Young Adult Future Outlook in the Context of Parent Advice, Parent-Young Adult Closeness, and Young Adult Ability Self-Concept

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YOUNG ADULT FUTURE OUTLOOK IN THE CONTEXT OF PARENT ADVICE, PARENT-YOUNG ADULT CLOSENESS, AND YOUNG ADULT ABILITY SELF-CONCEPT

A DISSERTATION

Submitted to the Faculty of
Montclair State University in partial fulfillment of the requirements for the degree of Doctor of Philosophy by

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May 2020
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YOUNG ADULT FUTURE OUTLOOK IN THE CONTEXT OF PARENT ADVICE,
PARENT-YOUNG ADULT CLOSENESS, AND YOUNG ADULT
ABILITY SELF-CONCEPT

of

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ABSTRACT

YOUNG ADULT FUTURE OUTLOOK IN THE CONTEXT OF PARENT ADVICE, PARENT-YOUNG ADULT CLOSENESS, AND YOUNG ADULT ABILITY SELF-CONCEPT

by Jennifer A. Pax

The current study examines the associations between parent advice and parent-young adult closeness, young adult ability self-concept, and young adult future outlook, specifically future worry and future expectancy during transition to adulthood. The data for the current study are from the Transition into Adulthood Supplement (TAS) waves 2009, 2011, and 2013, a supplement to the Panel Study of Income Dynamics (PSID). Findings include that higher mother and father closeness are associated with both higher future expectancy and less future worry. In contrast, mother and father advice are associated with higher young adult future worry, but ability self-concept was identified as a protective factor. Participants were also faced with the Great Recession which may help explain the association between future worry and parental advice. The findings also support pathways found in the Eccles’ expectancy-value model demonstrating an association between the parent-young adult relationship, young adult ability self-concept, and young adult future outlook during transition to adulthood. While tangible support for young adults, is important, closeness with both mothers and fathers remain a significant source of support as young adults transition to adulthood, especially in the context of the Great Recession.

Keywords: Parent-young adult relationship, parent advice, parent closeness, ability self-concept, future outlook, transition to adulthood, Great Recession.
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DEDICATION

I would like to dedicate this dissertation to my husband and our four children. I also want to recognize the support of my parents and brothers who helped transport our children to activities when I needed time to write. This has been a long project and it would not have finished without the flexibility and understanding of my family.
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Transition to adulthood, the time period between adolescence and young adulthood, is a highly formative period of development. Not only is the transition to adulthood a critical time of development, but the period has the potential to be an exciting time full of various opportunities. From the perspective of individual development, adolescents’ brains crucially develop into young adulthood. As adolescents develop into young adults, they engage in relationships and expand their knowledge and skills which prepares them for the social milestones of adulthood (Simmonds, Hallquist, Asato, & Luna, 2013). From a larger cultural perspective, reaching adult milestones or achieving “the American Dream” of financial independence is achieved through hard work and education (Mortimer, 2003). The United States is an individualized, non-collectivist culture, which drives the milestones that are characteristic of young adulthood achievement (Oyserman, Coon, H, & Kemmelmeier, 2002). Typical young adult milestones include being financially self-supporting, living independently, getting married, and having children (Arnett, 2000). Over the past several decades, young adults are taking longer than earlier generations to reach these markers of adulthood (Furstenberg, 2015; Settersten & Ray, 2010), although the current study focuses on the millennial generation.

Millennials were born between the early 1980s and the late 1990s; currently they are mid-twenties to forty years of age (Twenge, 2013). Millennials are the most recent generation to all
reach the age of legal adulthood. Understanding characteristics associated with cohorts or
generations can be useful in understanding human development and shifting pathways of
development within a particular cohort or generation (Greenfield, 2009). Some trends of
millennials include that they value personal achievement, quality relationships, positive well-
being, and academic pursuits before getting marriage and/or having children (Gallup, 2016).
Millennial women are especially more likely to have an egalitarian view of gender roles and
delay marriage and children to pursue higher education (Donnelly et al., 2016). Millennial men
also tend to delay marriage to engage in mate selection and achieve financial stability to support
a family (Parker & Stepler, 2017). Overall, more recent trends suggest a majority of millennials
view education and financial stability as priorities. Research findings about millennials tend to
underscore the importance of achieving financial stability as a hallmark successful transition to
adulthood.

The United States is a capitalist economy; consumption is a core element of its
sustainability (Baker, 2009). A review of United States economic history shows that the
economic markets tend to reset themselves every decade or so (Baker, 2009). Chances are that
most Americans have experienced some form of economic downturn in their lifetime, but the
experience of millennials is slightly different. A major challenge for millennials is that many
were in the prime of their transition to adulthood during a major economic downturn so intense
that it is referred to as the Great Recession (Bell & Blanchflower, 2011). Kahn (2010), using data
from the 1980s economic recession, found that graduating from college in a bad economy has
negative and persistent labor market consequences such as wage effects and lower lifetime
occupational attainment. Millennials have experienced this major economic recession, and as a
result, they are at higher risk to experience negative labor market consequences as well as additional financial hardships (Abel, Deitz, & Su, 2014; Cherlin, 2010; Khan, 2010).

Research examining the Great Recession on individual development suggests that it has been a challenging economic time period for young adults to enter the workforce (Schoon & Mortimer, 2017). Millennials had the greatest spike in unemployment following the Great Recession compared with all other age groups (Milinski, 2018). Financial analyses show that millennials have more debt, less home ownership, and underemployment compared with previous generations (Estes, 2011). When millennials have been compared to Generation X and baby boomers at similar ages, 36% of millennials own houses compared with nearly 50% of Generation X and baby boomers when they were under 35 (Lew, 2015). Student debt between 2004 and 2014 has been on the rise significantly contributing to financial strains on millennials limiting household ownership (Lew, 2015). Millennials have also experienced more underemployment compared with previous generations, so they are often overeducated and/or overqualified for the positions they hold (Emmons, Kent, & Ricketts, 2018). Research findings support an association between student loans and poorer psychological functioning after the Great Recession (Walsemann, Gee, & Gentile, 2015). While much research findings point to bleak conditions for millennials, there are strengths to the millennial generation: they are often self-motivated (Meola, 2016), they enjoy challenging and meaningful work (Calk & Patrick, 2017), and they are collaborative, self-manage, and have high social consciousness (Meister & Willyerd, 2010). While the Great Recession has created employment challenges for millennials, there are also a great number of successful millennial entrepreneurs (Albanese, 2018).

The impact of the Great Recession on employment and financial outcomes for young adults is well documented (Bell & Blanchflower, 2011; Danzinger, 2013), but less is known
about the impact on young adult’s psychological and/or socio-emotional responses (Fletcher, 2015; Parker, Jerrim, & Anders, 2016). The economic climate and uncertainty have negatively influenced job prospects for young adults (Fogg & Harrington, 2011), although higher level degrees and training are still associated with higher earnings, even during the Great Recession (Vuolo, Mortimer, & Staff, 2016). Despite these economic findings, no study has looked at young adults’ future outlook, in context with the parent-young adult relationship and young adult ability self-concept. Shane and Heckhausen (2016) studied achievement orientation in young adults, but focused young adults’ perceptions of their career trajectory based on merit or privilege and luck, as a predictor of achievement. Young adults who associated career trajectory and merit had higher achievement outcomes (Shane & Heckhausen, 2016). The current study is distinguished because it focuses on the parent-young adult relationship and young adult ability self-concept as predictors of future expectancy. While the future expectancy and achievement are linked (Eccles, 1983), they are different concepts that also distinguish the current study from the work of Shane and Heckhausen (2016). Preparing youth to successfully transition into adulthood is an important responsibility for society, and a difficult task during financially challenging times. The current study findings expand knowledge that promotes positive transition to adulthood.

**Background and Significance**

Young adults face many challenges, such as paying for education, securing employment, and finding a life partner. These challenges have been amplified after the Great Recession. To buffer these challenges, many young adults receive various forms of tangible and non-tangible support from parents. Tangible supports can include housing and financial support from parents. “Boomerang kids” is a term used to describe the common phenomenon of young adults returning
home after college because they need support from their parents and/or are trying to save money to establish themselves financially (South & Lei, 2015). Many parents of millennials support their young adult children by providing financial support and/or some type of emotional support. Even when not living at home, according to the Clark Poll of Emerging Adults 56% of young adult millennials remain closely connected with their parents through communication every day (Arnett & Schwab, 2012). Parents are in communication with their young adult children more than ever as technology provides greater access (Ramsey, Gentzler, Morey, Oberhauser, & Westerman, 2013). In general, parents of millennials are highly involved in the lives of their young adult children as evident from 89% of young adults speaking with their mothers weekly compared with 72% of fathers weekly either in person or over the phone (Fingerman, Cheng, Tighe, Birditt, & Zarit, 2012).

Gentzler, Oberhauser, Westerman and Nadorff (2011) looked at different communication modes between college students and their parents and found a positive association between phone conversations with parents and satisfying, intimate, and supportive parent-young adult relationships. In contrast young adults who predominantly use social media, such as Facebook, Instagram, or Twitter, as communication with parents often experienced higher loneliness, anxious attachment, and parental conflict (Gentzler et al., 2011). These findings imply that not all communication between parents and young adults have the same benefits or outcomes for young adults.

Most of the research on parenting has focused on parent-child and parent-adolescent relationships in association with child/adolescence outcomes. Another area of parent research focuses on child/adolescent predictors of subsequent outcomes in young adulthood. Research on the parent-young adult relationship is mostly focused on tangible and/or financial support from
parents. Some research emphasizes that parenting styles, during adolescence, are predictive of positive young adult outcomes. For example, levels of involvement, warmth, support, and acceptance in earlier adolescent years influence psychological adjustment and healthy relationships in young adults (Amato, 1994; Tubman & Lerner, 1994). Parental warmth and monitoring have also been associated with positive well-being in young adulthood (Brassell, Roseberg, Parent, & Rough, 2016). In contrast, lack of positive parenting behaviors in adolescent years have been linked to depressive symptoms in young adulthood (Gomez & McLaren, 2006). Additionally, child and adolescent research in various domains has confirmed patterns of the development of self-concept from childhood through adolescence (Shapka & Keating, 2005). Although, parents play a key role in the development of their adolescent child, there is a shift from higher monitoring in early adolescence to a more egalitarian approach in later adolescence (Mastrotheodoros et. al, 2019). Much less is known about the role of parents in young adult development during transition to adulthood. Even more specifically, little is known about how parental closeness and advice influences young adults’ future outlook.

Research findings that expand knowledge of human development are beneficial to reducing individual and social problems and enhancing quality of life (Schoon, 2012). The current study aims to expand knowledge about parent-young adult advice and closeness, young adult self-concept, and future outlook. The research findings will have implications for policy and programming, theory, and direct clinical and case management for late adolescents and young adults in transition to adulthood. Even more important, as history supports, economic downturns are expected again. The findings from the current study can be beneficial for helping parents, educators, families, young adults, clinicians, and policy makers in enhancing the lives of future young adults facing challenging economic times during transition to adulthood.
Theoretical Framework of the Current Study

Two out of three of the theories applied in the current study are used as meta-theories to provide an overarching theoretical framework. First, the bioecological theory explains the different levels of contexts, such as the microsystem, macrosystem, and chronosystem, and the reciprocal interaction between the developing individual and the environment, also known as proximal process (Bronfenbrenner, 1995; Bronfenbrenner & Ceci, 1993, 1994; Bronfenbrenner & Morris, 1998, 2006). The second meta-theory used in the current study is the life course theory, which is also referred to as the life course perspective (Elder, 1985). The life course theory examines how cultural and historical contexts shape people’s development throughout their lifespan (Elder, 1985). As applied to the current study, the bioecological theory provides a framework for looking at the proximal process between parents and young adults and the larger economic environmental influences. The life course theory provides a framework for examining the impact of the Great Recession on the lives of young adult millennials.

Although the current study is meta-theoretically grounded in concepts from the bioecological theory and life course perspective, a third theory, the expectancy-value model serves as lower level theory to test the current study variables. The expectancy-value model provides a framework to examine the influence of closeness and advice between parents and young adults, young adults’ ability self-concept, and young adults’ future outlook. Theoretical concepts and definitions are defined in Appendix A as well as explained in more detail below.

Bioecological Theory

Bronfenbrenner developed the ecological systems theory (Bronfenbrenner, 1979, 1986), which proposed that human development is influenced through a multi-level system in addition to individual psychology. Bronfenbrenner emphasized that community, cultural, social,
economic and political contexts can influence an individual’s development. Brofenbrenner’s early work was profound in describing different levels of systems and recognizing the association to individual development. The systems are labeled microsystem, mesosystem, exosystem, macrosystem, and chronosystem and will be explained as they fit within Bronfenbrenner’s bioecological model described below.

**Bioecological theory, Process-Person-Context-Time (PPCT).** Bronfenbrenner expanded his work by building upon the idea that individual development is influenced by multiple contexts, which is the essence of his original work (Bronfenbrenner, 1995; Bronfenbrenner & Ceci, 1993, 1994; Bronfenbrenner & Morris, 2006). As Bronfenbrenner expanded his work, he emphasized the child’s own biology as a primary environment for fueling human development and renamed the theory to the bioecological theory (Bronfenbrenner & Ceci, 1994). More specifically, Bronfenbrenner explained that development involves a set of processes by which the person and environment interact to produce constancy and change in a person throughout their life (Bronfenbrenner, 1989). This means that the child’s maturing biology, the immediate family and community environment, and cultural/societal landscapes fuels development. The bioecological theory, is driven by the concept of “proximal process”, which is also referred to as the “engine of development” (Bronfenbrenner, 1995). Proximal process is defined as the reciprocal interaction between the developing individual and significant person(s) or experiences in various contextual environment (Bronfenbrenner, 1995).

Process-Person-Context-Time (PPCT) is a concept that captures all the operations of Bronfenbrenner’s bioecological theory (Bronfenbrenner, 1995; Bronfenbrenner & Morris, 1998). Process is the systematic interactions between multiple levels of context, such as gender and larger cultural context. Person includes biological characteristics such as age, gender,
appearance, intelligence, skills, and drive to succeed. Contexts are interactions within four interrelated system levels (i.e., microsystem, mesosystem, exosystem, and macrosystem).

Bronfenbrenner (1979) defined various contexts in which the individual develops including the microsystem, mesosystem, exosystem, and macrosystem. The microsystem includes the individual and their direct interaction with others such as parents, family, school, and peers. The macrosystem comprises larger forces like culture, macro-economics, poverty, belief systems, or societal trends.

Time implies that an individual’s development and interactions occur on a measurable, chronological scale. Time influences the systemic interactions, both within an individual’s lifespan as well as across generations. Time would ideally include more than one measurement point in a study to ascertain developmental changes across time (Bronfenbrenner, 1995). Bronfenbrenner’s work does not imply that all aspects PPCT must be included in every research study applying his theory, but emphasizes the importance of proximal processes association between characteristics of the developing individual and the context in which they occur (Tudge, Mokrova, Hatfield, & Karnick, 2009).

Applying the bioecological model to the current study, a person level variable is the ability self-concept of the developing young adult. The relational exchange between parents and young adults in the microsystem context is proximal process. The current study examines advice and closeness, between the mother-young adult and father-young adult exchanges. Contextual/system influences include: (a) the microsystem which is the immediate family structure and exchanges between the mother-young adult and father-young adult; and (b) the macrosystem, the larger cultural environment, which in this case is the larger macroeconomics on individuals in society, particularly parents and their young adult children (Bronfenbrenner,
1995; Bronfenbrenner & Morris, 2006). Time impacts the current study because mother-young adult and father-young adult relationships, ability self-concept, and future expectancy are examined across transition to adulthood. A visual of Bronfenbrenner’s work, as applied to the current study, is depicted in Figure 1 below.

Figure 1

_Urie Bronfenbrenner’s Bioecological Model Applied to the Current Study_

Chronosystem (Person’s experience over time including major life events (e.g., 2008 Recession))
**Life Course Theory**

A second meta-theory used in the current study is the life course theory, which seeks to understand multiple factors that shape people’s lives from birth to death by looking at development through cultural and historical context (Elder, 1998). Life course theory emerged in the 1960s in response to incongruence between study findings on families in the roaring 1920s compared with experiences of families who experienced the Great Depression (Elder & Shanahan, 2006). In such example, the Great Depression is considered a social-historical event that had lasting developmental impact on people directly affected and their children. Early work in life course theory supported that there are historical forces, such as the Great Depression, which shape the social trajectories of family, education, and work, which in turn influence behavior and individual development (Elder, 1998). Life course theory recognizes that some individuals are able to use their human agency and follow a particular path, while other choices are influenced by a great societal context (Elder, 1998). In summary, life course supports that life choices are contingent on the opportunities and constraints of culture and larger social structures (Elder & Shanahan, 2006).

Life course theory has been used across disciplines, particularly in longitudinal studies to explain development in context, and across time. Life course theory has been applied to specific social issues, such as patterns of recidivism (Benda, 2005), patterns of poverty (Najman et al., 2010), and even more relevant to the current study, the impact of the Great Recession on millennials (McDaniel, Gazso, & Um, 2013; Neels, Theunynck, & Wood, 2013). Life course is a theoretical orientation that encourages the study of changing lives in changing contexts. The theory emphasizes the associations between sociocultural context, specific life transitions, and cohort/generational status (Elder & Shanahan, 2006).
To elaborate further, life course theory is relevant to the current study because the United States Great Recession, which officially ended in 2009, is considered a major economic event that impacts both economic and non-economic aspects of human development. The impact of the Great Recession on young adults has been described by economist Richard Freeman as “scarring” young adults for their life (Estes, 2011). The Great Recession is an event that has changed the life courses of millennials. Studying areas of development, such as the parent-child relationship, ability self-concept, and future outlook provide an opportunity to gain insight into protective factors that help millennial development during a recession.

**Links between life course theory and the bioecological model.** The life course theory shares some conceptual ideas about human development when compared to the bioecological theory (Bronfenbrenner, 1979). For example, one commonality is that each theory applies a multiple level analysis examining societal context on individual lives. Both theories incorporate lifespan development concepts (Baltes, 1997), but with particular attention to the links between changing contexts and lifelong development. The bioecological theory emphasizes proximal process that captures the parent-young adult dynamics and the life course theory highlights the significance of looking at young adult human development of the millennial generation after the Great Recession. Theories and concepts that are reflected in life course theory are depicted in Figure 2 below (Elder, 1998).
Theories and concepts in the development of life course theory.

**Life-span Concepts of Development**
- Psychosocial state, adult
- Stages of development
- Multi-directionality of development
- Cumulative advantage, disadvantage
- Selective optimization with compensation
- Life review, autobiographical memory
- Person-Context Interaction

**Life Cycle and the Generations**
- Life cycle of social roles, generational succession
- Role transitions and sequences
- Socialization as role/social learning
- Intergenerational relations, exchange
- Social networks, capital

**Age and Temporality**
- Anthropology of age, age-grades
- Expectations, concepts of age status identity
- Child/Family History
- Cohort – birth cohorts and social change
- Age and life-course variations
- Transitions/trajectories

---

*Figure 2*

*Glen Elder’s Life Course Theory*
Eccles’ Expectancy-Value Model History

The expectancy-value model generally explains the relationship between parents’ beliefs and youth achievement and youth related behaviors specifically with regard to achievement motivation and associated outcomes (Eccles, 1983). The expectancy-value model has also been applied to a variety of motivational and behavioral choices (Eccles, 1983). The general features of the expectancy-value model are that parents’ beliefs predict parents’ behaviors; parent’s behaviors predict youth’s motivational beliefs; and youth’s motivational beliefs predict their behaviors (Eccles, 1983; Eccles et al., 1989; Wigfield & Eccles, 1992). Concepts and mechanisms within Eccles’ Expectancy-Value Model are grounded in the work of Atkinson’s Model of Expectancies and Values (Atkinson, 1957) and the social cognition theories of Bandura (1977) and Weiner (1979).

Atkinson model of expectancies and values. Atkinson’s Model of Expectancies and Values explain achievement-related behavior, such as making choices among achievement tasks and persistence to achieve success in the selected tasks (Atkinson, 1957). Atkinson’s (1957) work influenced Eccles (1983). An important concept for Atkinson’s work is achievement motive, which is the drive to strive for success that comes from environmental influences. Atkinson described expectancies for success as mental anticipations that performance will be followed by an outcome. Atkinson (1957, 1964) defined achievement related behaviors as a function of motives, expectancies, and goals for success which are all interdependent. In his formula, he proposed that behaviors equaled motivations multiplied by expectancies and goals. In other words, behaviors can be determined if motivations, expectancies, and goals have been measured by multiplying all three constructs together. Atkinson’s work is limited because he only looks at internal and not contextual factors that contribute to behaviors and expectancies.
Eccles (1983) expanded Atkinson’s work to include contextual factors in the expectancy-value model making it more similarly aligned with Bronfenbrenner’s concept, proximal process (Bronfenbrenner, 1995).

