Adolescent Transition to Adulthood and the Role of Coping and Influencing Factors

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Dissertation

Submitted to the Faculty of the

Graduate School of Vanderbilt University

in partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

in

Nursing Science

May, 2016

Nashville, Tennessee

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To my husband, Timothy, for his love, encouragement, and support

and

To my children, Joseph and Abigail, my hope and promise from God

ACKNOWLEDGEMENTS

First and foremost, I praise God for the opportunity and capability to pursue this degree, finish my formal education, and position amazing people in my path in order to accomplish this goal. This work would not have been possible without the support of many individuals. The members of my Dissertation Committee have provided me with extensive professional guidance and I am indebted to each of them for their wisdom and mentorship of my study. I would like to especially thank Dr. Sheila Ridner for her weekly and sometimes daily encouragement and feedback. I offer her infinite thanks for accepting me as a PhD student, her continued encouragement, guidance, critiques, and instruction on the research process. Thank you, Dr. Mary Dietrich, for your instruction, patience, and analytical support both as my committee statistician but also throughout my education at Vanderbilt. Thank you to Dr. Vaughn Sinclair for providing me with advisement throughout the program and my study and her continued counsel on my committee. Thank you, Dr. David Schlundt, for adding another dimension and understanding of my concepts and methodology.

This work would not have been possible without the financial support of the Vanderbilt School of Nursing Centennial Fellowship and I thank Dr. Linda Norman and Dr. Ann Minnick for their consideration and determination in awarding me with these funds. I also thank the rest of the Vanderbilt School of Nursing faculty for their guidance and educational contribution to my career.

Most importantly, I wish to thank my loving, supportive husband, Timothy, and our twins, Abby and Joey, who are my inspiration, encouragement, and foundation at home.

This project was supported by CTSA award No **UL1TR000445** from the National Center for Advancing Translational Sciences. Its contents are solely the responsibility of the authors

and do not necessarily represent official views of the National Center for Advancing Translational Sciences or the National Institutes of Health. This work was also funded by a grant from the Vanderbilt University School of Nursing PhD Student Support Fund.

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CHAPTER I

INTRODUCTION

Statement of the Problem

"Problems are not the problem; coping is the problem" noted from prominent clinical therapist Virgina Satir, illustrates that people can respond to stress in both adaptive and maladaptive ways (Thompson et al., 2010). Economic, educational, and social challenges in the United States have fostered continued reliance on the family for financial and emotional support amongst late adolescents, defined as 18-24 year olds. The traditional markers of adulthood such as fiscal independence, marriage, and parenthood have been delayed. This health trend has become known as delayed adolescent transition. For purposes of this study, delayed adolescent transition is defined as the failure to meet major developmental changes and challenges usually associated with late adolescence with acquisition of competencies, attitudes, values, and social capital with defined milestones of: leaving home, employment, educational attainment (including high school graduation). Overweight and obesity trending in this late adolescent period has also become epidemic, affecting approximately 1:4 late adolescents (Centers for Disease Control and Prevention, 2013).

Maladaptive coping patterns in late adolescence can lead to increased depression, anxiety, self-inflicted injury, and suicidal ideation (Cawood & Huprich, 2011; Favazza, 2011; Puskar, Hoover, & Miewald, 1992). However, we do not know the role of coping strategies within the targeted population of adolescents as it relates to potential delay during the transition to adulthood, or what if any associations exist between obesity and coping during this time

period. Furthermore, many newer potential influencing factors such as use and dependence on technological resources (such as internet and social media usage) are unique to this current generation of late adolescent and may also play a role in coping, delayed transitioning, and obesity.

Coping is a particular area of interest in nursing because coping is a potentially modifiable variable that could improve these health outcomes in adolescents during the years of transition to adulthood. However, further exploration of various potential influencing factors that have not previously been considered with the role of coping, delayed transition, and obesity must first be examined.

Significance of the Issue and the Study

Significance of the Issue to Society

Late adolescence (18-24 years old). Late adolescence is a unique developmental period that specifically influences health and social outcomes as emerging adults (Hair, Park, Ling, & Moore, 2009). The 2010 United States Census Bureau reports that late adolescents between the ages of 18-24 years old make up 9.9% (30.6 million) of the total population (United States Census Bureau, 2013a). Approximately 11.5 million students (age 24 and under) are estimated to be enrolled in a four year (7.5 million) or two year (3.7 million) degree-granting institution. This is of particular importance because adults with higher levels of education have jobs with higher wages, more opportunities for advancement, and health insurance options (Johnson & Reynolds, 2013; National Student Clearinghouse Research Center, 2013). Late adolescents prepare for and begin to take on adult roles in terms of financial independence, family formation,

and citizenship. Behavioral patterns established during this developmental period determine future health status and risk for developing chronic diseases and mental illness in adulthood. Hallmarks of late adolescence include the ability to think ideas through from beginning to end, delay gratification, moral reasoning, examination of inner experiences, increased sexual interest and identity, cultural and social importance, further development of peer relationships, increased independence, self-reliance, and concern for the future (American Academy of Child and Adolescent Psychiatry, 2008). In more recent years, negative developmental trends have been identified in this population that includes young adults staying at home, higher unemployment rates, dropping out of high-school, and negative physiological health indicators; including 42% of this population who are considered overweight or obese (Mulye et al., 2009). Most research to date has focused on physiological health indicators of smoking, alcohol use, and high risk sexual behaviors which are also significant to this population. However, increased obesity trending and newer influencing factors unique to this developmental period remains significantly unexplored.

Delayed adolescent transition. Usually associated with acquisition of competencies, attitudes, values, and financial gains to transition into adulthood, many late adolescents are believed to currently be failing to meet these developmental challenges with this trend currently coined as delayed adolescent transition (Zarrett & Eccles, 2006a; Zarrett & Eccles, 2006b). In 2011, more young adults continued to live in their parent's home (59% males, 50% females) a significant rise in only 6 years since data from 2006 (United States Census Bureau, 2013b). Meanwhile, more than 6.5 million adolescents are neither working nor in school with 1.4 million of those adolescents serving as young parents (Sum, 2012). Other study estimates have found approximately 10% of young adults (aged 18-24) are not in postsecondary school, the workforce,

or the Armed Forces (Snyder & McLaughlin, 2008). These adolescents in particular often experience chronic unemployment as adults, remain without health insurance coverage, and fail to gain skills needed for employment. Young adults between 19-29 years of age have the lowest rate of insurance coverage for all age groups across the life span. As of 2012, only 71.8% of young adults have any health insurance: with over 39% of these on Medicare/Medicaid (National Center for Health Statistics, 2009; Rodean, 2012).

While the high school dropout rate in the United States (7%, 16-24 year olds) has decreased, large disparities of race, Hispanic origin, and foreign-born status continue to persist with higher drop-out rates amongst U.S. minorities than their white counterparts (U.S. Department of Commerce Bureau of the Census, 2012). None-the-less, high school drop-outs are still associated with high unemployment rates, more likely to live in poverty, higher crime rates, poorer mental health, and more likely to receive government assistance (U.S. Department of Commerce Bureau of the Census, 2012). However, of the 10% of "idle" youth, approximately 30% are high school dropouts: not gaining adequate educations, work experience, or any sources of earned income (Snyder & McLaughlin, 2008). Further differences are seen with higher shares of rural (12.4%) youth in this delayed transition then their urban youth counterparts (10%).

Mental and physical health. Mental and physical heath is of great concern in this population. Symptoms of mental illness for many disorders begin between 16-25 years of age with approximately 25% (1:4) young adults experiencing a depressive episode before 24 years of age. Depression, co-morbid with substance abuse and several other mental diagnoses, can impair work, relationships, and negatively impact individual development (Breslau, Kilbey, & Andreski, 1994; Van Voorhees et al., 2005). Approximately 50% of students with mental illness 14 years and older drop out of high school which can further compound issues of unemployment

and lack of access to health insurance (National Alliance on Mental Illness, 2013). Late adolescents are also the largest group in society who engage in high risk behaviors such as smoking cigarettes (36.2%), alcohol consumption (61.2%), and binge drinking (41.8%). Furthermore, approximately 26.6% are overweight or obese (16.2%) (Mulye et al., 2009).

Obesity rates have now reached a nationwide epidemic amongst children and adolescents with accompanying chronic complications from obesity such as diabetes, heart disease, stroke, high blood pressure, kidney disease, neuropathy following these individuals into adulthood (American Diabetes Association, 2013; Hillier & Pedula, 2003). Obesity rates are often attributed to negative lifestyle practices which increase in the adolescent transition period as these individuals have a continued decrease in physical activity and increase in caloric intake (Lee, Lee, Guo, & Harris, 2011). A longer duration of obesity through the life span increases the severity of negative health consequences which may make obese late adolescents of particular high risk for delayed transition into adulthood and negative physiological health status.

Costs to society. The current delayed transition to adulthood trend and health behaviors in this demographic are causing lost productivity, emotional costs to society, and are furthering the health-burden in the United States. These individuals become a burden to tax payers which furthers U.S. expenditure and resources.

Lost productivity. Late adolescent who lack both employment and high school educations are less likely to become financially independent, remain on federal insurance or remain uninsured: becoming a burden to tax payers who must account for these costs (Johnson & Reynolds, 2013). These adolescents who fail to transition into traditional adult roles are more dependent on the welfare system and have higher rates of unemployment than their peers (Jekielek & Brown, 2005).

Emotional costs. The expense of mental illness in the United States is among the most costly in the world (Insel, 2011) at over $57.5B in 2006 for mental health care in the US as the nation's third costliest medical condition; equivalent to the cost of cancer care (Agency for Healthcare Research and Quality, 2006). The economic burden of mental illness goes beyond the actual cost of care but also includes the loss of income due to unemployment, expenses for social support, and indirect costs of chronic disability on the health payer system (Insel, 2011; Mark et al., 2007). The World Health Organization (WHO) reports mental illness as the leading cause of disability adjusted life years (DALYs) in the world with depression accounting for one third of this disability (World Health Organization, 2011).

Health burden. Detrimental health behaviors of late adolescents produce additional cost to society with obesity accounting for over $190 billion on obesity-related health care expenses: 11.8% of Medicaid and 8.5% of Medicare spending on obesity related conditions (Cawley & Meyerhoefer, 2012; Finkelstein, Trogdon, Cohen, & Dietz, 2009). Increasing obesity trends earlier in life are of specific concern as these individuals are longer exposed to health threatening conditions (such as diabetes, high blood pressure, and cardiovascular disease): which all include morbidity and disability creating a tremendous financial burden to the nation.

Significance of the Issue to Healthcare

Coping and delayed transition. Maladaptive coping patterns in late adolescence can lead to mental illness and high risk, negative behaviors such as substance abuse, self-inflicted injury or even suicide (Cawood & Huprich, 2011). Healthy, adaptive, problem-focused coping is required for skill attainment in order to obtain and keep a job or continue into post-secondary education programs (Foley et al., 2010). Therefore, the failure to cope with life stressors and changes in the late adolescent period has been hypothesized to lead to developmental delays in

transitioning such as continued dependence on parents, unemployment, and lack of education attainment (Zarrett & Eccles, 2006a).

Coping and obesity. Acute and chronic stressors have been linked to increased food intake (stress-eating), weight gain, obesity, and glucose regulation with national surveys showing that over 39% of people overeat in response to stress: a maladaptive coping strategy (American Psychological Association, 2012; Bjorntorp, 2001; Groesz et al., 2012). Eating in excess, where one eats in response to emotional cues, is the leading contributor to weight gain, obesity, and obesity related morbidities (Tsenkova, Boylan, & Ryff, 2013). This "emotional eating" and "emotional hunger" has been described in terms of dealing with psychological distress and loneliness and is positively associated with weight gain (Geliebter & Aversa, 2003; Hernandez-Hons & Woolley, 2012).

Obesity. As the transition to adulthood has continued to lengthen, the rates of obesity in late adolescent population has continued to rise. In late adolescents, this has been contributed to poor diets, less access to healthy food, decrease in physical activity, poor sleep patterns, lack of healthcare, and engagement in risky health behaviors. Approximately 70-80% of young people diagnosed with obesity in adolescence will be obese adults who are at increased risk of metabolic syndrome, high blood pressure, and premature coronary artery disease (Binkiewicz-Glinska et al., 2012; Lee et al., 2011). Obese individuals spend more on insurance, have additional medical costs related to the increased stress on bones, joints, and other organs, and must use specialized equipment such as bariatric chairs and toilets: all of which further increase system utilization and costs to insurers (Bouchery, Harwood, Sacks, Simon, & Brewer, 2011).

Significance of the Issue to the Discipline of Nursing

Nurses are an integral part of the interdisciplinary health care team and are in prime

position for coping skills training interventions that may reduce negative health outcomes and improve long term functioning (International Council of Nursing, 2013; Puskar, Grabiak, Bernardo, & Ren, 2009). Health promotion and prevention efforts can reduce physical and mental health disorders through the promotion of coping which fall within nursing scope of practice. Nurses are members of the healthcare team that promote interventions to specifically decrease obesity by promoting diet, activity, and wellness. Nurses also interact with patients of all ages during office visits, hospital stays, and community care to assess for health care concerns and coordinate patient care during both wellness and illness states. Nurses often work as advocates for patients who need health care services and support groups which are pertinent to adolescent transitioning into adulthood and obesity prevention and management efforts (Jenkins, 2008; van Meijel, Gamel, van Swieten-Duijfjes, & Grypdonck, 2004).

Nurse practitioners are educated, licensed, and credentialed to diagnose, prescribe, and create treatment plans for patients. The nurse practitioner can provide required prescriptive referrals to sub-specialists such as social work, substance counseling, or endocrinology. Both the nurse and nurse practitioner are in prime situations to assess problems related to these late adolescents and implement appropriate nursing interventions (International Council of Nursing, 2013).

Nurses and nurse practitioners work as educators in almost all patient settings including outpatient clinics, inpatient admissions, and emergency rooms (Jenkins, 2008). They are often tasked with leading group therapy sessions or nutrition and physical activity programs. Nurses have the ability to teach coping skills and promote healthy adaption to medical diagnoses. Many formal coping skills training interventions have been implemented by nurses (Grey, 2011; Grey et al., 2009; Santacroce, Asmus, Kadan-Lottick, & Grey, 2010; Whittemore et al., 2009).

Furthermore, nurses are often charged with delivering patient education for diabetic patients once obesity has progressed to chronic illness (Robertson, 2012).

Summary of Overall Significance

Late adolescence is an important developmental period in the life span during which individuals begin to make the transition to the roles and responsibilities of young adulthood (Raphael, 2013). Behavioral and health patterns established during these developmental periods determine health status and risk for developing chronic disease into adulthood (Brodbeck, Bachmann, Croudace, & Brown, 2012). Economic burdens of preventable health problems in late adolescence creates billions of dollars of economic burden to the federal government and taxpayers in the United States which include long-term costs of chronic disease that are a result of these behaviors begun in adolescence (Bouchery et al., 2011; Furstenberg, 2010). The role and impact of obesity is a continued emerging concern throughout the healthcare system to include the long term health consequences of these individuals (Block, He, Zaslavsky, Ding, & Ayanian, 2009). As nurses serve as patient advocates, researchers, clinicians, and educators for the late adolescent and young adult cohort, they are in prime position to aide in management of both physiological and psychosocial symptoms: ultimately promoting more holistic wellness for patients.

Purpose of the Study

The purpose of this study is to examine the role of coping and influencing factors of coping on delayed adolescent transitioning. This study will examine influencing factors unique to the last decade of late adolescents (18-24 years old), most of which have not been previously

researched, to include environmental factors (childhood responsibilities, pet ownership, Social Economic Status [SES]), technological advances (internet use, social media use, and video gaming), and personal factors (obesity). Primary and secondary appraisals to stress and coping in this age group will also be considered. Specific aims for this study include:

1. To examine the prevalence of identified societal factors including environmental factors (childhood responsibilities, pet ownership, SES), technological advances (internet use, social media use, and video gaming), and personal factors (obesity) unique to this population: including cognitive appraisals to stress and coping.
2. To examine the associations of these factors with problem focused, emotion focused, and dysfunctional coping styles in this population.
3. To examine the association of these factors with delayed transition into adulthood in this population.
4. To examine the association of problem focused, emotion focused, and dysfunctional coping styles on delayed transitioning in this population.
5. To examine the associations between societal factors including environmental factors (childhood responsibilities, pet ownership, SES), technological advances (internet use, social media use, and video gaming), personal factors (obesity), coping, and delayed transitioning into adulthood in this population.

Research Questions

This study will address the following research questions:

1. What is the prevalence of the selected environmental factors (childhood responsibilities, pet ownership, SES), technological advances (internet use, social media engagement, and video gaming), and personal factors (obesity) in this population?
    a. What is the association of stress and cognitive appraisals with these factors?
2. What is the association of these factors with problem focused, emotion focused, and dysfunctional coping styles in this population?
3. What is the association of these factors on delayed transition into adulthood?
4. What is the association of problem focused, emotion focused, and dysfunctional coping styles on delayed transition (leaving home, employment, educational attainment) into adulthood?
5. What are the associations between societal factors environmental factors (childhood responsibilities, pet ownership, SES), technological advances (internet use, social media use, and video gaming), personal factors (obesity), coping, and delayed transitioning into adulthood in this population?

CHAPTER II

LITERATURE REVIEW

History of the Problem of Interest

The human life span is divided into unique developmental stages that are usually defined in terms of: infancy, childhood, adolescence, and adulthood (Fortinash & Holoday-Worret, 2012). However, these traditionally accepted stages also include developmental subdivisions such as the "tween years" which is thought to occur between childhood and adolescence (Arnett, 2000; Fortinash & Holoday-Worret, 2012). Similarly, the transition period between adolescence and young adulthood has been described as "emerging adulthood," "late adolescence," and "transition to adulthood" (American Academy of Child and Adolescent Psychiatry, 2008; Arnett, 2000; F. F. Furstenberg, Jr., 2010; Jekielek & Brown, 2005).

Developmental Transition into Adulthood Theories

There are several theories of development that are well accepted amongst scientists which aim to explain how humans develop. An overview of the approaches to understanding the developmental periods, including the transition to adulthood period, is summarized in Table 1. The young adulthood periods are discussed and summarized in this section.

Prominent historical theories. Perhaps one of the most noted developmental theorists is Sigmund Freud (1856-1939) who formulated the psychosexual theory of development; describing how the personality develops (Fortinash & Holoday-Worret, 2012). The tasks of this developmental stage include development of an identity, finding one's place in society, committing to a career, and developing self-confidence (Fortinash & Holoday-Worret, 2012).

Freud's contributions to the understanding of childhood and adult human growth provided an important foundation to the many subsequent theorists who further studied human development (Eagle, 1997; Piaget, 1997; Sullivan, 1953).

One of Erik Erikson's major accomplishments is expanding the works of Freud to view the human lifespan as a more comprehensive, lifelong development (E.H. Erikson, 1950, 1987). Erikson's emerging adulthood period was labeled "intimacy versus isolation" (also called "intimacy versus self-absorption"). During the 18-35 year age range, the individual starts to consider other people's needs and concerns as equal to their own. Furthermore, intimacy is thought to include emotional, intellectual, and sexual domains of identity; ultimately involving loss of personal ego (Fortinash & Holoday-Worret, 2012). Erikson postulated this as the first stage of adult development characterized by dating, marriage, starting a family, and maintaining friendships (E. H. Erikson, 1950). During this phase, he puts great emphasis on the importance of loving relationships with others in order to achieve love and intimacy versus feelings of isolation and being alone (E. H. Erikson, 1950, 1987). Erikson's concepts and theories have had vast influence in nursing, psychology, psychiatry, psychoanalysis, and human development (Eagle, 1997; Fortinash & Holoday-Worret, 2012). Many contemporary theorists have based their hypothesis on Erikson's work (Arnett, 1998; Sheehy, 1999, 2010; N. Zarrett & J. Eccles, 2006).

Building on the works of both Freud and Erikson, Harry Sullivan (1882-1949) believed that development results from the satisfaction of needs in interpersonal relationships with minimization of insecurities in those relationships (Evans, 1996; Fortinash & Holoday-Worret, 2012; Sullivan, 1953). Sullivan's late adolescent period (17-19 years of age) revolves around the basic concept of personality integration where the individual becomes genuinely intimate with

others by integrating needs of society without feeling overly anxious (Sullivan, 1953). Sullivan defined late adolescence as a stage that "flowed into adulthood" where individuals establish stable relationships with others and develops more consistent views of the world (Evans, 1996; Sullivan, 1953). Sullivan's theory of developmental transitions has influenced contemporary generations of mental health professionals and developmental theory that is recognized today (A. Chapman, 1976; Evans, 1996; Rioch, 1985).

Jean Piaget's (1896-1980) work is perhaps one of the most infamous in pediatric developmental theory which focuses largely on how humans develop structure and function of intelligence: otherwise known as the cognitive theory of human development (Piaget, 1977, 1997). The adolescent period of cognitive intelligence was postulated by Piaget to emerge between 11 and 16 years of age in the "formal operations period." During this period, the individual learns to think abstractly and hypothetically as opposed to previous concrete thinking (Piaget, 1997). In the formal operations period, the adolescent also begins to think of future events and strategies to solve more complex problems (Fortinash & Holoday-Worret, 2012; Piaget, 1977; Piaget, Brown, Kaegi, & Rosenzweig, 1981).

Prominent contemporary theories. Gail Sheehy (1937-) is author of New York Bestseller *New Passages* which has become a heavily referenced contemporary theory of human development in adulthood. Sheehy is a Columbia University journalist whose work accounts for the increased longevity of the 21st century society and recognizes that many adulthood stages have shifted from theories of the past. Sheehy divides adult life into three stages: provisional adulthood (18-30 years), first adulthood (30-45 years old), and second adulthood (45-85 years old) (Sheehy, 2006). The provisional adulthood phase (sometimes called "the Try-Outs"), which includes adolescent transitioning into adulthood, is characterized by opposing goals of desiring

exploration yet also wanting stability. Sheehy recognizes that in recent history this time period was considered a time for finishing one's education, moving away from home, and starting a career and family (Sheehy, 1999, 2006). However, Sheehy recognizes that since young people are now living with their parents and remaining unmarried, the transitioning into adulthood period does not happen for some individuals until after the age of 30. Sheehy writes that these individuals "feel unable to make clear choices or cope with life without expecting some help from parents" (Sheehy, 2006, p. 5). Sheehy conjectures that young people in today's society are at an increased competition for jobs and are, therefore, pursuing higher education through 20-24 years of age to pursue college educations. However, she believes that because today's young people are waiting longer to marry, that the number of divorces may decrease in the future: rationalizing that some of the delayed transition of the 21st century is not necessarily negative (Sheehy, 2006).

Sheehy's theory of adolescent transitioning is one of the more relevant developmental theories of late adolescence because she recognizes the current changing societal views of delaying marriage, financial independence, and education attainment extending the adolescent period of the last few decades. An additional strength is that Sheehy's theory recognizes this generation's ethnic diversity and, therefore, is more receptive to multiculturalism (Sheehy, 2006). She recognizes that these young adults are making advances in technology, biotechnology, and utilizing the Internet to more efficiently conduct business (Sheehy, 2006). The cultural context of development, recognition of current transitioning trends, influencing factors (such as computer use) are strengths of Sheehy's work. Ironically, criticisms of Sheehy's work include that she indulges heavily in the "pop psychology" of today and that her background as a journalist does not adequately qualify her to write developmental theory ("The Gripes of

Academe," 1976).

The term “emerging adulthood” was first introduced by Jefferey Jensen Arnett in his 1998 publication highlighting the current state of adolescent transitioning into adulthood in American culture: a term that is now widely used today in the literature (Arnett, 1998). Arnett defined emerging adulthood as a “period of development bridging adolescence and young adulthood, during which young people are no longer adolescents but have not yet attained full adult status” (Arnett, 2004, p.312). Emerging adulthood is theorized to range from 18-25 years of age however the upper age can be extended up to 29 years of age (Arnett, 2004).

