attempt to quantitatively measure the development of self-authorship of the college student participants. Due to the complex nature and nuances of self-authorship, it is traditionally assessed through time intensive qualitative interviews (Baxter Magolda & King, 2012; Creamer et. al., 2010; Pizzolato, 2007). There is a desire from practitioners on college campuses to develop a tool for the quantitative assessment of self-authorship. The development of this quantitative measure requires testing to ensure that it is a reliable and valid measure of the self-authorship construct. To further the efforts of testing a quantitative measure of self-authorship, this dissertation selected the CDMS-SA instrument, which displayed preliminary evidence as a reliable and valid measure of self-authorship (Creamer et al., 2010). Unfortunately, this study was not able to replicate the acceptable reliability and validity findings from the Creamer et al. (2010) study.

Although this study was not able to use the data obtained through the CDMS-SA instrument as a reliable or valid measure of self-authorship, the benefits that would come from a quantitative measure of self-authorship merit the effort to further the work in the development of a reliable and valid measure of self-authorship. This study provides valuable information into this effort and can provide insight into the attempts toward an improved quantitative assessment of self-authorship. It is the intention of the CDMS-SA quantitative measure of self-authorship to produce a 3x3 matrix with nine cells, which reflects the complexity and nuances between the phases of self-authorship and the developmental dimensions. It appears as though there were

insufficient numbers of items on the survey for each specific phase and developmental dimension respectively.

Specifically, the 17 questions used in this study from the CDMS-SA instrument, which theoretically produces a 3X3 matrix with nine cells, contained only one cell with more than two questions, six cells with only two questions, one cell with one question, and another cell without a single question (Figure 2). From a theoretical perspective, it is important to understand that each of the cells in the matrix are, on their own, a unique construct. Therefore, to produce a reliable and valid measure each individual cell would need to contain enough questions, which would also contain strong enough inter-item correlations, to achieve acceptable reliability as a unique construct. It is the researcher's conclusion that there were too few items per construct in the CDMS-SA to differentiate the items in the 3x3 matrix.

Quantitative Results Matrix indicating The Development of Self-Authorship		**Meaning-Making Position**		
		External Formulas	**Crossroads**	**Early Self-Authoring**
Developmental Dimension	**Epistemological**	#8 #10	#9 #16	#11 #17 #18 #19
	Intrapersonal	#1 #2	#3	
	Interpersonal	#14 #15	#7 #13	#5 #12

Figure 1C. The 9 cell, 3X3 matrix produced by the *CDMS-SA* for the quantitative measure of the development of self-authorship. The cells contain the corresponding question numbers from this study's survey.

The data in this study were insufficient to allow the researcher to differentiate the various items from each other – either at the row or column level. As shown in the figure about, this is

most true for the cell that intends to represent the Intrapersonal dimension within the Early Self-Authoring phase, which does not contain any questions. But, just from a mathematical perspective, eight of the nine cells contain lower probability of achieving acceptable reliability as they each have two or fewer questions. Ponterotto and Ruckdeschel (2007) explain that the reliability of a construct is affected by the number of items measuring each single construct as well as the inter-item correlation within each construct. The fact that eight of the nine cells contain two or fewer items attempting to measure a unique construct within self-authorship makes it very challenging to achieve an acceptable alpha reliability coefficient. That being said, this fact also creates an easily identifiable opportunity to direct future efforts at increasing the reliability coefficient for each construct, which one would start simply through the development of additional questions for each developmental dimension and phase of self-authorship.

While developing additional questions may seem simple enough, the development of additional questions that would accurately represent each cell, while also reflecting the complexity and nuances of the theory of self-authorship, is a difficult task. This task requires the ability to create questions that simultaneously reflect a specific developmental dimension (epistemology, intrapersonal, and interpersonal) as well as a specific phase of self-authorship (External Foundations, Crossroads, and Early Self-Authoring) within the same single question. Because the theory of self-authorship also considers how an individual uses external authorities or internal values, commitments, and beliefs to understand or make decisions in each developmental dimension, these questions would also need to access an individual's thinking or decision making rather than their actions or behaviors. Although difficult, the analysis on the data obtained in this study, on the External Foundations portion of the CDMS-SA instrument, provides some evidence to support that self-authorship can be studied quantitatively.

Specifically, the questions for the External Foundations phase of self-authorship displayed the highest alpha reliability coefficient. The reliability coefficients were .401 for the summed composite score and .510 for all of the questions in this construct entered individually. Additionally, the exploratory factor analysis (EFA) for the External Foundations phase of self-authorship was the only EFA in which all of the questions grouped together in a way that reflected the theoretical intention of the questions. The EFA, which was run including all of the self-authorship questions, also displayed high inter-item correlations for all of the questions within each of the developmental dimensions for the External Foundations phase.

These findings taken together provide substantial encouragement for the possibility of developing a reliable and valid quantitative measure of self-authorship in the future. It also provides the basis for future considerations regarding the development of a quantitative measure for self-authorship. First, the reliability coefficient for the summed scores of the developmental dimensions and the EFA in the External Foundations phase provide evidence that a quantitative measure could identify the level of agreement that an individual would specific developmental dimensions and phases of self-authorship. Continuing to develop questions within each of the developmental dimension and phase of self-authorship subscales, which could maintain an acceptable level of inter-item correlation, should continue to be considered the ideal pursuit in the development of a quantitative assessment of self-authorship.

Although the aforementioned may be the most ideal pursuit of a reliable and valid quantitative measure of self-authorship, it may prove useful to consider if a quantitative measure of self-authorship needs to be able to specifically identify a participant's level of agreement with each of the development dimensions in each of the phases of self-authorship. While moving toward a more basic definition of self-authorship would not ideally reflect the theoretical nature

of self-authorship, it may still provide useful insight. More specifically it would still be highly valuable to create a quantitative instrument even if it would only attempt to identify a student's primary meaning-making phase of self-authorship, without any regard for the specific developmental dimension. This is because one can argue that self-authorship is most concerned with how an individual makes meaning, through external authorities or internal values, commitments, and beliefs. Further, although the complexity of the development of self-authorship, which includes obstacles, setbacks, and progression toward self-authorship makes it is possible for an individual to simultaneously use different phases of self-authorship in the three developmental dimensions, there is still general trajectory of development toward self-authorship (Baxter Magolda & King, 2012). This trajectory for the development of self-authorship includes identifiable milestones and board development trends (Baxter Magolda & King, 2012), which should make it possible to capture the primary phase of self-authorship that an individual is in agreement with, and therefore the development of a useful quantitative instrument for self-authorship.

While the data obtained in this study was not able to statically support the reliability and validity of the instrument this analysis supports that there is evidence that the instrument has merit as starting point for efforts to further develop a quantitative measure for self-authorship. This merit can be derived both from the preliminary evidence for reliability and validity found in the Creamer et al. (2010) research, as well as this study, particularly as it pertains to the portion of the CDMS-SA measuring the External Foundations phase of self-authorship. The data obtained from this study supports the notion that a reliable and valid measure for the broad phases of self-authorship is possible, primarily in regard to the External Foundations phase. The data and resulting statistical analysis for External Foundations phase, without regard for the

developmental dimensions, displayed the highest reliability coefficient (.401 for the summed composite score and .510 for all of the questions in this construct entered individually). Further, EFA run on this phase reflected the theoretical intention of these questions. This could serve as a useful and promising starting point for the future efforts to develop the CDMS-SA instrument. Future research to examine these questions in an attempt to identify why these questions both display a stronger reliability coefficient and an EFA in alignment with the theoretical intention of the questions would be a worthwhile endeavor.