**Social cognition theorists.** The expectancy-value model (Eccles, 1983) was also influenced by the work of social cognition theorists, such as Weiner (1979) and Bandura (1977). Weiner (1979) suggested that as individuals work towards goals, they experience successes and failures which they place an affective (emotional) value on which in turn influences motivation. Weiner further explained that if the individual likes the affective value, this will motivate or deter behaviors and motivation. Bandura’s (1977, 1989) self-efficacy theory focuses on efficacy of success as an outcome of expectations and efficacy perceptions. Outcome expectations are beliefs that certain behaviors will lead to certain outcomes whereas efficacy perceptions are beliefs that the individual can achieve the behaviors that are necessary to produce the desired outcome. Bandura did most of his research on efficacy perceptions as opposed to Eccles and outcome expectations. Bandura (1989) found that efficacy perceptions are strongly associated with activity choices (e.g., math, science) and task persistence, or otherwise motivation to continue to try at the same task. As all of this relates back to Eccles’ expectancy-value model; Eccles incorporates both ability self-concept and expectations for success to determine achievement-related behavior outcomes.

**Eccles’ expectancy-value model.** Eccles’ expectancy-value model was developed by Eccles and elaborated upon through work with various colleagues (Eccles, 1983; Eccles & Wigfield, 2002; Wigfield & Eccles, 2001). The core of the theory is that achievement-related choices are motivated and/or influenced by a combination of people's *expectations for success* and *subjective task value* in particular domains (e.g., ability self-concept, ability in math,
The expectancy-value model defines expectancy beliefs and/or expectations for success as an individuals’ evaluation of their competence in different areas and their beliefs about how well they will perform on upcoming tasks. Expectancy beliefs are domain specific (e.g., self-concept), and categorized into different tasks (e.g., leadership, listening), or contexts (e.g., work, school; Wigfield & Eccles, 2001). Eccles (1983) outlined four components of value: attainment value, intrinsic interest value, utility value, and cost. Attainment value is the personal importance of performing well. Intrinsic value is the interest or enjoyment the individual gets from performing the activity or the subjective interest the individual has in the subject. Utility value is determined by how well an activity relates to current and future goals, such as career goals, and cost is the negative aspects of engaging in the task in comparison to the value of the same task (Eccles, 1983). Using leadership as an example, attainment value is the personal importance of performing well as a leader. Individuals with high attainment value for leadership have a higher interest in performing well as a leader. Intrinsic value is the interest or enjoyment the individual gets from performing the activities related to leadership. If an individual intends to go into politics as a career, then leadership skills likely have high utility value for his or her career path. Costs are the negative aspects of engaging in the task. Using the leadership example, the high cost of unpaid time volunteering in political leadership roles is a cost that one may be willing to accept because it could lead to career success in politics.

Belief and value related perceptions are eventually integrated to form activity-specific expectancies for success that motivate individuals to participate in certain tasks or activities (Jacobs, Lanza, Osgood, Eccles, & Wigfield, 2002). Expectancy and value placed on tasks are also linked with a broad array of social and cultural determinants (Wigfield, Tonks, & Eccles, 2004). Social and cultural determinants mean that expectations from society and/or culture may
have an influence on an individual’s expectancy beliefs and task values. For example, if one’s cultural environment emphasizes pursuit of hard science, then an adolescent may be influenced to pursue a related career path.

**Parents in the expectancy-value model.** Children’s values, achievement, and behaviors are influenced by their parents (Wigfield & Eccles, 1992). The expectancy-value model demonstrates that parents’ attitudes and expectations for the success of their children affect adolescent expectations through the adolescents’ self-concept of their own ability. This is because parents act as expectancy socializers (Eccles, 1983). The expectancy-value model suggests that parents convey messages to their adolescents regarding the children’s abilities such as grade expectations, participation in extracurricular activities, and college attendance.

Parents influence their children’s ability self-concept, as well as other domains, and ability self-concept are related to future expectancies (Jodl, Michael, Mallanchuk, Eccles, & Sameroff, 2003). A majority of expectancy-value model research has looked at maternal influences, partly because it has been more common to get mother’s reports. In Jodl et al. (2003), parents' values predicted adolescents' occupational aspirations through both direct and indirect pathways with similar results for males and females identified as African American and European American. Such findings support the potential role of parents as socializers of achievement-related values, and, ultimately, adolescents' occupational visions of themselves in the future. As another example, Frome and Eccles (1998) examined mothers’ influence on expectations for success in math and English courses and found that mothers’ influence on expectation of success was more predictive than students’ grades. Finally, Flouri and Hawkes (2008) looked at the role of ambitious mothers and found a positive association with young
adults’ earnings and sense of control in life. All of these studies support the strong association between parents’ influence and children achievement outcomes.

Wigfield & Eccles (1992) identified different factors that determine an individual's expectancies and values. Factors include: identified socializers’ beliefs and behaviors; differential aptitudes of the individual; previous achievement-related experiences; individual perceptions of social beliefs; individuals’ interpretations of experiences; and affective memories, general goals, and self-concepts (Eccles, 1983; Wigfield & Eccles, 1992; Wigfield et al., 2004). For example, a child may be influenced by his socializers to pursue a military career because his physical fitness is strong. In such a case, his self-constructed belief may be that he will be successful in a military career because of high self-perception of physical fitness validated by his surroundings. In this example, the individual’s expectancy value for a military career matches the feedback received from socializers regarding his physical fitness.

Individual factors in expectancy-value research. The expectancy-value model has been tested in academic-specific domains identifying different outcomes for young adults based upon age, gender, and intellectual abilities. Updegraff, Eccles, Barber, and O’Brien (1996) used the expectancy-value model to explain variation in mathematics course enrollment decisions throughout high school. In this particular study, there were associations between gender, math task value, and previous grades in math and the number of mathematics courses taken in high school. Among students who took honors courses, girls tended to take fewer math courses. Interestingly, over 20 years later, a study by Lauermann, Tsai, & Eccles (2017) indicated that adolescents’ expectancy and subjective task value beliefs about math and their math or science-related career plans reported at the beginning of high school predict later career related plans. Linking this back to the expectancy-value model, these findings show that there are consistencies
in expectancy and subjective task value beliefs. In the same study, gender differences emerged in career related beliefs; male students were more likely than female students to both pursue and attain math-related careers. As the expectancy-value model suggests, parents are also socializers of the beliefs that their children hold meaning that there are some evident gender differences even when abilities seem to be similar.

Most research applying the expectancy-value model during transition to adulthood has looked at educational choices during the post-high school transition. For example, final school year grades have been shown to predict educational attainment, university entry (Bowen, Chingos, & McPherson, 2009) and long-term occupational and socioeconomic status (Wang & Degol, 2013). The current study builds upon this research by expanding the model into transition to adulthood, specifically looking at the associations between parents, young adult ability self-concept, and future outlook. Given that the expectancy-value model has primarily been used to examine expectancies in an educational context, the current study will expand the model is looking at early transition to adulthood context focusing on both individual self-concept and the role of parents. The expectancy-value model is useful in explaining the current study variables parent-child relationship, ability self-concept, and future expectancy and the associations among all three.

**Expectancy-Value Model Applied to the Current Study**

The current study provides an opportunity to examine young adult future expectancies as influenced by ability self-concept and parent-young adult relationship qualities of closeness and communication. Young adults are socialized by their parents which influences their self-schema, which ultimately influences expectancies of success which as explained by the expectancy-value model. Although research has applied the expectancy-value model to look at parents as
socializers of their children (Jodl et al., 2003), and self-concept in specific domain areas as they influence success in childhood and adolescence (Simpkins, Fredricks, & Eccles, 2012), there is no study that specifically addresses the associations between the parent-young adult relationship, ability self-concept, and future expectancies in young adulthood. The expectancy-value model is depicted in Figure 3 below (Eccles, 1983).
Figure 3

The Expectancy Value Model (Eccles & Wigfield, 2002)

The Eccles et al. expectancy-value model of achievement
Links Between Theories in the Current Study

The bioecological theory and expectancy-value model are common in that they explain the influence of parents as socializers of their children. The theories are distinct in that bioecological theory addresses the systematic influences on the individual and is used as an orientating meta-theory in the current study, whereas, the expectancy-value model is applied as a lower level theory to explain the role of parents in the development of self-schemas/self-concept which ultimately influence child expectancies. The bioecological theory highlights the importance of development across time whereas expectancy-value model does not emphasize time as a component. The expectancy-value model emphasizes how the messages received through socialization can serve as motivators for future expectancies. The life course theory contextualizes the exploration of the current study variables focusing on millennials as a cohort following the Great Recession.

Purpose of the Current Study

The purpose of the current study is to enhance knowledge about the development of millennials following the Great Recession. More is known about economic impact of the Great Recession on the millennial population than the psychological impact on young adults, such as future outlook. Even more important, little is known about the role of parent-young adult advice and closeness and young adult ability self-concept in association with future outlook following a recession. Considering that negative economies do periodically present themselves, even if not coined a Great Recession, the current study findings enhance knowledge about young adults in transition to adulthood during financially difficult times.

More specifically, the current study has the following goals: (a) to determine if young adults who report having close relationships with parents and receiving parental advice about
career, education, and family have more positive future expectancy during early transition to adulthood; (b) to determine if young adults who report having close relationships with parents and receiving parental advice about career, education, and family have less future worry across transition to adulthood; (c) to determine if young adult ability self-concept mediates the connection between parent and young adult closeness and advice and young adult future worry and future expectancy, at one point in time; (d) to determine if young adult ability self-concept mediates the connection between parent and young adult closeness and advice and young adult future worry and future expectancy, across transition to adulthood. The results of the current study may be valuable for those in direct practice, programming, and policy making positions to improve the lives of adolescents in transition to adulthood. The conceptual model is important because there is very little research that looks at the current constructs, using Eccles’ expectancy-value model, during transition to adulthood. Lastly, the current study uniquely adds to the literature related to millennials in transition to adulthood following the Great Recession. It is also applicable to any cohort faced with the challenges of an economic downturn.

To accomplish these objectives, this dissertation will address the relevant literature to the current study variables. The dissertation will identify the research questions, explain the methodology, highlight the findings, and discuss the limitations and specific contributions to policy development, programming, theory, clinical practice, and future research.
CHAPTER TWO

LITERATURE REVIEW

Millennials are interested in financial stability, obtaining higher education, self-exploration, and quality relationships as a part of their developmental goals (Simmonds et. al, 2013). Therefore, pursuits of these goals, tend to postpone achievement of traditional young adult markers like getting married, living independently, and having children. While young adulthood can be a very exciting time, full of new opportunities, young adults are also faced with many challenges as they launch from adolescence into adulthood (Arnett, 2000; Twenge & Park, 2017). One challenge of transitioning to adulthood is a weak economy, such as the Great Recession. The current study aims to examine developmental influences on young adults’ future outlook in the context of an economic downturn. The first section of the literature review will distinguish the concepts of transition to adulthood and emerging adulthood, as well as explain why transition to adulthood is the concept used in the current study. The literature relevant to the main constructs in the current study will be presented as well as an explanation about how the constructs link together. The main constructs are: future expectancy; future worry; ability self-concept; parent-young adult closeness; and parental advice. This chapter will conclude by presenting an outline of the research questions and hypotheses in the current study.

Transition to Adulthood versus Emerging Adulthood

Debate exists in the literature between using the term emerging adulthood and transition to adulthood to describe the period between adolescence and young adulthood. Although this dissertation uses the term transition to adulthood throughout to reference the period between adolescence and young adulthood, it is important to distinguish it from the term emerging adulthood. Dr. Jeffrey Arnett is a widely known scholar in the area of emerging adulthood.
Arnett (2000) proposed emerging adulthood as both a theory and a new stage in lifespan development for young adults generally between the ages of 18 and 25 as they move from adolescence into adulthood. Over the past three decades, pursuit of higher education, delayed marriage, and delayed childbirth after marriage became common trends among young adults in the United States, Western countries, and metropolitan areas of developing countries (Juárez, & Gayet, 2014; Juarez, LeGrand, Lloyd, & Hertrich, 2013). Despite such trends, they are not widespread enough to suggest everyone has a universal experience between adolescence and young adulthood and there are many cultures in which independency, having children, and marriage happen in late teen years (Juárez, & Gayet, 2014; Juarez et. al, 2013).

Criticism of the term emerging adulthood identifies it as historically specific and not universal in nature, features that are critical of stage development (Kloep & Hendry, 2010). Trends such as prolonged education, delayed marriages, and delayed financial security are historically specific to the past thirty years in the United States and some other Western cultures (Cote, 2014), although the experiences in developing countries often have an extreme urban-rural divide. In urban centers in non-Western countries most young adults follow the trends seen in Western countries such as pursuit of higher education, delayed marriage, and delayed childbirth after marriage which contribute to later age of reaching adulthood (Juárez, & Gayet, 2014). It is evident that “emerging adulthood” is predominantly a trend in Western nations (Juarez & Gayet, 2014; Raymo, Park, Xie, & Yeung, 2015) or only among the affluent in non-Western countries (Juarez et. al, 2013). Overall, the term emerging adulthood seems to be more reflective of a phenomenon relevant for some young adults, but not all.

Twenge and Park (2017) identified transition to adulthood as having two tracks of developmental trajectories: a fast and a slow track to adulthood. Development will naturally vary
by internal factors such as aptitude and self-schemas and external factors such as societal and cultural forces (Twenge & Park, 2017). Transitions have variations for young adults, because no one person has the same internal and external factors in life. In most countries, adulthood is marked by the ability to earn income, have a family, and/or achieve self-sufficiency (Arnett, 2003). During transition to adulthood, the individual begins to execute educational and life plans that form the foundation for the rest of adulthood. Transition to adulthood, as a concept, better reflects that life trajectories among adults vary; people move from adolescence into young adulthood at different paces achieving a range of milestones at different points in their transition (Twenge & Park, 2017).

While a number of prominent researchers refer to this period as emerging adulthood (Arnett, 2000; Nelson et. al, 2011) and have also contributed literature used throughout the current literature review, the term transition to adulthood is best suited for the current study. The concept, transition to adulthood, most appropriately reflects the participants. Participants in the current study are moving towards reaching young adult milestones such as financial self-sufficiency, living on their own, attending college, having children, and being married, separated or divorced. Participants are on fast, slow, or some in-between track of development as the participants range from being in college, to working full-time, and/or raising families. The current study focuses on the process of development by examining parent-young adult relationships characterized by a degree of closeness and advice, young adult ability self-concept, future expectancy, and future worry during transition to adulthood. These are all important constructs for human development. Some constructs have been studied more heavily in childhood and adolescent research compared with young adulthood. In times when young adults are spending more time in their transition to adulthood, these constructs are important to
understand. They are also particularly important in examining development of young adults during times of economic hardship.

**Future Outlook**

Future outlook refers to individuals' attitudes and expectations about the construction of future events (Nuttin, 2014; Nuttin, Lorion, & Dumas, 1984). For the purposes of the current study, future outlook is examined through two distinct constructs: future expectancy and future worry. Future expectancy, as a component of the expectancy-value model, are beliefs of how well one thinks they will do on an upcoming task (Eccles, 1983). Future worry is the cognitive activity of worrying about the future which is distinct from anxiety. Both constructs are described in the following sections.

**Future expectancy.** Future expectancy is how one expects they will perform on upcoming tasks. The current study uses the expectancy-value model (Eccles, 1983) to define future expectancy. Expectancy beliefs are an individuals’ beliefs about how well they will perform on upcoming tasks and task value is the level of importance of the activity. Together, expectancy beliefs and task values are predictive of actual achievement (Eccles, 1987; Wigfield & Eccles, 1992). Most research has applied the expectancy-value model in studies focused on children (Simpkins, Fredricks, & Eccles, 2012; Xiang, McBride, Guan, & Solomon, 2003) and adolescents (Eccles, 1983; Wigfield & Eccles, 2001; Wigfield, Rosenzweig, & Eccles, 2017). There are some notable research trends related to the expectancy beliefs in childhood and adolescence. For example, during childhood, children are generally more fantasy focused in their expectancy beliefs and become more realistic in their beliefs as they get older (Klineberg, 1967). It makes sense that adolescence have more realistic expectancy beliefs compared with childhood because future planning activities increase with age as well as making goals that are reasonably
attainable (Nurmi, 1991). It is during adolescence that youth begin to make course subject and extracurricular decisions as they prepare to move from middle school to high school and higher education and training. The increase in realistic expectancy beliefs is also consistent with cognitive developmental milestones that children go through as they increase in their ability to think abstractly (Erikson, 1963). Abstract thinking allows one to think about situations that are beyond the here and now, so as adolescents develop, it is easier for them to think about their careers in the future.

There are several studies that have looked at future expectancy, specifically in the areas of science, math, engineering, and technology (STEM) (Eccles, 1983; Updegraff et. al, 1996). Overall, these studies show that there is a strong association between expectancy beliefs and actual achievement. Such findings that future expectancy are strongly associated with actual achievement and/or outcomes are important to the current study. The current seeks to translate the findings on expectancy to actual achievement meaning that what is learned as beneficial to positive future expectancy is relevant to actual achievement. For example, adolescence who are optimistic about the future tend to be more academically motivated and more positive about themselves (Anderman, Anderman, & Griesinger, 1999; Valentine, DuBois, & Cooper, 2004).

**Future expectancy and gender.** Future expectancy, and the expectancy-value model have been studied across gender (Greene & Wheatley, 1992; Sundberg, Poole, & Tyler, 1983), socioeconomic level (Greene, 1990; Nurmi, 1987, 1989; Trommsdorff, 1986), and ethnicity (Seginer, 2009; Seginer & Halabi, 1991). Historically, during adolescence, when compared to males, females tends to exhibit a more limited future outlook and set fewer goals (Greene & Wheatley, 1992; Nurmi, 1989; Trommsdorff, 1986). Goals and expectations of females tend to be informed more by family and other interpersonal relationships (Greene & Wheatley, 1992;
Lamm, Schmidt, & Trommsdorff, 1976). Whereas males have great focus on work and education (Knez, 2017). Expectancy beliefs and value placed on tasks are also linked with a broad array of social and cultural determinants such as family values, upbringing, and school context towards gender expectations as one example (Wigfield et al., 2004). In studies that examined future expectations across life domains, it was supported that young adults with higher risk factors for negative outcomes showed higher expectancy in family goals over educational achievement (Sulimani-Aidan, 2015). Although related to future expectancies, future-oriented cognitions have a predictive role in young adults’ achievements in adult life (Armstrong & Crombie, 2000; Messersmith & Schulenberg, 2008; Ou and Reynolds, 2008).

**Future expectancy and race.**

Findings examining future expectancy within the African-American race have been similar to the trends looking at future expectancy in predominantly Caucasian samples. Study findings indicate that adolescents who identified as African-American, who are oriented toward the future, determined to reach their goals (hope), and interested in and have a strong sense of belonging to their ethnic group tend to academically outperform adolescents, who identified as African-American, reporting lower academic grades and ethnic identity (Adelabu, (Honora), 2008). In another study examining those who identified as African-American and expectancy, higher achieving females had slightly higher future outlook than higher achieving males and lower achieving African-American females and males (Honora, 2002). These studies are aligned with the Eccles’ Expectancy-Value Model in that higher future expectancy is predictive of higher performance (Eccles, 1983). Looking at more recent work related to race and future achievement, it was found that individual attitudes was a predictor of future academic
achievement across race demonstrating that race in itself is not a predictor of future achievement (Umana-Taylor, Wong, Gonzales, & Dumka, 2012).

**Future worry.** Future worry is thinking about future events in a way that may cause anxiety (APA, 2013). Worry is technically one of several symptoms of anxiety according to the Diagnostic and Statistical Manual-5, but anxiety is considered an affective/emotional state whereas worry is a cognitive state (APA, 2013; Spielberger, 2013). There are various situations or circumstances that can contribute to worry that are relevant to the current study. For example, worry has been associated with adverse living conditions in the family of origin, such as economic hardship and low educational attainment in youth (Alm, 2011). Youth worry has been associated with unrealistic expectations and criticisms received from parents (Stober & Joorman, 2001). The style of parenting matters. For example, parenting alienation has been associated with increased worry and anxiety and adolescents (Hale, Engels, & Meeus, 2006). These examples identify the associations between negative parental relationships and economic hardships as predictors of adolescent future worry.

**Ability Self-concept**

Self-concept is a psychological construct which refers to the cluster of ideas and attitudes an individual maintains and describes about him/herself (Drew & Watkins, 1997). It has also been described as the information processor in that it takes feedback from social contexts and reconfigures it internally in describing about him/herself (Oyserman, Harrison, & Bybee, 2001). Several notable researchers have studied self-concept. Bracken (1992) identified self-concept as multi-dimensional, context dependent learned behavior patterns that reflect an individual’s evaluation of past behavior and experiences and ultimately influences future behaviors. Bracken (1992) created a scale that included various domains of self-concept such as: social, competence,
affect, physical, academic, and family. Harter (2012a) extends the literature to include a comprehensive view of self-development and highlights cognitive complexity towards integration of self. The development of self is a lengthy process that involves extensive life experiences and requires having the cognitive capabilities to distinguish different parts of the self (i.e., ideal self, self-image, and self-esteem) from areas of conflict (i.e., what self really is in comparison to ideal self), and then integrate them (Harter & Monsour, 1992). This process of development of self-concept changes throughout a person’s lifespan, as described below.

During early childhood, children’s minds become increasingly flexible as they achieve developmental milestones; their perceptions of themselves become increasingly differentiated and comprehensive (Harter, 1996; Harter, 1999). Areas that children are able to self-evaluate include physical appearance, physical competence, cognitive competence, behavioral competence, and peer acceptance. In middle childhood, children are able to comprehend a general or global sense of themselves, self-worth, along with domain-specific evaluations in five areas: physical appearance, physical competence, cognitive competence, behavioral competence, and peer acceptance (Harter, 1999; Harter, 2012b).