Arnett points out that in the current majority culture of American society, previous life event markers of marriage, parenthood, and moving out of home should be rejected and refined (Arnett, 1998). Based on his studies, he feels that the American transition into adulthood should be: accepting responsibility for one’s self, making independent decisions and financial independence (Arnett, 1998, 2003; Arnett & Galambos, 2003). Arnett explains that emerging adults are in a transition period of instability where most are revising their “grand life plan” such as changing majors in college, finding the right partner and job, and may delay moving out of their parents’ residence to accomplish these tasks (Arnett, 2004). Late adolescents are now delaying significant adult responsibilities (e.g.: marriage and parenthood) in order to focus on personal needs for themselves (Arnett, 2004, 2007).

Arnett continues to explore the new trends of emerging adulthood with particular focus on the late adolescent’s personal view of when they feel they “become an adult.” Since the advent of his 1998 conceptual theory on emerging adulthood, he has authored multiple books including the textbook *Adolescence and Emerging Adulthood: A Cultural Approach* and a 2013 best-selling book *When Will My Grown-Up Kid Grow Up.* His work has made national media

and news story reports and his "emerging adulthood" sub-stage of adolescence is often quoted by current sociologists and adolescent researchers who are now focusing on this developmental period (Burt & Paysnick, 2012; M. C. Nelson et al., 2008).

Synthesis of developmental theories. Central themes in childhood to adult transition developmental models include trust, autonomy, and individuation (Arnett, 1998; Halperin & Shakow, 1989; Sheehy, 2006; Sullivan, 1953). Persistent debate over the amount of development related to biology versus culture and environment (also known as "nature versus nurture") has continued amongst researchers (Denson, Spanovic, & Miller, 2009; Fortinash & Holoday-Worret, 2012). However, most researchers now agree that transitioning from adolescence to adulthood is biological, social, and cultural (Arnett, 2003). Earlier developmental theorists put heavy emphasis on successfully transitioning based on the parent's acceptance and attitudes during childrearing (E. H. Erikson, 1950; Evans, 1996; S. Freud, 1987; Freud & Rieff, 1963; Piaget, 1977; Sullivan, 1953). Developmental change through the lifespan, however, depends on both the genetic and biological make-up of the individual and the environmental conditions in which the individual is raised. Contemporary developmental theorists continue to study adaptation into adulthood using these earlier developmental theories (Arnett, 1998, 2007; Piaget, 1997; Sheehy, 1995, 2006).

The emerging adulthood period is also marked with increasing independence, acquiring greater responsibility, and taking a more active role over their life (Arnett, 1998, 2000; Sheehy, 1995, 2006). The primary challenges of this developmental period include managing these new roles, learning about one's strengths and weaknesses, finding meaning and purpose in the new adult role, and making life changes (A. Chapman, 1976; Eagle, 1997; Lawrence Kohlberg, 1984; Piaget, 1997; Sheehy, 1995). Developmental theorists explain the successful management of

transitioning into adulthood depends on the physical, cognitive, and psychosocial characteristics of the individual and the role of social supports (such as the parent or caregiver) during both the transition period and earlier developmental stages (E. H. Erikson, 1950; Freud, 1955; Gedo, 2002; Piaget, 1977, 1997; Sullivan, 1953). These theorists have also identified specific personal attributes thought to be crucial for health development which include having confidence in one's ability (intrinsic motivation and self-esteem), master learning tasks, and social connection (Arnett, 1998; E. H. Erikson, 1950; Lawrence Kohlberg, 1984; Piaget et al., 1981). These assets can all be viewed as variations of specific adaptive coping skills such as cognitive reframing, problem solving, stress management, and seeking social support. Despite these important implications found through developmental theory, teaching youth and adolescents to successfully cope with life stressors is not routinely factored into medical and nursing care of our patients.

Table 1
Approaches to Understanding the Developmental Period

Freud's Theory of Psychosexual Development		
Stage	**Age**	**Characteristics**
Oral	0-1 years	• Unable to delay gratification of needs • Internal selfish needs of receiving and taking
Anal	2-3 years	• Ability to delay gratification of impulses • Responds to external limits of giving and withholding
Phallic	3-5 years	• Development of guilt and self-esteem • Learns values and rules from parents • Oedipus (boys) and Electra (girls) complexes
Latency	6-12 years	• Removal from consciousness of instinctual wishes and actions that may be threatening (repression) • Mastery of learning • Forming relationships with same-sex peers
Genital	13 + years	• Combines all pre-genital stages

		• Develops ability to love and work • Socially unacceptable impulses are channeled into socially acceptable activities (sublimation)
Erikson's 8 Specific Psychosocial Stages of Development		
Stage	**Age**	**Characteristics**
Basic trust vs. basic mistrust	0-1 year	• Development of trust based on nurturing relationship and quality of maternal relationship • The infant's sense of trust forms that basis for child's later sense of identity
Autonomy vs. shame	1-3 years	• Autonomy, shame, doubt • Child trying to master toilet training
Initiative vs. guilt (Purpose)	3-6 years	• Sense of guilt leads to maladaptation • Child's independence and ability (dress himself)
Industry vs. inferiority (Competence)	6-11 years	• Child compares self-worth to others • Child recognizes personal abilities • Emphasis on relationship with the teacher
Identity vs. role confusion (Fidelity)	12-18 years	• Questions of self (Who am I?) • If parents allow exploration, they will find own identity; if parents push to conform to their views, they will face identity confusion
Intimacy vs. isolation	18-35 years	• First stage of adult development • Characterized by dating, marriage, family, and friendships • Formation of loving relationships with others allows the individual to experience love and intimacy • Failure to form lasting relationships causes feelings of isolation and alone
Generativity vs. stagnation	35-64	• Second stage of adulthood • People are settled into life and recognize what is important to them • Individual is progressing in career • Individual is raising children • Finding sense of purpose
Ego integrity vs. despair	65- +	• Last chapter in life • Retirement • Individuals have achieved what was important to them (if achievement met then sense of integrity vs. sense of despair)

Sullivan's Interpersonal Theory of Development		
Stage	**Age**	**Characteristics**
Infancy	0-2 years	• Trial-and-error learning from parents; tender loving "positive parental moods" develops a self-system of tenderness whereas annoyance, parental disapproval, and anxiety "negative parental moods" develops emotional withdrawal. • Differentiates self from others • Ends with language development
Childhood	2-6 years	• Language development allows for communication and education • Continual development of self-system • Sublimation (impulses are expressed in socially acceptable ways) versus malevolent transformation (feelings of living amongst enemies) are influences of parent child-rearing
Juvenile	6-10 years	• Increase in peer interactions; give feedback and widens sphere of influence • Develops a conscience • Cultural stereotypes develop • Able to distinguish fantasy and reality • Syntaxic communication (mature communication methods) • Behaviors are connected to others opinions of them
Preadolescent	10-13 years	• Individual transitions from egocentrism to love • Personal self-worth validated through friendships • Able to work with others towards a common goal
Adolescent	13-17 years	• Sexual attractions and intimacy begin • Feelings of insecurity and loneliness if discouragement of sexual attractions
Late adolescent	17-19 years	• Genuine intimacy with others • Able to integrate needs of society • Regression and egocentrism may form is individual is unable to achieve personality integration into society

Piaget's Cognitive Theory of Human Development		
Stage	**Age**	**Characteristics**
Sensorimotor	0-2 years	• Ability to differentiate self from objects • In-the-moment thinking • Object permanence (ability to hold mental representations when objects are out of sight) • Trial-and-error learning
Preoperational	2-7 years	• Here-and-now thinking • Symbols and words are used to represent objects and people that are not present • Symbolic pretend play • Ego=centric (unable to take another's point of view) • Inability to distinguish reality from fantasy • Language development • Self-system begins
Concrete operational	7-11 years	• Past and present thinking • Understanding of physical properties of volume, length, grouping, and position • Able to reverse operations • Ability to appreciate perspective of other people
Formal operational	11-16 years	• Future thinking • Ability to think abstractly and hypothetically • Ability to ponder about future events • Develops complex problem solving strategies
Kohlberg's Theory of Moral Development		
Stage	**Age**	**Characteristics**
Preconventional level 1. Punishment-obedience orientation 2. Hedonistic and instrumental orientation	4-10 years	• Moral decisions based on avoidance and punishment • Moral decisions are motivated by desire for rewards • Belief of helping others to get help in return
Conventional level 3. Good boy/ girl orientation 4. Law-and-order	10-13 years	• Moral decisions based on desire for approval • Avoidance of guilt by not doing the right thing • Moral decisions defined by rights and

orientation		assigned duties of community • Respect for authority begins
Post-conventional level 5. Social contract orientation 6. Hierarchy of principles orientation	Not specified	• Moral decisions based on sense of community respect • Following of rules • Moral judgment based on principles of justice, human rights and respect for human dignity • Golden rule (do to others as you would have them do to you)
Sheehy's New Passages of Human Life		
Stage	**Age**	**Characteristics**
Provisional adulthood	18-30	• Two opposing goals: a desire for exploration and a desire for stability • "Try-Outs" of coping with the "real world" • Career, marriage, and children may/may not be achieved • Prolonging college education and graduate school to be considered for high job competition
First adulthood	30-45	• "Turbulent 30s" and "Flourishing 40s" of paying bills, raising children, and thinking about getting older • Midlife crisis: major transition in life where one looks at growing older and face their own mortality (also called "middlescence" where some adults try to experience adolescent for a second time) • Adults may make major changes in their life
Second adulthood Age of Mastery (45-65) Age of Integrity (65-85 +)	45-85	• The age of mastery: apex of life where people are stable, more serene about mortality, evaluate what is most important in life • The age of integrity: newer life stage resulting from older average life span • Many start to suffer from chronic health problems after neglecting health in earlier ages • Learned to deal with life and crises

Arnett's Contemporary American Transition to Adulthood		
Stage	**Age**	**Characteristics**
Emerging adulthood	18-23	• Period of development that bridges adolescence and young adulthood where individuals are no longer adolescents but not yet attained full adult status • Sense of becoming an independent, self-sufficient individual • Accepting responsibility for one's self • Making independent decisions • Consideration for others • Financial independence

Transitional Trends

The transition period from adolescence and adulthood has been extended from recorded trends in the 1950s and 60s. U.S. census data have found that adolescents are taking longer to make the transition to adulthood than any other time in the nation's history (United States Census Bureau, 2013b). Some researchers argue that traditional benchmarks have changed while others provide evidence that there is a growing gap in the adolescent's ability to be self-sufficient (Arnett, 1998; Danziger & Rouse, 2009; Settersten & Ray, 2010; Skaletz & Seiffge-Krenke, 2010).

Past transitional period into adulthood. In review of the transition to adulthood in American history of the last 5 decades, adulthood was primarily based on entering into distinct roles of work and marriage (Rotundo, 1993). Leaving home and starting a family in the 1950s was considered "normal" and reflected societal expectations of the time period (Settersten & Ray, 2010). Most teenagers in late adolescence left home after they graduated high-school, got married, and began to expand their families through childbearing (Arnett, 2000; Settersten & Ray, 2010). In 1970, less than 13% of white males still lived at home with their parents by the age of 25 while close to 70% were married by this age (Settersten & Ray, 2010). In the 1950s,

more than half of Americans viewed someone who did not want to get married as selfish, peculiar, and morally flawed (Veroff, Wilcox, & Atkinson, 1953). By 1960, the median age of first marriage was 20 years old for women and 23 for men (Danziger & Rouse, 2009). In 1950, less than 20% of women were childless by age 35 (Danziger & Rouse, 2009; Wetzel, 1990). Divorce rates were much lower at 2.6% in 1950 than what we see today (Wetzel, 1990). Out-of-wedlock birth rates were also low at 19.3 per 1,000 (Wetzel, 1990). Data from 1972 showed the overall high school drop-out rate in 1967 was close to 17% which included cultural disparities greater for non-Hispanic blacks (21%), non-Hispanic whites (12%), and Hispanic youth (34%) (Heckman & Lafontaine, 2010). In the 1960s, less than 15% of high school graduates went on to receive a bachelor's degree by the age of 22 (Danziger & Rouse, 2009). By the 1980s, college pursuit had only increased to 28% of high-school graduates (Danziger & Rouse, 2009).

Transitional period of the last decade. Normative adult life transitions consist of leaving one's original family, forming new relationships, starting a family, having and raising children, children leaving home, reforming as a couple, becoming adult caregivers for older generation, and retiring. Americans still view education, employment, financial independence, and the ability to support family as important factors to becoming an adult (Hayford & Furstenberg, 2008).

As of 2011, the current high school dropout rate has decreased to 7% (U.S. Department of Commerce, 2012). However, cultural disparities ensue with approximately 8% of blacks and 14% Hispanics dropping out of high school as compared to only 5% of whites and 5% of Asians (Heckman & Lafontaine, 2010). Explanation for the higher rate of Hispanic drop out is the high proportion of immigrants of this age group who never attended school (Fry, 2003). Despite those that drop-out of high-school, many late adolescents continue their educational pursuit into post-

secondary training (Johnson & Reynolds, 2013). The demand for a college education has increased in recent years with education and training more valuable for job security and career building (Settersten & Ray, 2010).

One of the most noticeable trends is the delay in matrimony; with the average age of women's first marriage at 26 years of age and 28 years of age for men (based on national survey from 2004) (Danziger & Rouse, 2009). The marriage delay has also been coupled with a delay in childbearing and an increase in births outside of marriage. Contraception and reproduction advances have also given couples more choices over when to have children if desired at all (Settersten & Ray, 2010). The social stigma and acceptability of co-habitation before marriage and out of wedlock pregnancies have also changed drastically over the last 50 years (Manning, Trella, Lyons, & Toit, 2010; Settersten & Ray, 2010). A survey of high school seniors found that approximately 50% planned to cohabit before they marry (Manning et al., 2010). Approximately 37% of women in 2005 gave birth to a child outside of marriage (Child Trends, 2007). Divorce rates are also consistently higher for couples who marry before age 20 which has also been quoted as cause to postpone matrimony further into adulthood (Settersten & Ray, 2010). The divorce rate for 2013 was 3.6 per 1,000 populations (Centers for Disease Control and Prevention, 2013b). Subsequently, more young adults between 18-24 years of age who choose to remain single longer are continuing to live with their parents (59%) (United States Census Bureau, 2013b).

In 2007, the obesity rate was 30.2% for American males and 34% for American females (Hernandez-Hons & Woolley, 2012). Factors believed to contribute to the climbing obesity statistics include physiological variables (such as lack of physical activity and increase in caloric intake), changes in cultural norms (acceptance of larger size and parental obesity), and

psychological distress (emotional, social, and school functioning) (Datar & Sturm, 2006). Overweight parents tend to raise overweight children, creating a cultural cycle of obesity through generations (Whitaker, Wright, Pepe, Seidel, & Dietz, 1997). As of 2012, the United States has the 2nd highest obesity rate in the world and obesity is considered a national epidemic (Cawley & Meyerhoefer, 2012; Siwik et al., 2013). The American Medical Association (AMA) has took a stance on describing obesity as a disease as opposed to a medical condition (American Medical Association, 2013).

Transitional trending. In 1960, 65% of men had reached adulthood by age 30 whereas in 2000 only 31% met milestones of school completion, job attainment, and living on their own. However, whereas in the 1950s marriage and childbearing were expected cultural norms, by the 1970s less than 1/3rd of Americans held the same belief (Besharov, Stewart, & Gardiner, 1997). The age in which individuals marry has also lengthened (F. F. Furstenberg, Jr., 2010; Manning & Smock, 1995; Seltzer et al., 2005). For instance, from 1960 to 2004 the median age of women's first marriage at 20 to 26 years old and 23 to 28 years for men in a sample from the general population (Danziger & Rouse, 2009). Over the past 5 decades, births to unmarried women increased from 5% (in 1960) to 37% (in 2005) (Child Trends, 2007). The overall dropout rate from high school has declined from 17% (1967) to 7% (2011). However, cultural differences ensue with black and Hispanic youth more likely than whites or Asians to drop out of high school and marry earlier (Furstenberg, 2010; Jekielek & Brown, 2005).

Obesity rates have increased to almost 42% of the emerging adult population (18-24 years of age) including overweight and obese diagnoses (Mulye et al., 2009). The obesity rate since the late 1960s in adolescents has quadrupled (Lee et al., 2011). In 1960-1962, the obesity rate was 10.7% for American males and 15.7% for American females (in adults aged 18 years

and older) (Hernandez-Hons & Woolley, 2012). Both men and women have gained more than 24 pounds on average from the 1960 to 2002 with mean height only increasing approximately 1 inch (Ogden, Fryar, Carroll, & Flegal, 2004). Meanwhile, mean BMI rose from 1960-2002 from 25 to 28 for both men and women (in adults aged 18 and older) (Ogden et al., 2004). In 2013, Americans are now an average of 30 pounds heavier than in the 1960s with youth (11 years and younger) 19 pounds heavier (Centers for Disease Control and Prevention, 2012). One explanation for the rise in weight is the increase in caloric intake in most American's diets which averaged 2076 kcal/day in 1970 to 2534 in 2010 (United States Department of Agriculture, 2012). The adolescent (12-19 years) and young adult (20-39 years) cohorts are reported to consume the highest number of calories, mostly from sugar sweetened beverages (252-273 kcal/day) (Ogden, Kit, Carroll, & Park, 2011).

Furthermore, obesity prevalence is higher in Hispanic and African Americans than in whites and Asians. Research has shown that large ethnic disparities emerge even at very young ages in the United States. Mexican-American pediatric and adolescent males have the highest combined prevalence of obesity than any other ethnicity (40.5% vs. 34.5% in whites and 32.1% in blacks) while African American pediatric and adolescent females have the highest combined prevalence (44.5% vs. 31.7% in whites and 37.1% in Mexican Americans) (Wang, 2011).

Explanations of transition extension. Many contemporary researchers and theorists have postulated how this new age of emerging adulthood became redefined in the last decade. Arnett (2004) explains with birth control options being more readably available, individuals engage in sex without feeling the need to first be married first. Furthermore, premarital sex and cohabitation are more acceptable in current American society then in the 1960s and 1970s with young people not feeling the need to first get married to enter into either a sexual relationship or

living with a partner (Arnett, 2004).

The last decade has also experienced significant societal and economic changes (Jekielek & Brown, 2005; Johnson & Reynolds, 2013; Settersten & Ray, 2010; Sum, 2012). The work attainment marker has been explained by noting that more adolescents are pursing higher education after high school (Arnett, 2004; Jekielek & Brown, 2005; Johnson & Reynolds, 2013) as currently, about half of America's late adolescents enroll in some form of college (N. Zarrett & J. Eccles, 2006). National data surveys have found that young adults feel economic insecurity (F. F. Furstenberg, 2008; F. F. Furstenberg, Jr., 2010). Furstenberg reasons that it takes much longer to secure a full-time job that pays enough to support a family now than it did in decades past (F. F. Furstenberg, Jr., 2010). Furthermore, late adolescents are taking longer to complete their education and then find stable employment; this includes more women who are also attending college and completing degrees (Danziger & Rouse, 2009).

Contextual nature of emerging adulthood. Culture refers to the acquired collective process of shared beliefs, behavior patterns, values, and attitudes, often influenced by the individual's environment (Fortinash & Holoday-Worret, 2012). Culture is often used interchangeably and confused with ethnicity, which refers to a group of people from a common geographic region who shares characteristics such as language and religion (Fortinash & Holoday-Worret, 2012). However, both cultural and ethnic differences influence emerging adulthood patterns.

The United States consists of an ethnic and cultural diverse population which includes regional differences throughout the north, south, and mid-west. The 2010 U.S. Census Bureau estimated that the population distribution of 308.7 million people includes 223.5 million White (or European-Americans), 38.9 million Black (African-Americans), 50.5 million Hispanic (or

Latino-Americans), and 14.6 million Asian Americans (United States Census Bureau, 2013c). Most cultural groups undergo acculturation and assimilation into the United States, however, may retain some of their own cultural rite-of-passage (Fortinash & Holoday-Worret, 2012). African-American communities in the United States, who originated from Africa, have cultural heritage from Caribbean cultures, Native American cultures, and northern European cultures (Fortinash & Holoday-Worret, 2012). Sociological studies have shown that African-American families are largely matriarchal in nature, have strong extended family networks, strong religious affiliations with communities, and have a large proportion of single-parent households headed by women as the norm (Ard, Durant, Edwards, & Svetkey, 2005; Briggs & McBeath, 2010; P. L. Chapman & Mullis, 2000; Fortinash & Holoday-Worret, 2012; Shelton & Lyon-Jenkins, 2006). Approximately 75% of black children are raised in single-parent households as compared to 25% in the general U.S. population. African Americans are at a disadvantaged position entering adulthood with most tending to live in racially segregated neighborhoods with poverty, in lower quality schools, and fewer social support networks (Benson & Furstenberg, 2003).

Meanwhile, Hispanics are the most rapidly growing ethnic group in the United States (United States Census Bureau, 2013c). Most Hispanic communities in the United States originate from Spain, Cuba, Central and South America, Mexico, and Puerto Rico (Fortinash & Holoday-Worret, 2012). Hispanic families are known to have a strong nuclear structure with large extended family networks, "compadrazzos" (meaning god parents), and strong church and religious affiliations (Fortinash & Holoday-Worret, 2012; Kumpfer, Alvarado, Smith, & Bellamy, 2002; Lindberg, Stevens, & Halperin, 2013; Lorenzo-Blanco, Unger, Ritt-Olson, Soto, & Baezconde-Garbanati, 2013). While the African American youth do not have a formal transition ritual, Hispanic female youth celebrate the quinceanera; which is a large birthday party

at 15 years of age to recognize her journey from childhood to maturity and often resembles a large wedding without a groom (Alvarez, 2007; "Quinceañera Traditions," 2013). The quinceanera is also recognized as a female's "coming of age" and is still celebrated in the United States by Hispanic families (Alvarez, 2007).

Significant health disparities and outcomes have been reported amongst racial and ethnic groups (Chapman & Mullis, 2000; Garcia, Pintor, & Lindgren, 2010; Shetgiri et al., 2009). In general, adolescents and young adults of the African American, American Indian, and Hispanic descent often experience worse health outcomes when compared to the same aged Caucasian counterparts (such as obesity, teen pregnancy, and educational achievement) (Harris et al., 2009; Johnson & Reynolds, 2013; Mulye et al., 2009; Scharoun-Lee et al., 2009). Minorities are also less likely to have access to health services, including mental health services (National Alliance on Mental Illness, 2013). Many minority youth are in family situations where parents are unavailable or unable to support children into successful adolescent transition to adulthood (N. Zarrett & J. Eccles, 2006). Furthermore, black men and women are consistently more likely to be single and never-married when compared with Caucasian individuals (F. F. Furstenberg, Jr., 2010).

It is also important to understand that the transition into adulthood differs from within the United States to other sectors of the world. For example, by the age of 14 in the Marquesas Islands of Polynesia, children are expected to complete adult work and labor in fields, however, are not yet viewed as adults until they are married (Kirkpatrick, 1987). Whereas, in Moroccan society where marriage is still arranged by the adolescent's parents, marriage is not seen as "being an adult." Instead, Moroccans reported one reaches adulthood when you have "aql" translating to English as meaning "rationale" and "having impulse control" (S. Davis & Davis,

1989). Arnett (1998) has used theses anthropological studies as argument against marriage being an indicator for adolescent transition into adulthood.

Despite cultural variations and values amongst minorities in the United States, researchers who have looked at cultural conceptions of transitioning to adulthood found that emerging adults in ethnic minorities held very similar conceptions to Caucasian counterparts (Arnett, 2003). For instance, when a sample of ethnically diverse young adults were surveyed, results showed the most prominent response of when these individuals felt you entered adulthood were: accepting responsibility for your actions, deciding on personal beliefs and values, financial independence from parents, and establishing equal relationships with parents, all of which resolve around criteria of independence (Arnett, 2003).

Summary of transitional and contextual trends. Since the 1950's, the timing, sequencing, and trends of entry into adult roles has changed and became extended over the past fifty years (Arnett, 1998; F. F. Furstenberg, Jr., 2010; Jekielek & Brown, 2005). The traditional markers of leaving the parental home, working, marriage, and parenthood are no longer universally accepted as successful transitioning into the adult role (Arnett, 1998, 2000; Sheehy, 2006). More contemporary definitions of young adulthood exclude marriage and having children (Arnett, 1998). Individuals are marrying later and delaying childbearing (Child Trends, 2007; Danziger & Rouse, 2009). Not only has childbearing been delayed but more women are having children outside of marriage (Child Trends, 2007). The delayed transition to adulthood from previous decades has been explained through women obtaining educational degrees and entering the labor force, changes in social norms of marriage and childbearing, and economic climate changes of increased debt, decreased employment prospects, and higher housing prices (Arnett, 2007; Chiteji, 2006; Danziger & Rouse, 2009; F. F. Furstenberg, Jr., 2010; Manning &

Smock, 1995). Racial and ethnic health disparities and differences further confound the delayed transition to adulthood throughout America (Arnett, 2003; Arnett & Galambos, 2003; Lindberg et al., 2013). Perhaps of importance to note that although the emerging adulthood transition period has extended, this trend has not been reflected in government services or educational systems as many young adults do not have access to health insurance, mental-health services, or subsidized housing (F. F. Furstenberg, Jr., 2010; Millenky, Schwartz, & Rhodes, 2013; Nicholson et al., 2009; Osgood, Foster, & Courtney, 2010).

Analysis of Relevant Literature

Coping

Most of the studies that have examined coping in the late adolescent population are cross-sectional in nature although case studies, focus groups, and experimental designs were also found. Most of the late adolescent coping studies have used convenience sampling in college aged youth, often through an introductory psychology course or purposive sampling with a specific predefined cohort (such as depressed or self-injurious adolescents) (Cawood & Huprich, 2011; Vickers et al., 2003). Regardless of these potential limitations in design and research foci, a great quantity of knowledge has been uncovered through these coping studies particularly comparative studies examining the prevalence and associations amongst different variables.

Self-injurious behavior have been found to be associated with emotional coping ($r=.36$, $p<.01$) and lower self-esteem scores with an inverse relationship to adaptive coping styles (Cawood & Huprich, 2011). Other maladaptive coping styles have been associated with both tobacco use (Vickers et al., 2003) and alcohol consumption (McKee, Hinson, Wall, & Spriel,

1998). Longitudinal comparative studies of maladaptive coping predicted depression, co-rumination, and more reports of stress in adolescents (White & Shih, 2012). Coping styles have been found to be significant independent predictive variables in both quantity and frequency of alcohol use; where individuals who used alcohol to avoid thinking about a problem consumed more alcohol per drinking episode and drank more often (McKee et al., 1998).

Cross-sectional late adolescent studies have also found that late adolescents face significant stressors in this developmental period including moving away from home, financial uncertainty, and peer pressures (Kahen Johnson, Gans, Kerr, & LaValle, 2010; Renk & Creasey, 2003). Some studies have specifically focused on the stress of college transitioning and coping in emerging adults (18-20 yo, first year undergraduates) (Wack & Tantleff-Dunn, 2009; White & Shih, 2012). Family environment and cohesiveness were strong protective factors where more emotion focused coping was correlated with difficulty managing academic, social, and personal adjustment to college (Kahen Johnson et al., 2010). Strong parental support has also been correlated with higher levels of individual well-being and lower levels of reported distress during the transition to college ($p<.001$) (Holahan, Valentiner, & Moos, 1995). Maladaptive coping has also been associated with lower GPAs ($p<.05$) in the college aged cohorts and also had a strong influence on mental health factors of depression, anxiety, and stress ($p<.001$) (Mahmoud, Staten, Hall, & Lennie, 2012). Experimental and quasi-experimental studies implementing coping skills training (CST) programs have also been implemented in this population although not nearly as readily in the earlier pediatric population (Santacroce et al., 2010). Most of these CST are aimed at a particular sub-cohort such as young adult cancer survivors or late adolescents with diabetes (Grey et al., 2009; Santacroce et al., 2010).

Delayed transition

Dr. Jeffrey Arnett, notorious contemporary developmental theorist, drew much needed attention from the research community through his highly referenced descriptive studies exploring late adolescent (18-21yo) perspectives on transitioning to adulthood. He began studying this subgroup after demographic census reporting continued to highlight delayed transitioning of this population in the last two decades (Arnett, 1994). Arnett's work challenged previous notions of marriage and work attainment as markers of adulthood with only 15% of those sampled (N=346) feeling marriage was necessary to reach adulthood and only 1% of this sample being married. Furthermore, only 27% of the sample considered full time employment necessary to be an adult with only 27% of this population feeling they had "reached adulthood."

Arnett (2003) later found no significant differences between ethnic groups in evaluations of adulthood status; however, more African Americans and Latinos stated that they had reached adulthood. These participants were older ($p<.001$), came from relatively low SES families ($p<.05$), and had already become parents ($p<.01$). Longitudinal delayed transition studies found that being married (N=2788, 18%) or having children (28%) also reduces the odds of expecting to earn a college degree (Johnson & Reynolds, 2013). Approximately 70% of emerging adults from all ethnicities viewed criteria for being considered an adult as: accepting responsibility for consequences of actions, deciding on personal beliefs, financial independence from parents, and establishing relationships with parents (Arnett, 2003). Longitudinal studies from other developed nations have also found different theoretical changes in adolescent development and delayed transitioning trends (O'Connor et al., 2011; Skaletz & Seiffge-Krenke, 2010).

Similar findings with emerging adults were reported in a later study where 25% of emerging adults indicated they reached adulthood with over 69.6 % indicating they have only

reached adulthood in some respects (Nelson & McNamara, 2005). These late adolescents who perceived themselves as adults reported greater achievement of adulthood criteria of independence, interdependence, role transitions, norm compliance, and family capacities. These individuals also had resolved identity issues of romantic partnerships, engaged in fewer risk taking behaviors, and were less depressed (Nelson & McNamara, 2005). Further longitudinal studies have continued to support that romantic competence, including marriage, should not be regarded as a defining benchmark of adulthood transition. Rauer et al. (2013) found that young adults are postponing the pursuit of serious romantic relationships and striving for other developmental young adult tasks such as pursing higher education.

Cross-sectional and longitudinal studies have examined the parental role in emerging adulthood and found that father rejection was linked to feelings of stress and lower self-esteem while increased levels of maternal care was linked to fewer feelings of stress through higher self-esteem (Kuwabara, Van Voorhees, Gollan, & Alexander, 2007; O'Connor et al., 2011; Obradovic, Burt, & Masten, 2006). Perceived parental neglect and negative parental bonds also mediates stress and pathological (drinking to cope) reasons for alcohol abuse (Backer-Fulghum, Patock-Peckham, King, Roufa, & Hagen, 2012). Parental influence was also found to predict more stable plan and goal attainment in young adults with higher educated parents (N=2788) (Johnson & Reynolds, 2013).

Qualitative study reports found depressed individuals (18-25 yo, N=15) reported feelings of being overwhelmed by adulthood expectations, concerns about the future, and feeling time has been lost or wasted by preoccupation with their diagnosis (Kuwabara et al., 2007). Similar to quantitative studies, neither feelings of being a full adult nor adolescent has also emerged. These emerging adults with depression (DSM-IV based, diagnosed by physician) were associated with

less favorable relationships, education and work outcomes, and had complex interactions with social contexts of social support (Kuwabara et al., 2007).

No experimental designs were found that aimed at decreasing delayed transition variables. However, this is to be expected as delayed adulthood transition is still being established and reviewed in the literature as a contemporary trend not previously seen in American society: so beneficial interventions have yet to be explored in this specific cohort with improving adulthood transitioning as an outcome.

Obesity

As obesity has become a major public health concern, a vast amount of literature has surged over the last two decades. Pediatric obesity studies (from birth to early adolescents) have saturated the literature in the last decade as most associative research has shown that earlier intervention is more effective in preventing obesity in adults and that most diet and activity habits are formed in earlier developmental stages (Pulgaron, 2013; Wofford, 2008). While obesity studies that focused specifically on the late adolescent population were found, researchers have only recently been distinguishing the late adolescent/emerging adulthood population for specific sampling purposes. No studies were identified that directly examined obesity in association with delayed transition.

Some studies identified unique environmental influences in the college environment were found to include all-you-can-eat college dining plans, constant snack and junk food, and failure to choose fruit/vegetables, or monitor dietary fat intake. These challenges are recognized as major weight maintenance factors in this population (Cluskey & Grobe, 2009). Descriptive studies showed 62% (N=236) of individuals gain weight in college with an average weight gain of more than 2.3kg (Cluskey & Grobe, 2009). A longitudinal study with university students

found significant increases in body fat from freshman to junior years at both private and public universities in both male (3.2kg, 95% CI, 2.7-3.7) and female (3.4kg, 95% CI, 2.8-3.9) students (Morgan et al., 2012). Qualitative studies have also found that these first year college students did not anticipate the challenges of maintaining a healthy lifestyle outside of their parent's home and a lack of family support for establishing new routines at college (Cluskey & Grobe, 2009). Other qualitative studies have focused on emotional eating associated with higher BMIs. These college students cited emotional eating stemming from boredom and the same health challenges previously mentioned in other studies (Bennett, Greene, & Schwartz-Barcott, 2013).

While video gaming and other sedentary activities such as computer use and television viewing has been widely studied in the pediatric population, very limited studies specifically focused on these activities in late adolescents. One study was found that looked at electronic gaming in college enrolled emerging adulthood and results showed 92.7% of males reported playing games within the last month with a weekly average of 9.73 hours of game play (Wack & Tantleff-Dunn, 2009). Contrary to popular belief and earlier research findings, young adults reported playing electronic games in order to relieve stress (35.1%), loneliness (16.2%), and boredom (48.4%). A significant positive correlation between frequency of play and self-reported frequency of playing when bored ($r=.350$, $p<.001$), when lonely ($r=.279$, $p<.001$), and stressed ($r=.294$, $p<.001$) was found through a multiple correlational analysis. Surprisingly, correlations between BMI and frequency of play were not significant ($r=-.05$, $p>.05$). The authors postulated that college-aged game players have most likely learned to manage game play and still function adaptively (Wack & Tantleff-Dunn, 2009). Data on obesity have also shown contextual differences among individuals. A national study (N=12,940) examining obesity trends from this transition period found blacks followed by Hispanics had the highest obesity trends with whites

and Asians not only showing lower rates of obesity but more likely to be from more advantaged SES groups (Scharoun-Lee, Kaufman, Popkin, & Gordon-Larsen, 2009).

Synthesis of literature review

The coping literature in this population is not as vast in number and rigor as in other populations, however, multiple conclusions can be drawn from the significance of maladaptive behaviors. Tobacco use, abusive drinking, and depressive symptomatology are associated with more maladaptive coping strategies (Carbonell, Reinherz, & Beardsless, 2005; Cawood & Huprich, 2011; Mahmoud et al., 2012; McKee et al., 1998; Vickers et al., 2003). These aforementioned outcomes have been well-explored and are, therefore, not focus of the current proposal. However, a deficit in the coping literature with other outcomes and influencing factors was found and this population has not previously been a focus of investigation.

Correlational themes from these studies emerged as consistent statistical significance amongst the role of social and family support with more adaptive outcomes, stress perception influencing both chosen coping style and psychological difficulty (such as depression), and emotional-coping associated with more negative self-perceptions and less successful adaptation to the college environment (Holahan, Moos, Holahan, & Brennan, 1995; Hutchinson et al., 2007; Kahen Johnson et al., 2010; Mahmoud et al., 2012). Interventional nurse-led studies have provided support for more teaching effective coping strategies when dealing with stressors then the comparative control group. Positive effects included self-esteem, self-leadership, and lower scores of depressive symptomatology (Hamdan-Mansour, Puskar, & Bandak, 2009; Santacroce et al., 2010; Steinhardt & Dolbier, 2010). By further exploring associations amongst other variables and coping, potential interventions aimed at increasing adaptive coping skills in adolescents to potentially modify this delayed transition can be sought in the future. Due to this

literature deficit between associational variables of coping in late adolescence, further correlational exploration is indicated.

The obesity literature is vast and often exploration of different variables, such as nutrition and parental influence, are replicated which further necessitates exploration of other variables. Most of the obesity literature has been focused in the adult population (defined as 18 years and older with mean central tendencies in the 40s and 50s) with a surge in the last decade focusing on early youth in preschool and school-aged children (The, Suchindran, North, Popkin, & Gordon-Larsen, 2010; Wilfley, Kass, & Kolko, 2011).

Coping with stress through eating is a significant barrier across both genders in college aged students (Bennett et al., 2013; Geliebter & Aversa, 2003; Hernandez-Hons & Woolley, 2012). While transitioning to adulthood requires greater responsibilities, more stress is also expected to occur and late adolescents who manage stress through emotional eating are particularly at risk for adulthood obesity and long term complications from being overweight: making this developmental period an important area of further exploration. National trend data have established that emerging adults engage in unhealthy diets, have inadequate physical activity practices, and are largely overweight and obese. Recurrent themes in the obesity literature included an initial increase in body weight during the first years of college, college environmental influences to maintaining a healthy lifestyle, and gender and SES differences in obesity rates (Bennett et al., 2013; Lloyd-Richardson, Bailey, Fava, & Wing, 2009; Morgan et al., 2012; Scharoun-Lee et al., 2009). Because gender and SES are recurrent demographic variables showing difference in obesity rates, these two items should be collected as part of future sampling descriptions. Recognition of stress and emotional eating during college transition was also found in several obesity-focused studies (Bennett et al., 2013; Lloyd-

Richardson et al., 2009). While obesity has been studied in the late adolescents enrolled in college, the general population and late adolescents who chose other career paths have consistently been neglected. Other influencing factors have also not been readily studied and have not been aimed at the late adolescent cohort.

While a significant amount of review articles and manuscripts describing the trends of delayed adolescent transitioning was found in the literature, very few studies explored the emerging adulthood period with focus on measuring delayed transition as a functional outcome which further necessitates this as an aim for future studies. Multiple contemporary studies have focused on late adolescent perspectives of adulthood and traditional protective and risk factor associative studies (Arnett & Galambos, 2003; McNamara & Nelson, 2005; Nelson & McNamara, 2005). SES and parental levels of influence were consistently found to influence emerging adulthood adaptation (Backer-Fulghum et al., 2012; Johnson & Reynolds, 2013; McNamara & Nelson, 2005; Nelson & McNamara, 2005). While these newer studies have challenged previous preconceived notions of transition in this specific age cohort (Arnett, 1994, 1998; Nelson & McNamara, 2005), an exploration of delayed transition focusing on these transition factors has not been conducted.

Overall, the specific challenges in transitioning to young adulthood includes new food patterns of eating (around job or school), stressors related to college life, learning food choice and preparation skills, and motivation to change and adapt to health behaviors (Backer-Fulghum et al., 2012; Bennett et al., 2013; Kuwabara et al., 2007; Wack & Tantleff-Dunn, 2009). Many late adolescents may be facing cooking and food preparation for the first time and turning to fast food as the primary source of nutrition. These results have established late adolescence as a particular developmental period experiencing extreme stress.

The coping, delayed transition, and obesity studies in late adolescents all have a recurring constraint in the research design: consistent sampling in 4-year colleges and universities which further limits generalizability of results. These studies have greatly utilized convenience sampling at 4-year degree granting college and universities (particularly college psychology classes or freshman introductory courses). Many studies recognized common stressors amongst late adolescents including transitioning to college, academic stress, and interpersonal exploration: however these studies have limited generalization outside of late adolescents who decide to attend college (Backer-Fulghum et al., 2012; McNamara & Nelson, 2005; Nelson & McNamara, 2005). Laska et al. 2012 referenced that 47% of Americans aged 17-24 years of age are enrolled as postsecondary students making this a targeted setting for researching young adults. However, fault in this reasoning exists at several points. The most obvious is the other 53% of emerging adults that are not enrolled in postsecondary education are consistently being missed in these studies. Many individuals choose to continue their education at 2- year associates degree programs, certificate programs, or technical schools and these cohorts are being missed as research foci but still included in that 47% estimate (Johnson & Reynolds, 2013; Laska, Pelletier, Larson, & Story, 2012). Future studies in late adolescents should aim at recruiting in the general population through mediums of particular interest: for example collecting social media influences through a social media networking site.

Theoretical Framework

While dozens of conceptual and theoretical approaches have been used to explore stress and coping in a variety of populations, three frameworks were specifically considered for future

dissertation work based on their utilization in the late adolescent cohort: Lazarus & Folkman's stress and coping transactional model (R.S Lazarus & Folkman, 1984), a hybrid or modified version of Lazarus & Folkman's model (Denson, Spanovic, & Miller, 2009), and Antonovsky's theory of salutogenesis (Antonovsky, 1980). Following this review, the proposed framework for this study is addressed.

Lazarus and Folkman's Stress and Coping Model

Also known as the transactional model to represent stress in a relationship, or transaction, between the individual and environment, this psychology based model is a seminal work to the understanding of stress, cognitive appraisals, and coping and is one of the most cited works of stress and coping (Folkman & Moskowitz, 2004; Glanz, Rimer, & Viswanath, 2008; R. S. Lazarus, 1993). The main components of this model are the cognitive appraisals of stress (the individual's evaluation of the significance of what is happening) and coping (the individuals' efforts in thought and action to manage the stress).

Strengths of this model include the longevity and frequency that this framework has been used across different scientific disciplines, the clear use, logical flow of constructs, and ease in execution of this model by researchers. This model has been used in the late adolescent cohort as well as in obesity studies. Despite these strengths, the stress and coping model has been criticized in the literature in its absence of accounting for different environmental factors and personality traits which also influence stress, coping, and outcomes to coping. In order to circumnavigate this weakness, many researchers have chosen to modify or use a hybrid of frameworks to account for other variables.

Integrated Specificity Model

A representative example of modifying Lazarus & Folkman's work has been

demonstrated by Denson et, al (2009) who blended the stress and coping model with physiological and biological levels of influence. The purpose of this modified physiological based framework was to better understand the adaptive changes in the hypothalamic-pituitary-adrenal system and immune reactivity to emotional stressors. This model further incorporates the decision of choosing a coping mechanism to respond appropriately to stress, which in turn causes physiological reactions. The individual's appraisals and emotions activate specific hormonal immune and behavioral responses, termed "integrated" to represent the coordinated physiological response in experiencing a stressful situation: stressful encounters activate the sympathetic nervous system of the brain through epinephrine signaling the heart to pump more blood to the muscles, inhibiting digestion, and activating the hypothalamic-pituitary-adrenal (HPA) axis. The HPA axis then signals the body to release cortisol in the blood which is instrumental for immediate survival during acute stress. Researchers were able to show how repeated activation of stress leads to dysregulation of the immune system from chronic cortisol release (leading to excessive levels of pro-inflammatory cytokines), which leads to maladaptive physical responses.

While this is a well-executed example of modifying the original works of Lazarus & Folkman to account for the physiological reaction to stress, emotions, and cognitive appraisals, this model is complex and only useful in specific biological or physiological studies of coping; which explains why it has only been utilized in one study by the authors as their own framework. However, this model is able to show the multiple implications of coping styles and provides support for exploring other factors of both acute and chronic stress.

Antonovsky's Salutogenic Orientation to Life

Salutogenesis focuses on factors that support human health and well-being with specific

focuses on health, stress, and coping as opposed to factors that cause disease. In this model, individuals with healthy adaptation to internal and environmental stressors have strong resistance resources and a sense of meaningfulness in their lives. The "sense of coherence" variable refers to an individuals' belief or "sense" of life as being predictable that things will work out well and has been used to explain why some people function better in stressful situations, find meaning from complicated circumstances, and maintain a more optimal health status (Antonovsky, 1996; Hutchinson, Stuart, & Pretorius, 2007).

While this sociological model has been favored for integrating the physical, mental, social, and spiritual health of an individual, group, and societal level, the all-encompassing nature of this model allows ambiguity between concepts. Salutogenesis has been used widely in public health studies and is considered a "holistic" approach to these factors of human health and well-being: which make it particularly appealing to the nursing profession. Overall, the large constructs that are represented in this model are defined differently across disciplines and allow more subjectivity in the dependent variable of "health."

Theoretical Framework for Dissertation Study

The frameworks presented can be adapted for use in different populations and have been successfully utilized to study the late adolescent developmental period. While Lazarus & Folkman's model appropriately represents the stress and coping constructs in terms of cognitive appraisals, outside influences that also affect these variables are absent and can be incorporated into a modified framework. Considering the strengths and limitations of the available models, a modified version of the stress and coping model has been chosen as the best framework to guide this dissertation study (figure 1). This framework incorporates potential influencing variables that will be under investigation in this dissertation study in addition to the stress, cognition, and

coping variables.

Based upon these frameworks, I theorize that a variety of factors that have not been previously considered in research also influence both late adolescent coping and delaying transition into adulthood. Individual factors of gender, race, and psychosocial history (such as family SES and childhood responsibilities) should be evaluated, however they cannot necessarily be changed (such as gender and race). Based on the literature, female gender will most likely be affiliated with emotion-focused coping while males tend to be associated with more problem-focused coping. The individual's cognitive appraisal of perceived stress, control over their situation, and social support will also influence the ability to cope and these variables are therefore being collected for consideration. Technological influences on today's late adolescents such as internet, video gaming, and social media use have not been previously evaluated in terms of the proposed research. However, I theorized that there would be a statistically significant association of these technological factors with coping and delayed transitioning but the direction of this correlation is unknown. While most researchers would now agree that emotional coping is not necessarily negative in terms of individual functioning, based on the obesity-related literature, I theorized that higher BMI reports would be associated with more emotional coping styles as well as delayed transitioning to adulthood roles. Higher reports of competence and social support would most likely lead to higher problem and emotion focused coping styles versus dysfunctional reports of coping. Finally, as the coping variable influences almost all factors of physical and psychosocial health, I theorized that coping styles would also influence delayed transitioning into adulthood with dysfunctional coping being associated with adolescent delay.