During adolescence, domains become increasingly differentiated as cognitive capacities increase, and continuum ranging from very good to very bad self-evaluation develops (Harter, 1999). When examining conflicting selves in adolescence, differences in parental and peer influence shows patterns of incongruence in early adolescence and middle adolescence, that began to decline later in adolescence (Harter, 2015; Harter & Mousour, 1992). While patterns of incongruence decline towards the end of adolescence, conscious representations increase and incongruences decrease during late adolescence (McLean, Breen, & Fournier, 2010).
Transition to adulthood provides opportunities for individuals to develop multiple conscious representations of themselves as they have access to different roles and experiences. As a worker, one might change from someone with a low-paying job to a higher-paying job that is more career oriented. As a student of higher education, one might feel more academically competent (Shulman, Feldman, Blatt, Cohen, & Mahler, 2005). Developing conscious representations of self is critical for healthy development. Less healthy individuals, including those with mental illness, have more difficulty finding congruence across their self-concept (McLean et al., 2010). The literature confirms that young adults’ have different timing to their development of self-concepts, but in general, the self-concept begins to stabilize in young adulthood. In either case, a stable self-concept is a developmental protective factor.

**Parent-young Adult Relationship**

For the purposes of the current study, the parent-child relationship is defined as closeness and advice between the parent and young adult child. This section will begin by defining key elements of the parent-child relationship. Fundamental to addressing the parent-child relationship is the seminal work of Baumrind (1967) who defines models of parental control (also referred to as parenting styles) as authoritarian, authoritative, permissive, and uninvolved. These different parenting styles are classified along two dimensions of parenting: parental responsiveness and parental demandingness (Maccoby & Martin, 1983). Parental responsiveness is also referred to as parental warmth or supportiveness and parental demandingness is also referred to as behavior control (Maccoby & Martin, 1983). Parents who present the qualities of high warmth and responsiveness tend to provide love and support to their children. In contrast, parents who present low warmth and responsiveness tend to be cold and disinterested.
Authoritative parenting is a type of parenting style that combines features of warmth and monitoring. Parent-child relationships characterized by warmth and monitoring play an important role in positive development in childhood. Parental responsiveness, behavioral control, autonomy granting, and an authoritative parenting style are associated with better academic performance (Steinberg, Elmen, & Mounts, 1989; Fan, Williams, & Wolters, 2012). In contrast, harsh control, authoritarian, permissive, and neglectful parenting were associated with higher levels of externalizing problems (Braza et al., 2015; Chang, Schwartz, Dodge, & McBride-Chang, 2003). Parental harsh control, and psychological control, as well as neglectful, authoritarian, and permissive parenting styles were related to lower achievement (Pinquart, 2017).

Despite the literature that finds that parenting qualities of warmth and monitoring have positive outcomes for children and adolescents (Pinquart, 2016; 2017; Smetana & Rote, 2015), little research has looked at parenting styles during transition to adulthood (Nelson et. al, 2011). One of the few studies that did explore parenting young adults identified four types of parenting styles during transition to adulthood: (1) uninvolved (low on control and responsiveness), (2) controlling-indulgent (high on control and low on all aspects of responsiveness), (3) authoritative (high on responsiveness and low on control), and (4) inconsistent (did not fall into the other categories). These parenting styles resemble the work of Baumrind (1967). Parents, during transition to adulthood, have the greatest positive effect on young adults by talking to their children and maintaining a relationship while allowing space to develop independence and/or autonomy which is characteristic of authoritative parenting (Nelson et al., 2011).

Throughout childhood and adolescence, authoritative parenting styles have been associated with positive outcomes. A healthy parent-child bond, reflective of an authoritative
parenting style, positively influences well-being (van Wel, Bogt & Raaijmakers, 2002). Other positive outcomes associated with authoritative parenting include positive well-being, higher achievement, lower risk behaviors, and positive self-identity and self-esteem during adolescence (Waterman, 2008). Also, high parental monitoring has been shown to positively impact psychological well-being among adolescents (Amato, 1994; Amato & Ochiltree, 1986). There was a bidirectional nature between prosocial behaviors and prosocial development during transition to adulthood (Padilla-Walker, Carlo, Christensen, & Yorgason, 2012). A meta-analysis found that active parental monitoring, a key feature of authoritative parenting, protected against several negative outcomes in adolescence, such as aggression, sexual involvement, and substance use during adolescence (Smetana & Rote, 2015). However, extremely high levels of parental monitoring, which is referred to as helicopter parenting, is correlated with low psychological well-being in adolescence (Gunderson & Barrett, 2017) and low school engagement and young adult autonomy (Padilla-Walker & Nelson, 2012). It is evident from the parent-adolescent literature that authoritative parenting has strong associations with positive outcomes in adolescents.

**Parent-young adult closeness.** Parenting styles and parental closeness are related concepts. Parenting, parental involvement, and closeness to parents during childhood and adolescence have been investigated as predictors of later positive young adult outcomes (Flouri & Buchanan, 2002). For example, parent-child closeness in adolescence may buffer the impact of stressful life events, such as selecting a college major, starting a family, or working on a career (Ge, Natsuaki, Neiderhiser, & Reiss, 2009). Close relationships between parents and children foster psychological growth during childhood and adolescence (Collins, 2005). Warm
and emotionally close relationships with parents have long been recognized as an important factor contributing to adolescent development (Smetana, Campione-Barr, & Metzger, 2006).

In general, children who have healthy relationships with parents tend to form positive expectations about interpersonal relationships and are better prepared to develop peer relationships (Ladd, Pettit, & Bornstein, 2002). In contrast, distant and conflictual parent-child relationships may make children feel undeserving of positive relationships and result in externalized negative behaviors (Ladd et. al, 2002). While family relationship research is progressing, there is a notable gap regarding the role of closeness in the parent-young adult relationship during transition to adulthood.

**Parent-young adult advice.** Young adults rely on parental advice during the transition to adulthood (Furstenberg, 2010). Although tangible resources, such as financial support, help young adults meet their basic needs, feedback and emotional support are necessary to guide young adults through life events (Swartz, Kim, Uno, Mortimer, & O'Brien, 2011). Life events include selecting a college major, starting a family, and working on a career. Young adults rely on advice from parents during their transition to adulthood to facilitate life events (Furstenberg, 2010). In a study that analyzed the ten-year period between adolescence and young adulthood, communication and affection between parents a youth diminished into adulthood; however, adaptability and cohesion increased as the frequency of conflicts decreased (Parra, Oliva, & Reina, 2015). The study did not look at parent gender differences and emphasized the need for further studies on family relationships during transition to adulthood especially from a longitudinal perspective. This means that as young adults develop, there is opportunity for improved cohesion and decreased conflict as youth become adults themselves. It is also common for research examining the young adult experience with their parents to rely on convenience
samples of data collected on college campuses, whereas the current study utilizes a nationally representative data set.

**Parent Gender**

In the 1950s and earlier, mothers were the predominant caregivers for children contributing to gendered role expectations among parents (Hawkins, Amato, & King, 2006). Trends have changed since the late 1960s and the role of fathers in raising children has gradually increased redefining traditional gender stereotypes. Some societal influences contributing to increased father involvement include dual parent working households and children of divorced parents living in separate parental households (Goldscheider, Bernhardt, & Løppegård, 2015; Yeung, Sandberg, Davis-Kean, & Hofferth, 2001), and same-sex partnerships (Gates, 2015; Goldberg, 2010).

Most research findings related to parent gender have been related to divorce and family structure. For example, Booth, Scott, & King (2010) examined divorced parents and parent gender, and found that father-child relationship quality is associated with positive self-esteem, and less depression and delinquency in the youth. Amato (1994) studied divorced parents and found that closeness with father made a unique contribution to child happiness, life satisfaction, and psychological distress, but divorce weakened the father’s influence on adult children’s life satisfaction. Similarly, strong emotional support from both mothers and fathers reduces depressive symptoms (Graziano, Keane, & Calkins, 2010).

In studies that looked at two parent households, paternal involvement had a greater influence, compared with maternal involvement, on children showing lower levels of externalizing behaviors such as acting out (Gryczkowski, Jordan, & Mercer, 2009). Children's internalizing behaviors were more related to their father's involvement than their mother’s
involvement, meaning that when fathers were not involved, children were more likely to internalize emotional issues (Cabrera, Fitzgerald, Bradley, & Roggman, 2007). Adolescents with closer relationships with their mother than their father have fewer behavioral problems and even more behavioral problems when fathers have aggressive behaviors (Furstenberg, Morgan, & Allison, 1987). There are similar findings to that of parent structure within the literature that looks at parent gender in the context of same-sex parents. Strengths and challenges associated with married mother/father families appear to be the same for families with two mothers and potentially for those with two fathers (Biblartz & Stacey, 2010). For parent gender overall, while there are some specific nuances between mother-youth and father-youth relationships, it is relatively consistent in that positive parent relationships are linked with improved outcomes for young adults no matter what gender.

More specifically, regarding parent gender and communication during adolescence, fathers tend to engage in conversations with their children about their jobs (Piotrkowski & Stark, 1987). Mothers educate and socialize daughters on a plethora of topics related to motherhood (Gilchrist & Camara, 2012). Hinton-Johnson (2004) described the mother-daughter relationship as the most significant and enduring of women’s relationships because of the wealth of information transmitted from mothers to daughters. There is less attention in the research on the type of advice that young adults receive from parents though parental involvement and advice are positively associated with young adult attainment and emotional well-being (Fingerman et al., 2012).

Early work of Eccles (Parsons [Eccles], Adler, & Kaczala, 1982) identified that parents are socializers of their children’s academic achievement and there are some differences between mothers and fathers. More specifically related to parent gender and expectancy values, a majority
of research has been from the perspective of maternal influence (Frome & Eccles, 1998; Jodl, Michael, Malanchuck, & Eccles, 2001). Eccles and Wigfield (1995) examined maternal influences within the Expectancy-Value Model and found that mother’s perceptions of adolescents’ math ability were directly associated with expectations of success in math courses. A similar finding was found for mothers’ ratings of English abilities and adolescent self-ratings of English ability (Eccles, Goldsmith, Jacobs, and Flanagan, 1998). Much of the literature applying the expectancy-value model during adolescence focuses on mother’s report and/or examines the mother’s relationship, whereas the current study includes young adult report on both mothers and fathers.

**Links Between Focal Constructs of the Current Study**

The following sections will highlight how the various focal constructs, in the current study, are related. Describing the links between the main constructs provide support for the research questions and methods. First, links between parent-child relationship and self-concept will be highlighted, followed by links between the parent-child relationship and future outlook, and lastly, links between self-concept and future outlook. Before presenting the research questions, the gaps in the literature will be presented.

**Links between the parent-child relationship and self-concept.** Self-concept is a psychological construct which refers to the cluster of ideas and attitudes an individual maintains about oneself. It involves all the ways an individual describes him/herself (Drew & Watkins, 1997). The quality of relationships between children and primary caregivers provide structure and shape children’s views of self and others, including their sense of self-worth, expectations for social interactions, interpretations of other people’s behaviors, and reactions to the world (DeKlyen & Greenberg, 2008). For example, a young child who experiences a mother who is
emotionally available, loving and supportive will perceive themselves as valuable and competent (Linver, Brooks-Gunn, & Kohen). A close and affectionate parent-child relationship is linked to higher levels of adolescent self-worth (Arbona & Power, 2003).

The Expectancy-Value Model (Eccles, 1983) also depicts the relationship between parents and self-concept during childhood and adolescence. Nelson and colleagues (2011), who specifically looked at the parent-young adult relationship, also support that warmth and structure are parenting characteristics associated with young adulthood positive outcomes. It seems well founded in the research that parents have an influence on the development of self-concept in childhood and adolescence. While there is an awareness that parenting, characterized as warmth and monitoring, in young adulthood has positive outcomes, there is a little know about the role of parenting on self-concept during transition to adulthood.

**Links between parent-child relationship and future outlook.** Future outlook refers to individuals' attitudes and expectations about the construction of future events (Nuttin, 2014; Nuttin et. al, 1984). Future outlook, in the current study, is comprised of future expectancy and future worry. Future expectancy is how someone believes they will perform on an upcoming task. Future worry is level of worry someone has towards future tasks. The work of Wigfield and Eccles (1992) supports that the parent-child relationship is predictive of self-concept, and self-concept, in turn, is predictive of expectancy. The current study is post-Great Recession. It is apparent that the lives of youth are shaped by the socio-historical context and relationships with others in their environment (Bronfenbrenner, 1995). Parents have a role in helping their children and young adults socialize (Eccles, 1983).

Worry is also looked at as a part of future outlook in the current study which is about how much one worries about the future. Worry has been associated with parents’ expectations and
criticisms of young adults with high worry presenting itself when there is conflict between expectations and/or criticism (Stober & Joorman, 2001). Young adult worry and indifference about the future have been linked to economic hardship and social problems in the family of origin (Alm, 2011). Although parents’ economic hardships are different from the parental relationship, the findings indicate that family home life stressors can have a negative influence on young adult future worry. In general, while theory and research imply that parents will have an influence on young adult future outlook, there is no specific study that indicates how young adult future worry and/or future expectancy are influenced by the relationship with parents, and especially during a recession.

Links between self-concept and future outlook. Although various authors have described self-concept, Bracken (1992), has identified self-concept as multi-dimensional, context dependent learned behavior patterns that reflect an individual’s evaluation of past behavior and experiences and ultimately influences future behaviors. Also, the expectancy-value model identifies that self-concept in adolescence is associated with future expectancy (Eccles, 1983). Both Bracken (1992) and Eccles (1983) have identified self-concept in as influencing future behaviors and/or expectancies. Various domains of self-concept have been associated with future expectancy (Wigfield & Eccles, 2001). For example, adolescence who are optimistic about the future tend to be more academically motivated and more positive about themselves (Anderman, Anderman, & Griesinger, 1999; Valentine, DuBois, & Cooper, 2004). While the links between self-concept and future expectancy during adolescence, there is less support for the associations in transition to adulthood. Stability and congruence of self-concept increases into young adulthood and is associated with stability in mental health (McLean & Breen, 2010), but its association with future expectancy is not clear.
With the association between self-concept and mental stability (McLean & Breen, 2010), it is expected that self-concept would be associated with decreased future worry although there are no direct studies that look at self-concept and future worry. The bioecological theory supports how the home context and family relationships significantly influence individual development (Bronfenbrenner, 1995).

**Gaps in the Current Research**

The greatest gap addressed, in the current study, is the lack of research looking at emotional aspects of the parent-young adult relationship following an economic recession. As Elder (1998) identified, development can be specific to generational cohorts and their lived contextual experiences. The current study is unique opportunity to look at millennial development following a great recession. The data used in the current study is a national data set and has more generalizability compared with many college convenience samples examining young adult development. The current study also provides an opportunity to add to the literature on transition through adulthood through application of the Eccles’ (1983) expectancy value model. There is also a meaningful body of research and theory about the promotion of positive youth development (Lerner, Dowling, & Anderson, 2003; Mueller, Lewin-Bizan, & Urban, 2011). The parent-young adult relationship, self-concept, and future related constructs, all together, represent important developmental strengths that have the potential to help young people with positive development.

Although there is an awareness that parenting, characterized as warmth and monitoring, in young adulthood has positive outcomes (Nelson et al., 2011), there is little known about the role of parenting on young adult self-concept and future outlook during transition to adulthood. While we know that parents act as socializers of the development of self-concept in youth
(Eccles, 1983; Eccles & Wigfield, 2002), the association between parents and young adults and self-concept during young adulthood is not clear. Furthermore, it is not clear how parent-young adult closeness and parental advice influence future outlook in the context following a recession.

Self-concept and future outlook have not often been put together in the same study and especially after the 2008 recession. Only one study came relatively close to the current work (Adamson, Ferrer-Wreder, & Kerpelman, 2007) who looked at self-concept and future orientation. Their significant findings include that participants with an inconsistent self-concept had a significantly more negative view of their future relative to those with a consistent self-concept. While no crystal ball will tell the future, it is important to help young adults prepare themselves for the best future outlook especially during potentially difficult times. For these reasons, it is important to explore and raise awareness about the constructs in this study.

Author’s Note: The research questions have been designed to capture cross-sectional and longitudinal findings post-economic recession 2008. The first wave of the research data is from 2009, which is one year after the Great Recession. The following waves, two and three, are from 2011 and 2013. The longitudinal questions capture up to five years after the recession. The study variables are examined across time and tie back to the bioecological theory which identifies that develop occurs across time. The life course theory also supports the significance of the study taking place during a major societal event, the Great Recession.
Research Questions (RQ) and Hypotheses (H)

The following research questions and hypotheses will be addressed in the current study. RQs 1 through 6 can be answered with the first wave of data (collected in 2009). RQs 7 and 8 take into account second and third waves of data, collected in 2011, and 2013 as well as the first wave collected in 2009.

RQ1 – Does receiving advice and having a close parent-young adult relationship predict lower young adult future worry?

H1a – Receiving advice and having a close mother-young adult relationship will predict lower adult future worry at wave one.

H1b – Receiving advice and having a close father-young adult relationship will predict lower young adult future worry at wave one.

RQ2 – Does receiving advice and having a close parent-young adult relationship predict higher young adult future expectancy?

H2a – Receiving advice and having a close mother-young adult relationship will predict higher young adult future expectancy at wave one.

H2b – Receiving advice and having a close father-young adult relationship will predict higher young adult future expectancy wave one.

RQ3 – Does receiving advice and having a close parent-young adult relationship predict lower young adult future worry over time?

H3a – Receiving advice and having a close mother-young adult relationship will predict lower young adult future worry, controlling for young adult future worry at wave one.

H3b - Receiving advice and having a close father-young adult relationship will predict lower young adult future worry, controlling for young adult future worry at wave one.
RQ4 – Does receiving advice and having a close parent-young adult relationship predict higher young adult future expectancy over time?

   H4a – Receiving advice and having a close mother-young adult relationship will predict higher young adult future expectancy, controlling for young adult future expectancy at wave one.
   H4b - Receiving advice and having a close father-young adult relationship will predict higher young adult future expectancy, controlling for young adult future expectancy at wave one.

RQ5 – Does young adult ability self-concept mediate the relationship between parent-young adult closeness and advice and young adult future worry at one point in time?

   H5a – Young adult ability self-concept will mediate the connection between having a close maternal relationship and young adult future worry at one point in time.
   H5b – Young adult ability self-concept will mediate the connection between receiving maternal advice and young adult future worry at one point in time.
   H5c – Young adult ability self-concept will mediate the connection between having a close paternal relationship and young adult future worry at one point in time.
   H5d – Young adult ability self-concept will mediate the connection between receiving paternal advice and young adult future worry at one point in time.

RQ6 – Does young adult ability self-concept mediate the relationship between parent-young adult closeness and advice and young adult future expectancy at one point in time?

   H6a – Young adult ability self-concept will mediate the connection between having a close maternal relationship and young adult future expectancy at one point in time.
H6b – Young adult ability self-concept will mediate the connection between receiving maternal advice and young adult future expectancy at one point in time.

H6c – Young adult ability self-concept will mediate the connection between having a close paternal relationship and young adult future expectancy at one point in time.

H6d – Young adult ability self-concept will mediate the connection between receiving paternal advice and young adult future expectancy at one point in time.

RQ7 – Does young adult ability self-concept mediate the relationship between parent-young adult closeness and advice and young adult future worry over time?

H7a – Young adult ability self-concept will mediate the connection between closeness received from mother and young adult future worry over time.

H7b - Young adult ability self-concept will mediate the connection between advice received from mother and young adult future worry over time.

H7c – Young adult ability self-concept will mediate the connection between closeness received from father and young adult future worry over time.

H7d - Young adult ability self-concept will mediate the connection between advice received from father and young adult future worry over time.

RQ8 – Does young adult ability self-concept mediate the connection between parent-young adult closeness and advice and young adult future expectancy over time?

H8a – Young adult ability self-concept will mediate the connection between closeness received from mother and young adult future expectancy over time.

H8b - Young adult ability self-concept will mediate the connection between advice received from mother and young adult future expectancy over time.

H8c – Young adult ability self-concept will mediate the connection between closeness
received from father and young adult future expectancy over time.

H8d - Young adult ability self-concept will mediate the connection between advice received from father and young adult future expectancy over time.
CHAPTER THREE
RESEARCH DESIGN AND METHODS

Procedure

Data in the current study come from the 2009, 2011, and 2013 waves of the Transition into Adulthood Supplement (TAS) of the Panel Study of Income Dynamics (PSID). The PSID began in 1968 and was designed to include a nationally representative sample of Americans; it is the longest running household study in the world. The PSID was initially developed in response to the War on Poverty as a tool for evaluating poverty dynamics (Johnson, McGonagle, Freedman, & Sastry, 2018). Since the initiation of the PSID, as well as the supplemental studies, the PSID has been a major resource for the study of psychological, social, and behavioral constructs for individuals and families. The TAS is administered and managed within the Michigan Institute for Social Research, Survey Research Operations. The lead funder for the TAS is the Eunice Kennedy Shriver National Institute for Child Health and Human Development (NICHD).

The PSID research team developed and executed the Child Development Supplement (CDS) in 1997 to collect information on the grandchildren of the PSID participants when they were 0 through 12 years-old across three waves: 2002, 2007, and 2014. The TAS was developed as a continuation of the CDS to follow the children aging out of the CDS when they were between the ages of 18 and 20 years-old. The first wave of data for the TAS was collected in 2005 and data have been collected biennially since then. Although the TAS is still active, there was a shift in 2017 so that the participants are no longer exclusively sourced from the original CDS in order to diversify the sample.
An early decision in conducting the current study was selecting the waves of data for analyses. As mentioned above, the TAS commenced in 2005, but 2009, 2011, and 2013 waves of data from the TAS are used because they immediately follow the Great Recession.