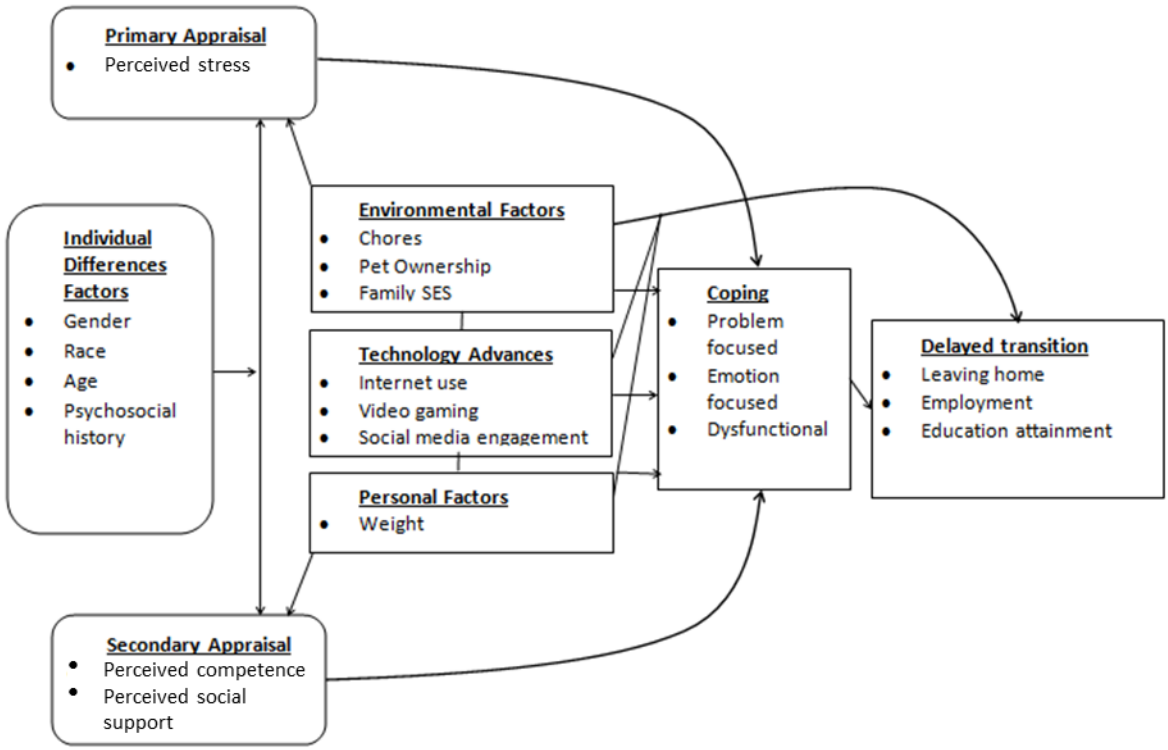

Figure 1
Theoretical Framework

Key Concepts

There are several key concepts to the late adolescent demographic as well as considerations in studying stress, coping, and obesity outcomes in this population. The key concepts to understanding the adolescent transition to adulthood are defined and listed in table 2.

Individual factors

Gender, race, and age data were collected as part of a demographic profile on participants to describe the sample. While the individual can not inherently change any of these variables, they have still been recognized by researchers to influence physical and psychological

outcomes. For example, girls use social support seeking more than boys (Hunter & Boyle, 2004). Adolescent boys report main stressors of school achievement and failure in sports where girls' experience more stress with physical appearance, interpersonal relationships, and sexual harassments (Zimmer-Gembeck & Skinner, 2008). Age differences in stress are largely related to perception of personal control and self-perception as well as the types of stressors the individual is exposed (Cohen, Tyrrell, & Smith, 1993; Cohen & Williamson, 1988).

Perceived stress (primary appraisal of stress)

Stress refers to a situation in which the individual must respond to distress (Antonovsky, 1980). Level, exposure, and specifics of a stressor differs amongst individuals, however, the major difference in stress experience is the perception in which someone appraises them. Therefore, stress will be discussed and studied in terms of perceived stress and perceived control, which refers to the individual's cognitive appraisal of the stress. For the purposes of this study, the perceived stress concept was operationalized by the Perceived Stress Scale (PSS).

Perceived control over stress (secondary appraisal of stress)

Perceived control over stress refers to the individual's evaluation of their resources and control over the event. The most common resource that individuals consider through perceived control is social support: the social relationships in which the individual is involved. The perception of being able to count on others for support can be a protective resource that buffers stressors of the individual: in other words, perceived social support. For the purposes of this study, secondary appraisals were operationalized through the Perceived Competence Scale (PCS) and the Multidimensional Scale of Perceived Social Support (MSPSS).

Influencing factors

A variety of factors influence stress, appraisal, and coping throughout the late adolescent

period. When the directional association is known, these are often referred to as protective or risk factors when discussing individual outcomes. Protective factors refer to variables that can lead to adaptive coping, whereas, risk factors refers to variables that put the individual at further risk for maladaptive outcomes (Masten, 2001; Sapienza & Masten, 2011).

Environmental factors: childhood responsibilities (chores and pet ownership). While minimal research has collected hard data on the role of childhood responsibilities, such as childhood chores and pet ownership, many clinicians and parenting references promote childhood responsibilities as influential in child development (Cline & Fay, 2006; Fay, 2004). Benefits have been quoted to include finishing education, building quality relationship, and an increased concern for other people, however, these factors have not been examined previously in the context of coping or delayed transition (Bowes, Flanagan, & Taylor, 2001). These questions were asked through self-report questionnaire survey items.

Environmental factor: SES. In this study, socioeconomic status was measured by asking participants how much money they have made in the last 12 months. While expected income of late adolescents (18-24 years) would be estimated as low or minimal, this may provide unique information related to coping factors and delayed transitioning into the adulthood role. SES has not been explored as a unique contributor to coping and delayed transitioning previously with the other factors in this study. SES was asked as a self-report questionnaire survey item.

Technological advances: internet use, social media use, and video gaming. The internet has become a normative international communication medium, especially amongst adolescents (Duggan & Brenner, 2013). Up to 93% of young adults (18-29 years of age) go online several times a day which includes online games and social media usage (Pew Research Center, 2012). While most of the research on these variables has only been published in the last

few years, conflicting data have emerged on both positive and negative influences of individuals. Some studies have concluded that internet and social media use has increased social support, formation of new relationships, and has eased connection with family and friends (McKenna, Green, & Gleason, 2002; van den Eijnden, Meerkerk, Vermulst, Spijkerman, & Engels, 2008). Meanwhile, other studies have found addictive properties of chronic internet use, online gaming, and social media to include loss of control, withdrawal symptoms, intra and interpersonal conflict, increased aggression, and desensitizing to violence (Ivarsson, Anderson, Akerstedt, & Lindblad, 2013; van den Eijnden et al., 2008; van den Eijnden, Spijkerman, Vermulst, van Rooij, & Engels, 2010).

Social media refers to online interactions among individuals in which they create, share, and exchange information, with Facebook recognized as the nation's largest social media site and most popular website on the World Wide Web (WWW) (with over 888 million unique users) (Google Inc., 2012). As social networking sites are a unique sociocultural norm for the current emerging adulthood population, a vast deficit of both short and long term outcomes exist in the literature. These items were asked by self-report questionnaire survey items.

Personal factor: obesity. The transition period from adolescent and young adulthood is an influential period for excessive weight gain with nearly 5.5 million Americans obese by the time they reach theirs 30s (Gordon-Larsen, The, & Adair, 2010; M. C. Nelson, Story, Larson, Neumark-Sztainer, & Lytle, 2008). Body mass in terms of obesity has been defined by the Centers of Disease Control (CDC) as overweight (BMI 25.0-29.9), obesity (BMI 30.0 or higher), severe obesity (BMI >35 with obesity related health condition), and morbid obesity (BMI >40) (Centers for Disease Control and Prevention, 2013). For the purposes of this study, obesity was measured by self-report height and weight. Through the use of IBM SPSS Statistics 19, a BMI

was calculated to operationalize body mass.

Coping

Coping is a multidimensional concept defined in multiple ways across different disciplines. Coping strategies are utilized in context of a stressor and coping styles are not static: evolving over the period of an individual's development (Compas, 1987, 2009; Masten, 1985). Cognition and emotional capabilities for coping with stress and the meanings attributed to the stress are very different from childhood into adolescence; with late adolescents generally having a wider repertoire of both adaptive and maladaptive coping strategies (Cicchetti & Rogosch, 2002; Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001). Seminal coping experts Lazarus & Folkman define coping as "constantly changing cognitive and behavioral efforts used to manage specific external and internal demands that are appraised as taxing or exceeding the resources of the person" (Lazarus & Folkman, 1984, p. 141). Research has shown that coping strategies vary throughout the individuals' lifetime and across different situations with developmental changes increasing cognitive understanding of stressful circumstances (Carbonell et al., 2005; Masten et al., 2004; Obradovic et al., 2006). Coping styles were collected using the subscales of the Brief COPE instrument which can be found in the Appendix. Common coping terminologies are summarized in table 2.

Table 2
Coping Terminology

Term	Definition
Coping Style Also called "coping subtypes"	Approach to coping that an individual tends to use consistently in stressful encounters (F. Cohen & Lazarus, 1973; Lazarus & Cohen, 1977) *Problem-focused:* task orientation; direct attempts to alter the stressful transaction; directed towards the problem *Emotion-focused:* person oriented with emotional responses, self-preoccupation, and fantasizing reaction; cognitive processes directed to lessen emotional distress (strategies: avoidance, minimization, distancing, selective attention, positive comparisons, deriving positive value from negative events) (Lazarus & Folkman, 1984) *Approach coping*: similar to problem-focused coping; addressing the problem causing distress *Avoidant coping:* avoidance of the threat, stressor, or situation
Dispositional Coping Situational Coping	Individual behavior as a result caused by internal characteristics that reside within the individual (trait variable) Individual behavior stemming from the environment, culture, or situation in which the individual is found (state variable or situation-specific variable)
Coping Skills	Behaviors that are utilized to deal with a stressor e.g.: *Communication skills:* involving social skills and assertiveness where individuals express themselves clearly, appropriately, and constructively (Grey, 2011) *Cognitive reframing:* moving from negative self-talk to a positive internal message (Jefferson et al., 2011) *Conflict resolution:* addressing a negative situation in a constructive way; resolving a conflict in a positive manner

	through cognitive appraisal of the problem and clear communication skills to articulate the problem (Grey, 2011; Jefferson et al., 2011)
Coping Strategies *Also called:* Coping Responses Coping Preferences	Component of a larger set of ways that individuals respond to stress; usually controlled and volitional in nature to purposefully manage and adapt to stress (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001)
Coping Goal	Objective or intent of a coping response, which generally entails some form of stress reduction or reduction in an aspect of a stressor (Compas, Jaser, Dunn, & Rodriguez, 2012)

Delayed adolescent transition

Usual milestones to identify delayed adolescent transition include leaving home, employment (including joining the Armed Forces), and educational attainment (including high school graduation and post-secondary enrollment). For the purposes of this study, the concept of delayed adolescent transition was operationalized by questions that originally stemmed from the works of Jeffrey Arnett's "Markers to Adulthood" questionnaire. A delayed transition into adulthood would be considered if study participant was not enrolled in school or the Armed Forces, still lived with their parent or guardian, and was not employed.

Table 3
Key Concepts

Key Concept	Definition
Population	
Late adolescence	Usually defined as age range from either 16-20 (AAP, 2013) years of age or 18-24 (United States Census Bureau, 2013) years of age
Transition to adulthood	Developmental shift where youth who were dependent on their parents throughout childhood take definitive steps to achieve measures of financial, residential, and emotional independence to take on more adult roles (such as citizen, spouse, parent, worker) (Arnett, 2003) • Also referred to as "emerging adulthood"
Antecedent Variables	
Primary appraisal	The individual's initial evaluation of the situation "Am I in trouble or being benefited, now or in the future, and in what way?" (Lazarus & Folkman, 1984) (p.31)
Stress or threat	A threat in which the individual must respond to distress (Lazarus & Folkman, 1984)
Perceived stress	The degree in which one's life situations are perceived as stressful (Steinhardt & Dolbier, 2010)
Secondary appraisal	The individual's evaluation of coping options and resources (personal and situational) "What if anything can be done about it?" (Lazarus & Folkman, 1984) (p. 31)
Perceived control	The individual's sense of control over their life and events around them (Hunter, Mora-Merchan, & Ortega, 2004)
Social support	Aid and support through social relationships and interpersonal transactions (Glanz et al., 2008)
Emotional support	Empathy, love, trust, caring (House, 1981)
Instrumental support	Tangible aide and services, directly assisting what is needed (House, 1981)
Informational support	Advice, suggestions, and information that can be used to solve a problem

	(House, 1981)
Appraisal support	Constructive feedback and affirmation to be used for self-evaluation (House, 1981)
Potential Influencing Factors	
Protective factors Risk factors	Variables that lead to adaptive coping or positive outcomes of adaption (Masten, 2001) Factors that put the individual at risk for maladaptive outcomes (Fergus & Zimmerman, 2005)
Gender	Sexual category of either male or female
Age	Years of life someone has been alive
Race	Classification system used to categorize humans into large, distinct population groups by geographical, ethnic, genetic affiliations
Socioeconomic status (SES)	Classification indicating the close relationship between a person's social status and financial standing; usually defined in terms of low, middle, and high class or by specific yearly salary status
Education	Formal teaching and schooling from preschool to high school grades
Work status	Current employment or unemployment status consisting of part time or full time hours
Childhood responsibility	Task or duty where one is responsible and accountable for a specific obligation (such as chores and pet ownership)
Computer use *Compulsive computer/internet use*	Use of computer or internet as means of online communication (including chat rooms, instant messaging, and email) Core criteria of: experiencing unpleasant emotions when internet use is impossible, continues internet use despite intention or desire to stop or cut down use, uses internet to escape negative feelings, internet dominates cognitions and behaviors, result conflicts with others or creates self-conflict (van den Eijnden, Meerkerk, Vermulst, Spijkerman, & Engels, 2008)
Social media use	Means of interactions among people in which they create, share, and exchange information and ideas in virtual communities and networks (e.g.: Facebook, MySpace, Twitter, LinkedIn, Pinterest, etc.) (Ahlqvist, Bäck, Halonen, & Heinonen, 2008)

Cell phone use	Electronic telecommunication (usually by a cellular phone otherwise known as a cellphone) that is connected to a wireless communication network through radio wave and satellite transmissions. Cell phone usage includes Short Message Service (SMS) (also known as texting).
Potential Mediating/Moderating Variables	
Coping	Management of the problem causing distress and regulating the response to that stress (Lazarus & Folkman, 1984)
Meaning based coping	Cognition used to manage meaning of situation (e.g.: positive comparisons, selective ignoring) (Folkman & Lazarus, 1980)
Emotion based coping	Remodeling negative emotions associated with the problem (e.g.: distraction, substance-abuse, seeking out support systems) (Folkman & Lazarus, 1980)
Problem focused coping	Address the problem causing distress (e.g.: make a plan of action) (Folkman & Lazarus, 1980)
Social based coping	Using social support systems either instrumentally or emotionally (Burke & Greenglass, 1993)
Adaptive coping	Style of coping in which the individual is motivated to cope, clarifies the nature and dimensions of the problem, and selects the most appropriate resource for that problem (Antonovsky, 1980)
Resilience	To thrive in situations or circumstances where others have succumbed to adversity (Masten, 2001)
Maladaptive coping	Patterns of thinking and behavior that cause the individual to maintain emotional problems and difficulties; also referred to as "non-coping" (Moshe & Saklofske, 1995)
Avoidant coping	A maladaptive coping mechanism where the individual avoids dealing with a stressor; also known as avoidance or escape coping (Moshe & Saklofske, 1995)
Outcome Variables	
Delayed adolescent transition	Failure to meet major developmental changes and challenges usually associated with late adolescence with acquisition of competencies, attitudes, values, and social capital to make a successful transition into adulthood (Zarrett & Eccles, 2006) Milestones include leaving home, employment, high school graduation, and educational attainment (such as college or other post-secondary education)

Parent dependence	Continuation of living at home during transition period without attainment of a job or pursuit of education
Work competence	Attainment of a job or position after high-school graduation
Educational attainment	Enrollment or completion in a post-secondary training program, trade school, or undergraduate college
Physiological health outcomes	State of physical, mental, and emotional well-being
Overweight and Obesity	Weight that is greater than what is considered healthy for a given height; which increases the likelihood of certain diseases and other health problems: usually measured by body mass index (BMI) which correlates to the amount of body fat of an individual (Centers for Disease Control and Prevention, 2013) • BMI between 25-29.9 is considered "overweight" • BMI of 30-35 is considered "obese" • BMI > 35 is considered "severe obesity" • BMI > 35 with an obesity-related health condition or >40 is considered "morbid obesity"
Tobacco use	Any habitual use of tobacco plant leaf (e.g.: cigarettes, pipes, cigars) predominantly used through smoke inhalation: smokeless tobacco refers to tobacco products that are sniffed, sucked, or chewed. (Al-Ibrahim & Gross, 1990)
Alcohol use	The ingestion of beer, wine, or hard liquor; "problem drinking" involves getting drunk, having accidents related to alcohol use, and getting in trouble with the law, family members, friends, schools, or dates while using alcohol (National Institute of Health, 2013)

CHAPTER III

METHODOLOGY

Research Design and Assumptions

This dissertation study utilized a cross-sectional, descriptive, correlational research design. Cross-sectional studies typically have less participant burden and can determine prevalence and associations amongst variables; capturing a snap shot of information which can be helpful when examining the relationship amongst variables. This information is important in establishing influences of stress and coping and possible associations in the changing developmental expectations of emerging adulthood.

The following assumptions were made regarding coping and delayed adolescent transitioning based upon the information presented in the literature review and was used to guide this research:

- During the late adolescent (18-24 yo) time period, adolescents are preparing for and begin to take on adult roles in terms of family formation, financial independence, and citizenship.
- There are unique challenges in this age group and a variety of stressors that late adolescents face which influence adaptive outcomes in this population.
- How late adolescents cope with these stressors directly influence health and social outcomes as emerging adults in society.
- Current trends in society have shown late adolescents residing at home longer, decreased rates of employment, dropping out of high school and/or not pursing secondary education, and participation in a variety of maladaptive behaviors.

- The direct and indirect costs to society from dysfunctional coping and delayed transitioning are great.
- A variety of societal trends that have not been previously examined may influence both coping and adolescent transitioning.
- Research is needed to fill gaps in the current state of the science related to these factors and falls within the jurisdiction of nursing science.
- While interventions are needed to improve coping and influence delayed transitioning into adulthood, some of these unique societal trends have not been previously studied in this manner and associative research takes precedence as a primary research focus.

Description of Research Setting

The targeted population for this study was the late adolescent population at large who specifically utilize internet and social media technology; as these are influencing factors of interest. The setting was a virtual online web-based assessment utilizing Research Electronic Data Capture, also known as REDCap. This National Institute of Health (NIH) and National Center for Research Resources (NCRR) funded technology is a secure, web-based application designed to support and store case report form data capture for research studies. REDCap is a secure, web-based application designed and developed by a multi-institutional consortium initiated at Vanderbilt University to support data capture for research studies.

Sample and Sampling Plan

Sample size. For logistic regression analysis, there must be at least 10 cases in the smaller of the dichotomous outcome variable (e.g.: yes/no delayed transition) for every independent variable included in the analysis. Aim 5 included 6 independent variables with inclusion of 3 categories within the coping variable for a total consideration of 9 independent variables. Nine independent variables is the maximum amount of variables in aims 1-5. Therefore, a minimum of 90 responses in both yes/no delayed transition outcome category for a total of 180 participants was needed in order to conduct statistical analysis in aim 5. Over recruitment was allowed given the web-based nature of the study and eligible respondents with adequate data were included in the analysis.

Response rate. Couper et al. (2001) sampled late adolescent participants via web-only surveys with a sample size of 1,602 calculated a 42% response rate (Couper, 2001). Undergraduates that were sampled from the University of Florida (N=600) had a 58% online response rate while another study at the University of Michigan (N=5,000) reported a 63% response rate (McCabe, Diez, Boyd, Nelson, & Weitzman, 2006; Pealer, Weiler, Pigg, Miller, & Dorman, 2001). Response rates are generally higher in the college aged populations which is most likely due to their constant computer and internet use. Methods that are usually recommended to increase online survey response rates include reminder emails to non-respondents and incentives in forms of prizes and lotteries (Nulty, 2008). There is currently only 1 identified research study that recruited study participants through social media advertisements. In a study of 18-25 year old tobacco users, Facebook's Ad program was used for 13 months with targeted ads to late adolescents. Utilizing 20 ads, 28,683,151 impressions were generated which

yielded 14,808 clicks which led to 5,237 consents of which 3,093 met criteria for the study (Ramo & Prochaska, 2012). Of these 3,093 users, 1,548 (50% completed the survey. The other research studies that have utilized Facebook recruiting through other means (Facebook group web-pages, search commands, and outside recruitment directed to a Facebook page) did not report response or retention rates of their studies (Jones et al., 2012; Manago, Taylor, & Greenfield, 2012). Based on this information, estimated response rates of participants who complete the online survey in this age range was 40-60%.

Inclusion and exclusion criteria. A broader scope of understanding between the role of coping and these other late adolescent factors are needed with participants outside of the traditionally studied college or university students. Therefore, this study approach collected responses from a variety of backgrounds, geographic locations, and ethnicities by sampling the general late adolescent population who utilize social networking media. Eligibility criteria: a) between 18-24 years of age, b) speak and read English, c) access to World Wide Web through internet connection. Individuals were excluded if they: a) outside of age parameters, b) unable to communicate in English, c) cannot access the internet. These items were asked to participants at the beginning of the study and emphasized in all recruiting materials.

Rationale for inclusion and exclusion criteria. Selected participants of the late adolescent time period are often overlooked in research studies. This population group was the targeted population for the study. Since the research team and PI speak and write in English only participants were selected from across the United States whose primary language is English. A broader perspective is needed outside the traditionally studied college or university students. Independent variables include social media networking and internet usage. Therefore, the survey was conducted via the World Wide Web so participants needed access in order to participate.

Recruitment. The primary method of recruitment was through Facebook; the nation's largest social media site. Recruitment utilized Facebook campaign ads using paid advertising through Facebook's Ad Program. The advertisements were targeted by age (18-24), location (United States), and language (English). When participants clicked on the Facebook ad, they were directed to a REDCap survey link that included the study tools. The first page of the survey includes eligibility questions and the survey ended if participants did not meet study parameters.

The FB Ad program requires that the user create a community page in order to "launch" advertisements and utilize the Ad program manager (which is required for FB recruiting at the time of the study). A mock community page was first created and approved by the Vanderbilt University IRB. The community page was titled "Adolescent Coping and Transition Study." The header and screen shot of the community page is shown below in figure 2.

Figure 2
Example of the community study page where FB advertisements were "launched"

FB advertisements were compatible with mobile phone application usage. The FB advertisements were run with both the right-sided screen placements where most advertisements "pop-up." They were also displaced along participants profile "walls" and on their "timelines." These placements were options for the PI to choose from and all locations were selected for the advertisements. Four different advertisements were run in the FB Ad program. An example of one of these ads is displayed in figure 3.

Figure 3
Example of Facebook advertisement for study recruitment purposes

Secondary recruitment methods. Additional recruitment methods were indicated when participant study data were thoroughly reviewed by the PI two weeks into recruitment. As of February 28th, 2015, data responses indicated we were not reaching the delayed transition cohort as defined in the study. The study aims and proposed statistical analysis required both

adolescents that were not delayed (furthering their education, in the armed forces, or working) as well as meeting the delayed transitioning criteria (not in school, not in the armed forces, and not working).

After IRB approval was sought, the first recruitment method to be added was switching the study community page where the FB ads were launched from a "private" to a "public" profile so that anyone could "like" and "share" the page. Utilizing the advertisement post "share" feature with other community webpages across Facebook, the PI manually re-posted the Facebook advertisements on different community pages that have shared "interests" to the study aims. Some of these community pages include: "Videogamers," "Just Teens," "Jobless gamers," "Young Adults." This did not cost anything and utilized the advertisements and community study page that were already created and approved by the IRB.

Facebook also allows community pages to "promote" their page. "Promoting" your page is a way to create advertisements that will show in the News Feed and on the right side of the Facebook timelines and home page. When you "promote your website" from your Facebook community page, your advertisement will appear in the News Feeds of a target audience you have chosen. A FB "promotion" was set up to focus first on the study inclusion criteria of ages 18-24 years old, English speaking, and living in the United States. The promotion was then targeted based on what people in this age cohort "like" on their Facebook user profile. For example, some users "like" video games, television, and pets; to name a few. These "likes" and "interests" allowed the PI to refine the ad promotion target audience based on their profiles, pages, groups, interests, activities, music, movies, and TV shows. An example of selecting the FB advertisement promotions can be found in figure 4.