TAS data collection occurred via scripted phone interviews. The phone interviews were advantageous because interviewers were able to control for completeness of the surveys. In general, the TAS has high wave-to-wave response rates of approximately 94 percent and overall response rates of approximately 91 percent, a very high rate according to the Survey Research Center (2015).

Participants

There are 1,554 total participants in the 2009 TAS. From the total of 1,554 in the 2009 wave, those who were ages 18 to 22 years-old were selected to create the current study sample totaling 1,128 participants. The sample participants were followed across the 2011 and 2013 waves of TAS. The purpose of using age to select the participants is to capture young adults in early and later transition to adulthood. Participants’ ages ranged from 18 to 22 in 2009, 20 to 24 in 2011, and 22 to 26 in 2013. The mean age in 2009 was 20.3 (SD=1.429); the mean age in 2011 was 22.05 (SD=1.494); and was 24.06 (SD=1.463) in 2013.

Missing Data

Missing data are common in large, nationally representative data sets and can affect external validity (Shadish, Cook, & Campbell, 2002). There are five steps for addressing missing data: 1) understand the missing data; 2) prevent missing data; 3) diagnose the problem; 4) treat missing data; and 5) report results on missing-ness (Trzesniewski, Donnellan, & Lucas, 2011).

Missing data analyses were conducted to assess the patterns and levels of missing data associated with the sample and variables of interest (Graham, 2009). Specifically, a Missing
Completely at Random (MCAR) test was significant meaning that the missing data in the current sample are not missing completely at random (Enders, 2010). MCAR means that the propensity for a data point to be missing is completely at random and that one missing data point is not necessarily connected to another missing data point (Enders, 2010). Upon finding out that the data is not MCAR, further analyses was conducted and described below.

Within the analytic sample of 1,128, there were 105 system missing cases in 2009, 132 system missing cases in 2011, and 190 system missing cases in 2013. System missing means there was no responses recorded for the given variable. The system missing cases could not be removed from the data because of participation in at least one or more waves in the current study. A complete breakdown of missing data for the demographics and variables of interest across all three waves can be found in the Appendix B.

The 2009 variables missing data are explained in the following statements. Young adult’s reports of advice and closeness received from mother are missing data at 12% in 2009. Young adult’s reports of advice and closeness received from father are missing data at 16% and mothers at 12% for 2009. Reports on young adult of ability self-concept are missing data at 10% in 2009. Reports on young adult future worry and future expectancy are missing data at 9% and 10% in 2009. The data for 2009 is used for cross-sectional analyses in RQ1 through RQ4 and the missing data is addressed with pairwise deletion which is an acceptable technique with the level of missing data. Missing data is higher for 2011 and 2013, but is addressed using maximum likelihood techniques. RQ1 though RQ4 are preliminary analyses to support RQ5 through RQ8. The maximum likelihood technique which imputes data is one of the preferred methods for addressing missing data. The process of addressing missing data is discussed in further detail below.
Based upon looking at the missing data, it is believed that the missing data are Missing at Random (MAR). MAR means there is a systematic relationship between the propensity of missing values and the observed data, but not the missing data (Vogt & Johnson, 2015). MAR data indicates a pattern in missing data, so it is not totally random. Missing data are mainly explained by the fact that TAS did not remove participants even if they missed some of the overall waves of the TAS. When selecting the participants for the current study, any registered 18 to 22 years old was pulled into the sample. Some of these participants have participated in just one or two of the three waves used in the current study (2009, 2011, and 2013). Another pattern in the data is that reports from young adults on fathers’ advice and closeness had more missing data compared with mothers. This is not surprising, given that in divorced or separated households, children are more likely to live with their mothers (King, 2009). In addition, research shows that adolescents have a closer relationship with their mothers (Berndt, 1999; Youniss & Smollar, 1985).

There are various statistical analyses for addressing missing data. One common way to address missing data is pairwise deletion. Although use of pairwise deletion is very common, there are debates as to whether pairwise deletion or multiple imputation are the best choices for addressing missing data. Some benefits of pairwise deletion are that it is less biased because the statistical software has a system for maintaining the most amount of data by not eliminating a case on the basis of some missing data (Graham, 2009). Arguments against pairwise include that parameters of the model will stand on different sets of data with different statistics and the process can produce an inter-correlation matrix that is not positive definite (Graham, 2009). In comparing techniques for addressing missing data, modern missing data techniques such as multiple imputation and maximum likelihood were found to perform better than traditional ones.
such as pairwise and listwise deletion (Young & Johnson, 2015). Despite differences, the effects of statistical methods techniques have been tested by researchers and were minor related to estimates and substantive conclusions (Young & Johnson, 2015). In the current study, missing data were reviewed and careful consideration was given in selecting the pairwise deletion technique. Selection to use pairwise deletion was predominantly due to the design of the research questions. The 2009 data is used to address research questions one through four. The maximum missing data is 16% which can be reasonably addressed using the pairwise deletion technique (Young & Johnson, 2015).

Research questions one through four were designed as preliminary cross-sectional analyses to provide direction for more sophisticated research analyses in questions five through eight. Missing data for research questions seven and eight can be addressed using maximum likelihood in the software. As such, it seems that running the regressions for questions one through four, using the 2009 data and pairwise deletion is an acceptable methodological choice. It also seemed inconsistent to impute data for research questions one through four, then go back to the original data set to apply multiple imputation in research questions seven and eight.

Attrition is a typical issue in all longitudinal research. The current study uses the 2009, 2011, and 2013 waves of data from the TAS, so the data are longitudinal in nature and attrition must be explained. Since the TAS has run for several waves, the TAS research design preserves data by keeping cases open from wave to wave. In other words, participants may not participate in one wave, but then participate in subsequent waves. The pool of participants in the current study was created from the 2009 wave by selecting participants in the age range of 18 to 22 years. The 2009 sample, therefore generated participants who may not have participate in the survey in 2009, but may have participated in 2011, and/or 2013. Upon completion of analyses of the
current study sample between the 2009, 2011, and 2013 waves, every participant in the study sample participated in at least one wave. If participants were eliminated based upon not participating in at least one of the three waves, then the strength of the dataset would be compromised. The figure in Appendix C explains the percentage of participants that participated in one, two, and three waves of the current study.

Measures

Demographics. Table 1 provides information about the demographics for the current study sample.

Table 1
Demographics of Participants 2009, 2011, and 2013

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>TAS waves 2011</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race % (n = 1,016)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>46.4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Black</td>
<td>40.0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hispanic</td>
<td>10.8</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Other</td>
<td>2.8</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Gender % (n = 1,128)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>52</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Female</td>
<td>48</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Married or Cohabitation % (n = 1,023 )</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married or Cohabiting</td>
<td>18.0</td>
<td>26.6</td>
<td>34.2</td>
</tr>
<tr>
<td>Never Married, Not Cohabiting</td>
<td>82.0</td>
<td>73.4</td>
<td>65.8</td>
</tr>
<tr>
<td>Age, Years (n = 1128)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean (SD)</td>
<td>20.3 (1.429)</td>
<td>22.05 (1.494)</td>
<td>24.06 (1.463)</td>
</tr>
<tr>
<td>Parent Education in Years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother, Mean (SD) (n = 968)</td>
<td>13.25 (2.615)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Father, Mean (SD) (n = 777)</td>
<td>13.09 (2.776)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Financial Support from Parents %</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Binary (n = 1,023)</td>
<td>37.2</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Race. Race is measured by asking the young adult participants to identify their race using one of the following categories: White = 1; Black, African-American, or Negro = 2; American
Indian or Alaska Native = 3; Asian = 4; Native Hawaiian or Pacific Islander = 5; and Some other Race = 7. Categories for Don’t Know (DK), Not Applicable (NA), and Refused were recoded to system missing. For the current study, four categories were created for race: White; Black, African-American, or Negro; Hispanic; and Others (White is the omitted category).

**Gender.** Gender is measured by asking the young adult participants to identify their gender by selecting one of the following categories: Male = 1; or Female = 2. Gender categories were converted to male = 1 and female = 0.

**Marital and Cohabitation Status.** Marital cohabitation status measures whether the adult participant is married or living with a partner, not married, separated, or divorced. The young adult participant is asked to identify his or her marital status by selecting one of the following categories: Never married, not cohabitating = 1; Married, spouse present = 2; Married, spouse not present = 3; Separated = 4; Divorced, cohabitating = 5; Divorced, not cohabitating = 6; and Widowed = 7. Categories were collapsed into two categories: married or cohabitating, which includes married spouse present and married spouse not present = 1; and never married, not cohabitating, includes separated, divorced cohabitating, and divorced not cohabitating, and widowed = 0. Participants who reported they were married or cohabiting increased across the 2009 to 2013 waves from 18% of the sample in 2009 to 34.2% married or cohabiting in 2013.

**Participants’ Age.** Age is the biological number of years since the birth of participants. Age was verified by the interviewer, but also calculated at each wave using the date of birth in the participant’s file. Participant age ranges from 18 to 22 in 2009, 20 to 24 in 2011, and 22 to 26 in 2013. The mean age is 20.3 (SD=1.429) in 2009; mean age is 22.05 (SD=1.494) in 2011; and 24.06 (SD=1.463) in 2013.
**Completed Education of Mother and Father.** Completed education of mother/father is measured by asking young adult participants to identify the actual years of their mothers’/fathers’ education between 0 to 17 years. Twelve years of education is the equivalent to completing four years of high school, 16 years is equivalent to completing four years of college, and 17 represents at least some graduate studies or higher. The mean education for mothers is 13.25 years (SD = 2.615) in the 2009 wave. The mean education for fathers is 13.09 years (SD = 2.776) in the 2009 wave.

**Financial Support from Parents.** Financial support from parents and/or other relatives was measured by asking young adult participants to identify if their parents or other relatives, in the form of money given or money paid on their behalf, cover expenses for goods and/or schooling. Responses include: Yes = 1; and No = 5, but 5 was converted to 0 to ensure the results will be interpretable. If the participants selected yes, then a series of questions were asked of the participants to learn about the values of such goods and/or schooling.

**Main Study Variables.** The non-demographic variables, also referred to as the variables of interest are: mother-young adult closeness, father-young adult closeness, mother advice, father advice, ability self-concept, future worry, and future expectancy. Bivariate correlations, means, standard deviations, and assessment of alpha levels were completed to determine reliability and internal consistency of the scales for the main study variables (Graham, 2009).

**Mother-young adult/father-young adult closeness.** Mother-young adult closeness and father-young adult closeness is measured using young adult participants’ report on a single item measure of closeness: “Right now, how close do you feel to your (biological mother (father)/stepmother (stepfather)/adoptive mother (father)/other mother (father) figure?” with responses ranging from 1 = not close at all to 7 = very close. Although this single item measure
was created for the TAS, Aron and Smollan (1992) created a similar single-item measure for closeness referred to the Inclusion of Other in Self (IOS) to measure the level of closeness between self and another person or group. The IOS has demonstrated alternate-form and test–retest reliability and convergent validity with the Relationship Closeness Inventory (Berscheid, Snyder, & Omoto, 1989) and the Sternberg Triangular Love Scale (1988). Researchers are reluctant to use single item scales because of low content validity, sensitivity of having one choice compared with multiple questions, and lack of measures of internal-consistency or reliability (Tabachnick & Fidell, 2012). However, because of its similarity to the well-validated IOS, test-retest reliability and similar reliability to longer scales tested the same construct, the single item scale on closeness appears to be an acceptable measure of closeness in the current study. Table 2 provides means and standard deviations for the measures of mother closeness and father closeness as analyzed in the current study.

### Table 2

<table>
<thead>
<tr>
<th>TAS Year</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother Closeness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>997</td>
<td>6.16</td>
<td>1.308</td>
</tr>
<tr>
<td>2011</td>
<td>961</td>
<td>6.13</td>
<td>1.348</td>
</tr>
<tr>
<td>2013</td>
<td>901</td>
<td>6.01</td>
<td>1.443</td>
</tr>
<tr>
<td>Father Closeness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>942</td>
<td>5.22</td>
<td>1.837</td>
</tr>
<tr>
<td>2011</td>
<td>894</td>
<td>5.24</td>
<td>1.797</td>
</tr>
<tr>
<td>2013</td>
<td>841</td>
<td>5.20</td>
<td>1.789</td>
</tr>
</tbody>
</table>

**Mother-young adult/father-young adult advice.** Mother advice and father advice are measured by young adult participants’ report on four items as follows: “During the last 12 months, how often do you and your (biological mother (father)/stepmother (stepfather)/adoptive
mother (father)/other mother (father) figure) talk about,” and include four specific topics: “future job plans”; “education plans”; “conflicts that might arise in the future between family and work responsibilities”; and “future family plans.” Response options ranged from 1 = Never to 7 = Daily. The range for Cronbach’s Alpha is 0.89 to 0.90, across all three waves, demonstrating excellent internal consistency. The items created for this scale in the TAS were initially created by Eccles and colleagues (Eccles, 1996). Table 3 provides means, standard deviations, and Cronbach’s alphas for mother and father advice as analyzed in the current study.

Table 3
Means, Standard Deviations, and Cronbach’s α on the measures of Mother and Father Advice

<table>
<thead>
<tr>
<th>TAS Year</th>
<th>N</th>
<th>Cronbach’s α</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother Advice</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>1,128</td>
<td>0.88</td>
<td>4.68 (1.526)</td>
</tr>
<tr>
<td>2011</td>
<td>996</td>
<td>0.86</td>
<td>4.56 (1.572)</td>
</tr>
<tr>
<td>2013</td>
<td>938</td>
<td>0.87</td>
<td>4.34 (1.637)</td>
</tr>
</tbody>
</table>

| Father Advice |
| 2009     | 942  | 0.90         | 3.61 (1.546)   |
| 2011     | 894  | 0.86         | 3.54 (1.550)   |
| 2013     | 840  | 0.87         | 3.42 (1.564)   |

**Ability self-concept.** Ability self-concept is measured using a ten-item scale where the young adult participant ranks their ability in several skill areas. Items include: “Compared with other people, how good are you at”: “supervising others?”; “leading others?”; “logic/analytical thinking?”; “helping others solve their problems?”. “Compared with other people, how would you rate”: “your intelligence?”; “your independence?”; “your self-confidence?”; “your decisiveness?”. Compared with other people, how good are you at”: “understanding and listening to others?”; and “teaching and explaining to others?” Responses range from 1 = a lot worse than others to 7 = a lot better than others. Mean, standard deviation, and Cronbach’s Alpha are
described for all three waves in Table 4. The range for Cronbach’s Alpha is 0.84 to 0.87, across all three waves, demonstrating very good internal consistency. The items created for this scale in the TAS were initially created by Eccles and colleagues (Eccles, 1996). Table 4 provides means, standard deviations, and Cronbach’s alphas for ability self-concept as analyzed in the current study.

Table 4

<table>
<thead>
<tr>
<th>TAS Year</th>
<th>N</th>
<th>Cronbach’s α</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>1,023</td>
<td>0.84</td>
<td>5.61 (.725)</td>
</tr>
<tr>
<td>2011</td>
<td>996</td>
<td>0.86</td>
<td>5.63 (.751)</td>
</tr>
<tr>
<td>2013</td>
<td>938</td>
<td>0.87</td>
<td>5.60 (.791)</td>
</tr>
</tbody>
</table>

**Future Worry.** Future worry is measured using a three-item scale where the young adult participant ranks areas of future worry. The PSID refers to these three items as mental health worry. “On a scale of 1 to 7, where 1 means ‘Never’ and 7 means ‘Daily’, how often”: “do you worry that you may not have enough money to pay for things?”; “do you worry that you will not have a good job in the future?”; “How often do you feel discouraged about the future?” Responses range from 1 = never to 7 = daily. Mean, standard deviation, and Cronbach’s Alpha are described for all three waves in Table 5. The range for Cronbach’s Alpha is 0.75 to 0.79, across all three waves, demonstrating good to very good internal consistency. The index was changed on the scale, so that higher reported values would indicate higher worry. The items created for this scale in the TAS were initially created by Eccles and colleagues (Eccles, 1996).
Table 5
*Means, Standard Deviations, Cronbach’s α on the Measure of Future Worry*

<table>
<thead>
<tr>
<th>TAS Year</th>
<th>N</th>
<th>Cronbach’s α</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>1,023</td>
<td>0.75</td>
<td>3.64 (1.540)</td>
</tr>
<tr>
<td>2011</td>
<td>996</td>
<td>0.79</td>
<td>3.58 (1.589)</td>
</tr>
<tr>
<td>2013</td>
<td>938</td>
<td>0.78</td>
<td>3.40 (1.518)</td>
</tr>
</tbody>
</table>

**Future Expectancy.** Future expectancy is measured using a four-item scale where the young adult ranks their future expectancy in areas of job, finance, and life. “Using any number from 1 to 7, where 1 means "Very Unlikely" and 7 means "Very Likely," in the future, how likely is it that you”: “will have a job that pays well?”; “will have difficulty supporting your family financially?; “will be laid off from your job?”; and “will have a life that will be harder for you than it was for your parents?” Means, standard deviations, and Cronbach’s Alphas are listed for all three waves in Table 6. The range for Cronbach’s Alpha is 0.62 to 0.67, across all three waves, demonstrating borderline acceptable internal consistency. For future expectancy, three out of four variables were recoded because of negatively worded questions. In the recoding, a lower score represents a lot worse than others whereas a higher score represents a lot better than others. The items created for this scale in the TAS were initially created by Eccles and colleagues (Eccles, 1996).

Table 6
*Means, Standard Deviations, and Cronbach’s α on the Measure of Future Expectancy*

<table>
<thead>
<tr>
<th>TAS Year</th>
<th>n</th>
<th>α</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>1,017</td>
<td>0.62</td>
<td>5.48 (0.995)</td>
</tr>
<tr>
<td>2011</td>
<td>996</td>
<td>0.64</td>
<td>5.48 (1.012)</td>
</tr>
<tr>
<td>2013</td>
<td>935</td>
<td>0.67</td>
<td>5.50 (1.059)</td>
</tr>
</tbody>
</table>
Analysis Plans

**Preliminary Correlations.** Preliminary correlations for the main study variables have been conducted for the 2009, 2011, and 2013 TAS waves (see Tables 7, 8, and 9). Correlations determined initial relationships among the study variables by showing positive, negative or inverse relationships, and combined with theory provide guidance for moving forward with the research questions (Tabachnick & Fidell, 2012). The results of the preliminary correlations show that there are significant relationships between the main study variables and provided a basis for additional analyses as well as in the anticipated directions. Analyses were conducted using Statistical Package for the Social Sciences (SPSS), Version 25 (IBM, 2017).

<table>
<thead>
<tr>
<th>Table 7</th>
<th>Correlations Among 2009 Study Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>1. Father Closeness</td>
<td>1.00</td>
</tr>
<tr>
<td>2. Mother Closeness</td>
<td>.13**</td>
</tr>
<tr>
<td>3. Father Advice</td>
<td>.64**</td>
</tr>
<tr>
<td>4. Mother Advice</td>
<td>-.02</td>
</tr>
<tr>
<td>5. Self-Concept</td>
<td>.05</td>
</tr>
<tr>
<td>6. Future Expectancy</td>
<td>.07*</td>
</tr>
<tr>
<td>7. Future Worry</td>
<td>-.14**</td>
</tr>
</tbody>
</table>

* p < 0.05. (2-tailed). ** p < 0.01. (2-tailed).
Table 8
Correlations Among 2011 Study Variables

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td>1. Father Closeness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Mother Closeness</td>
<td>.20**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Father Advice</td>
<td>.65**</td>
<td>.17**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Mother Advice</td>
<td>.07*</td>
<td>.56**</td>
<td>.43**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Self-Concept</td>
<td>.11**</td>
<td>.18**</td>
<td>.28**</td>
<td>.28**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Future Expectancy</td>
<td>.07*</td>
<td>.11**</td>
<td>.09*</td>
<td>.12**</td>
<td>.34**</td>
<td></td>
</tr>
<tr>
<td>7. Future Worry</td>
<td>-.14**</td>
<td>-.09**</td>
<td>-.10**</td>
<td>.04</td>
<td>-.22**</td>
<td>-.41**</td>
</tr>
</tbody>
</table>

*p < 0.05. (2-tailed). **p < 0.01. (2-tailed).

Table 9
Correlations Among 2013 Study Variables

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Father Closeness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Mother Closeness</td>
<td>.21**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Father Advice</td>
<td>.62**</td>
<td>.21**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Mother Advice</td>
<td>.08*</td>
<td>.55**</td>
<td>.49**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Self-Concept</td>
<td>.10**</td>
<td>.12**</td>
<td>.26**</td>
<td>.31**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Future Expectancy</td>
<td>.11**</td>
<td>.08*</td>
<td>.08*</td>
<td>-.09**</td>
<td>.35**</td>
<td></td>
</tr>
<tr>
<td>7. Future Worry</td>
<td>-.13**</td>
<td>-.06</td>
<td>-.09*</td>
<td>-.02</td>
<td>-.26**</td>
<td>-.50**</td>
</tr>
</tbody>
</table>

*p < 0.05. (2-tailed). **p < 0.01. (2-tailed).