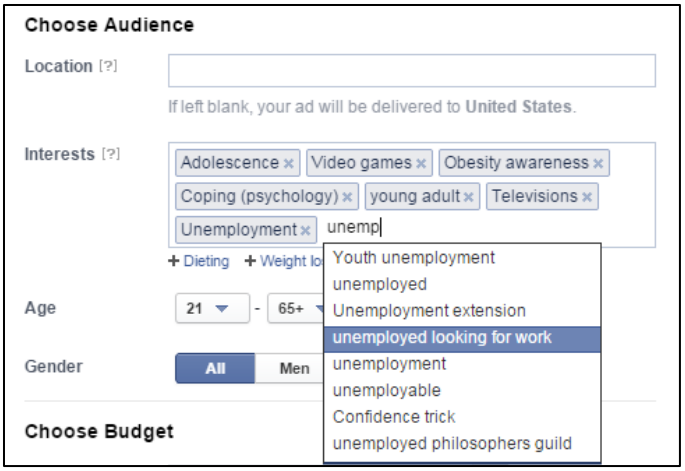

Figure 4
Example of audience targeting sample through FB "promoting"

These advertisements specifically include the community page name and cover photo with a button that people can click on to "like" the page. See figure 5. This type of promotion can also create what Facebook refers to as "organic promotion" where News Feed stories automatically generate from previous actions taken by people who like the community Facebook page. For example, if someone "likes" your community page, their friends will also see a story about it in their own News Feeds. This targeted advertisement utilizes webpage functions that have already been recreated and can potentially reach a sub-cohort of delayed transitioned adolescents that are currently not being recruited adequately in the study. These ads also appeared on desktop and mobile phone applications and were included in the same FB "campaign" that was already launched. See figure 6.

Figure 5
Example of the option to "like" the study page which can then become an "organic promotion"

Figure 6
Example of all three options for launching the FB advertisement promotion

Reddit is an online social media community where users "vote" on what content they want to see. This was also used for recruitment. The stories and discussions that are most popular move to the top of the page based on these votes. Comments can be posted on every post for different reddit users. These online reddit "communities" include different topics and subtopics (such as college students, parenting advice, etc.). There are also reddit survey pages available. Each Reddit page is moderated by a team of volunteers that contribute to the website features. Reddit currently reports reaching approximately 156 million users per month. However, these users are not broken down into age groups. The site administrators of Reddit were contacted. Permission was granted to post the study survey to the reddit survey pages along with the IRB approved advertisements. Using reddit did not cost anything.

Finally, a survey flyer was created and approved by the IRB to manually hand out to potential participants and hung in local vendors such as local book stores, the Vanderbilt student center, and video gaming stores. A copy of this flyer was also included in the spring 2015 Vanderbilt School of Nursing newsletter.

***Retention*.** As this study was cross-sectional in nature, participants were only surveyed at one data point. To ensure minimal participant burden and maximum responses to all study questions, careful selection of instruments was conducted. A $5 gift card incentive was provided to participants if they requested one at survey completion. Participants were able to choose a gift card location between Target, Walmart, and Amazon.

A beta test was conducted to a select group of eleven late adolescents. The estimated time reported from the beta group was between 10 and 22 minutes. This estimated time was included in study materials, IRB application, and on all advertising materials. This time

estimate was also included at the beginning of the study introduction in REDCap.

Protection of human subjects. Approval was obtained from Vanderbilt University Institutional Review Board. Informed consent was obtained electronically prior to study enrollment via REDCap. This was a descriptive, correlational, non-interventional study and no investigational agents or devices were used. The 18 year old age restriction also permitted investigation through Facebook and REDCap recruiting without need for parental consent and guardianship verification. The survey questions were not controversial or psychologically disturbing in nature. The main identified risk to this study was confidentiality of survey responses. However, REDCap data capture provides a secure online medium for these responses and this was reviewed in the overview of the study for participants. When participants click on the survey link, the purpose and anonymous nature of the study was described. Participants' privacy was ensured by research dissertation committee who had access to results. No breach of confidentiality or data loss was suspected or occurred, however, it would have been reported to the IRB within one day of occurrence.

Data Collection Methods

Procedures. A FB community page was developed under the PI user profile that was also specifically created for this study. The FB community page was titled "Adolescent Coping Study" and the description of the study was listed in the "about" section of the page. The REDCap link was copied and pasted in the "about" section, the cover photo, and the profile photo locations along with a description of the purpose of the study. The FB community page was initially set to "private" for the first half of recruitment and then set to "public" for the ad

"promotions" during the secondary recruitment methods.

FB advertisements were created and launched from the community page. The FB ads were designed to specifically target participants based on user profile. The ads were electronically posted via FB ad campaign to user profiles of late adolescents (18-24 yo) in the United States with English as their primary language on FB. The ads were designed online through a step-by-step FB ad manager program by the PI. The ads were all reviewed and approved by both the dissertation committee and the IRB prior to commencement of ad launching. When a participant clicked on one of these ads, they were brought to the Vanderbilt REDCap study page. An introduction to the study including the purpose, aims, and subject anonymity description was the first page of the survey. An example of this introduction to the study can be found in Appendix 1. If participants wanted to still be in the study they clicked on an "accept" button that confirms they consent to the terms of the study and understand the study description. Once this informed consent was obtained electronically through REDCap, data were collected through a series of self-report inventories and scales. See Appendix 2. The data were uploaded to SPSS. Data cleaning for missing variables was conducted prior to analysis of data to ensure data accuracy before analysis.

Data collection tool. The study was conducted through REDCap (Research Electronic Data Capture). REDCap's branching logic was utilized to screen participant eligibility and received informed consent online. If participants did not meet eligibility criteria or did not complete the consent form, they were unable to continue the survey.

Data were stored on servers hosted by Vanderbilt University which meet the institutional review board concerns of data storage and access. Measurement tools were uploaded into REDCap for study participants to complete and were accessible both on desktop computers and

mobile phones. Data were exported directly to statistical software package SPSS for data analysis. REDCap data were accessible by the doctoral student as PI of the study and the dissertation committee. The database will be stored indefinitely.

Data Collection Instruments

Self-report questionnaire. Items collected by self-report questionnaire included: eligibility criteria, individual factors (gender, age, race, ethnicity), influencing factors and psychosocial history (childhood responsibilities, SES), technological advances (internet, social media), personal factors (weight and height to calculate BMI), and delayed transition. Strengths to this type of data collection are ease of administration and collection and low-cost. However, in some cases, participants may not be able to recall specific information and either skip the item or guess. Careful attention to item length, wording, grade-level, readability, and mono-concept questioning was given to survey items with review and consideration of items by dissertation committee.

Childhood responsibilities (to include both chores and pet ownership), SES, internet use, social media use, and video gaming were considered independent variables in this study. They were statistically summarized in aim 1 to examine prevalence of these factors in the late adolescent sample. They were examined in aim 2 as part of a correlational analysis with coping. They were examined in aim 3 and 4 as part of analysis with coping and delayed transition (markers of adulthood questions).

Childhood responsibilities was assessed by asking the participant to check "all that apply" to a list of 10 common chores and pet responsibilities in which children are often responsible. These items were summed to a continuous variable for study analysis. Socioeconomic status was assessed by asking participants a continuous variable completion

question stating “how much money have you made in the last 12 months?” Two items were asked to assess the participant’s use of the internet. The first checklist format item described the participants use (i.e.: news and current events, gaming, job search, school, work, and social media). The purpose of this question was to describe internet use and was not part of the statistical analysis. The second item asked participants how many hours they used the internet in the last 24 hours. This second item was used as an ordinal variable (1-7) with items indicating zero hours (1) of use to more than 5 hours of use (7). Two items were asked to assess the participant’s social media engagement. The first item assessed what social media sites the participant uses (Facebook, Twitter, LinkedIn, Pinterest, Instagram, Google +). These are the most used social media sites of late adolescents. The second item asked how many hours a day participants engage in social media on an ordinal scale ranging from less than 1 hour (1) to more than 5 hours a day (6). This second item was used in statistical data analysis. Two items were used to assess video gaming activities. The first item acknowledged whether or not the participant plays video games at least once a week (yes/no). The second item was an ordinal ranked assessment of the number of hours in the last week that the participant played video games from 1 (less than 1 hour) to 6 (more than 9 hours).

The primary and secondary appraisals of the participants will also be considered for the participants. Cognitive appraisals of stress will be measured by the following scales:

Perceived Stress Scale. The Perceived Stress Scale (PSS) is a 10 item self-report questionnaire designed by Cohen & Williamson (1988) to measure subjective evaluation of the stressfulness of the situations in the past month of a person’s life. The PSS scores are obtained by reversing the scores on the four positive items (e.g.: 0=4, 1=3, etc.) and then summing across the 10 items with scores ranging from 0-40. Higher scores indicate greater stress. The PSS is

considered a "state measure" (as opposed to a "trait" measure) because it measures perceived stress "within the last month." Internal reliability by test developers was found to have a coefficient alpha of .78 (S. Cohen & Williamson, 1988). In the same study, the PSS was found to have construct validity with PSS scores moderately related to responses on other measures of appraised stress. When compared to the Center for Epidemiologic Studies Depression Scale (CES-D), a depressive symptomatology scale, the PSSS was found to measure a different and independent predictive construct (S. Cohen & Williamson, 1988). Concurrent validity was shown with the moderate correlations between number of life events and PSS in a sample of college students in a smoking cessation study ($p<.01$). In a later study by Cohen et al (1993), discriminant validity was evaluated with examination of the relationship of the common cold to negative life events, negative affect, and perceived stress. Having more negative life events was associated with more severe symptoms of clinical illness where a greater negative affect and perceived stress were associated with a higher probability of becoming infected. In this study perceived stress was not the same as negative life events themselves (S. Cohen et al., 1993). One critique of the PSS has been the ability to measure perceived stress on variables of mood during testing and psychopathology. For example, if the subject's ability to appraise their stress is associated with a psychological disorder then the instrument's predictive validity is decreased. Advantages include the simplicity in usage and successful implementation in clinical samples.

In this study, the PSS was utilized as an continuous variable. In aim 1 the PSS was used to summarize reported perceived stress and was included in aim 2 and 3 to examine associations with the other potential influencing factors and coping styles. In aim 3, PSS was examined in comparing differences amongst delayed transitioning (markers of adulthood questions).

Perceived Competence Scale (PCS). The PCS is an 8 item Likert scale (1=strongly

disagree to 5=strongly agree). Four of the items are reverse scored as the 8 items are tabulated into an overall score of perceived competence. While scale developer Ken Wallston (2001) reports the scale is highly valid as a measure of generalized perceived control, psychometric data are difficult to pinpoint as the scale is often coupled with other measures of potential optimism such as the Cognitive Adaptability Inventory and the Perceived Expectancies Index. In one study of perceived personal competence, an internal consistency $\alpha = .78$ was found with a test-retest of .80 at 2 weeks (Pender, Walker, Sechrist, & Frank-Stromborg, 1990). This study found perceived personal competence as predictive of a health promoting lifestyle.

The overall score was treated as an continuous variable. The PCS was one of 2 scales used to examine secondary appraisals to stress and coping. In this study, the PCS was utilized in aim 1 to summarize participants reported perceived competence and in aim 2 to examine correlational associations with the other potential influencing factors under investigation to include coping styles. In aim 3, PCS was examined in comparing differences amongst delayed transitioning (markers of adulthood questions).

Multidimensional Scale of Perceived Social Support (MSPSS). This 12 item, Likert scale measure assesses perceived availability and adequacy of emotional and instrumental social support relating to three sources of support; family, friends, significant others (Zimet et al., 1990). Overall, the MSPSS boasts strong psychometric properties, utilization with culturally and ethnically diverse populations, and has been translated into a Spanish version. Internal reliability coefficients are greater than .85 with test-retest reliability ranging from .72 to .85 at 3 months (Canty-Mitchell & Zimet, 2000; Dahlem et al., 1991; Zimet et al., 1990). Concurrent validity was established with the Social Support Behaviors Scale and strong construct validity was found to be significantly and negatively correlated with depressions scales (Dahlem et al., 1991; Zimet

et al., 1990).

The overall score was treated as continuous variable. The MSPSS was one of 2 scales used to examine secondary appraisals to stress and coping. In this study, the MSPSS was utilized in aim 1 to summarize participants reported perceived social support and was included in aim 2 to examine correlational associations with the other potential influencing factors and coping styles. In aim 3, MSPSS was examined in comparing differences amongst delayed transitioning (markers of adulthood questions).

Body Mass Index (BMI). BMI calculation is a simple, cost-effective, and standardized reference to assess body weight. BMI has standardized references including overweight (25.0-29.9) and obese (>30) (Centers for Disease Control and Prevention, 2013a). The BMI is calculated as weight (lb)/height(in)^2 X 703 or mass (kg)/[height (m)]^2. The BMI is predictive of clinical outcomes such as type 2 diabetes and is strongly correlated with body fat levels. The BMI is most commonly utilized in research studies examining obesity as it is well-established as a quick measure of body weight, free to use, and easy to collect self-reported weight and height measurements (Lloyd-Richardson et al., 2009; Scharoun-Lee et al., 2009; Wack & Tantleff-Dunn, 2009). Web-based self-reported weight and height data have been found to be valid, especially when studying associations between anthropometrics and health outcomes and will be used in this study (Lassale et al., 2013). Researchers found strong correlation between self-reported and measured weights ($r=.98$, $p<.001$) (Lloyd-Richardson et al., 2009). One study found BMI classification was correct in 93% of cases with only slight underreporting of weight leading to underreporting of BMI ($p<.05$) usually between .16 to .63kg (Lassale et al., 2013). However, earlier studies have found general trends that weight is under-reported and height is over-reported, leading to an error in BMI calculation (Alvarez-Torices et al., 1993; Avila-Funes,

Gutierrez-Robledo, & Ponce De Leon Rosales, 2004; Bolton-Smith, Woodward, Tunstall-Pedoe, & Morrison, 2000).

The BMI was summarized statistically to look at the prevalence in the sample and was compared to national reported averages as a means of evaluating if the sample reflects national average reports. In aim 2, the current reported BMI was examined as an independent variable to coping (with sub-scales of problem focused, emotion focused, and dysfunctional coping). In aim 3, the BMI was examined as an independent variable to delayed transitioning (markers of adulthood clusters).

Brief COPE. The Brief COPE is a 28 item abbreviated version of the COPE inventory consisting of 14 subscales with 2 items each. This scale has been used widely across medical and psychological research, translated into several languages, and used across different ethnic groups (Carver, 1997; Cooper, Katona, & Livingston, 2008; Lusk & Melnyk, 2011; Muller & Spitz, 2003; Perczek, Carver, Price, & Pozo-Kaderman, 2000; Snell, Siegert, Hay-Smith, & Surgenor, 2011; Yusoff, Low, & Yip, 2010). Internal consistency alphas have been calculated for each individual subscale as Carver, the scale's originator, stresses that these specific coping strategies should not be aggregated into an "overall" coping index. An advantage to this scale is the ability to use the individual subscales for focused interests, such as in the instrumentation of social support (Carver, 1997). Researchers have been combined subscales into problem focused (α=.84), emotion focused (α=.72), and dysfunctional coping distinctions (α=.75) with good results (Cooper et al., 2008). Convergent and discriminant validity was assessed using scales for self-esteem, perceived stress, and psychological distress where functional coping strategies were linked to high self-esteem, lower perceived stress, and lower psychological distress (Muller & Spitz, 2003).

Instead of utilizing the 14 subscales of coping styles proposed by Carver (1997), this study used the combined subscales of problem focused, emotion focused and dysfunctional coping distinctions (that aggregate all 28 items into these 3 sub-scale distinctions) similar to Cooper et al's 2008 study. This made the coping variable nominal in nature. These 3 sub-scales were utilized to better understand coping styles in late adolescence as they relate to other potential influencing factors. In aim 2, coping was examined as a dependent variable examining correlational relationships with the aforementioned potential influencing variables. In aim 4, coping was examined as a potential influencing variable (as an independent variable) to delayed transitioning (clusters of markers of adulthood).

Delayed Transition. Delayed transition self-report items were constructed through dissertation committee discussion of question structure and focus. The original works of Jeffrey Arnett's "Markers of Adulthood" questionnaire were considered as a launching point for current theoretical and conceptual basis of the late adolescent developmental period. Careful attention to item length, wording, grade-level, readability, and mono-concept questioning was given to survey items with review and consideration of items by dissertation committee. Delayed transition items focused around concepts of: leaving home, employment, and educational attainment.

The delayed transition variable was treated as a dichotomous categorical outcome with participants either fitting into a "yes" or "no" delayed transition into adulthood. For a participant to be considered "delayed" they will be: living at home with parents or guardian, not employed or in the armed services, and not enrolled in school (high-school, technical, college/university, or other). Therefore, if participants respond "yes" to living at home with parents, "no" to employment, armed force service enrollment, and educational enrollment, then they will be

considered “delayed transition to adulthood.” If participants answer “yes” to living at home with parents but also “yes” to any of the other life attainments, this will not be considered “delayed transition to adulthood.” If participants answer any other combination of these items, they will not be considered as “delayed transition to adulthood.”

Some additional questions were asked related to delayed transitioning to further theoretical and conceptual knowledge base of this population including if the participants are financially dependent on someone else and if they personally feel they have reached adulthood. Other items offered the research study perspectives into current perspectives of the sample including their plans on moving out of their family member’s home, if they feel they are financially stable, and if they plan to continue in school (even if they are not currently enrolled). The last item on delayed transition was taken directly from Arnett’s questionnaire and asks participant’s if they “feel they have reached adulthood.” This item response can be compared to other studies that have addressed this perception in their late adolescent samples. These items, however, will not be included in the statistical correlational analysis.

Delayed transition (markers of adulthood questions) was the main outcome variable of interest in this study and was utilized in analysis in aim 3-5.

Methodological limitations. Several potential limitations were recognized in this study. This was a cross-sectional study and participants were not followed and re-assessed. Data from this study are limited to one study point in time and does not provide evidence of temporal relationship between exposure and outcome.

Survey items. Item questionnaire was 98 items (94 for dissertation study; 4 for beyond dissertation scale inclusion of BRCS). Surveys of this length can be prone to nonresponse bias or participants quitting the survey prematurely. Online surveys are also associated with

nonresponse bias since the researcher is unavailable for immediate questioning and participants are not in face-to-face forum. Instrument selection for study was rigorously chosen through consultation of dissertation committee. However, several self-report items have not been previously used and are not part of a valid and reliable scale.

Online data collection. The use of electronic, online data collection increases the risk of fake or insincere participants to the study. Since data are self-reported there is no guarantee that participants provided accurate demographic or characteristic information. Furthermore, some participants may ignore survey advertisements because of the increased "spam" on the internet and in online communities.

Participant bias. Self-selection bias was another limitation to this study as some individuals are more likely than others to complete the online survey. Some potential participants may be desensitized to advertisements on social media sites leading some individuals to participate and other to ignore: leading to systematic bias. Generalization of study results is also limited to online social media internet users and will not be able to reach some groups of late adolescents (such as those living in homeless shelters or without access to a computer; most likely in the lower SES groups).

Social media methods. Facebook recruitment techniques are not amenable to any sort of random sampling plan. Social media tools also have undefined challenges in the area of assuring participant confidentiality. Estimation on length of time needed to run ads in order to meet sample size requirements was not exact and limited in prediction. No current research studies exist that parallel this study in order to compare or predict success rate of participant recruitment or length of time to meet study sample requirements.

Strategies to minimize method weaknesses. While this study was cross-sectional in

nature, the design was indicated for the current state of science on these variables in order to better understand the prevalence of these outcomes and the factors associated with them.

Items. Specific attention to the self-report items was taken and pilot tested with non-research affiliated individuals for clarity and comprehension of questions. Further evaluation of the length of time for total questionnaire completion was examined and reported at the beginning of the study so that participants could determine if they wanted to proceed with the questionnaire.

Online data collection. Potential research participants were assured that they were being contacted for a legitimate request at the beginning of the survey. This was accomplished through several means. Study focus, aims, and background information was given at the beginning of the survey to include the principal investigator's name and contact information, reference to the approved Vanderbilt University IRB study reference number, and funding body.

Participant bias. While certain populations are less likely to have internet access and respond to online questionnaires, the late adolescent age group is generally not included in this group. The online format allowed respondents to answer questions on their own schedule, at their own pace, and can start or stop the survey on their own time. The online nature of the study may have enticed respondents to be more willing to share personal information because they are not directly disclosing it to another person.

Social media methods. Some participants in internet communities welcome studies by researchers when the researcher is interested in how their specific age cohort or community is perceived by others. Ads were directed to appeal to participants by taking an ethnographic approach of 'we want to know you better.' Ads also aimed to appeal to those who may want to earn a gift card. The $5.00 incentive was posted in all of the advertisements. When participants

click on the ad, a brief explanation of the purpose of the study and the important information that will be learned from the study may have further appealed to participants. The return time of this online format was immediate with data available as soon as survey responses were completed. Participant response rates were observed and evaluated as study data collection took place. The need for secondary recruitment was recognized three weeks into the study and the PI took steps to initiate IRB review and approval of all secondary recruitment methods.

Management of missing data. Original publications reporting psychometrics for the PSS, PCS, MPSS, and Brief COPE did not address missing data and minimal number of item responses for scale validity. Survey items were evaluated for systematic nonresponse for all respondents to determine whether items were systematically missing or missing at random. Nonresponse of items less than 5% were considered to have minimal effect on distorting statistical analysis while items with greater than 5% nonresponse were evaluated for item omission. More than two responses missing from dependent variables of coping or delayed transition potentially eliminated respondent survey and those participants responses were examined individually.

Other than critical dependent variables of coping styles and delayed transition, missing data patterns were investigated. Data were examined and determined if data were missing at random or if there was a systematic pattern to the missing responses.

Data Analysis

Overview. Statistical analysis was conducted with SPSS statistical software under supervision and instruction of Mary Dietrich, Vanderbilt University School of Nursing statistician. IBM SPSS Version 19 was used to conduct all statistical analyses. All statistical significance tests maintained a maximum type I error rates (alpha values) of no more than .05.

An overview of variables, level of measurement, and use in study aims is included at the conclusion of this section.

Demographic statistics. Descriptive statistics was used to summarize the targeted sample including: age, gender, race, and ethnicity. Parametric statistical assumptions (i.e., normality) were examined to include the shapes of distributions of continuous measures in order to ensure utilization of appropriate statistical measures. If parametric assumptions are required and not met, decisions were made with statistician regarding whether to transform the distributions or to use nonparametric modeling procedures.

Analysis of Specific Aims. The following data analysis methods were used to examine each aim:

1. To examine the prevalence of cognitive appraisals to stress and coping, the identified societal factors environmental factors (childhood responsibilities, pet ownership, SES), technological advances (internet use, social media use, and video gaming), and personal factors (obesity) unique to this population.

Instruments: Self-report questions were used for: childhood responsibilities (chores and pets; I/R), SES (I/R), internet use (ordinal), social media use (ordinal), video games (ordinal), and obesity (I/R and ordinal) with interpretation of items previously described under "data collection: instruments." Obesity was calculated from a self-report height and weight response and categorized based on the CDC's obesity designations as previously discussed. Instruments to measure this aim included: Perceived Stress Scale (I/R), the Perceived Competence Scale (I/R), and the MPSS social support scale (I/R).

Method of analysis: Descriptive statistical summaries were generated with consideration of level of measurement (nominal, ordinal, and I/R). Frequency distributions (nominal/ordinal) and

appropriate measures of score variability were generated to inform whether sufficient variability existed in each variable's distribution to justify inclusion in the analysis of other aims.