Research Questions. RQ1 through RQ4 were tested with regression techniques. Regressions are a set of statistical techniques that allow one to assess the relationship between a dependent variable (DV) and several independent variables (IVs) (Tabachnick & Fidell, 2012). The specific regression technique used in the current study is ordinary least squares hierarchical regression analysis. In hierarchical regression analysis, the researcher enters the independent variables in an order specified by the researcher. The researcher determines the hierarchy of
variables based upon a theoretical understanding of the relationships between the variables, then enters them accordingly as steps in the regression model (Tabachnick & Fidell, 2012).

According to Spector and Brannick (2010), decisions to include demographic control variables in statistical methods should be explained using a theoretical basis and not blindly included. The literature review was used as a guide to creating a hierarchy of variables. Careful decisions about variables were made based upon the purification principle, which involves the inclusion of control variables to get more accurate results as well as understanding of why the variables are being included (Spector & Brannick, 2010). The control variables which are age, gender, race/ethnicity, marital and cohabitation status, parent education, and parent financial support.

Future expectancy, and the expectancy-value model have been studied across gender (Greene & Wheatley, 1992; Sundberg, Poole, & Tyler, 1983), socioeconomic level (Greene, 1990; Nurmi, 1987, 1989; Trommsdorff, 1986), and ethnicity (Seginer, 2009; Seginer & Halabi, 1991). It has been common to examine differences in gender, race, and socioeconomic influences when testing various developmental constructs. Jodl et al. (2003), they identified that parents' values predicted adolescents' occupational aspirations similarly for males and females. In contrast, gender differences were found between males and females in the expectancies in STEM education (Updegraff et al., 1996). Frome and Eccles (1998) examined mothers’ influence on expectations for success in math and English courses and found that mothers’ education was a predictor in itself of child expectancy of success. Based upon some of the selected studies, it is plausible that gender, race, age, parents’ education, and young adult marital status may have influences on the study variables. As such, these control variables were tested before the associations between the main study variables.
Analyses were conducted using the following statistical packages: SPSS, Version 25 (IBM, 2017) for RQ1 through RQ4, Process, Version 3.4 (Hayes, 2019) for RQ5 and RQ6, and Amos, Version 25.0 (Arbuckle, 2017) for RQ7 and RQ8.

RQ1. Does receiving advice and having a close parent-young adult relationship predict less young adult future worry?

   H1a – Receiving advice and having a close mother-young adult relationship will predict less young adult future worry.

   H1b – Receiving advice and having a close father-young adult relationship will predict less young adult future worry.

To address RQ1, hierarchical regression analyses was performed. In the first step, the following control variables were entered: age, gender, race/ethnicity, marital and cohabitation status, parent education (i.e., mother’s education in the mother analysis and father’s education in the father analysis), and parent financial support.

   In the second step, 2009 advice and closeness were entered to determine their association with 2009 future worry. In the model testing H1a, advice and closeness between mothers and young adults were entered in the same step. In the model testing H1b, advice and closeness between fathers and young adults were entered in the same step.

   For RQ1, missing data has been addressed in the regression analyses using pairwise deletion. In pairwise deletion, missing data is addressed analysis by analysis to avoid complete cases being dropped on the account of some missing data (Vogt & Johnson, 2015).

   The output from research questions one through four were analyzed with particular attention to the unstandardized betas, beta coefficients, p-values, R-squared, and R-squared change. Analyzing the unstandardized beta coefficient determined the degree of change in the
outcome variable for every one-unit of change in the predictor variable (Tabachnick & Fidell, 2012). Analyzing the value of the beta coefficients of the independent variables together with the p-values determined the influence of each independent variable on the dependent variable (Tabachnick & Fidell, 2012). The model outputs indicated the level of influence between the first step of demographics and the second step of main study variables. R-squared value determines the predictability of the demographic variables on the outcome variable before adding in the independent variables, closeness and advice. Examining the R-squared change determined what independent variables were most predictive of the dependent variables. Support for the hypotheses were determined by whether the betas were significant and in the predicted directions as well as R-squared, R-squared change, and p-values.

RQ2. Does receiving advice and having a close parent-young adult relationship predict more young adult future expectancy?

H2a – Receiving advice and having a close mother-young adult relationship will predict more young adult future expectancy.

H2b – Receiving advice and having a close father-young adult relationship will predict more young adult future expectancy.

To address RQ2, hierarchical regression analyses were performed. In the first step, the control variables that were entered included: age, gender, race/ethnicity, marital and cohabitation status, parent education (i.e., mother’s education in the mother analysis and father’s education in the father analysis), and parent financial support.

In the second step, 2009 advice and closeness were entered to determine their association with 2011 future expectancy. In the model testing H2a, advice and closeness between mothers and young adults were entered in the same step. In the model testing H2b, advice and closeness
between fathers and young adults were entered in the same step. Missing data techniques, specific analyses, and the process for interpreting research, that have been fully described in the methods for RQ1 are applicable for RQ2.

RQ3. Does receiving advice and having a close parent-young adult relationship predict lower young adult future worry over time?

H3a – Receiving advice and having a close mother-young adult relationship will predict lower young adult future worry, controlling for young adult future worry at wave one.

H3b - Receiving advice and having a close father-young adult relationship will predict lower young adult future worry, controlling for young adult future worry at wave one.

To address RQ3, a hierarchical regression analysis was performed. The selection of control variables was based upon the results of RQ1. RQ1 controls variables included: age, gender, race/ethnicity, marital and cohabitation status, parent education (i.e., mother’s education in the mother analysis and father’s education in the father analysis), and parent financial support. The control variables were not found to be significant in RQ1, so they were not included in RQ3 for parsimony.

In the second step, 2009 future worry was entered as a control variable. The model examines which predictors are associated with change in future worry between two time points. In the third step, 2009 mother advice and closeness and father advice and closeness were entered in separate models to determine their association with 2011 future worry. In the model testing H3a, advice and closeness between mothers and young adults was entered in the third step. In the model testing H3b, advice and closeness between fathers and young adults was entered in the
third step. Missing data techniques, specific analyses, and the process for interpreting research, that have been fully described in the methods for RQ1 are applicable for RQ3.

RQ4. Does receiving advice and having a close parent-young adult relationship predict more young adult future expectancy over time?

H4a – Receiving advice and having a close mother-young adult relationship will predict more young adult future expectancy, controlling for young adult future expectancy at wave one.

H4b - Receiving advice and having a close father-young adult relationship will predict more young adult future expectancy, controlling for young adult future expectancy at wave one.

To address RQ4, hierarchical regression analyses were performed. The inclusion of control variables was based upon the results from RQ2. RQ2 controls included: age, gender, race/ethnicity, marital and cohabitation status, parent education (i.e., mother’s education in the mother analysis and father’s education in the father analysis), and parent financial support. African-American race was the only control variable that was significant in RQ2, so African-American race is the only control variable included in RQ4 for parsimony.

In the second step, 2009 future expectancy was entered as a control variable in order to examine the change in future expectancy between 2009 and 2011 as the outcome. In the third step, 2009 mother advice and closeness and father advice and closeness were entered in separate models to determine their association with 2011 future expectancy. In the model testing H4a, advice and closeness between mothers and young adults were entered in the same step. In the model testing H4b, advice and closeness between fathers and young adults were entered in the
same step. Missing data techniques, specific analyses, and the process for interpreting research, that have been fully described in the methods for RQ1 are applicable for RQ4.

RQ5. Does young adult ability self-concept mediate the connection between receiving advice and having a close parental relationship and young adult future worry at one-point in time?

H5a – Young adult ability self-concept will mediate the connection between having a close maternal relationship and young adult future worry at one point in time.

H5b – Young adult ability self-concept will mediate the connection between receiving maternal advice and young adult future worry at one-point in time.

H5c – Young adult ability self-concept will mediate the connection between having a close paternal relationship and young adult future worry at one-point in time.

H5d – Young adult ability self-concept will mediate the connection between receiving paternal advice and young adult future worry at one-point in time.

RQ5 introduced ability self-concept as a potential mediating variable between the independent and dependent variables that were analyzed in RQ1 through RQ4. The statistical technique used to answer RQ5 was a cross-sectional mediation model. A cross-sectional mediation model helps identify and explain the process that underlies an observed relationship between an independent variable and a dependent variable via the inclusion of a third variable known as the mediation variable (Vogt & Johnson, 2015). The statistical software used to run the analyses for RQ5 was PROCESS 3.4 (Hayes, 2019).

There were four cross-sectional mediation models run using PROCESS to address RQ5. All four models were identical with the only variation being a change in the independent variables in each model. The independent variables are: 2009 mother-young adult closeness; father-young adult closeness; mother-young adult advice; and father-young adult advice. The
mediating variable is 2009 ability self-concept. The dependent variable is 2009 future worry. For ability self-concept to be a mediator in any of the models, it must meet the following conditions: (a) variations in levels of the independent variables (mother-young adult closeness; father-young adult closeness; mother-young adult advice; father-young adult advice) significantly account for variations in the presumed mediator (ability self-concept), (b) variations in the mediator (ability self-concept) significantly account for variations in the dependent variable (future worry), and (c) when the mediator (ability self-concept) is controlled, a previously significant relation between the independent variables (mother-young adult closeness; father-young adult closeness; mother-young adult advice; and father-young adult advice) and dependent variables (future worry) are no longer significant (Baron & Kenny, 1986). If the results of a mediation model indicate that the direct relationship between the independent and dependent variable is close to zero or shows a decrease in value, it would be a strong sign of a mediating effect. The output including the beta values, p-values, t-test, degrees of freedom, indirect effects, direct effects, and total effects determined the meaning and significance of each of the models and are fully discussed in the results section.

RQ6. Does young adult ability self-concept mediate the connection between receiving advice and having a close parental relationship and young adult future expectancy at one-point in time?

H6a – Young adult ability self-concept will mediate the connection between having a close maternal relationship and young adult future expectancy at one-point in time.
H6b – Young adult ability self-concept will mediate the connection between receiving maternal advice and young adult future expectancy at one-point in time.
H6c – Young adult ability self-concept will mediate the connection between having a close paternal relationship and young adult future expectancy at one-point in time.
H6d – Young adult ability self-concept will mediate the connection between receiving paternal advice and young adult future expectancy at one-point in time.

RQ6 introduces a potential mediating variable to the independent and dependent variables that were analyzed in RQ2. The statistical technique used to answer RQ6 was a cross-sectional mediation model. The statistical software used to run the analyses for RQ6 was PROCESS 3.4 (Hayes, 2019).

There were four cross-sectional mediation models run in the PROCESS software to address RQ6. All four models were identical with the only variation being a change in the independent variables in each model. The independent variables are: 2009 mother-young adult closeness; father-young adult closeness; mother-young adult advice; and father-young adult advice. The mediating variable is 2009 ability self-concept. The dependent variable is 2009 future expectancy. For ability self-concept to be a mediator in any of the models, it must meet the following conditions: (a) variations in levels of the independent variables (mother-young adult closeness; father-young adult closeness; mother-young adult advice; father-young adult advice) significantly account for variations in the presumed mediator (ability self-concept), (b) variations in the mediator (ability self-concept) significantly account for variations in the dependent variable (future expectancy), and (c) when the mediator (ability self-concept) is controlled, a previously significant relation between the independent variables (mother-young adult closeness; father-young adult closeness; mother-young adult advice; and father-young adult advice) and dependent variables (future expectancy) are no longer significant (Baron & Kenny, 1986). As with RQ5, if the results of a mediation model indicate that the direct relationship between the independent and dependent variable is close to zero or shows a decrease in value, it would be a strong sign of a mediating effect. The output including the beta values, p-values, t-
test, degrees of freedom, indirect effects, direct effects, and total effects determined the meaning and significance of each of the models and are fully discussed in the results section.

RQ7. Does young adult ability self-concept mediate the connection between receiving advice and having a close parental relationship and young adult future worry over time?

H7a – Young adult ability self-concept will mediate the connection between closeness received from mother and young adult future worry over time.

H7b - Young adult ability self-concept will mediate the connection between advice received from mother and young adult future worry over time.

H7c – Young adult ability self-concept will mediate the connection between receiving advice and having a close paternal relationship and young adult future worry over time.

H7d - Young adult ability self-concept will mediate the connection between advice received from father and young adult future worry over time.

RQ7 is dependent on the results from the four cross-sectional mediation models in RQ5. The statistical technique applied in RQ7 is a cross-lagged panel mediation model (CLPMM) model. A CLPMM is slightly different than a cross-lagged panel model, which is a type of structural equation model, more specifically a path analysis model, that is used where two or more variables are measured at two or more occasions (Hayes, 2019). A CLPMM examines associations between at least three variables over time with specific attention to mediation (Selig & Preacher, 2009). The figure is drawn where each line between the observed variables represents correlation or covariance (Hayes, 2019). If all regression paths are significant, a CLPMM can determine causation between the measured variables in the model as well as mediation (Selig & Preacher, 2009). Cross-sectional models imply that relationship changes between the variables are immediate whereas CLPM and CLPMM models verify those
relationships across time (Selig & Preacher, 2009). CLPM requires at least two time points, but three time points is ideal to establish moderators and mediators (Kraemer, Kiernan, Essex, & Kupfer, 2008).

An advantage to CPLM is mediation may be seen across time, but not necessarily evident at one point in time from running a cross-sectional model. Even in a very large sample, a cross-sectional direct effect value can be either much smaller or much larger than the actual longitudinal direct effect (Maxwell, Cole, & Mitchell, 2011). Having the ability to compare the results obtained from cross-sectional and longitudinal mediation models provides support for potential criticism that findings are spurious at the cross-sectional level (Maxwell, Cole, & Mitchell, 2011). The statistical software used for RQ7 analyses is AMOS (Arbuckle, 2017).

In RQ7, ability self-concept was tested as a mediating variable between the potential independent variables that show partial mediation in RQ5: mother closeness, mother advice, father closeness, and father advice and the dependent variable future worry. For ability self-concept to be a mediator, it must meet the following conditions: (a) variations in levels of the independent variables (mother closeness, mother advice, father closeness, and father advice), significantly account for variations in the presumed mediator (ability self-concept), (b) variations in the mediator (ability self-concept) significantly account for variations in the dependent variable (future worry), and (c) when the mediator (ability self-concept) is controlled, a previously significant relation between the independent (closeness and advice) and dependent variables (future worry) are no longer significant (Baron & Kenny, 1986). If the results of a mediation model across all three time points, indicate that the direct relationship between the independent and dependent variable is close to zero or shows a decrease in value, it is a strong sign of a mediating effect across time.
Full Information Maximum Likelihood (FIML) is used in longitudinal models as it takes into consideration means and intercepts to account for missing data in the existing dataset (Young & Johnson, 2015). FIML has been applied in the models for RQ7 in the current study to account for the decrease in sample size between 2009 and 2013 which is approximately ten percent between each wave. FIML is considered a proven modern approach to addressing missing data in research studies when using structural equation modeling (Young & Johnson, 2015).

RQ8. Does young adult ability self-concept mediate the connection between receiving advice and having a close parental relationship and young adult future expectancy over time?

H8a – Young adult ability self-concept will mediate the connection between closeness received from mother and young adult future expectancy over time.

H8b - Young adult ability self-concept will mediate the connection between advice received from mother and young adult future expectancy over time.

H8c – Young adult ability self-concept will mediate the connection between closeness received from father and young adult future expectancy over time.

H8d - Young adult ability self-concept will mediate the connection between advice received from father and young adult future expectancy over time.

RQ8 is dependent on the results from the four cross-sectional mediation models in RQ6. The statistical technique applied in RQ8 is a cross-lagged panel mediation model (CLPMM). In RQ8, ability self-concept was tested as a mediating variable between the potential independent variables that show partial mediation in RQ5: mother closeness, mother advice, father closeness, and father advice and the dependent variable future expectancy. For ability self-concept to be a mediator, it must meet the following conditions: (a) variations in levels of the independent
variables (closeness and advice) significantly account for variations in the presumed mediator (ability self-concept), (b) variations in the mediator (ability self-concept) significantly account for variations in the dependent variable (future expectancy), and (c) when the mediator (ability self-concept) is controlled, a previously significant relation between the independent (closeness and advice) and dependent variables (future expectancy) are no longer significant (Baron & Kenny, 1986). If the results of a mediation model, across all three time points, indicate that the direct relationship between the independent and dependent variable is close to zero or shows a decrease in value, it would be a strong sign of a mediating effect. Full Information Maximum Likelihood (FIML) is used in longitudinal models as it takes into consideration means and intercepts to account for missing data in the existing dataset (Young & Johnson, 2015).
CHAPTER FOUR

RESULTS

Analyses were conducted using the following statistical packages: SPSS, Version 25 (IBM, 2017) for RQ1 through RQ4, Process, Version 3.4 (Hayes, 2019) for RQ5 and RQ6, and Amos, Version 25.0 (Arbuckle, 2017) for RQ7 and RQ8.

Research Question 1 (RQ1) – Does receiving advice and having a close parent-young adult relationship predict lower young adult future worry?

H1a – Receiving advice and having a close mother-young adult relationship will predict lower adult future worry.

H1b – Receiving advice and having a close father-young adult relationship will predict lower young adult future worry.

To test the relationship between the independent variables, mother advice and closeness/father advice and closeness, and the dependent variable, young adult future worry, two hierarchical ordinary least square regressions were performed. In the first step, control variables were entered: age, gender, race/ethnic status, marital and cohabitation status, parent education (i.e., mother’s education in the mother model and father’s education in the father model), and parents’ financial support. In the second step, mother advice and closeness were entered in the mother regression and father advice and closeness were entered in the father regression to determine their relationship with future worry.

Control variables were not significant predictors of future worry for mothers or fathers (p > 0.10). For mothers, when closeness and advice were added in the second step, they predicted 3.4% of the variance (p < 0.001) and R-squared change was significant for 2.5% of cases (p < 0.001). For fathers, when closeness and advice were added in the second step, they predicted
3.3% of the variance ($p < 0.001$) and R-squared change was significant for 2.5% of cases ($p < 0.001$).

For H1a, the results mean that receiving advice from mothers predicts higher future worry in young adults and having a close mother-young adult relationship predicts lower adult future worry. Directionally, as mother advice increases, so does young adult future worry and as mother closeness increases, future worry decreases. H1a is not an accepted, or partially accepted hypothesis, although significant ($p < 0.001$) because worry was operating in a different direction from the prediction. It was initially predicted that mother advice will cause a decrease in young adult future worry. For H1b, the results mean that receiving advice from fathers predicts higher future worry in young adults and having a close father-young adult relationship predicts lower adult future worry. Directionally, as father advice increases, so does young adult future worry and as father closeness increases, future worry decreases. H1b is not an accepted, or partially accepted hypothesis, despite the significance values for closeness ($p < 0.001$) and for advice ($p < 0.05$), because the relationship between advice and worry is not in the predicted direction. It was initially predicted that father advice will cause a decrease in young adult worry. Although the influences of mother and father closeness and advice on young adult future worry is small, there is a relationship between closeness and advice from mothers and fathers and young adult future worry. The results of the hierarchical regression for mother advice and closeness and young adult future worry are displayed in Table 10 and father advice and closeness and young adult future worry in Table 11 as follows.
Table 10
*Summary of Hierarchical Regression 2009 Mother Relationship Predicting Future Worry*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>$B$</th>
<th>$t$</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
<th>df</th>
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<tbody>
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</tr>
<tr>
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<tr>
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<td>.49</td>
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</tr>
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<td>-.01</td>
<td>-.17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race Other</td>
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<td>-.00</td>
<td>-.09</td>
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<td>Age</td>
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<tr>
<td>Education of Mother</td>
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<td>-.03</td>
<td>-.74</td>
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<tr>
<td>Financial Support Parents</td>
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<td>Closeness to Mother</td>
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<td>-.19</td>
<td>-4.7***</td>
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<tr>
<td>Advice from Mother</td>
<td>.17</td>
<td>.16</td>
<td>4.0***</td>
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</tr>
</tbody>
</table>

*** $p < 0.001$. 
Table 11

Summary of Hierarchical Regression 2009 Father Relationship Predicting Future Worry

<table>
<thead>
<tr>
<th>Variable</th>
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<th>β</th>
<th>t</th>
<th>R²</th>
<th>AR²</th>
<th>Df</th>
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<td></td>
</tr>
<tr>
<td>Gender</td>
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<td>-.03</td>
<td>-.93</td>
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<td>738</td>
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<td>738</td>
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<td>Race Black</td>
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<td>.02</td>
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<td>.42</td>
<td>.1</td>
<td>738</td>
</tr>
<tr>
<td>Race Hispanic</td>
<td>-.01</td>
<td>-.00</td>
<td>-.14</td>
<td>-.14</td>
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<td>738</td>
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<tr>
<td>Race Other</td>
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<td>.00</td>
<td>.01</td>
<td>.01</td>
<td>.1</td>
<td>738</td>
</tr>
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<td>Age</td>
<td>.06</td>
<td>.05</td>
<td>1.37</td>
<td>1.37</td>
<td>.1</td>
<td>738</td>
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<td>Education of Father</td>
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<td>-.02</td>
<td>-.52</td>
<td>-.52</td>
<td>.1</td>
<td>738</td>
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<tr>
<td>Financial Support Parents</td>
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<td>.03</td>
<td>.67</td>
<td>.67</td>
<td>.1</td>
<td>738</td>
</tr>
</tbody>
</table>

| Step 2                     |      |     |      |     |     |     |
| Closeness to Father        | -.17 | -.21| -4.26*** | -4.26*** | .03** | 736 |
| Advice from Father         | .11  | .11 | 2.22* | 2.22* | .03*** | 736 |

* p < 0.05. *** p < 0.001.