2. To examine the associations of primary and secondary cognitive appraisals (PSS, PCS, and MPSS), environmental factors (childhood responsibilities and pet ownership, SES), technological advances (internet use, social media use, and video gaming), personal factors (obesity), with problem focused, emotion focused, and dysfunctional coping styles in this population. (IV= primary appraisals, secondary appraisals (perceived competence and social support), childhood responsibilities and pet ownership, SES, internet use, social media use, video gaming, obesity; DV= coping styles)

Instruments: The PSS, PCS, and MPSS were utilized to examine the primary and secondary appraisals to coping in the late adolescent sample. Self-report questions were used for: childhood responsibilities (chores and pets; I/R), SES (I/R), internet use (ordinal), social media use (ordinal), video games (ordinal), and obesity (I/R and ordinal) with interpretation of items previously described under "data collection: instruments." Obesity was calculated from a self-report height and weight and categorized based on the CDC's obesity designations as previously discussed. The Brief-COPE scale (sub-scales of problem focused, emotion focused, and dysfunctional coping; nominal) was used to examine coping styles. All 28 items were utilized but the 3 sub-scale delineations were assessed (as opposed to the further delineated 14 sub-scales of coping).

Method of analysis: Spearman correlations were conducted with the aforementioned factors as independent variables and coping scores as the dependent variable.

Aims 3-5

As stated previously, the delayed transition variable was previously hypothesized as the

dependent variable of interest in aims 3-5. Delayed transition was to be examined in association with childhood responsibilities, SES, internet use, social media use, video gaming, obesity, and coping in a series of multiple logistic regression analyses. However, one of the key findings of this dissertation study, was that delayed transition was not able to be operationalized as defined and conceptualized in the current literature. These aims were not able to be completed as written. Further exploration of the markers of adulthood was alternatively conducted based on this key finding and using the data already collected.

CHAPTER IV

RESULTS

This chapter consists of 4 sections. Sample characteristics, markers of adulthood, and data reduction techniques are presented in section one. Section two reports the reliability of the instruments used. Section three describes findings related to the original conceptualized "delayed transition" variable and subsequent revisions to the approach based on those findings. Section 4 summarizes the key findings from all of the analyses.

Data Management

The primary recruitment technique of utilizing a Facebook Advertising Campaign reached 255,648 people through the online social media advertisements. Out of this potential sample, 6,521 clicks to the REDCap website link were recorded by Facebook Ad Manager. Data monitoring at three weeks into the study revealed that many participants were skipping a majority of the questions and only answering the required questions that forced completion in order to reach the end of the study and request a gift card. At this point in the study there were 203 records but only 134 records with useable data. The study was temporarily stopped at this time and REDCap was updated with the assistance of REDCap administrator to force completion of all survey items.

From both the primary and secondary recruitment techniques that were utilized, 411 records were created in REDCap. Out of these created records, 401 met the eligibility requirements and took the survey. On review of these 401records, 62 were determined by the PI, the dissertation advisor, and an information systems consultant to be fraudulent responses. From the remaining 339 records, it was determined that 20 of these participants did not complete

enough of the survey to be included in the study. The remaining 319 records were examined by the PI with the study statistician and it was determined that 88 of these participants did not complete enough of the survey responses necessary for statistical data analysis. The final sample size for the study was N=231.

Sample

This section describes the sample characteristics including the summary for the markers of adulthood questions that were asked to participants. Data management techniques are then discussed. Finally, reliability scores for the instruments utilized in data collection methods are presented.

Sample characteristics

Descriptive statistical summaries of the characteristics of the sample (N=231) included in this study of late adolescents (18-24yo) are shown in Table 6. The sample averaged 20.9 years of age (SD=1.9). It consisted of 78 (33.8%) males and 153 females (66.2%) from 38 states. Based on regional divisions used by the United States Census Bureau, participants (N=186) reported they were from the following regions: Northeast= 47 (25.3%), Midwest= 32 (17.2%), South= 54 (29.0%), and West= 53 (28.5%). The sample consisted of 1.7% American Indian or Alaskan Native, 8.7% Asian, 9.1% Black, 74.0% White, 0.4% Native Hawaiian, 0.4% Pacific Islander, 3.9% identified as other and 1.7% preferred not to answer. Of these participants, 20.3% were Hispanic or Latino and only 9.1% were married. (See Table 4).

Table 4
Sample Characteristics N= 231

Sample Characteristics	N	Summary
		Mean, SD Min, Max
Age (years)	231	20.9, 1.9 18, 24
Gender	231	N (%)
Male		78 (33.8)
Female		153 (66.2)
Region of the US	186	N (%)
Northeast		47 (25.3)
Midwest		32 (17.2)
South		54 (29.0)
West		53 (28.5)
Race	231	N (%)
American Indian or Alaskan Native		4 (1.7)
Asian		20 (8.7)
Black or African American		21 (9.1)
White		171 (74.0)
Native Hawaiian		1 (0.4)
Pacific Islander		1 (0.4)
Other		9 (3.9)
Unknown/Prefer not to answer		4 (1.7)
Ethnicity	231	N (%)
Hispanic or Latino		47 (20.3)
Not Hispanic or Latino		184 (79.7)
Marital Status	231	N (%)
Single		210 (90.9)
Married		21 (9.1)

Markers of Adulthood

Questions focused on Markers of Adulthood that were sub-divided into three areas: living situation, employment, and educational attainment. A maximum N of 227 was used for the markers of adulthood questions as 4 cases from the total N=231 did not respond to any of the critical marker questions. Descriptive statistical summaries of the markers of adulthood (N=227) are shown in tables 5-7.

Living situation. Of the sample, 107 (47.1%) were living at home with 15.2% not thinking about moving out, 17.1% considering moving out, and 22.9% planning to move out. Almost half of these participants (42.9%) were living at home because they were enrolled in school. Late adolescents who reported they were not living at home (N=120, 52.9%) were either living with a partner (29.4%), a roommate (44%), or by themselves (26.6%). Most of the participants reported being financially dependent on their parents (N=131, 57.7%), while 134 (59.0%) reported they did have a full or part time income but were still financially dependent. Only 37 (16.4%) participants reported being a primary caregiver for another (child, elderly adult, etc.). A statistical summary of these data can be found in table 5.

Table 5
Markers of Adulthood, Living Situation

Living Situation	N	%	N	%
At home	227	100		
No	120	52.9	109	
Roommate			48	44.0
Myself			29	26.6
Partner			32	29.4
Yes	107	47.1	105	
Not thinking about moving out			16	15.2
Thinking about moving out			18	17.1
Plan to move			24	22.9
Living home because in school			45	42.9
Primary caregiver	226			
No	189	83.6		
Yes	37	16.4		
Financially dependent on parents	227			
No	96	42.3		
Yes	131	57.7		
Financially independent	227			
No	143	63.0		
Yes	84	37.0		
Financially dependent with income	227			
No	93	41.0		
Yes	134	59.0		

** Maximum N for this table is 227, 4 cases from the total N=231 did not respond to any of the critical marker questions*

Employment. Of the 227 participants who completed the Markers of Adulthood questionnaire, 89 (39.2%) were looking for a job while 138 (60.8%) were employed. Of those who were not employed, 52 (59.8%) were looking for a job and 42 (48.3%) reported having difficulty finding a job. Participants who were working ranged from <10 hours a week (N=24, 17.4%), 10-20 hours a week (N=29, 21%), 21-30 hours a week (N=26, 18.8%), 31-40 hours per week (N=33, 23.9%), to over 40 hours a week (N=25, 18.1%). Some participants (N=19, 8.4%) reported they were enrolled in a division of the armed forces. Three of these participants were active duty, 2 were veteran and 12 did not indicate which type of service. Participants were also from a variety of armed forces branches. A summary of employment and armed forces enrollment can be found in table 6.

Table 6
Markers of Adulthood, Employment and Armed Forces

Employment	**N**	**%**	**N**	**%**
Employed	227			
No	89	39.2		
Looking for job			87	
No			35	40.2
Yes			52	59.8
Looking for job last 2 month			87	
No			37	42.5
Yes			50	57.5
Difficulty finding a job			87	
No			45	51.7
Yes			42	48.3
Yes	138	60.8		
0 hours			1	0.7
<10 hours			24	17.4
10-20 hours			29	21.0
21-30 hours			26	18.8
31-40 hours			33	23.9
>40 hours			25	18.1
Armed Forces Enrollment	227			
No	208	91.6		
Yes (check all that apply)	19	8.4		
Branch			19	
> 1 Branch			4	21.1
Army			2	10.5
Navy			2	10.5
Marine Corps			3	15.8
Air Force			3	15.8
Coast Guard			1	5.3
National Guard			0	0.0
No Branch Indicated			4	21.1
Service Type				
Reserves			2	10.5
Active Duty			3	15.8
Veteran			2	10.5
No Type Indicated			12	63.2

** Maximum N for this table is 227, 4 cases from total N=231 did not respond to any of the critical marker questions*

Educational attainment. Of the 227 participants, 207 (91.2%) graduated high school or earned a GED while 20 (8.8%) reported they had not graduated. Of the 224 participants who reported whether or not they were currently enrolled in school, 64 (28.6%) reported they were not while 160 (71.4%) reported being in: technical school (1.9%), associate's degree program (14.4%), a 4-year college or university (58.8%), graduate school (23.8%) or more than one response (1.3%). Meanwhile, 56 (24.8%) reported they were finished with their educational pursuit while 170 (75.2%) reported they were not finished with their education (N=226).

The final question was taken directly from Jeffrey Arnett's original Markers of Adulthood questionnaire that asked participants whether or not they felt they had reached adulthood where 38 (16.7%) responded no, 55 (24.2%) responded "yes" and 134 (59.0) responded "in some ways yes, and in some ways no (N=227). A summary of educational attainment can be found in table 7.

Table 7
Markers of Adulthood, Educational Attainment

Educational Attainment	N	%	N	%
High School Graduate (or GED)	227			
No	20	8.8		
Yes	207	91.2		
Currently Enrolled in School	224			
No	64	28.6		
Yes (check all that apply)	160	71.4		
Technical School			3	1.9
Associate's Degree Program			23	14.4
4-year College or University			94	58.8
Graduate School			38	23.8
More than one response			2	1.3
Finished with education	226			
No	170	75.2		
Yes	56	24.8		
Perception that Reached Adulthood	227			
No	38	16.7		
Yes	55	24.2		
In some ways yes, in some ways no	134	59.0		

** Maximum N for this table is 227, 4 cases from total N=231 did not respond to any of the critical marker questions*

Reliability

All of the self-report measurements had acceptable internal consistency on analysis. See table 8.

Table 8
Reliability Scores
Cronbach's alpha of self-report measures

Instrument	Reliability Score
Perceived Stress Scale	.84
Perceived Competence Scale	.84
Multidimensional Scale of Perceived Social Support	.93
Brief COPE	
Problem focused coping	.81
Emotion focused coping	.75
Dysfunctional coping	.84

Analysis of Primary Aims

This section reviews the data analysis performed for aims 1-5. Statistical summaries are included for each aim.

Aim 1

To examine the prevalence of identified societal factors including: cognitive appraisals to stress and coping, environmental factors (childhood responsibilities, SES), technological advances (internet use, social media use, video gaming), and personal factors (obesity) unique to this population.

Primary appraisal. The Perceived Stress Scale (PSS) was used to assess primary cognitive appraisals. Scores around 13 are usually considered average and higher stress scores are around 20 points or higher (Cohen & Williamson, 1998). Scores from in the study sample (N=229) are summarized in Table 9. The median score was 19.0 (IQR=15-24) with a range from 5-36 out of a possible 0-40 score range.

Secondary appraisals. Secondary cognitive appraisals were measured by the Perceived Competence Scale (PCS) and the Multidimensional Scale of Perceived Social Support (MSPSS). Those scores are also summarized in Table 9. The median PCS score was 29.0 (IQR=25-34) and had a range from 14-40 out of possible 8-40. Higher scores indicate more perceived competence or control over a situation (N=227). The MSPSS scores had median value of 64.5 (IQR=52-75) with a range of 12-84 out of a possible 7-84 (N=226). Higher MSPSS scores indicate higher perceived availability and adequacy of social support from family, friends, and significant others.

Table 9
Primary and Secondary Cognitive Appraisals to Stress and Coping, N=231

Cognitive Appraisal	N	Summary Median [25th-75th IQR] Min, Max
Primary Appraisal		
Perceived Stress Scale	229	19.0 [15-24] 5, 36
Secondary Appraisals		
Perceived Competence Scale	227	29.0 [25-34] 14, 40
Perceived Social Support Scale	226	64.5 [52-75] 12, 84

Reliability: PSS (α=.84), PCS (α=.84), MSPSS (α=.93)

Childhood responsibilities. Out of 10 possible options for childhood responsibilities before the participant was 17 years of age the average number of chores reported was 4.5 (SD=2.4). The number of chores reported ranged from 0-10 (N=228, see Table 10). For a complete list of those chores see appendix 2.

SES. The median yearly income reported by participants was $5000.00 with the middle 50% of the respondents making between $1000 and $13,000 (N=221). Salary range reported was between $0 and $52,000 (see Table 10).

Internet use. Reports of internet usage are summarized in Table 11. As shown, findings ranged from <1 hour per day (N=8, 3.5%) to greater than 5 hours a day (N=54, 23.5%) (N=230). Most participants reported using the internet between 3-5 hours a day (N=91, 39.6%). Almost all participants used the internet 1 hour or more (96.4%).

Social media use. Forty-seven of the 228 respondents to the question regarding social media use reported use of <1 hour per day (20.6%). Twelve reported > 5 hours a day (5.3%). Most participants reported 1-3 hours a day on social media (N=121, 53.1%). (See Table 10).

Video gaming. Video gaming use is also summarized in Table 11. Reported used ranged from <1 hour per week (N=128 of 220 responses, 58.2%) to >5 hours a week (N=38, 17.3%) (See Table 10).

Obesity. The median body mass index (BMI) of participants, based upon self-reported height and weight (N=223), was 23.2 (IQR=20-28) with a range of 6 to 49. This median fits in the "normal" category as defined by the CDC (18.5-24.9). Approximately 37% of the participants were above the suggested weight for height national recommendations (see Table 10).

Table 10
Descriptive Statistics of Environmental Factors, Technological Advances, and Personal Factors, N=231

Independent Variables	**Summary**	
Environmental Factors		
	N	Mean (SD) Min, Max
Childhood responsibilities (<17 years old)	228	4.5 (2.4) 0, 10
		Median [IQR] Min, Max
SES (income last year)	221	$5000 [1000, 13,000] $0.0, $52,000
Technological Advances		
	N	%
Internet use (hours)	230	
<1 hour	8	3.5
1-3 hours	77	33.5
3-5 hours	91	39.6
>5 hours	54	23.5
Social media use (hours)	228	

<1 hour	47	20.6
1-3 hours	121	53.1
3-5 hours	48	21.1
>5 hours	12	5.3
Video gaming (hours/week)	220	
<1 hour	128	58.2
1-3 hours	28	12.7
3-5 hours	26	11.8
> 5 hours	38	17.3
Personal Factors		
	N	Median [IQR] Min, Max
Obesity (Body Mass Index) (current)	223	23.2 [20-28] 6.0, 49.4
	N	%
Underweight	20	9.1
Normal	119	54.1
Overweight	43	19.5
Obese	38	17.3

Childhood responsibilities refer to household and pet ownership chores. BMI categories defined by the CDC are as follows: underweight (<18.5), normal (18.5-24.9), overweight (25.0-29.9), obese (>30).

Coping styles. Problem focused, emotion focused, and dysfunctional coping styles were measured using the Brief-COPE scale and results are summarized in Table 11. Problem focused coping scores ranged from 6-24 out of a possible scoring of 6-24 with an average sum total of 16.5 (SD=3.8). The emotion focused coping scores ranged from 10-39 out of a possible 10-40 with an average sum total of 25.4 (SD=5.4). Finally, the dysfunctional coping style scores ranged from 12-46 out of a possible 12-48 with an average sum total of 25.6 (SD=6.9).

Table 11
Descriptive Statistics for the Brief COPE, N=231

Coping Style	N	Summary Mean (SD) (min, max)
Problem Focused Coping	231	16.5 (3.8) 6, 24
Emotion Focused Coping	231	25.4 (5.4) 10, 39
Dysfunctional Coping	231	25.6 (6.9) 12, 46

Reliability: Problem focused cope (α=.81), Emotion focused cope (α=.75), Dysfunctional cope (α=.83)

Aim 2
To examine the associations of identified societal factors including: cognitive appraisals to stress and coping, environmental factors (childhood responsibilities, SES), technological advances (internet use, social media use, video gaming), and personal factors (obesity) with problem focused, emotion focused, and dysfunctional coping styles in this population.

There were several statistically significant associations of the independent variables with the coping styles which are summarized in Table 12. The strongest relationship was observed between perceived stress and dysfunctional coping (r_s=.55, p<.001). Therefore, higher levels of perceived stress were associated with higher values for dysfunctional coping. The next strongest relationship was between perceived competence and dysfunctional coping (r_s=-.50): that is as perceived competence increased there was a tendency for levels of dysfunctional coping to decrease. (See Table 12). Other meaningful associations included perceived competence with problem focused coping (r_s=.32, p<.001), as well as perceived social support with each of the coping styles (problem r_s =.27, p<.001, emotional r_s =.34, <.001, dysfunctional r_s =-.32, p<.001).

Social media use (r_s=.32,p<.001), video gaming (r_s=.42,p<.001), and internet use (r_s=.14, p<.05) were statistically significantly associated with dysfunctional coping. Thus, the higher

levels of reported social media, video gaming, and internet usage the higher the levels of reported dysfunctional coping styles. There were no statistically significant associations of internet use, number of childhood responsibilities, or BMI with any of the coping styles ($p > 0.05$) (see Table 12).

Table 12
Associations between independent factors and coping styles, N=231

		Coping		
Independent Variable	**N**	**Problem Focused**	**Emotion Focused**	**Dysfunctional**
Child Responsibilities	228	.03 (.711)	-.02 (.743)	-.07 (.268)
SES	221	.12 (.089)	.18 (.007) **	-.08 (.221)
Internet use	230	.11 (.093)	.07 (.313)	.14 (.038) *
Social media use	228	-.05 (.420)	.02 (.764)	.32 (<.001) **
Video gaming	220	-.11 (.115)	.07 (.326)	.42 (<.001) **
Obesity	223	.01 (.904)	-.05 (.444)	-.02 (.729)
Perceived stress	229	-.12 (.061)	-.15 (.021) *	.55 (<.001) **
Perceived competence	227	.32 (<.001) **	.18 (.006) **	-.50 (<.001) **
Perceived social support	226	.27 (<.001) **	.34 (<.001) **	-.32 (<.001) **

Note: Values in cells are r_s (p-value)
*** Correlation significant at 0.01 level (2-tailed)*
** Correlation significant at the 0.05 level (2-tailed)*

Aims 3-5

A conceptualized "delayed transition to adulthood" dependent variable was proposed for aims 3-5 based on a thorough concept analysis and the available published literature. As noted in Chapter 3, the delayed transition variable for this study was defined as: not enrolled in school, not enrolled in any branch of the Armed Forces, not employed, and still living at home with their parents or guardians. The data were continually reviewed as it was being collected in REDCap and there were a very small number of participants who collectively met these criteria for "delayed transition." After reaching a saturation point with participant recruitment, the study was closed and the data were analyzed for meeting the delayed transition variable as previously defined. Less than 10 participants of the 231 completed records met the criteria set forth for the "delayed transition" variable. Therefore, no further analyses of the proposed aims were possible using that definition.

Clustering of Markers of Adulthood

Discussion amongst the PI and dissertation committee, examination of the multiple, intensive recruitment methods, and a review of the dataset resulted in the decision to instead proceed with a cluster analysis of "markers of adulthood" previously defined in the literature. Thus, essentially the same markers as were proposed for the "delayed transition" variable were used but clusters of individuals with similar and different manifestations of those markers were generated empirically.

Cluster Analysis is a method of classifying cases into groups based on a defined set of variables. This technique defines unknown groups within a data set. This method can be used to classify groups that are relatively homogeneous within themselves and heterogeneous between each other. The log-likelihood distance measure was used because it can be used with both

continuous and categorical variables. It is a probability based distance. The distance between two clusters is related to the decrease in log-likelihood as the process combines the model clusters into one cluster. The Schwarz Bayesian Information Criterion (BIC) was then used for selecting the best number of clusters based on those distances.

Descriptive Report of Clusters

Two clusters were derived from the analysis with another cluster comprised of individuals who did not fit well into either of those clusters. Until summarized below the clusters will be labeled as, "Cluster 1," "Cluster 2," and "Outlier Cluster." Characteristics of clusters are summarized in Table 13. Pearson Chi-Square tests with Bonferroni-corrected post-hoc comparisons were used to assist with clarifying the distinguishing characteristics. Some of the most notable differences among the clusters of young adults are summarized below.

Cluster 1 were primarily not living at home (91.8%), were not primary caregivers (98.9%), were not financially dependent on their parents (98.0%), graduated high school (100.0%), and employed (91.8%). When asked if capable of financially supporting themselves without assistance from others, again Cluster 1 (100.0%) reported financial independence.

To the contrary, cluster 2 was comprised of young adults who were both living at home and living elsewhere (50.0%), most were not primary caregivers (85.7%), financially dependent on their parents (100.0%), and graduated high school (100.0%). When asked if financially independent, again Cluster 2 reported no financial independence (0.0%).

The late adolescents in the Outlier Cluster had over half living at home (62.9%), a small amount reporting being a primary caregiver (23.6%), financially dependent on their parents or caregivers (48.3%), and about half were employed (56.2%). However, all of the study participants who did not graduate high school were in the Outlier Cluster (20.2%). Of the 17

participants who reported they were in the Armed Forces, all but 3 of them were in the Outlier Cluster.

Two additional variables outside of the "markers of adulthood" were included in the analysis of the cluster description: age and marital status. The clusters were found to be statistically significantly different for both variables (see Table 13, age: p=0.014, marital status: p=0.003). Late adolescents in Cluster 1 were older on average (22.3 years) than those in the Outlier Cluster (mean=21.03 years) who in turn were older than those in Cluster 2 (mean=20.1 years). A higher percentage of the young adults in Cluster 1 (14.3%) and the Outlier Cluster (11.2%) were married than those in Cluster 2 (0.0%) (See Table 13). In summary, Cluster 2 could be characterized by having the youngest participants who were not married and financially dependent on their parents or caregivers. Cluster 1 was the oldest and was financially independent. While the Outlier Cluster fell somewhere in between both Cluster 1 and 2.

Table 13
Descriptive Summary of Cluster Analysis

Descriptive (N=222)	**Outlier cluster (N=89, 40.1%)**	**Cluster 1 (N=49, 22.1%)**	**Cluster 2 (N=84, 37.8%)**
	N (%)	**N (%)**	**N (%)**
Living at home			
No	33 (37.1)	45 (91.8)	42 (50.0)
Yes	56 (62.9)	4 (8.2)	42 (50.0)
Primary caregiver			
No	68 (76.4)	47 (95.9)	72 (85.7)
Yes	21 (23.6)	2 (4.1)	12 (14.3)
Financially dependent			
No	46 (51.7)	48 (98.0)	0 (0.0)
Yes	43 (48.3)	1 (2.0)	84 (100.0)
Financially independent			
No	55 (61.8)	0 (0.0)	84 (100.0)
Yes	34 (38.2)	49 (100.0)	0 (0.0)
Insubstantial income			
No	32 (36.0)	41 (83.7)	19 (22.6)
Yes	57 (64.0)	8 (16.3)	65 (77.4)
Employed			
No	39 (43.8)	4 (8.2)	45 (53.6)
Yes	50 (56.2)	45 (91.8)	39 (46.4)
Graduate HS (or GED)			
No	18 (20.2)	0 (0.0)	0 (0.0)
Yes	71 (79.8)	49 (100.0)	84 (100.0)
Enrolled in school			
No	38 (42.7)	25 (51.0)	0 (0.0)
Yes	51 (57.3)	24 (49.0)	84 (100.0)
Enrolled Armed Forces			
No	75 (84.3)	47 (95.9)	84 (100.0)
Yes	14 (15.7)	2 (4.1)	0 (0.0)
Marital status			
Single	79 (88.8)	42 (85.7)	84 (100.0)
Married	10 (11.2)	7 (14.3)	0 (0.0)
	Mean (SD)	**Mean (SD)**	**Mean (SD)**
Age	21.0 (2.0)	22.3 (1.5)	20.1 (1.6)

Based upon the information contained in the above table, Cluster 1 was classified as Transition Completed, Cluster 2 as Transition Pending, and the Outlier Cluster as Transition Undetermined.