Research Question 2 – Does receiving advice and having a close parent-young adult relationship predict lower young adult future expectancy?

H2a – Receiving advice and having a close mother-young adult relationship will predict lower young adult future expectancy.

H2b – Receiving advice and having a close father-young adult relationship will predict lower young adult future expectancy.

To test the relationship between the independent variables, mother advice and closeness/father advice and closeness, and the dependent variable, young adult future expectancy, two hierarchical ordinary least square regressions were performed. In the first step, the control variables were entered: age, gender, race/ethnic status, marital and cohabitation
status, parent education (i.e., mother’s education in the mother analysis and father’s education in the father analysis), and parent financial support. Race was entered as three dummy variables (White was omitted) and marital status was collapsed into two categories. In the second step, mother advice and closeness were entered in the mother regression and father advice and closeness were entered in the father regression to determine their relationship with future expectancy.

Out of all the control variables, race was the only significant predictor of future expectancy \((p < 0.001)\) in both mother and father models. In the mother model, when closeness and advice were added in the second step, they predicted 4.5\% of the variance \((p < 0.001)\) and R-squared change was significant for 2.0\% of cases at significance level \((p < 0.001)\). Within the second step, mother closeness represented all the significance \((p < 0.05)\) and advice was not significant. Directionally, this means that as mother closeness increased, young adult future expectancy increased whereas as mother advice increased, there was no significance on young adult future expectancy. In the father model, when closeness and advice were added in the second step, they predicted 3.5\% of the variance \((p < 0.001)\) and R-squared change was significant for 1.1\% of cases at significance level \((p < 0.001)\). Within the second step, father closeness was significant \((p < 0.01)\) and advice was significant at the \(p < 0.05\) level. Directionally, this means that as father closeness and advice increased, young adult future expectancy increased.

For H2a, the results mean that receiving advice from mothers does not predict higher future expectancy in young adults, but having a close mother-young adult relationship predicts higher future expectancy. Race is a significant control variable for African-Americans \((p < 0.001)\) which means that African-American race is a predictor of future expectancy. H2a is
partially accepted because of the significance value ($p < 0.001$) for mother closeness and future expectancy, but not for mother advice and future expectancy. For H2b, the results mean that receiving advice from fathers predicts higher future expectancy in young adults and having a close father-young adult relationship predicts higher future expectancy. Race is a significant control variable for African-Americans ($p < 0.001$) which means that African-American race is a predictor of future expectancy. H2b is accepted because of the significance value ($p < 0.001$) for father closeness and advice. Although the influences of mother closeness and father closeness and advice on young adult future expectancy is small, they are still significant predictors of future expectancy. The results of the regressions including mother closeness and advice and future expectancy are presented in Table 12 and the results of the regressions including father closeness and advice and future expectancy are presented in Table 13.

### Table 12

*Summary of Hierarchical Regression 2009 Mother Relationship and Future Expectancy*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>$B$</th>
<th>$T$</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
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<tbody>
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</tr>
<tr>
<td>Gender</td>
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<td>-.01</td>
<td>-.38</td>
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<td></td>
</tr>
<tr>
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<tr>
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<td>4.68***</td>
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</tr>
<tr>
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<td>.06</td>
<td>1.54</td>
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<tr>
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<tr>
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<tr>
<td>Closeness to Mother</td>
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<td>-.17</td>
<td>4.36***</td>
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<td>-1.70</td>
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</table>

** $p < 0.01$. *** $p < 0.001$. **
Table 13
Summary of Hierarchical Regression 2009 Father Relationship and Future Expectancy

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>B</th>
<th>T</th>
<th>R²</th>
<th>ΔR²</th>
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<td>4.11***</td>
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<td>.04</td>
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* p < 0.05. ** p < 0.01. *** p < 0.001.

**Research Question 3** – Does receiving advice and having a close parent-young adult relationship predict lower young adult future worry over time?

H3a – Receiving advice and having a close mother-young adult relationship will predict lower young adult future worry, controlling for young adult future worry at wave one.

H3b - Receiving advice and having a close father-young adult relationship will predict lower young adult future worry, controlling for young adult future worry at wave one.

To test the predictive nature of the relationship between the independent variables, mother advice and closeness/father advice and closeness, and the dependent variable, young adult future worry, two hierarchical ordinary least square regressions were performed. For the mother analysis, future worry in 2009 was predictive of future worry in 2011 explaining 27.0%
of the variance ($p < 0.001$) and R-squared change when advice and closeness were added to the model was 0% which was not significant. For the father analysis, future worry in 2009 was predictive of future worry in 2011 explaining 27.0% of the variance ($p < 0.001$) and R-squared change was not significant when closeness and advice were added to the model explaining 0% of cases at significance level ($p < 0.001$).

For H3a, young adult future worry in 2009 is predictive of young adult future worry in 2011. Mother closeness and advice received by young adults in 2009 are not predictive of 2011 young adult future worry. H3a is rejected as a hypothesis because closeness and advice from mother at wave one are not predictive of future worry at wave two. For H3b, young adult future worry in 2009 is predictive of young adult future worry in 2011. Father closeness and advice received by young adults in 2009 are not predictive of 2011 young adult future worry. H3b is rejected as a hypothesis because closeness and advice from father at wave one are not predictive, in any direction, of future worry at wave two. The results of the hierarchical regression for 2009 mother advice and closeness and future worry are displayed in Table 14 and 2009 father advice and closeness and future worry in Table 15.

Table 14

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>$B$</th>
<th>$t$</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
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*** $p < 0.001$. 


df
Table 15
*Summary of Hierarchical Regression for 2009 Father Relationship and 2011 Future Worry*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
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<th>t</th>
<th>R²</th>
<th>ΔR²</th>
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<td></td>
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<tr>
<td>Future Worry 2009</td>
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<td>.52</td>
<td>17.41**</td>
<td>.27</td>
<td>.27***</td>
<td>842</td>
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</tr>
<tr>
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<td>840</td>
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<td>-.01</td>
<td>-.36</td>
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</table>

** p < 0.01. *** p < 0.001.

**Research Question 4** – Does receiving advice and having a close parent-young adult relationship predict lower young adult future expectancy over time?

H4a – Receiving advice and having a close mother-young adult relationship will predict higher young adult future expectancy, controlling for young adult future expectancy at wave one.

H4b - Receiving advice and having a close father-young adult relationship will predict higher young adult future expectancy, controlling for young adult future expectancy at wave one.

To test the predictive nature of the relationship between the independent variables, mother advice and closeness/father advice and closeness, and the dependent variable, young adult future expectancy, two hierarchical ordinary least square regressions were performed. Based upon the results of RQ2, race was the only significant demographic variable. For mothers and fathers, race was controlled in the first step examining future expectancy in 2009 on future expectancy in 2011.
For mothers, future expectancy in 2009 was predictive of future expectancy in 2011 explaining 23.0% of the variance ($p < 0.001$) and R-squared change when advice and closeness were added to the model was not significant. Race explained 2.0% of the model ($p < 0.001$). For fathers, future expectancy in 2009 was predictive of future expectancy in 2011 explaining 23.0% of the variance ($p < 0.001$) and R-squared change was not significant when closeness and advice were added to the model was not significant. Race explained 2.0% of the model ($p < 0.001$).

For H4a, the mother model results support that future expectancy in 2009 predicts future worry in young adults in 2011. Mother closeness and advice are not predictive of future expectancy at any level. H4a is rejected as a hypothesis because closeness and advice from mother at wave one is not predictive of future worry at wave two. H4b is rejected as a hypothesis because closeness and advice from father at wave one is not predictive of future worry at wave two. The results of the hierarchical regression for early mother advice and closeness and later future expectancy are displayed in Table 16 and early father advice and closeness and later future expectancy in Table 17.

Table 16

<table>
<thead>
<tr>
<th>Variable</th>
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<th>B</th>
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<th>$R^2$</th>
<th>$\Delta R^2$</th>
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<td></td>
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<tr>
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<td>.02</td>
<td>.02***</td>
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*** $p < 0.001$. 
Table 17
Summary of Hierarchical Regression for 2009 Father Relationship, 2011 Future Expectancy

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<tr>
<th>Variable</th>
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<th>ΔR²</th>
<th>df</th>
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<tr>
<td>Race: Binary for Black</td>
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<td>4.553***</td>
<td>.02</td>
<td>.02***</td>
<td>842</td>
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</tr>
<tr>
<td>Future Expectancy 2009</td>
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<td>16.280***</td>
<td>.26</td>
<td>.23**</td>
<td>841</td>
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</tr>
</tbody>
</table>

** p < 0.01. *** p < 0.001.

**Research Question 5** – Does young adult ability self-concept mediate the connection between parent-young adult closeness and advice and young adult future worry at one point in time?

H5a – Young adult ability self-concept will mediate the connection between having a close maternal relationship and young adult future worry at one-point in time.

H5b – Young adult ability self-concept will mediate the connection between receiving maternal advice and young adult future worry at one-point in time.

H5c – Young adult ability self-concept will mediate the connection between having a close paternal relationship and young adult future worry at one-point in time.

H5d – Young adult ability self-concept will mediate the connection between receiving paternal advice and young adult future worry at one-point in time.

RQ5 utilized PROCESS 3.4 plug-in for SPSS created by Andrew Hayes (Hayes, 2012; 2019) to test mediation of ability self-concept with four different independent variables (Models 1 through 4). The first cross-sectional mediation model, depicted in Figure 4, tested the direct
and indirect effects of closeness received from mother through young adult ability self-concept on young adult future worry.

Figure 4
Cross-sectional Mediation Model 1 for Mother Closeness, Self-concept, and Future Worry

*Note. All coefficients are presented as standardized values and solid lines are significant paths.

*p < 0.05. **p < 0.001.

In step one of Model 1, the regression of mother closeness on young adult future worry was significant, $b = -0.09$, $t(994) = -2.34$, $p \leq 0.05$. Step two showed that the regression of the mother’s closeness on the mediator, ability self-concept, was also significant, $b = 0.06$, $t(995) = 3.29$, $p \leq 0.001$. Step three of the mediation process showed that the mediator (ability self-concept), controlling for mother’s closeness, was significant on future worry, $b = -0.35$, $t(994) = -5.20$, $p \leq 0.001$. The direct effect was -0.09, indirect effect was -0.02, and total effect -0.11. It was found that ability self-concept partially mediated the relationship between mother closeness and young adult future worry; therefore, H5a is supported.
Model 2, depicted in Figure 5, tested the direct and indirect effects of advice received from mother through young adult ability self-concept on young adult future worry.

Figure 5

Cross-sectional Mediation Model 2 for Mother Advice, Self-concept, and Future Worry

![Diagram]

**Note.** All coefficients are presented as standardized values and solid lines are significant paths. *** $p < 0.001$.

In step one of Model 2, the regression of mother advice on young adult future worry was significant, $b = .11, t(994) = 3.48, p \leq .001$. Step two showed that the regression of the mother’s advice on the mediator, ability self-concept, was also significant, $b = .12, t(995) = 8.06, p \leq .001$. Step three of the mediation process showed that the mediator (ability self-concept), controlling for mother’s closeness, was a significant predictor of future worry, $b = -.42, t(994) = -6.18, p \leq .001$. The direct effect was .11, indirect effect was -.05, and total effect .06. It was found that ability self-concept partially mediated the relationship between mother advice and young adult future worry, therefore H5b is supported.
Model 3, depicted in Figure 6, tested the direct and indirect effects of closeness received from father through young adult ability self-concept on young adult future worry.

**Figure 6**  
*Cross-sectional Mediation Model 3 for Father Closeness, Self-concept, Future worry*

*Note.* All coefficients are presented as standardized values and solid lines are significant paths.  
*** $p < 0.001$.

In step one of Model 3, the regression of father closeness on young adult future worry was significant $b = -0.13$, $t(939) = -4.05$, $p < .001$. Step two showed that the regression of the father’s closeness on the mediator, ability self-concept, was also significant, $b = .02$, $t(940) = 1.53$, $p = .13$. Hence, step three, the cross-sectional mediation model was not tested as it did not satisfy the initial criterion for testing a mediation model (Baron & Kenny, 1986). It was found that ability self-concept does not mediate the relationship between father closeness and young adult future worry, therefore the H5c null hypothesis is supported.
Model 4, depicted in Figure 7, tested the direct and indirect effects of advice received from father through young adult ability self-concept on young adult future worry.

Figure 7
Cross-sectional Mediation Model 4 for Father Advice, Self-concept, and Future Worry

Note. All coefficients are presented as standardized values and solid lines are significant paths.

*** p < 0.001.

In step one of Model 4, the regression of father advice on young adult future worry was not significant, \( b = .0, t(939) = .12, p = .91 \). Step two showed that the regression of the father’s advice on the mediator, ability self-concept, was significant, \( b = .09, t(940) = 6.09, p \leq .001 \). Hence, step three, the cross-sectional mediation model was not tested as it did not satisfy the initial criterion for testing a mediation model (Baron & Kenny, 1986). It was found that ability self-concept does not mediate the relationship between father advice and young adult future worry, therefore the H5d null hypothesis is supported.

Research Question 6 – Does young adult ability self-concept mediate the connection between parent-young adult closeness and advice and young adult future expectancy at one point in time?

H6a – Young adult ability self-concept will mediate the connection between having a close maternal relationship and young adult future expectancy at one-point in time.

H6b – Young adult ability self-concept will mediate the connection between receiving maternal advice and young adult future expectancy at one-point in time.
H6c – Young adult ability self-concept will mediate the connection between having a close paternal relationship and young adult future expectancy at one-point in time.

H6d – Young adult ability self-concept will mediate the connection between receiving paternal advice and young adult future expectancy at one-point in time.

RQ6 utilized PROCESS 3.4 plug-in for SPSS created by Andrew Hayes (Hayes, 2012; 2019) to test mediation of ability self-concept with four different independent variables, Models 5 through 8. Model 5, depicted in Figure 8, tested the direct and indirect effects of closeness received from mother through young adult ability self-concept on young adult future expectancy.

Figure 8
Cross-sectional Mediation Model 5 for Mother Closeness, Self-concept, and Future Expectancy

Note. All coefficients are presented as standardized values and solid lines are significant paths. *** p < 0.001.

In step one of Model 5, the regression of mother closeness on young adult future expectancy was significant, b = .09, t(988) = 3.73, p <.001. Step two showed that the regression of the mother’s closeness on the mediator, ability self-concept, was also significant, b = .06, t(989) = 3.35, p ≤.001. Step three of the mediation process showed that the mediator (ability self-concept), controlling for mother’s closeness, was significant on future expectancy, b = .33, t(988) = 7.76, p ≤ .001. The direct effect was .09, indirect effect was .02, and total effect .11. It was
found that ability self-concept partially mediated the relationship between mother advice and young adult future expectancy, therefore H6a is supported.

Model 6, depicted in Figure 9, tested the direct and indirect effects of advice received from mother through young adult ability self-concept on young adult future expectancy.

**Figure 9**

*Cross-sectional Mediation Model 6 for Mother Advice, Self-concept, and Future Expectancy*

![Diagram](attachment:diagram.png)

*Note. All coefficients are presented as standardized values and solid lines are significant paths.*** $p < 0.001$.

In step one of Model 6, the regression of mother advice on young adult future expectancy was not significant, $b = .0$, $t(988) = .22$, $p = .83$. Step two showed that the regression of the mother’s advice on the mediator, ability self-concept, was significant, $b = .12$, $t(989) = 8.15$, $p \leq .001$. Hence, step three, the cross-sectional mediation model was not tested as it did not satisfy the initial criterion for testing a mediation model (Baron & Kenny, 1986). It was found that ability self-concept does not mediate the relationship between mother advice and young adult future expectancy, therefore the H6b is not supported.
Model 7, depicted in Figure 10, tested the direct and indirect effects of closeness received from father through young adult ability self-concept on young adult future expectancy.

Figure 10
Cross-sectional mediation model 7 for Father Closeness, Self-concept, and Future Expectancy

Note. All coefficients are presented as standardized values and solid lines are significant paths. ***(p < 0.001).

In step one of Model 7, the regression of father closeness on young adult future expectancy was not significant, \( b = .08, t(935) = 1.81, p = .07 \). Step 2 showed that the regression of father’s closeness on the mediator, ability self-concept, was not significant, \( b = .02, t(936) = 3.34, p = .12 \). The mediation model was not tested as both direct paths from the independent variable the mediating variable and outcome variable were not significant. It was found that ability self-concept does not mediate the relationship between father closeness and young adult future expectancy, therefore the H6c null hypothesis is supported.
Model 8, depicted in Figure 11, tested the direct and indirect effects of advice received from father through young adult ability self-concept on young adult future expectancy.

Figure 11  
*Cross-sectional Mediation Model 8 for Father Advice, Self-concept, and Future Expectancy*

\[ \text{Father Advice} \rightarrow \text{Self-concept} \rightarrow \text{Future Expectancy} \]

\[ b = .20^{***}, \quad b = .26^{***} \]

\[ t(935) = 6.10, \quad t(936) = 6.10, \quad p < .001 \]

\[ b = -.02, \quad t(935) = -.87, \quad p = .39 \]

\[ b = .09, \quad t(936) = 6.10, \quad p \leq .001 \]

*Note.* All coefficients are presented as standardized values and solid lines are significant paths.  
*** $p < 0.001$.  

In step one of Model 8, the regression of father advice on young adult future expectancy was not significant, $b = -.02$, $t(935) = -.87$, $p = .39$. Step two showed that the regression of father’s advice on the mediator, ability self-concept, was significant, $b = .09$, $t(936) = 6.10$, $p \leq .001$. Hence, step three, the cross-sectional mediation model was not tested as it did not satisfy the initial criterion for testing a mediation model (Baron & Kenny, 1986). It was found that ability self-concept does not mediate the relationship between father’s advice and young adult future expectancy, therefore the H6d null hypothesis is supported.
Research Question 7 – Does young adult ability self-concept mediate the connection between parent-young adult closeness and advice and young adult future worry over time?

H7a – Young adult ability self-concept will mediate the connection between closeness received from mother and young adult future worry over time.

H7b - Young adult ability self-concept will mediate the connection between advice received from mother and young adult future worry over time.

H7c – Ability self-concept will mediate the connection between closeness received from father and young adult future worry over time.

H7d – Ability self-concept will mediate the connection between advice received from father and young adult future worry over time.

There were two cross-lagged panel mediation models run for analyses out of four possible models to address H7a and H7b. The decision to run models for RQ7 was based upon the results of RQ5’s cross-sectional mediation models. Results from RQ5 indicated partial mediation for H5a and H5b, but no mediation for H5c or H5d. Based upon the results from all hypotheses in RQ5, the researcher made a decision to not pursue cross-lagged panel mediation models for H7c and H7d. There was no indication of mediation in the cross-sectional models testing H5c and H5d.

Cross-lagged panel mediation Model 1a examined ability self-concept as a mediator between mother closeness and young adult future worry across three time points to test H7a. Figure 11 depicts the paths and residuals between the current variables across three waves of data, 2009 through 2013. Model 1a expands upon the preliminary analysis of the cross-sectional mediation Model 1.
Note. Solid lines represent significant paths.

Table 18 identifies the unstandardized beta weights, standardized beta weights, and significance levels of the direct and indirect effects of Model 1a, mother closeness, young adult future worry, and ability self-concept as the mediator. There were no controls in this analysis since the completed regression analyses in RQ1 did not indicate significance for any of the controls tested. Model 1a demonstrated good overall fit for the current sample. The root-mean square error of approximation is (RMSEA) is 0.03 suggesting a good fit. A value of < 0.10 means a good fit and < 0.05 indicates a very good fit. The Normed Fit Index (NFI) is 0.99 which is within the acceptable level of fit equal or greater than 0.90. Although Model 1a has good fit indices, not all pathways were significant. The linear pathways for mother closeness, self-concept, and future worry were all significant (p < 0.001). Additionally, the paths between 2009 mother closeness and 2011 ability self-concept was significant (p < 0.001) as well as 2009 ability self-concept to 2011 future worry (p < 0.001). Attempts to see if a more parsimonious model could be developed by removing insignificant lines from the model, resulted with an insignificant change to the RMSEA and only added one degree of freedom to the model. Overall,
the model is consistent with earlier research questions in the current study and supports the finding that increased mother closeness is a predictor of increase in ability self-concept and increase in future worry in 2009, but not for 2013. It appears that there may be developmental changes happening across transition to adulthood. This sample may also be unique given their experience of the recession of 2008. The cross-lagged panel mediation model was not significant across all pathways, therefore ability self-concept did not act as a mediator across transition to adulthood and H7a null hypothesis is supported. Table 18 depicts beta weights for pathways in Model 1a.

Table 18
Unstandardized, Standardized, and Significance Levels for Constrained Direct Effects Path Model 1a Mother Closeness and Future Worry

<table>
<thead>
<tr>
<th>Parameter Estimate</th>
<th>Unstandardized</th>
<th>Standardized</th>
<th>p</th>
</tr>
</thead>
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<td>Mother closeness 2009 → Mother closeness 2011</td>
<td>.61</td>
<td>.59</td>
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<tr>
<td>Mother closeness 2009 → Self-concept 2011</td>
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<tr>
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<td>Self-concept 2009 → Future worry 2011</td>
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<td>-.09</td>
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<td>Future worry 2009 → Future worry 2011</td>
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<td>***</td>
</tr>
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<td>Future worry 2011 → Future worry 2013</td>
<td>.87</td>
<td>.92</td>
<td>***</td>
</tr>
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</table>

* p < 0.05. ** p < 0.01. *** p < 0.001.

Cross-lagged panel mediation model 2a examined ability self-concept as a mediator between mother advice and young adult future worry across three time points to test H7b. Figure 12 depicts the paths and residuals between variables. Model 2a builds from the results of the cross-sectional mediation Model 2.
Note. Solid lines represent significant paths.

Tables 19 identifies the unstandardized beta weights, standardized beta weights, and significance levels of the direct and indirect effects of Model 2a advice from mother on future worry through ability self-concept. There were no controls in this analysis since the completed regression analyses did not indicate significance for any of the controls. This model demonstrated good overall fit for the sample data. The RMSEA is 0.04 suggesting a good fit. The NFI is 0.98 which is within the acceptable level of fit. Although the model has good fit indices, not all pathways were significant. The linear pathways for mother advice, self-concept, and future worry were all significant (p < 0.001). Additionally, the paths between 2009 mother advice and 2011 ability self-concept was significant (p < 0.001) as well as 2009 ability self-concept and 2011 future worry (p < 0.001). Attempts to see if a more parsimonious model could be developed by removing insignificant lines from the model resulted with an insignificant change to the RMSEA and only added one degree of freedom to the model. Overall, the model is consistent with earlier research questions in the current study and supports that an increase in mother advice is a predictor of increase in ability self-concept and increase in future worry in
2009, but not in 2013. It appears that there may be developmental changes happening across transition to adulthood or the sample may be unique given their experience of the 2008 recession as is also the case in Model 1a. The cross-lagged panel mediation model was not significant across all pathways, therefore ability self-concept did not act as a mediator across transition to adulthood and the H7b null hypothesis is supported. Table 19 depicts beta weights for pathways in Model 2a.

Table 19
Unstandardized, Standardized, and Significance levels for Constrained Direct Effects Path Model 2a Mother Advice and Future Worry

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<tr>
<th>Parameter Estimate</th>
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<th>Standardized</th>
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</tr>
</thead>
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<td>.66</td>
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<td>Mother advice 2009 → Self-concept 2011</td>
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<td>.14</td>
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<td>-.03</td>
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<td>.66</td>
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<td>Self-concept 2009 → Future worry 2011</td>
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<td>Future worry 2011 → Future worry 2013</td>
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<td>.93</td>
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</table>

*** p < 0.001.

**Research Question 8** – Does young adult ability self-concept mediate the connection between parent-young adult closeness and advice and young adult future expectancy over time?

H8a – Young adult ability self-concept will mediate the connection between closeness received from mother and young adult future expectancy over time.

H8b - Young adult ability self-concept will mediate the connection between advice received from mother and young adult future expectancy over time.

H8c – Ability self-concept will mediate the connection between closeness received
from father and young adult future worry expectancy time.

H8d – Ability self-concept will mediate the connection between advice received from father and young adult future expectancy over time.

There was one cross-lagged panel mediation model run out of four possible models to address H8a. The decision to run one model for RQ8 was based upon the results of RQ6’s cross-sectional mediation models. Results from RQ6 indicated partial mediation for H6a only, but no mediation for H6b, H6c, and H6d. There are three models to address H8a: Model 5a which is a cross-lagged panel mediation model with mother closeness and future expectancy; Model 5a1 includes the control of Black/African-American race; and Model 5a2 includes the controls of Black/African-American race, Hispanic, and Others with white as the reference category. Models 5a, 5a1, and 5a2 build upon the analyses and results from cross-sectional mediation Model 5 for RQ6 and regression for RQ2.

Cross-lagged panel mediation Model 5a examined ability self-concept as a mediator between mother closeness and young adult future expectancy across three time points to test H8a. Figure 13 depicts the paths and residuals between variables in Model 5a.
Note. Solid lines represent significant paths.

Tables 20 identifies the unstandardized beta weights, standardized beta weights, and significance levels of the direct and indirect effects of Model 5a, closeness from mother on future expectancy through ability self-concept. There were no controls in Model 5a. The RMSEA is 0.02 suggesting a good fit. The NFI is 0.99 which is within the acceptable level of fit equal or greater than 0.90. Although the model has good fit indices, not all pathways were significant. The linear pathways for mother closeness, self-concept, and future expectancy were all significant (p<0.001). Additionally, the path between 2009 mother closeness and 2011 ability self-concept was significant (p<0.001) as well as 2009 ability self-concept and 2011 future expectancy (p<0.001). Attempts to see if a more parsimonious model could be developed by removing insignificant lines from the model, resulted with an insignificant change to the RMSEA and only added one degree of freedom to the model. The cross-lagged panel mediation model was not significant across all pathways, therefore ability self-concept did not act as a mediator across transition to adulthood and the H8a null hypothesis is supported. Table 20 depicts beta weights for pathways in Model 5a.
Table 20
Unstandardized, Standardized, and Significance Levels for Constrained Direct Effects Path Model 5a Mother Closeness and Future Expectancy

<table>
<thead>
<tr>
<th>Parameter Estimate</th>
<th>Unstandardized</th>
<th>Standardized</th>
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<td>.59</td>
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<tr>
<td>Mother closeness 2009 → Self-concept 2011</td>
<td>.06</td>
<td>.09</td>
<td>***</td>
</tr>
<tr>
<td>Mother closeness 2009 → Future expectancy 2013</td>
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<td>.949</td>
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<tr>
<td>Self-concept 2009 → Self-concept 2013</td>
<td>.71</td>
<td>.69</td>
<td>***</td>
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<td>Self-concept 2009 → Future expectancy 2011</td>
<td>.26</td>
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<tr>
<td>Future expectancy 2009 → Future expectancy 2011</td>
<td>.44</td>
<td>.44</td>
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<tr>
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</tr>
<tr>
<td>Mother closeness 2011 → Self-concept 2013</td>
<td>-.00</td>
<td>-.00</td>
<td>.800</td>
</tr>
<tr>
<td>Self-concept 2011 → Self-concept 2013</td>
<td>.96</td>
<td>.91</td>
<td>***</td>
</tr>
<tr>
<td>Self-concept 2011 → Future expectancy 2013</td>
<td>-.04</td>
<td>-.03</td>
<td>.449</td>
</tr>
<tr>
<td>Future expectancy 2011 → Future expectancy 2013</td>
<td>1.0</td>
<td>.96</td>
<td>***</td>
</tr>
</tbody>
</table>

*p < 0.001.

Cross-lagged panel mediation Model 5a1 examined ability self-concept as a mediator between mother closeness and young adult future expectancy across three time points to test H8a. This model includes Black/African-American race as a control. Figure 14 depicts the paths and residuals between variables in Model 5a1.
Figure 15
*Cross-lagged Panel Mediation Model 5a1 Mother Closeness, Future Expectancy, Black/Race*

Note. Solid lines represent significant paths.

Tables 21 identifies the unstandardized beta weights, standardized beta weights, and significance levels of the direct and indirect effects of Model 5a1 closeness from mother on future expectancy through ability self-concept. The model controls for Race: Binary Black only. The RMSEA is 0.10 suggesting a fair/good fit. A value of < 0.10 means a good fit and < 0.05 indicates a very good fit. The NFI is 0.92 which is within the acceptable level of fit equal or greater than 0.90. Although the model has fair/good fit indices, not all pathways were significant. The linear pathways for mother closeness, self-concept, and future expectancy were all significant (p < 0.001). Additionally, the path between 2009 mother closeness and 2011 ability self-concept was significant (p < 0.001) as well as 2009 ability self-concept and 2011 future expectancy (p < 0.001). The cross-lagged panel mediation model was not significant across all pathways, therefore ability self-concept did not act as a mediator across transition to adulthood.
and the H8a null hypothesis is supported when controlling for Race: Binary Black/African-American. Table 21 depicts beta weights for pathways in Model 5a1.

Table 21
Unstandardized, Standardized, and Significance Levels for Constrained Direct Effects Path Model 5a1 Mother Closeness and Future Expectancy, Race, Black/African-American

<table>
<thead>
<tr>
<th>Parameter Estimate</th>
<th>Unstandardized</th>
<th>Stand.</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother closeness 2009 → Mother closeness 2011</td>
<td>.60</td>
<td>.59</td>
<td>***</td>
</tr>
<tr>
<td>Mother closeness 2009 → Self-concept 2011</td>
<td>.05</td>
<td>.09</td>
<td>***</td>
</tr>
<tr>
<td>Mother closeness 2009 → Future expectancy 2013</td>
<td>.00</td>
<td>.00</td>
<td>.943</td>
</tr>
<tr>
<td>Self-concept 2009 → Self-concept 2011</td>
<td>.71</td>
<td>.69</td>
<td>***</td>
</tr>
<tr>
<td>Future expectancy 2009 → Future expectancy ‘11</td>
<td>.44</td>
<td>.44</td>
<td>***</td>
</tr>
<tr>
<td>Mother closeness 2011 → Mother closeness 2013</td>
<td>.90</td>
<td>.86</td>
<td>***</td>
</tr>
<tr>
<td>Mother closeness 2011 → Self-concept 2013</td>
<td>-.00</td>
<td>-.01</td>
<td>.796</td>
</tr>
<tr>
<td>Self-concept 2011 → Self-concept 2013</td>
<td>.96</td>
<td>.92</td>
<td>***</td>
</tr>
<tr>
<td>Self-concept 2011 → Future expectancy 2013</td>
<td>-.03</td>
<td>-.02</td>
<td>.621</td>
</tr>
<tr>
<td>Future expectancy 2011 → Future expectancy ‘13</td>
<td>1.01</td>
<td>.96</td>
<td>***</td>
</tr>
<tr>
<td>Black/AA 2009 → Future expectancy 2013</td>
<td>-.07</td>
<td>-.03</td>
<td>.230</td>
</tr>
</tbody>
</table>

*** p < 0.001.

Cross-lagged panel mediation Model 5a2 examined ability self-concept as a mediator between mother closeness and young adult future expectancy across three time points to test H8a. All race categories in the current study were included as control variables: Black/African-American, Hispanic, and Other with white as the omitted category. Figure 15 depicts the paths and residuals between variables in Model 5a1.
Tables 22 identifies the unstandardized beta weights, standardized beta weights, and significance levels of the direct and indirect effects of Model 5a2 closeness from mother on future expectancy through ability self-concept. The model is controlled for all race categories in the current study: Black/African-American, Hispanic, and Other with white as the omitted category. The RMSEA is 0.09 suggesting a good fit. The NFI is 0.88 which is within the acceptable level of fit equal or greater than 0.90. Although the model has fair/good fit indices, not all pathways were significant. The linear pathways for mother closeness, self-concept, and future expectancy were all significant ($p < 0.001$). Additionally, the path between 2009 mother closeness and 2011 ability self-concept was significant ($p < 0.001$) as well as 2009 ability self-concept and 2011 future expectancy ($p < 0.001$). The cross-lagged panel mediation model was not significant across all pathways, therefore ability self-concept did not act as a mediator across
transition to adulthood and the H8a null hypothesis is supported when controlling for
Black/African-American, Hispanic, and Other with white as the reference category. Table 22
depicts beta weights for pathways in Model 5a2.

Table 22
Unstandardized, Standardized, and Sig. Levels for Constrained Direct Effects Path Model 5a2
Mother Closeness/Expectancy. Race Categories: Black/African-American; Hispanic; Other

<table>
<thead>
<tr>
<th>Parameter Estimate</th>
<th>Unstandardized</th>
<th>Standardized</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother closeness 2009 → Mother closeness 2011</td>
<td>.60</td>
<td>.59</td>
<td>***</td>
</tr>
<tr>
<td>Mother closeness 2009 → Self-concept 2011</td>
<td>.06</td>
<td>.09</td>
<td>***</td>
</tr>
<tr>
<td>Mother closeness 2009 → Future expectancy 2013</td>
<td>.00</td>
<td>.00</td>
<td>.935</td>
</tr>
<tr>
<td>Self-concept 2009 → Self-concept 2011</td>
<td>.71</td>
<td>.69</td>
<td>***</td>
</tr>
<tr>
<td>Self-concept 2009 → Future expectancy 2011</td>
<td>.26</td>
<td>.18</td>
<td>***</td>
</tr>
<tr>
<td>Future expectancy 2009 → Future expectancy 2011</td>
<td>.44</td>
<td>.44</td>
<td>***</td>
</tr>
<tr>
<td>Mother closeness 2011 → Mother closeness 2013</td>
<td>.91</td>
<td>.86</td>
<td>***</td>
</tr>
<tr>
<td>Mother closeness 2011 → Self-concept 2013</td>
<td>-.00</td>
<td>-.00</td>
<td>.796</td>
</tr>
<tr>
<td>Self-concept 2011 → Self-concept 2013</td>
<td>.96</td>
<td>.92</td>
<td>***</td>
</tr>
<tr>
<td>Self-concept 2011 → Future expectancy 2013</td>
<td>-.02</td>
<td>-.03</td>
<td>.655</td>
</tr>
<tr>
<td>Future expectancy 2011 → Future expectancy 2013</td>
<td>1.0</td>
<td>.96</td>
<td>***</td>
</tr>
<tr>
<td>Black/AA 2009 → Future expectancy 2013</td>
<td>-.08</td>
<td>-.04</td>
<td>.138</td>
</tr>
<tr>
<td>Black/Hispanic 2009 → Future expectancy 2013</td>
<td>-.09</td>
<td>-.03</td>
<td>.292</td>
</tr>
<tr>
<td>Black/Others → Future expectancy 2013</td>
<td>.07</td>
<td>.01</td>
<td>.661</td>
</tr>
</tbody>
</table>

*** p < 0.001.

Although the five cross-lagged mediation models have been described throughout this
chapter, the following diagram, Table 23, shows model fit comparisons for the cross-lagged
mediation models in the current study. From the diagram, it is clear to see that adding certain
demographics did not necessarily change the overall model fit for the study variables.
Table 23
Model Fit Comparisons

<table>
<thead>
<tr>
<th>Model</th>
<th>NFI</th>
<th>TLI/NNFI</th>
<th>CFI</th>
<th>RMSEA</th>
<th>CMIN(df)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Mother closeness and future worry</td>
<td>0.991</td>
<td>0.983</td>
<td>0.995</td>
<td>0.031</td>
<td>27.068(13)</td>
</tr>
<tr>
<td>2 - Mother advice and future worry</td>
<td>0.988</td>
<td>0.972</td>
<td>0.992</td>
<td>0.043</td>
<td>39.993(13)</td>
</tr>
<tr>
<td>3 - Mother closeness and future expectancy</td>
<td>0.993</td>
<td>0.989</td>
<td>0.997</td>
<td>0.025</td>
<td>22.24(13)</td>
</tr>
<tr>
<td>4 - Mother closeness, expectancy, Black/African-American</td>
<td>0.919</td>
<td>0.801</td>
<td>0.924</td>
<td>0.102</td>
<td>267.785(21)</td>
</tr>
<tr>
<td>5 - Mother closeness, expectancy, Race All</td>
<td>0.879</td>
<td>0.781</td>
<td>0.88</td>
<td>0.092</td>
<td>420.203(40)</td>
</tr>
</tbody>
</table>
CHAPTER FIVE

DISCUSSION

Young adult future worry and future expectancy, in the context of advice and closeness received from parents, and young adult ability self-concept have been examined in the current study. The 2009, 2011, and 2013 TAS waves allowed for the constructs to be examined using cross-sectional and longitudinal methods. The results are specific to young adult development following the Great Recession. This section will discuss the various findings within the following framework: (a) parent advice and closeness in association with young adult future outlook (2009 wave); (b) parent advice and closeness in association with young adult self-concept in early transition to adulthood (2009 wave); (c) young adult self-concept in association with young future outlook (2009 wave); (d) young adult self-concept as a mediator of advice and closeness from parent and future outlook (2009 wave); (e) the longitudinal impact of parent-young advice and closeness, young adult ability self-concept, and future outlook (2009, 2011, and 2013 waves); (f) parent gender differences and young adult future outlook; and (g) young adult racial differences and young adult future outlook.

Parent Advice and Closeness in Association with Young Adult Future Outlook (2009 wave)

The current study investigated the development of young adult future outlook, specifically future worry and future expectancy, as associated with parental closeness and advice received during transition to adulthood. It was predicted that mother-young adult and father-young adult closeness and advice would predict higher young adult future expectancy and lower future worry. From the findings, it is evident that mother-young adult and father-young adult closeness are associated with a decrease in future worry, however, mother-young adult and father-young adult advice are associated with an increase in future worry. Father-young adult
closeness and mother-young adult closeness are positively associated with young adult future expectancy. Whereas, father-young adult advice is positively associated with young adult future expectancy, but mother-young advice is not associated with young adult future expectancy. In summary, young adults who feel close to their parents are more secure in their future expectancy compared with young adults who were not as close with their parents.

The current study expands the literature about the parent-young adult relationship during transition to adulthood. Most literature suggests that parents maintain active roles in the lives of their young adult children by providing tangible support such as housing and money (Swartz et al., 2011). Whereas, less is known about non-tangible support received from parents during transition to adulthood. Nelson et al. (2011) researched parenting styles and various positive outcomes in transition to adulthood and identified that closeness and monitoring in parents are associated with positive outcomes. Specifically, Nelson focused on outcomes such as well-being, anxiety, depression, drinking, and impulsivity. The current study expands upon the work of Nelson as it explored parenting qualities, but it is distinguished because it explores the outcomes of future worry and future expectancy. Nelson identified that parenting qualities featuring closeness and warmth are associated with various positive outcomes in young adulthood. In the current study, findings include that mother-young adult and father-young adult closeness are positively associated with future expectancy and a decrease in future worry which is aligned with Nelson’s work. The current study is distinguished from Nelson’s work by socioeconomic status and race. The current study comprises young adults in college and working and living at home and away from home and received low levels of financial support from parents. In the current study, more than 35% of participants represented minority backgrounds. In general, the
participants in the current study were less affluent and more diverse than the sample in Nelson et al. (2011).

The finding that parent-young adult advice is associated with young adult future worry was surprising, although the literature discussing parent advice is varied. The literature supports that advice from parents can be beneficial as it provides guidance to young adults (Furstenberg, 2010). Despite this, helicopter parenting which is when parents are overly involved with their children, can interfere with developing independence (Gunderson & Barrett, 2017). It is very possible that the current study finding, associating mother-young adult and father-young adult advice with young adult future worry, may be more reflective of helicopter parenting. It has been established in literature on youth, that youth worry has been associated with unrealistic expectations and criticisms received from parents (Stober & Joorman, 2001). Young adults may perceive advice from parents as being overly involved with them, at a time when young adults are developing independence from their parents. Another possibility, is the influence of the larger context, which is the Great Recession in this case. It is very possible that young adults may feel advice from parents is overwhelming when they cannot successfully act on such advice because of larger economic forces. It is also important to note that these findings were obtained by analyzing the 2009 wave of data, which is right after the peak of the Great Recession. It is possible that participants’ worry was related to the economic influence of the Great Recession and economic vulnerability.

The finding that father advice was positively associated with young adult future expectancy is aligned with literature on parent gender and advice. Regarding parent gender and communication during adolescence, fathers tend to engage in conversations with their children about their jobs (Piotrkowski & Stark, 1987). Mothers educate and socialize daughters on a
plethora of topics related to motherhood (Gilchrist & Camara, 2012). This might mean that father’s advice has a stronger influence on future financial and career related goals of young adults whereas mothers do not. It is plausible that traditional parenting roles, where fathers are more business oriented and mothers are more emotionally supportive, explain this finding.

**Parent Advice and Closeness in Association with Self-concept (2009 wave)**

The current study identified a positive association between mother-young adult and father-young adult advice, mother-young adult closeness and young adult ability self-concept. These associations are consistent with the expectancy-value model (Eccles, 1983). In the expectancy-value model (Eccles, 1983), parents are socializers of child and adolescence self-concepts (Eccles et. al, 1983; Wigfield & Eccles, 1992; Wigfield et al., 2004). These findings also contribute to the parenting literature. For example, (Baumrind, 1967) identified the authoritative parenting style which is described as a balance of closeness and monitoring as ideal parenting. Closeness and advice, examined in the current study, resemble authoritative parenting. While authoritative parenting is supported in the children and adolescence literature as an ideal standard of parenting (Baumrind, 1967), the current study confirms the association between authoritative parenting and positive outcomes, like self-concept in transition to adulthood.

**Self-concept in Association with Future Worry and Future Expectancy (2009 wave)**

The current study examined young adult ability self-concept in association with future worry and future expectancy. The findings support that young adults with higher ability self-concept have less future worry and higher future expectancy. These findings are consistent with the expectancy-value model (Eccles, 1983). In the expectancy-value model (Eccles, 1983), higher self-concept in various domains (e.g., math, English) were associated with higher expectancies in the same area, and in turn, higher performance (Simpkins, Fredricks, & Eccles,
2012). These findings also support the extension of the expectancy-value model into transition to adulthood.

Ability self-concept contributed to a decrease in future worry, even when parent advice was associated with an increase in future worry. Ability self-concept is not only an important predictor of future expectancy in young adulthood, but it can buffer the impact of negative associations, such as parent advice in the current study. Although the expectancy-value model (Eccles, 1983) has predominantly been applied with domains like sports, math, English, and other subjects, the current study is distinguished because it examines ability self-concept which are a specific set of skills related to achievement such as intelligence, problem solving, leadership, and critical thinking. Ability self-concept, in the current study, reflects a collective set of skills that are beneficial to one’s human development as well as success and achievement in academic and life goals.