Associations of societal factors with markers of adulthood clusters

One way analysis of variance (ANOVA) or Kruskal-Wallis tests as appropriate were used to compare means with the three cluster groups for all continuous data. Post-hoc tests as appropriate based on the Levene's test of homogeneity of variables were used to determine specific differences of statistically significant ANOVA tests; Mann-Whitney pairwise tests with Bonferroni-corrected alphas were used for statistically significant Kruskal-Wallis tests. Cross-tabulations with Pearson Chi-Square tests were used for all categorical and ordinal variables. Statistical summaries for all data analysis in this section are presented in tables 14-17.

Cognitive appraisals. Descriptive summaries of the cognitive appraisal scores for each of the clusters are presented in Table 14. Statistically significant differences among the clusters were found for all three appraisal scores (Perceived Stress, $p=0.011$, Perceived Competence, $p<0.001$, Perceived Social Support, $p=0.009$). Post-hoc comparisons revealed that the late adolescents in the Transition Completed cluster had lower perceptions of stress (median=16.0) than those in both the Transition Pending cluster and the Transition Undetermined cluster (both medians=20.0). Late adolescents in the Transition Completed cluster had higher perceptions of social support (median=74.0) than those in the Undetermined cluster (median=60.0). Finally, those in the Transition Completed cluster also had higher levels of Perceived Competence than those in either of the other clusters (Transition Pending median: 31.0, Transition Undetermined median: 27.0) (See Table 14).

Table 14
Statistical summary of cognitive appraisals to stress with transition clusters

	Transition Cluster			
Descriptive	**Undetermined (N=89)**	**Completed (N=49)**	**Pending (N=84)**	
	Median [IQR]	**Median [IQR]**	**Median [IQR]**	**p-value**
PSS Perceived Stress Scale	20.0 [16-24] [b] N=88	16.0 [13-20] [a] N=49	20.0 [16-24] [b] N=84	.011
PCS Perceived Competence Scale	27.0 [23-32] [b] N=86	33.0 [29-37] [a] N=49	31.0 [25-32] [b] N=84	<.001
MSPSS Perceived Social Support Scale	60.0 [50-71] [b] N=85	74.0 [56-78] [a] N=49	66.0 [57-73] [a,b] N=84	.009

Reliability: PSS (α=.84), PCS (α=.84), MSPSS (α=.93)
Superscripts indicate statistical significant differences

Childhood responsibilities and SES. No statistically significant differences among the cluster groups were observed in terms of childhood responsibilities (p=.053). When examining individual income levels, however, there was a statistically significant difference among the groups in terms of income (p<.001). As would be expected, those in the Completed cluster reported higher levels of income than those in the other two clusters (see Table 15).

Internet use, social media use, video gaming. A statistical summary of the aforementioned variables can be found in table 15. Cross-tabulations with Pearson Chi-Square statistical analysis was utilized for internet use, social media use, and video gaming. There were statistically significant differences in internet use among the groups (p=.019). The largest reported internet use was reported in the Transition Pending group with 47.6% using the internet between 3-5 hours a day (N=40) which was statistically significantly higher than use in the Transition Completed group (24.5%, Bonferroni-corrected $p < 0.05$).

There were also statistically significant differences in social media use among the three clusters ($p<.001$). Bonferroni-corrected post-hoc tests revealed that the difference was primarily due to approximately 65% of those in the Transition Complete on social media a reported 1-3 hours per day as opposed to those in the Transition Pending group tending to be on a greater amount (only 42% 1-3 hours yet 35% on 3-5 hours). There were no statistically significant differences among the groups in the amount of hours per week of video gaming ($p=.270$). (see Table 15)

Table 15
Statistical summary of societal factors with markers of adulthood clusters

Descriptive	Undetermined (N=89)	Completed (N=49)	Pending (N=84)	
	Mean (SD) (N)	**Mean (SD) (N)**	**Mean (SD) (N)**	**p-value**
Childhood responsibilities	4.6 (2.5) N=87	5.3 (2.3) N=49	4.3 (2.3) N=83	.053
	Median [IQR]	**Median [IQR]**	**Median [IQR]**	
SES (income past year)	$3000 [b] [500-12,000] N=83	$21,000 [a] [9097-32,625[N=48	$2,500 [b] [$600-5000] N=82	<.001
	N (%)	**N (%)**	**N (%)**	**p-value**
Internet use (hours/day)	N=88	N=49	N=84	.019
<1 hour	3 (3.4)	4 (8.2)	1 (1.2)	
1-3 hours	37 (42.0)	18 (36.7)	21 (25.0)	
3-5 hours	33 (37.5)[a,b]	12 (24.5)[b]	40 (47.6)[a]	
>5 hours	15 (17.0)	15 (30.6)	22 (26.2)	
Social media use (hours/day)	N=87	N=49	N=84	.001
<1 hour	19 (21.8)	14 (28.6)	13 (15.5)	
1-3 hours	49 (56.3)[a,b]	32 (65.3) [b]	35 (41.7) [a]	
3-5 hours	16 (18.4) [a]	2 (4.1) [a]	29 (34.5) [b]	
>5 hours	3 (3.4)	1 (2.0)	7 (8.3)	
Video gaming (hours/week)	N=83	N=45	N=84	.270
<1 hour	42 (50.6)	32 (71.1)	52 (61.9)	
1-3 hours	15 (18.1)	5 (11.1)	8 (9.5)	
3-5 hours	11 (13.3)	2 (4.4)	8 (9.5)	
>5 hours	15 (18.1)	6 (13.3)	16 (19.0)	

Childhood responsibilities refer to household and pet ownership chores.
Superscripts indicate statistical significant differences

Obesity. Statistical summaries of BMI data are presented in table 16. No statistically significant differences among the groups in terms of actual BMI or categories were observed ($p > 0.05$). (see Table 16)

Table 16
Cluster analysis groups with body mass index scores

Descriptive	Undetermined (N=89)	Completed (N=49)	Pending (N=84)	
	Median [IQR]	**Median [IQR]**	**Median [IQR]**	**p-value**
BMI	23.2 [20-27] N=82	25.1 [21-31] N=49	23.0 [20-26] N=84	.078
	N (%)	**N (%)**	**N (%)**	
BMI	N=82	N=49	N=84	.173
Underweight	9 (11.0)	5 (10.2)	7 (8.3)	
Normal	43 (52.4)	19 (38.8)	53 (63.1)	
Overweight	18 (22.0)	12 (24.5)	12 (14.3)	
Obese	12 (14.6)	13 (26.5)	12 (14.3)	

BMI categories defined by the CDC are as follows: underweight (<18.5), normal (18.5-24.9), overweight (25.0-29.9), obese (>30).

Descriptive summaries of the scores from the varying coping styles measures for the cluster groups are shown in table 17. There were no statistically significant differences among the groups in terms of their use of the different styles of coping ($p > 0.05$).

Table 17
Coping styles with cluster analysis groups

	Undetermined (N=89)	Completed (N=49)	Pending (N=84)	
	Mean (SD)	**Mean (SD)**	**Mean (SD)**	**p-value**
Problem focused	16.2 (3.7)	17.5 (3.9)	16.1 (3.9)	.115
Emotion focused	25.1 (5.6)	26.4 (5.3)	25.1 (5.3)	.359
Dysfunctional	26.4 (7.6)	23.5 (5.6)	25.5 (6.2)	.051

Reliability: Problem focused cope (α=.81), Emotion focused cope (α=.75), Dysfunctional cope (α=.83). Possible score ranges for each coping style are as follows: problem focused 6-24, emotion focused 10-39, and dysfunctional 12-48.

Summary

This chapter presented results from statistical analyses of data from a cohort of late adolescents. In regards to aim 1, descriptive data were presented on the PSS, PCS, MSPSS, and Brief COPE measurements. Median scores for the cognitive appraisal measurements were: PSS=19.0, PCS=29.0, and MSPSS=64.5. The Brief COPE measure found that participant averages for problem focused coping was 16.5 (SD=3.8), emotion focused coping was 25.4 (SD=5.4), and dysfunctional coping was 25.6 (SD=6.9). Descriptive data were also presented on the markers of adulthood and demographics for this population collected by self-report questionnaires. Participants reported an average of 4.5 childhood responsibilities (out of 0-10) and a median income last year of $5,000.00. Most participants reported using the internet between 3-5 hours a day (39.6%), using social media between 1-3 hours a day (53.1%), and video gaming less than 1 hour a week (58.2%). The median BMI score was 23.2 and most of the participants (54.1%) fell into the "normal" range (18.5-24.9) as defined by the CDC.

For aim 2, a correlational analysis with summary results was presented. A statistically significant relationship was found between SES and emotion focused coping (r_s=.18, p<.001), dysfunctional coping and internet use (r_s=.14, p<.038), social media use (r_s=.32, p<.001), and video gaming (r_s=.42, p<.001). Perceived stress was significantly correlated with emotion focused (r_s=.-.15, p<.005) and dysfunctional coping (r_s=.55, p<.001). Perceived competence was statistically significant with all three coping styles (problem focused (r_s=.32, p<.001), emotion focused, (r_s=.18, p<.001), and dysfunctional (r_s=-.50, p<.001). Perceived social support was also statistically significant with all three coping styles (problem focused (r_s=.27, p<.001), emotion focused, (r_s=.34, p<.001), and dysfunctional (r_s=-.32, p<.001).

Finally, a cluster analysis with summary results was presented. Three clusters emerged which was labeled the Transition Completed, Pending, and Undetermined clusters. The Transition Completed cluster were not living at home (91.8%), financially independent (100%), were employed (91.8%), graduated high school (100%), and were older (mean=22.3). The Transition Pending group were partially living at home (50%), financially dependent (100%), partially employed (46.4%), graduated high school (100%), were not enrolled in the Armed Forces (100%), were single (100%), and were the youngest group (mean=20.1). Cognitive appraisals to stress were significantly different between the groups with the Transition Completed cluster reporting lower perceived stress and higher perceived competence and social support. SES was significantly different between the groups with the Completed cluster reporting significantly more income (median=$21,000) than the other two groups (Undetermined $3,000 and Pending $2,500). Internet and social media use were significantly different among the groups with the Pending transition group spending 3-5 hours on the internet a day (47.6%) while the Completed group reported 24.% and 37.5% spent 3-5 hours a day. The Pending cluster spent significantly more time from 3-5 hours on social media (34.5% than the Completed cluster (4.1%) and the Undetermined (18.4%) cluster. There was not a statistically significant different among the clusters for childhood responsibilities, video gaming, BMI, and coping styles. A discussion of these results as well as study strengths and limitations are presented in Chapter V.

CHAPTER V

DISCUSSION

This chapter presents a discussion of the study results. This study proposed to examine influencing factors that are unique to the last decade of late adolescents (18-24 years old) including childhood responsibilities, SES, internet use, social media use, video gaming, and obesity and how they are associated with stress and coping in this age group. Key findings of this study were: (1) the "delayed transition" concept currently discussed in mass-media and throughout the abundant anecdotal literature is not quantifiable as defined as: living at home, not employed, not in Armed Forces, and not in school (2) the sample demographics reflected the national reported statistics available for the larger late adolescent population (3) scores related to stress found in this population continue to show increased stress in the late adolescent population (4) unique descriptive information not previously addressed in health sciences research are reported for this sample (5) significant relationships between SES and emotional focused coping, social media and internet use and dysfunctional coping, and primary and secondary appraisals with all three coping styles under investigation was found and (6) a cluster analysis revealed three distinct participant groups in this data set which included participants who met conceptual transitional markers, those that were still working on some markers, and a third group who did not fall in either of the two categories. A detailed discussion of data leading to these findings follows.

Sample Characteristics

Perhaps the most significant finding of this study is that this nation-wide sample of late adolescents (18-24 yo) did not fall clearly into a delayed transition or "idle" adult definition despite multiple attempts to find people that meet delayed transitioning criteria. Either the sampling methods 1) did not find them, which is unlikely because of multiple recruitment attempts that all reached saturation, or 2) "delayed transition" does not fit into the criteria previously defined by researchers such as Snyder & McLaughlin (2008) who specifically labeled idle youth as "not in postsecondary school, the workforce, or the Armed Forces." Specifics related to the markers of adulthood as previously postulated by Jeffrey Arnett are discussed further in subsequent sections.

Demographics

Overall, the demographics sampled in this study reflected nationwide demographics published in the available literature. Data from the United States Census Bureau (2007) report race catagorical reports of White (72.4%), Black (12.6%), Asian (4.75%), and American Indian (.95%) which were very reflective of this study's sample characteristics of White (74%), Black (9.1%), Asian (8.7%), and American Indian (1.7%). In general, females usually respond more to males in online surveys that was reflected by this sample of females (66.2%) versus males (33.8%).

The geographical results showed respondents from all 4 regions of the United States with an almost quarterly breakdown: Northeast (25.3%), Midwest (17.2%), South (29.0%), and West (28.5%). This reflects an exceptional geographical representation of almost a quarter from all

four regions of the United States. These data are also reflective of exhaustive sampling efforts utilized to obtain a sample from across the US.

National reports were not found that specified the 18-24 age range for marital status but Cohn and colleages (2011) from the Pew Research Center reported national socio-demographic data that 20% of adults from 18-29 are married. This study sample reports 9.1% of participants were married and 90.9% were not married which is lower than other census data, however, this study sampled 18-24 year olds and most national reports reflected 18-29 year olds.

Markers of Adulthood

Many anecdotal social science reports claim 50% of late adolescents are idle or delayed because they are still living at home (Hayford & Furstenberg, 2008; Millenky, Schwartz, & Rhodes, 2013; Settersten & Ray, 2010; Snyder & McLaughlin, 2008). More contemporary researchers differentiate that approximately half of all late adolescents are not living at home but argue that adult transitioning trends are just very different than previously defined (Arnett, 2010). In a study by Jekielek & Brown (2005), 53% of late adolescents were not living at home. Similarly, in this study a little more than half (52.9%) was not living at home with 44% living with a roommate, 29.4% living with a partner, and 26.6% living on their own. Of the 47.1% of the sample that were living at home, 22.9% were planning to move out. Interestingly, over 40% (42.9%) of these participants specifically identified they were living at home because they were enrolled in school (N=227). Previous reports of the "idle adolescent" have not shown hard data that this population is living at home longer and relying on their parents but also enrolled in higher educational attainment efforts. This study found that a large proportion of late adolescents living at home are indeed working but also in school full time and cannot support themselves financially.

Pew Research Center reports (2012a, 2012b) examining the late adolescent population found that late adolescents perceive it is harder now than in previous decades to save for the future (75%), pay for college (71%), or buy a home (69%). Meanwhile, in the same report, 67% of parents thought children should be financially independent by age 22 and 31% thought they should not be independent by age 25 or later. This study found that 57.7% of participants reported they were financially dependent on their parents (n=131). More than half of the total sample (N=227) reported that they were financially dependent but still had an income (n=134, 59%). These findings support the lengthening amount of time it currently takes to become financially independent from parents or guardians. Arnett proposed that reaching adulthood should not be defined by moving out of the home but financial independence (Arnett, 2004, Arnett, 1998). However, a majority of this late adolescent sample were neither living on their own or financially dependent.

Developmental theorist Sheehy (2006) conjectured that young adults are at an increased competition for jobs and pursuing higher education through 20-24 years of age. Supporting this theory, this study found 71.4% of participants were currently enrolled in some form of school (technical school 1.9%, associate's degree program 14.4%, 4-year College 58.8%, or graduate school 23.8%). These findings also support results from Zarrett & Eccles (2006) who found that more than half of late adolescents are pursuing some form of college degree. Most of the participants (75.2%) in this study also reported they were not finished with their education.

More than half of the participants in this study were employed (n=138, 60.8%) where the literature reports 54% of the late adolescent population are employed (Pew Research Center, 2012b). Of those that were unemployed in this study (n=87, 39.2%), over half (59.8%) were looking for a job while 48.3% reported having difficulty finding a job. This statistic was lower

than other reports that found 82% of late adolescents are having difficulty finding a job (Jekielek & Brown, 2005). However, this study found that only 23.9% (n=33) of participants were working 31-40 hours a week which is usually considered full time employment and only 18.1% (n=25) were working more than 40 hours a week. A majority of participants (n=29, 21%) were working 10-20 hours a week which is often considered part time employment. These results may support speculations that late adolescents are taking longer to complete their education and find stable employment (Danziger & Rouse, 2009). These participants, however, may also be working part time or less in order to support their educational pursuits on a full time basis.

The current high school drop-out rate in the United States is 7% (U.S. Department of Commerce Bureau of the Census, 2012). This study found that 8.8% of participants did not graduate high school or achieve a GED. However, this study did not clarify whether they dropped out of school or were still enrolled in high school at age 18 (or even 19) years of age. Other results surrounding Armed Forces enrollment was similar. A previous study in the literature reported 6.5% late adolescents served in the military (Jekielek & Brown, 2005) where in this sample 8.4% reported they were enrolled in either the Army, Navy, Marine Corps, Air Force, Coast Guard, or National Guard. These increased numbers may reflect the past 10 years of changes with late adolescents from the previously published results.

Jeffrey Arnett's (1994) landmark study defining emerging adulthood and the shift in traditional markers found that only 27% of late adolescents felt they had "reached adulthood" while 63% said they had in some ways but not others. When Arnett repeated this question on perception in a later study, he found that participants who felt they had reached adulthood were older, had lower SES, and were more likely to have become parents (Arnett, 2003). In a replicated study with late adolescents, only 25% indicated they had reached adulthood and 69%

only reached in some respects (Nelson & McNamara, 2005). This study found that 24.2% (n=55) felt they had reached adulthood while 59% (n=134) thought they had reached adulthood in some ways but not others (N=227). Therefore, late adolescents' perception that they have reached adulthood is still around a quarter of the sampled population. However, this study found a lower percentage though they had reached adulthood in some ways (59% vs 63% and 69% from previous studies).

Study Aims

Aim 1

To examine the prevalence of identified societal factors including: cognitive appraisals to stress and coping, environmental factors (childhood responsibilities, SES), technological advances (internet use, social media use, video gaming), and personal factors (obesity) unique to this population.

Cognitive appraisals to stress and coping. Primary appraisals refer to the individual's initial evaluation of the situation (R. S. Lazarus, 1974; R.S Lazarus & Folkman, 1984). The PSS was used to assess primary cognitive appraisals and the sample median was 19.0 (SD=IQR 15-24) (N=229). Higher PSS scores are associated with more vulnerability to stressful life events (Cohen & Lichtenstein, 1990). In original reports from the scale's validity and reliability studies, a normative score for PSS in samples of late adolescents (18-29 years of age) was 14.2 (SD=6.2, n=645) (Cohen, Tyrrell, & Smith, 1993). Other studies found mean scores of PSS in college students at 23.18 (SD=7.31, n=332) (Cohen, Kamarck, & Mermelstein, 1983). No recent studies (in the last decade) were found with PSS scores reported specifically in late adolescent populations that ranged in the target age for this study (18-24 years old). Compared to the available literature, the PSS scores in this study were higher than the 1993 study with a

normative sample (14.2, SD=6.2, N=645) and lower than the mean scores of PSS measuring stress in college students (23.18). However, the PSS ranges in this sample were between 5-36 (out of a possible 0-40) indicating some participants reported almost no perception of stress (score of 5) whereas some participants scored extremely high (score of 36) indicating greater vulnerability to stressful life-events and mental health symptoms based on the literature (Cohen et al., 1983; Kuiper, Olinger, & Lyons, 1986). This sample may have been more reflective of the general late adolescent population which accounts for those participants who are in college and are experiencing perceived stressful situations in the academic environment but also those who are currently not enrolled in secondary educational pursuits. Overall, this population of late adolescents showed that they are indeed facing perceived stress at this developmental stage in their lives at a higher level than previously found in the literature (1993) of a similar sample.

Secondary appraisals refer to the person's evaluation of coping options and resources (R. S. Lazarus, 1974; R.S Lazarus & Folkman, 1984). No studies have been published using the PCS in late adolescent cohorts. This study found perceived competence scores for the participants median to be 29.0 (IQR=25-34) indicating a moderate amount of perceived control about a situation. Studies have reported that perceived control can reduce the stress response and promote more problem focused coping (Litt, 1988). Participants in this study had median scores of 64.5 (IQR=52-75) for perceived social support which based on previous studies by the MSPSS scale developer indicate a "moderate acuity" (49-68) for social support (Zimet, Powell, Farley, Werkman, & Berkoff, 1990). This reflects the samples' cognitive appraisal in dealing with a stressful transaction in relation to coping strategies in a social context (Antonovsky, 1980). Again, the MSPSS scale has never been specifically implemented in late adolescents (18-24 years old) so there is not a parallel study to compare this value.

Childhood responsibilities. No known previous studies have examined the prevalence of childhood responsibilities in terms of chores and pet ownership in the late adolescent (18-24 yo) population. Out of 10 possible options of childhood responsibilities before the age of 17, the average number of chores was 4.54 (SD=2.40).

SES. The median yearly individual income reported by participants was $5,000.00 with the middle 50% of respondents making between $1,000 and $13,000 (N=221). This median and most of the middle range is below the poverty guidelines for a single person ($11,490) put out by the US Department of Health and Human Services (2013). A study by Jekielek & Brown (2005) pointed out that 46% of late adolescents who are living in the poverty range are also enrolled in school. As a majority of this sample (71.4%, n=160) indicated they were enrolled in school, so this finding is not surprising. If participants are not yet finished with their educational pursuits, they are going to make less money. Also, a majority of this sample is both working and in school so the participants who are in school may not be working full time hours which would reflect a lower reported income.

Internet use. While many recent studies report the increase in internet use amongst youth and adolescents, none has been specifically reported and specified for the late adolescent population defined by 18-24 years of age. The Kaiser Family Foundation (2010) reported that 11-18 year old adolescents spend over 11 hours per day with electronic media while the Pew Research Center (2012b) reports 74% of all adults over 18 report daily online internet use. This study found that almost all participants used the internet for 1 hour or more (96.6%). The highest number of participants (39.6%, N=91) reported using the internet between 3-5 hours. While the second highest number of participants (33.5%, N=77), reported using the internet for more than 1-3 hours. Approximately a quarter of the sample reported they used the internet

more than five hours a day (23.5%, N=54). These findings are significantly lower than the reported 11 hours a day for younger adolescents. Furthermore, internet use in this sub-group of adults has not previously been quantified in frequencies of hours per day.

Social media use. As social media use is a newer trending phenomenon in society, only 1 study has reported social media use specifically in the young adult population (18-19 yo) with 83% using social media on a regular basis (Duggan & Brenner, 2013). In this study, most participants reported spending 1-3 hours a day on social media (53.1%, n=121). While there are several media reports that speculate this group spending an abundance of time on social media, this study found 12 (5.3%) participants reporting more than 5 hours on social media. Most participants reported spending 3 hours or less per day on social media. However, 3 hours a day on social media outlets may seem like an abundance of time when compared to those that do not use it a lot or at all. In this study, 20.6% (n=47) reported using social media less than 1 hour a day versus the 5.3% (n=12) who reported using social media greater than 5 hours a day.