**Self-concept as a Mediator of the Parent-young Adult Relationship and Future Outlook**

Eight cross-sectional mediation models were run, prior to the longitudinal models, to test ability self-concept as a mediator of parent advice and closeness and future expectancy and future worry. In the cross-sectional models, ability self-concept mediated the association between: mother-advice and future worry; mother-closeness and future worry; and mother-closeness and future expectancy. This means that ability self-concept better explained a decrease in future worry in young adults compared with mother closeness. It also means that ability self-concept better explained an increase in future expectancy compared with mother closeness. These findings are consistent with the expectancy-value model (Eccles, 1983), although the expectancy-value model does not focus on future worry. The expectancy-value model emphasizes the role that self-concepts have in future expectancy. Since expectancies have been
associated with actual achievement, the findings linking ability self-concept and future expectancy during transition to adulthood support that continuous development in areas constituting ability self-concept are beneficial for human development. Future expectancy are strongly associated with actual achievement and/or outcomes and it is confirmed that increasing self-concept is young adulthood remains meaningful to the outcome of future expectancy.

**Longitudinal Impact: Parent-young Adult Relationship, Self-concept, and Future Outlook**

The findings from the cross-sectional mediation models determined which cross-lagged mediation models were run in the current study. The results of the cross-sectional models determined that self-concept mediated the association between: mother-advice and future worry; mother-closeness and future worry; and mother-closeness and future expectancy. The purpose of the cross-lagged mediation models was to determine patterns between the parent-young adult relationship, ability self-concept, and future outlook change across transition to adulthood. It was hypothesized that ability self-concept would be a complete mediator between parent-advice and closeness and young adult future worry and future expectancy across transition to adulthood.

Ability self-concept was tested as a mediator in the relationship between mother-closeness and future worry from early transition to adulthood in 2009 to later transition to adulthood in 2013 in Model 1a. The results of Model 1a demonstrate that mother closeness in 2009 predicted mother closeness in 2011 and 2013. The same pattern was seen across all three waves for ability self-concept, and future worry. Although, ability self-concept did not mediate across three time points, there was strong model fit which means that mother closeness, ability self-concept, and future worry fit together as variables. The path from mother-closeness in 2009 to ability self-concept in 2011 was significant. The path from self-concept in 2011 to future worry in 2011 was also significant. This fits well with the Expectancy-value Model (Eccles,
that shows parental socialization as a path to self-concept and self-concept. It makes sense that young adults that have increased ability self-concept will feel less worry in navigating their adult environments. Although the entire model is not significant, the positive lines between mother closeness in 2009, to ability self-concept in 2011, and to future worry in 2011, which shows that the mother-young adult relationship is important, but that ability self-concept has a greater effect on future worry. What is also important to note is that the mediator of ability self-concept is evident in 2009, but not in 2013. Perhaps, as the literature suggests, self-concepts begin to increase into adolescence and then stabilize (Harter, 1999).

In Model 2a, ability self-concept was tested as a mediator of the association between mother-advice and future worry from early transition to adulthood in 2009 to later transition to adulthood in 2013. The results of Model 2a support that mother advice in 2009 predicted mother advice in 2011 and 2013. The same pattern was seen across all three waves for ability self-concept, and future worry. Although, ability self-concept did not mediate across three time points, there was a strong model fit which means that mother advice, ability self-concept, and future worry fit together as variables. The path from mother advice in 2009 to ability self-concept in 2011 was significant. The path from self-concept in 2011 to future worry in 2011 was also significant. This fits well with the expectancy-value model (Eccles, 1983) that shows parental socialization as a path to self-concept. Although the entire model is not significant, the significant paths between mother advice in 2009 to ability self-concept in 2011, and self-concept in 2011 to future worry in 2011 show that the mother-young adult relationship is important however, ability self-concept has a greater effect on decreasing future worry. As noted in the literature, self-concepts begin to increase into adolescence and then stabilize (Harter, 1999).
findings in Model 1a and 2a are similar in that they show self-concept peaking in early transition to adulthood.

In Model 5a, ability self-concept was tested as a mediator of the relationship between mother-closeness and future expectancy over three time points between early transition to adulthood in 2009 and later transition to adulthood in 2013. The results of the model demonstrated that mother closeness in 2009 was predictive of mother closeness in 2011 and 2013. The same pattern was seen across all three waves for ability self-concept, and future expectancy. Although, ability self-concept did not mediate across three time points, there was strong model fit which means that mother closeness, ability self-concept, and future expectancy are variables that fit well together. The path from mother-closeness in 2009 to ability self-concept in 2011 is significant. The path from self-concept in 2009 to future expectancy in 2011 is also significant. This fits well with the Expectancy-value Model (Eccles, 1983) that shows parental socialization as a path to self-concept and self-concept as a path to future expectancy. Self-concept is directly related to future expectancy for young adults. It makes sense that young adults that have increased skills feel less worry when navigating their adult environments. Although the entire model is not significant, the paths between mother closeness in 2009 to ability self-concept in 2011, and self-concept in 2009 to future worry in 2011, show that the mother-young adult relationship is important as well as self-concept in earlier transition to adulthood. As Harter (1999) points out, self-concept seems to stabilize in young adulthood and this may be the case here. Neither self-concept or the parent-young adult relationship is predictive of future worry or future expectancy in 2013. It may be that not only are these variables stable, but other factors are contributing to future outlook as a young adult gets further in their transition to adulthood. This would explain that while this 5a model has good fit, there
are still other predictive models to explain future expectancy. Model 5a also has the strongest support for testing Eccles (1983) expectancy-value model.

**Parent Gender Differences and Young Adult Future Outlook**

The current study provides a unique opportunity to look at parent gender differences. What is most unique is that mother closeness appears to have stronger influence on the development of self-concept and higher young adult future expectancy compared with fathers. At the same time, father advice appears to have a stronger influence on future expectancy for young adults. Some research has looked at differences between the influences of mothers and fathers in adolescent development. For example, fathers tend to engage in conversations with their children about their jobs and potential labor experiences (Piotrkowski & Stark, 1987). On the other hand, mothers educate and socialize daughters on a plethora of topics related to motherhood (Gilchrist & Camara, 2012). Despite that parent advice may be different based upon parent gender, young adults and advice from both parents are positively associated with young adult attainment and emotional well-being (Fingerman et al., 2012). The current findings actually support that father advice is more predictive of future expectancy. This may be that father figures tend to discuss more business with their children.

**Young Adult Racial Differences and Young Adult Future Outlook**

Race is a significant control variable for African-Americans when testing mother advice as a predictor of future expectancy which means that the African-American race is a predictor of future expectancy. Participants who identified with African-American/Black race had higher predictability of future outlook compared with the actual parent-young adult relationship. One possibility, is that following the Great Recession, African-American/Black participants demonstrated a higher resiliency to the economic changes. It is also possible that African-
American/Black participants’ perception of the future outlook did not change despite the Great Recession compared with Caucasian/White participants. It may be that Caucasian/White participants felt they had lost more privilege resulting from the Great Recession. There is research that shows African-American/Black race have high resiliency based upon cultural and neighborhood experiences (Oliver, Shapiro, & Shapiro, 2006), therefore there may have been a higher resiliency during the Great Recession. The African-American/Black race has less wealth accumulation compared with Caucasian/White race (Utsey, Bolden, Lanier, & Williams, 2007) which may contribute to resiliency demonstrated during the Great Recession. Ethnic minorities with increased individual attitudes have higher achievement (Umana-Taylor, Wong, Gonzales, & Dumka, 2012) which means that across race a higher self-concept would be similarly associated with future expectancy. It has also been found among African-Americans that higher achievement has been association with higher future outlook (Honora, 2008). It appears that the Great Recession, in itself, was having an influence on this finding.

**Implications**

This section includes suggestions for how the current study findings relate to policy, theory, and practice. The policy section will identify suggestions for strengthening policy development and programming. The theory section will explain the findings as they relate to the theoretical perspectives applied in the current study. The practice section will highlight ways in which various professionals can apply the findings in direct practice with clients.

**Implications for Policy.** The current study has a number of policy implications, specifically for education and social services. In the education sector, an emphasis on common core standards was launched in 2009 by state leaders, including governors and state commissioners of education from 48 states, two territories, and the District of Columbia, through
their membership in the National Governors Association Center for Best Practices (NGA Center) and the Council of Chief State School Officers (CCSSO) (National Governors Association Center for Best Practices, 2010). The common core standards emphasized the value of consistent, real-world learning goals and launched an effort to ensure all students, regardless of where they live, are graduating high school prepared for college, career, and life (National Governors Association Center for Best Practices, Council of Chief State School, 2010).

In the current study, ability self-concept includes items such as critical thinking, leadership, listening, responsibility, understanding, and several other characteristics and skills that are beneficial for success in life. Exposing students to curricula that includes the development of ability self-concept is beneficial for common core goals which are to prepare youth and young adults for real-world learning goals (National Governors Association Center for Best Practices, 2010). Including ability self-concept items into an educational setting offers social justice for youth and young adults that do not have the closeness with parents or caregivers at home. Beyond core educational curricula, supportive programs, such as school based programs, counseling centers, and extracurricular opportunities programming to build development in ability self-concept. Funding for program is most successful when based in evidence. The findings in the current study provide evidence to support the importance of ability self-concept in association with increased future outlook throughout transition to adulthood.

Implications for Theory. The current study is theoretically grounded in concepts from the Expectancy-Value Model (Eccles, 1983; Wigfield & Eccles, 1992) and Bioecological Model (Bronfenbrenner, 1995; Bronfenbrenner & Ceci, 1993; 1994; Bronfenbrenner & Morris, 1998; 2006) and life course theory (Elder, 1998). The findings have implications for all three developmental theories.
The expectancy-value theory holds that people orient themselves in the world based upon their expectations from personal experiences and evaluations. Self-concept is developed through interactions with significant others such as parents and self-concept influences expectancies during adolescence (Wigfield & Eccles, 1992). The results of the current study expand the expectancy-value model into young adulthood by confirming the pathways between parents as socializers and young adult ability self-concept and the relationship between ability self-concept and future expectancy. Eccles’ work has supported that parents are socializers of their children during adolescence (Parsons, Adler, & Kaczala, 1982). Eccles’ work has also supported the pathway between self-concepts in specific domain areas and future expectancy during adolescence (Eccles, Adler, Futterman, Goff, Kaczala, Meece, & Midgley, 1983). The findings in the current study supports that the pathways between parents as socializers, self-concept, and future expectancy continue into young adulthood. The longitudinal findings have also showed that the pathways between parents and ability self-concept stabilizes toward middle to late young adulthood as evident from the results of the longitudinal cross-lagged mediation model.

The Bioecological Theory explains the reciprocal nature of interaction between the developing individual and his or her environment, as well as the role of parent as socializer of children (Bronfenbrenner, 1995; Doyle & Markiewicz, 2005; Linver et. al, 2002; Steinberg & Morris, 2001). The parent-young adult relationship operates within what Bronfenbrenner refers to as the microsystem. Using data collected after the 2008 recession provides an opportunity to look at the impact of the economic climate on individual development which Bronfenbrenner refers to as macrosystem influences. Parents are an essential influence on children and youth development. Less is known about the role parents play related to non-tangible support in young adulthood. The results of the current study indicate that mothers continue to have an important
influence on young adults’ self-concept, decreasing future worry, and increasing future expectancy in earlier phase of transition to adulthood. It is also evident that development is not only influenced at the microsystem level, but in the context of the recession, there are some unique findings. It may be that the developmental trajectories found in this study are specific to having experienced the 2008 recession as a young adult. The trajectories may also have been influenced by the limited socioeconomic opportunities experienced by a majority of the study participants.

The life course theory recognizes that some individuals are able to use their human agency and follow a particular path, while other choices are influenced by the larger societal context (Elder, 1998). Life course theory focuses on individual and family development in the social-historical context. The current study, following young adult development after the Great Recession, provides an opportunity to see how a major life event has impacted young adult development. The finding that identifies an association between advice from mothers and fathers and increased future worry seems that it may be specific to the historical context. Although young adults are receiving advice from parents, they may be worried because acting on such advice in the social-historical context is difficult. Such findings suggest that lives for young adults post the Great Recession may have different developmental implications in the future. The findings add to the literature about trends of Millennials.

**Implications for Practice.** Evidence-based treatment and research is the gold standard for clinical psychological practice and case management with clients (Kazdin, 2008; O’Hare, 2015). In working with youth and young adults, it is important for practitioners to be aware that higher ability self-concept is associated with higher future expectancy and ultimately better achievement. This knowledge can help practitioners provide guidance to youth and young adults
by helping them build their ability self-concept through direct practice and/or referrals to programs that would be beneficial. In youth and young adult homes with less support, practitioners can help youth and young adults to develop ability self-concept as a resiliency tool.

As far as clinicians working with parents, it is important to help parents understand how to give advice to their young adults about career, education, and family. Since the study findings have identified that parent advice is associated with an increase in young adult future worry, parents can benefit from learning how to give young adult future advice. The association between parent advice and young adult future worry was not a predicted finding. Parents may have good intentions when giving advice to their young adult children, but may not realize the potential consequences to their actions. It is not known if the current study finding that associates parent advice and young adult future worry is specific to the Great Recession only. Therefore, it is important for parents to consider the economic climate and reality of societal challenges that their young adult children may face when offering career, family, and educational advice.

It is also important for clinicians to help parents recognize that closeness with their young adults can reduce the association between advice and future worry. It is beneficial to encourage parents to provide closeness as it also is associated with a positive ability self-concept in young adults. Mental health practitioners or case managers, may develop educational programs, curricula, or extracurricular activities particularly focused on developing ability self-concept as defined in the current study. Ability self-concept topics may be delivered through skill building and/or psychoeducational groups or training.

**Limitations of the Current Study**

There are several limitations in the current study. One limitation is the missing data from fathers for some of the control variables as well as the main study variables. Preliminary
regressions and cross-sectional mediation models were used to determine what cross-lagged panel mediation models would be viable for the current study. It is possible that the missing data, despite using pairwise regressions, contributed to non-significant mediation results in the cross-sectional mediation models. There has historically been limited research on father involvement related to parenting and child development because mothers have generally been the reporters in research studies, although father research has been more prominent in the last decade (Altenburger, Schoppe-Sullivan, & Dush, 2018; Mastrotheodoros et. al, 2019).

Another limitation is that the TAS dataset is particularly overly represented by lower income households and includes a larger percentage of Black/African-Americans compared with the United States population. The advantage is that the sample allows for findings to be relevant to a diverse population of young adults living in the United States, but at the same time the outcomes may be different if the study included young adults from higher socioeconomic status backgrounds. The current study analyzes data beginning one year after the 2008 economic recession in the United States. It is difficult to determine if the patterns seen throughout the analyses in the current study are representative of a typical developmental trajectory in young adulthood or reflect contributions from the larger economic context.

As with most studies that use secondary data, the researcher is subject to working with the scales created by the researchers who created the survey. For the current study, the researcher has to work with the variables as they were assembled for the TAS. In particular, the closeness measurement was one single item and while there is research to support that a single item measure of closeness is acceptable, it is advantageous to have multiple items in a scale to determine inter-item reliability.
Future Directions

The current study has several unique findings that expand the literature in multiple areas, but leaves questions for future direction. Future research needs to examine the effects of parent advice provided to young adults during a thriving economy. Perhaps, a follow-up study using the same theoretical model that analyzes longitudinal data during a period of economic certainty. It would also be beneficial to have more information the parent-young adult relationship characterized as low closeness to see if parents are delivering advice in a hostile, punitive, or controlling manner. It would be beneficial to see if there is a correlation between young adults who expressed higher future worry and mental health anxiety and/or other mental health conditions that might better explain young adult low future expectancy and higher worry. The current study did not compare young adults who were working full-time, in college living at home, and living away from home. Examining the young adults’ living situation and/or level of financial support from parents might provide insight as to whether advice creates more or less worry depending on whether the young adult is living at home or independently and how much tangible support is provided.

Conclusion

Overall, the current study makes several unique contributions to the literature on parenting during transition to adulthood. There is a positive association between parental closeness and young adult future expectancy. This means that parents contribute emotionally to the development of young adult children, despite the vast literature that focuses on parental tangible support during transition to adulthood. Higher parental advice is associated with an increase in young adult future worry, which raises questions for future inquiry. Perhaps, young adults were already challenged by the economic climate following the Great Recession, and
parental advice added to the future worry. Parent-young adult closeness serves as a protective factor in reducing young adult future worry related to parent advice. This may imply that the nature of the parent-young adult relationship matters in the context of delivering advice. From a theoretical perspective, the current study tested the Eccles’ (1983) expectancy-value model on young adults in transition to adulthood, and findings are consistent with the model pathways. Parents influence young adults’ expectancies through ability self-concept. The current study findings establish ability self-concept as a predictor of increased future expectancy and less future worry in young adults, highlighting the benefit of helping young adults increase ability self-concept through programming and practice. As Elder’s life-course theory (1998) emphasizes, development is best analyzed considering social, structural, and cultural contexts. Research on parenting the millennial generation has uncovered unique parent-young adult relationship dynamics. Approximately, ten years later, Generation Z (i.e., birthdates 1995 through 2015), is faced with COVID-19 shelter-in-place policies and a deep and prolonged economic downturn which will likely uncover new salient parent-young adult relationship dynamics.
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APPENDIX A

Theoretical Concepts and Definitions

**Transition to Adulthood** - Transition to adulthood is the time period between adolescence and adulthood when young adults move towards adult milestones like the ability to earn income, have a family, and/or achieve self-sufficiency (Hogan & Astone, 1986). During transition to adulthood, an individual begins to execute educational and life plans that form the foundation for the rest of adulthood.

**Emerging Adulthood** – Distinguished from transition to adulthood, Jeffrey J. Arnett (2000, 2003) has identified the time between adolescence and adulthood as a stage of lifespan development, that young adults go through while working towards adult milestones such as achieving financial stability, living independently, marriage, and/or having children.

**Expectancy-Value Model** - Expectancy-Value Model (Eccles, 1983) defines expectancy beliefs as individuals’ evaluations of their competence in different areas and their beliefs about how well they will perform on upcoming tasks. Adolescent expectations, values, goals, and behaviors are combined in Eccles' Expectancy-Value Model. The Expectancy-Value Model also includes influences of socializers, such as parents (see Figure 1).

**Expectations and/or Expectancies** – According to Eccles (1983), expectations and/or expectancies are an individual's assessment of the likelihood of attaining objectives and/or goals.

**Goals** – Goals are objectives youth have for future success, for example in achievement related behaviors (Eccles, 1983).

**Achievement Related Behaviors** – Achievement related behaviors are those behaviors that are related to achievement, especially in the academic arena, such as college attendance (Eccles, 1983).
Subjective Task Value - Subjective task values are what individuals attach to success or failure on a task. More specifically Eccles (1983) outlined four components of value: attainment value, intrinsic interest value, utility value, and cost. Attainment value is the personal importance of performing well. Intrinsic value is the interest or enjoyment the individual gets from performing the activity or the subjective interest the individual has in the subject. Utility value is determined by how well an activity relates to current and future goals, such as career goals, and cost is the negative aspects of engaging in the task in comparison to the value of the same task (Eccles, 1983).

Ability self-concept - Ability self-concept is a domain specific area of tasks. The specific domains are given value related perceptions that are eventually integrated to form activity-specific expectancies for success that motivate people to participate in certain tasks or activities (Jacobs, Lanza, Osgood, Eccles, & Wigfield, 2002). Self-concept is developed through interactions with significant others such as parents and self-concept influences expectancies during adolescence (Wigfield & Eccles, 1992).

Bioecological Model – A theory developed by Urie Bronfenbrenner that originated from early formation of the Ecological Model of Development (Bronfenbrenner, 1975) to the Process-Person-Context-Time Model (Bronfenbrenner, 1995). The name Bioecological Model will be used to encompass Bronfenbrenner’s early and later ideas at it relates to his model of human development (See figure 2).

Microsystem – The microsystem includes the developing individual and their direct interaction with others such as the parent-child relationship, individual and school relationship, and individual and peers (Bronfenbrenner, 1977).
Mesosystem – The mesosystem is the interrelations between the major settings of the developing person. Examples include the parent-teacher relationship, or the relation between the child's family and his or her peer group (Bronfenbrenner, 1977).

Exosystem – The exosystem includes social structures (or institutions of society) that do not contain the developing person, but will influence that person. An example is the influence of a parent’s employment on the child (Bronfenbrenner, 1977).

Macrosystem – The macrosystem consists of the official and unofficial rules and norms in a society such as, the larger culture, macro-economics, poverty, belief system, or societal trends (Bronfenbrenner, 1977).

Chronosystem – The chronosystem considers environmental events and transitions that a child experiences throughout her or his life. The chronosystem takes into account changes over time within the environment (Bronfenbrenner 1986).

Proximal Process - Proximal processes include the reciprocal interaction between the developing individual and other (significant) persons, objects and/or symbols in his/her immediate environment (Bronfenbrenner 1995). Proximal processes operate within the microsystem.
### APPENDIX B

**Missing Data 2009, 2011, and 2013 TAS Waves**

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APPENDIX C

Young Adult Participation Across Waves
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