Video gaming. The Entertainment Software Association (ESA) publishes an annual research report conducted by Ipsos MediaCT and claims to be the most in-depth and targeted survey that includes game play habits and attitudes gathered from more than 4,000 American households. The 2015 report found 155 million Americans play video games with 30% of game players 18-35 years of age and 26% under 18 years old (Entertainment Software Association, 2015). The average game player is 35 years old, male (56%), and has been playing video games for at least 13 years. While the ESA (2015) report covered demographics, usage information, and spending in relation to video game use, they did not report how many hours a day or week these cohorts report playing video games. Other market research companies report that "extreme gamers" which is 4% of the U.S. gaming population spend 48.5 hours a week playing video games (NPD

Group, 2010). Other reports, which are not broken down in age ranges in online publications, report 13 hours per week playing video games in 2010 (NPD Group, 2010). A 2012 report found teenagers reported spending 8.6 hours per week playing video games but again this report did not define the age for "teenagers" (Statistics Portal, 2012). While there are several marketing analyses available on video gaming, relatively few studies examined frequencies of video games in emerging adults or how video gaming may relate to a health outcome. Of the 220 participants who responded to this survey about the number of hours of video gaming per week, most participants reported less than 1 hour a week (n=128, 58.2%). Approximately 13% (n=28) reported playing video games 1-3 hours per week. Approximately 17% reported playing video games more than 5 hours a week (17.3%, N=38). While these reports may seem high, they do not reflect the available national averages reported in the marketing research panels.

Obesity. The CDC (2013c) reports that 25% of late adolescents (18-24 yo) are overweight (BMI 25.0-29.9) and 16.2% are obese (30.0-99.8). This study found slightly lower findings with 19.5% (n=43) of the study sample to be in the CDC defined overweight category and slightly higher findings at 17.3% (n=38) of the sample in the obese category. On average, participant median BMI was 23.2 (IQR 20-28) which is on the high end of normal as defined by the CDC. Other studies have found higher estimates of 26.6% of late adolescents being overweight and 16.2% as obese (Mulye et al., 2009). Another study in emerging adults found obesity rates as high as 30.2% in males and 34% in females (Hernandez-Hons & Woolley, 2012). One possibility for this discrepancy is that this study used online self-report for collection of height and weight to calculate BMI scores. Studies have reported that self-report weight trending is usually underreported (reporting a lower weight than actual weight) where height is over reported (reporting a higher height than actual height) in most BMI studies where self-report data

were used with most variability in the more obese individuals (Alvarez-Torices, Franch-Nadal, Alvarez-Guisasola, Hernandez-Mejia, & Cueto-Espinar, 1993; Avila-Funes, Gutierrez-Robledo, & Ponce De Leon Rosales, 2004; Connor Gorber, Tremblay, Moher, & Gorber, 2007). Therefore, it is possible participants underreported their weights and over reported their heights. Regardless, these findings are closely reflective of the national averages that are reported in surveys and other studies.

Aim 2

To examine the prevalence of identified societal factors including: cognitive appraisals to stress and coping, environmental factors (childhood responsibilities, SES), technological advances (internet use, social media use, video gaming), and personal factors (obesity) with problem focused, emotion focused, and dysfunctional coping styles in this population.

Cognitive appraisals to stress and coping. Methodologically strong conceptual based research studies of coping that are founded in theory will study both cognitive appraisals and coping together as the relationship between these concepts are deeply enmeshed with one another; which has been continually supported in the literature (Folkman & Moskowitz, 2004; R. S. Lazarus, DeLongis, Folkman, & Gruen, 1985; R.S Lazarus & Folkman, 1984; Muller & Spitz, 2003). This study found statistically significant relationships between all of the cognitive appraisals and coping styles except one: perceived stress and problem-focused coping (r_s=.-12, p<.061). Problem-focused coping is usually the most frequent reported coping style in youth (Folkman, Lazarus, Gruen, & DeLongis, 1986; Folkman, Lazarus, Pimley, & Novacek, 1987). Problem-focused coping is considered to be more active and less cognitive or emotion based so that the perceived stress scores are not correlated with problem-focused coping is not surprising.

The strongest relationship found was between perceived stress and dysfunctional coping (r_s=.55, p<.001). This was expected as conceptually higher PSS scores are associated with more vulnerability to stressful life events (Cohen & Lichtenstein, 1990). Perceived stress was also

correlated with emotion focused coping (r_s=.-15, p<.021), which was also expected as emotion focused coping relates to cognitive reframing, utilizing emotional support, spiritual coping (praying or mediating), and acceptance. The perception of stress is also highly cognitively based in nature. A majority of research studies have found emotion focused coping associated with higher levels of distress (Folkman & Moskowitz, 2004; Stanton, Danoff-Burg, et al., 2000; Stanton, Kirk, Cameron, & Danoff-Burg, 2000). However, this interpretation should not be indicated as bad or negative. Coping styles are not the same as nor do they provide the description of specific strategies of coping employed in context of stress (R. S. Lazarus, 1993). This has often been a major critique of coping studies that a coping style does not reflect the strategies or situation specific scenario in which an individual utilized them. For example, Lazarus (1993) cautions in his earlier seminal work that under certain conditions "problem-focused efforts can be counterproductive and result in chronic distress when they fail and emotion focused efforts would offer the best coping choice (pg 238)."

The next strongest relationship was between perceived competence and dysfunctional coping (r_s=-.50, p<.001): that is as perceived competence increased there was a tendency for levels of dysfunctional coping to decrease. Other meaningful associations included perceived competence with problem focused coping (r_s=.32, p<.001), as well as perceived social support with each of the coping styles (problem r_s =.27, p<.001, emotion r_s =.34, <.001, dysfunctional r_s =-.32, p<.001). These findings support the relationships between perceived competence and social support with coping styles. Secondary appraisals to stress are the individual's ability to reflect the ability to cope with a stressor. Therefore, it would be expected that these are significantly associated with all styles of coping. Emotion-focused coping decreases the amount of emotional distress experienced in a situation by changing the way a situation is interpreted

without changing realty. Whereas, problem-focused coping is a direct attempt to alter the environment in a stressful situation. Both of these situations require a cognitive evaluation of the individual's ability to handle the said stressful situation.

Dysfunctional coping had an inverse relationship with both perceived competence (r_s =-.50, p<.001) and perceived social support (r_s =-.35, p<.001). In other words, as dysfunctional coping styles increased, perceived competence and social support decreased. These are also expected findings as people who tend to use dysfunctional coping styles would be less reflective of the means of social support at their disposal or the competence to handle a stressful situation.

Childhood responsibilities and SES. This is the first published study to examine several of these societal factors unique to the last decade of the emerging adulthood population. Some studies have cited that children who perform childhood responsibilities learn more responsibility and have used performing childhood responsibilities as a predictor of success later in life (Clarke, 2003; Cline & Fay, 2006). There were no statistically significant associations of the number of childhood responsibilities with any of the coping styles (p > 0.05). However, previous studies have not quantified the childhood responsibility variable into a number of chores as a correlational variable to coping. It is possible that a nominal (yes or no) relationship may have provided different results with the coping variable. The quantified 0-10 childhood responsibility variable, however, showed no association with coping styles.

SES showed a statistical significant relationship with emotional coping styles (r_s=.18, p=.007). A previously published meta-analysis found that lower SES or poverty is associated with more stress and psychological problems in youth and adolescents (Grant et al., 2003). This may lend to an explanation that SES and emotional coping are related in terms of the impact poverty can have on an individuals' psychosocial coping. Emotional coping has also been

connected with anxiety disorders and one can postulate that worrying about one's financial means can be associated with emotional coping strategies such as positive reframing or acceptance.

Internet use, social media use, and video gaming. There was a statistically significant association between internet use and dysfunctional coping (r_s=.14, p<.01). While the internet has become a normative international communication medium, especially amongst adolescents, addictive properties of chronic internet use, online gaming, and social media has been reported. Several researchers have linked chronic internet use to loss of control, feelings of anxiety when not able to be on the internet, withdrawal symptoms, interpersonal conflict, increased aggression, and even a desensitizing to violence (Ivarsson, Anderson, Akerstedt, & Lindblad, 2013; van den Eijnden, Meerkerk, Vermulst, Spijkerman, & Engels, 2008; van den Eijnden, Spijkerman, Vermulst, van Rooij, & Engels, 2010). Based on these studies, it is not surprising that internet use was linked to dysfunctional coping. This study provides further support that of the potential negative effects of internet use with dysfunctional coping.

Social media use (r_s=.32,p<.001) was statistically significantly associated with dysfunctional coping. Higher social media usage reports correlated with higher levels of dysfunctional coping. No previous studies have focused on the frequency of social media use with coping styles. Most of the research published in the last 6 months on social media has focused on cyberbullying and mental health in adolescents (den Hamer & Konijn, 2015; Na, Dancy, & Park, 2015; Selkie, Kota, Chan, & Moreno, 2015). Based on these recent findings, one may hypothesize that large amounts of social media use may lead to dysfunctional coping. However these two variables have not been previously pinpointed in recent correlational publications. One study has identified social media use as a positive influence in adolescents

because of increased social support and easier connections with family and friends (van den Eijnden et al., 2008). However, social media use was not affiliated with adaptive coping styles of problem-focused coping or emotion-focused coping.

Video gaming was statistically significantly associated with dysfunctional coping (r_s=.42,p<.001). Previous studies have reported negative speculation such as desensitizing to violence (Anderson & Dill, 2000). A different study has found video gaming as a means of social interaction and a means of coping based on a positive correlation between video game play when stressed (r=.294, p<.001). However, this study cautions that further research is indicated specifically in the late adolescent population (Wack & Tantleff-Dunn, 2009). This study has provided support for the negative association video gaming may have on an individual in relation to dysfunctional coping styles.

Obesity. There were no statistically significant associations of BMI score with any of the coping styles (p > 0.05). This was an unexpected finding as obesity has been linked to maladaptive coping styles in previously published research (Hernandez-Hons & Woolley, 2012; Tsenkova, Boylan, & Ryff, 2013). Reasons for this are unclear. However, height and weight were collected through self-report means. As discussed later in this chapter under the recognized limitations to this study, the BMI scores may have been underreported leading to lower scores. Weighing or providing evidence of weight (from a practitioner's report for instance) may have provided different BMI scores and possibly a different result in analysis.

Aims 3-5

Based on data from the conceptual and theoretical literature available on delayed adolescent transitioning to adulthood, the delayed transition variable was quantified as a nominal dependent variable with the following parameters: living at home, not enrolled in school, not

enrolled in the Armed Forces, and not working. In essence, this study aimed to collect data on the "failure to launch" population that the mass-media often reports and many social sciences conjecture are huge problems in society at large. "Delayed transition" had never been utilized as a quantifiable variable for statistical analysis in previous known studies of the late adolescent (18-24 yo) population. However, this study found that the conceptualized variable of "delayed transition" was not quantifiable by the definition of "not enrolled in school, in any branch of the Armed Forces, not employed, and living at home." This raises questions to the utility of the definition itself, given the large N for this study and the multiple recruitment techniques used to solicit participants.

Using the same markers as were proposed for the "delayed transition" variable, clusters of individuals with similar and different manifestations of those markers were generated empirically through a post-hoc cluster analysis. A statistical data plan was constructed based on levels of measurement and normalcy of the data before examining these clusters to further explore both the markers of adulthood and the study aims in terms of the late adolescent clustering.

Markers of Adulthood

Several key findings emerged when examining the sample participants in terms of these three distinct clusters. Cluster 1 was re-labeled the "Transition Completed " group because this cluster most closely met the inverse of the delayed transitioning definition from the literature which would be: not living at home (91.8%), financial independence (100%), employed (91.8%), and graduated from high school (or GED) (100%). The Transition Completed group also had 49% (n=24) still enrolled in school and 4.1% (n=2) enrolled in the Armed Forces. Perhaps most important to note is that 100% of this group reported they are financially independent from a

parent or guardian, suggesting this might be a primary marker for adulthood. While other previous markers of adulthood such as marriage, child-rearing, and even leaving home have been challenged in the literature by the cultural shift in these developmental sub-groups, contemporary theorists and researchers are still in agreement that financial independence is a key factor in adulthood transition (Arnett, 2004; Arnett & Galambos, 2003; Sheehy, 2006; Snyder & McLaughlin, 2008). Therefore, this is the sub-group of participants who have transitioned into adulthood.

At first glance, Cluster 2 may look like the delayed transition group that was originally sought for analysis. However, this group was labeled the "Transition Pending" cluster for various reasons. The Transition Pending cluster consists of 50% (n=42) of the participants who are living at home, 100% who are financially dependent on their parents or guardians, and 53.6% (n=45) who are not employed. However, this group has 100% (n=84) of the participants reporting they are enrolled in some form of education. Of consequence, this group does not have any participants enrolled in the Armed Forces (0%), none that are married (0%), and none without a high school diploma or GED (0%). By definition and conceptual understanding of the late adolescent cohort, the Transition Pending cluster is not "delayed" but possibly more appropriately labeled as "not yet transitioned" based on their financial dependence on parents alone. This group is also the youngest (20.1, SD=1.6) of the three clusters and more likely to be enrolled in school. This cluster follows suit to both developmental theories proposed by Sheehy and Arnett that the late adolescent cohort is staying at home longer and delaying careers in order to further their education; which would also make them financially dependent on their parents and guardians.

The final cluster originally labeled the "Outlier" group was renamed "Transition Undetermined." This group has participants mixed throughout all the markers of adulthood. For example, about half are financially dependent (48.3%), about half are employed (56.2%), and about half are enrolled in school (57.3%). This group has the most responses to being a primary caregiver (23.6%), being married (11.2%), and enrollment in the Armed Forces (15.7%). While a little more than 60% of the sample reported they are living at home (62.9%, n=56), only 51.7% (n=46) of the participants reported they were financially dependent on a parent or guardian. Therefore, the participants in this group did not adequately meet either the Transition Completed or Transition Pending clusters. This group may contain some of the original late adolescents who are in a period of delayed transitioning as the characteristics of living at home (62.9%), not employed (43.8%), not in the Armed Forces (84.3%), and not enrolled in school (42.7%). This finding may be a starting point for further secondary analyses of the data beyond the dissertation study.

Cognitive appraisals to stress and coping. Statistically significant differences were found amongst all three for the transition groups under investigation. The Transition Completed group had significantly less perceived stress then the other two groups (p.011). This may have been related to this group having higher levels of income (enough to report being able to support themselves) and a lower percentage being enrolled in school (49% compared to 100% and 57.3%). The other two clusters are still dependent on others, do not have substantial income to support themselves, are primary caregivers, and have higher rates of unemployment: all of which can cause substantial stress.

The Transition Completed (median=33[IQR29-37]) cluster also had statistically significant higher reported perceived competence than the Undetermined (median 27.0 [IQR23-

32]) and Pending transition groups (median=31.0[IQR 25-32] respectively; p<.001). The explanation for this finding is most likely based on the same conclusions that were made for the labeling of this cluster: this group has already met markers of adulthood factors, whereas, the other two clusters have not. The Transition Completed cluster has already left home, completed their education, and gained employment which reflects competence. Therefore, it is not surprising that this group also reported higher scores of perceived competence than their peers.

Finally, there were statistically significant differences amongst all three of the cluster in regards to perceived social support. The Transition Completed cluster, again, had the highest perceived social support scores (median 74.0 [IQR56-78]) while the Undetermined cluster had the lowest median (60.0 [IQR50-71]) (p=.009). This, again, could relate to the increased competence in the Transition Completed cluster. Overall, this cluster showed higher levels of secondary cognitive appraisals which reflect on this cluster's ability to evaluate their resources and control over potentially stressful events.

Childhood responsibilities and SES. Though there was a trend towards a significant difference s with childhood responsibilities amongst the three clusters (p=.053), our desired p value was not met. Those in the Transition Complete cluster did report more childhood responsibilities than the other two clusters and this may warrant exploration in future studies. There was, however, a significant difference between the Transition Complete group (median= $21,000) and the other two clusters (medians= $3,000 and $2,500, respectively; p<.001). This finding is expected as the Transition Complete cluster had reported financial independence from their parents or guardians (100%). However, the interquartile range for this group was $9,097 to $32,625 annual income. Therefore, at least a quarter of this cluster is making below the US poverty guideline for a single person ($11,490). So while the Transition Complete cluster

reports substantially more income than the other two clusters, the reported average income is not high in terms of substantial income in the US. The lower median income in the Transition Pending cluster is expected as this cluster is still enrolled in school, living at home, and dependent on caregivers. Regardless, it is evident that SES plays a significant role in transitioning to adulthood.

Internet use, social media use, video gaming. Internet use amongst the three clusters was statistically significant (p=.019). The significant difference was found amongst the clusters at 3-5 hours of internet use per day. The Transition Complete cluster reported less internet use (24.5%) than the Transition Pending cluster (47.6%) and the Undetermined cluster (37.5%). This Transition Complete cluster was also more employed (91.8%) than the other two clusters and so one may postulate they are working and not on the internet. Meanwhile the Transition Pending cluster had 47.6% using the internet between 3-5 hours a day and 26.2% using the internet greater than 5 hours a day. If this population is younger and 100% are enrolled in school, which is highly dependent on internet use, it is expected that this cluster may report higher use of the internet. As previously discussed, however, internet usage within itself is not necessarily bad or maladaptive. In today's society many jobs, academia, and communication to family and friends are all highly dependent on internet usage.

Social media usage was also statistically significant amongst the three clusters (p=.001). The Transition Complete cluster had the highest percentage of social media usage between 1-3 hours (65.3%) as opposed to the Undetermined and Transition Pending clusters (56.3% and 41.7%, respectively). Social media usage has not been previously reported in terms of frequencies among late adolescents (18-24 years of age). While it is still unclear as to what factors may play a part in the difference usage in social media across the cluster clusters, the

frequency of social media use amongst all three of the clusters is abundant. Even the Transition Complete cluster who are financially dependent and employed report using social media up to 3 hours a day for over half of the participants (65.3%). The Transition Pending cluster, who are 100% enrolled in school, have 34.5% of participants using social media 3-5 hours per day with 8.3% reporting over 5 hours of usage. This study supports the increasing and varying frequencies of use amongst the late adolescent cohort.

Video gaming continues to be more of an enigma in the late adolescent population in terms of positive or negative influence. This study found no statistically significant differences amongst the three clusters of late adolescents (p=.270). However, to note, a majority of the participants in all three cohorts reported playing video games less than 1 hour per week (Undetermined 50.6%, Complete 71.1%, Pending 61.9%). Therefore the actual reporting of video game usage maybe over reported in the general population and more specific to other sub-clusters represented in the literature. Alternatively, high usage gamers may not set aside time to participate in studies such as this.

BMI. While a surge of obesity studies were found in the literature, correlational obesity studies in the late adolescent population outside of the popular college sampling methodology were far less abundant. While the Transition Completed group (median=25.1, overweight) was higher than the other two groups, this finding was not statistically significant. This study found no statistically significant differences between the clusters. It is unclear as to why there was not a difference between groups as previous studies have found significant weight gain and a higher average BMI scores in this population after leaving home (Nelson, Story, Larson, Neumark-Sztainer, & Lytle, 2008). Other studies have supported the infamous "freshman fifteen" regarding significant weight gain when entering college based on emotional eating in response to

academic stress, lack of nutritional knowledge on foods and health eating, and frequent late night snacking on non-nutritious foods (Bennett, Greene, & Schwartz-Barcott, 2013; Lloyd-Richardson, Bailey, Fava, & Wing, 2009; Nelson et al., 2008). This discrepancy may be explained by the self-report collection of height and weight. Trending in weight is sometimes under reported while height is over reported in self-report studies. Therefore, this study may have had under reported BMI scores, specifically with individuals who are actually obese. Furthermore, because all three cluster groups reported they are currently enrolled in school, the participants who have gained weight or are of higher BMI may be dispersed throughout all three of the clusters. While the differences amongst the clusters was not significant, each cluster had participants who had BMI scores in the obese category of greater than 30 (Undetermined 14.6%, Completed 26.5%, and Pending 14.3%). Of note, the Completed cluster had over half of the participants above the recommended BMI scores with 24.5% of the participants in the overweight category (25.0-29.9) and 26.5% in the obese category (>30).

Coping styles. There was a trend towards no statistically significant differences in examining dysfunctional coping which is considered a maladaptive coping style. The Transition Completed cluster had lower dysfunctional coping score (mean=23.5) than both the Undetermined and Pending clusters (mean=26.4 and 25.5, respectively), however, this was not statistically significant. Based on the findings of cognitive appraisals which included less perceived stress and higher levels of perceived competence and social support, it was expected that the Transition Completed group would also engage in dysfunctional coping significantly less often than their peers. However, that being said, all three groups have room for improvement for decreasing dysfunctional coping styles and relying on more adaptive styles of coping. Therefore,

coping based interventions such as coping skills training may be beneficially in all three clusters and provide support for potential future intervention based research studies.

Summary

For several of the concepts under investigation in this study, there was not previous research that paralleled for comparison. Most of the literature available has looked at adolescents younger than 18 years of age or at the adult population defined as over the age of 18. Only recently has researchers started to break purposive sampling based on developmental sub-clusters to include late adolescents (or the emerging adult or young adult). Therefore, several of the variables under investigation of this study did not have a previous reference point in regards to expected results and this study provided much needed evidence for further research and a basis for future studies.

One key finding to this study is that the delayed transitioning variable as conceptualized in the literature as not being employed, not enrolled in school or the Armed Forces, and still living at home was not able to be operationalized using those parameters. Most of the population who may have met this definition did not so in entirety because they were enrolled in academic pursuits. This study provides further evidence that not only has the markers of adulthood changed in the over the last decade but delayed transitioning as previously defined in the literature may also need to be further revisited.

The sample demographic for this study reflected national reported statistics that were available on late adolescents. The recruitment and sampling plan provides evidence on reaching the late adolescent population through social media advertisement recruitment. This study also provided a more recent snapshot of the late adolescent population markers of adulthood in regards to living situation, employment, and educational attainment.

Higher stress scores were found in this sample of late adolescents than the normative means reported and other studies with late adolescents further substantiating the claim that this developmental period is a time of stress and conflict. Descriptive information related to childhood responsibilities, SES, internet use, social media use, and video gaming was presented and discussed. The results of this study reported much needed frequency data related to internet and social media use along with the number of hours late adolescents are claiming to play video games on a weekly basis. Participants in this study again reflect national reports on obesity with approximately 20% in the overweight category and 17% in the obese BMI score range.

A statistically significant relationship between SES and emotional focused coping, social media and internet use and dysfunctional coping, and primary and secondary appraisals with all three coping styles under investigation was found. The role of cognitive appraisals to stress and coping has continued to be substantial through the decades of coping research and this study continues to add valuable evidence to the literature regarding that association. This is also the first study to be published examining the roles of childhood responsibilities and technological advances with coping styles. This study provided evidence regarding the negative association of internet and social media use with dysfunctional coping. Video gaming has continued to be examined in different lights in the literature from a possible helpful distraction and therefore adaptive coping mechanism to playing a major role in societal dysfunction. This study provided evidence of the association of video gaming with dysfunctional coping.

Results from a post-hoc cluster analysis found that late adolescents who have completed transitioning into adulthood are financially independent, employed, may or may not still be in school, have lower perceived stress and higher perceived competence and social support, higher BMI scores, and are less likely to utilize dysfunctional coping styles than their peers. A second

group emerged and labeled as transition "pending." While only half of these participants were living at home and all of them reported being financially dependent on their parents, all of them also reported being enrolled in some form of education. These findings provide guidance for future research re-examining the "delayed transitioning" variable. These findings also suggest that adulthood may be redefined with financial independence as one of the transitioning milestones as well as evidence that there has been a developmental shift towards financial independence being acquired after the late adolescent population of 18-24 years of age.

BMI scores were not statistically significant in several analyses throughout this study. It is suspected that BMI scores may have been underreported as they were collected through self-report means. However, it is also possible that BMI is not associated with coping styles as previously hypothesized.

Strengths and Limitations

Strengths

This dissertation research study is unique in several ways. This study aimed to collect data that reflected that of the general population of late adolescents between 18-24 years of age with access to the internet. Most of the studies involving 18-24 year olds is saturated with published literature that is largely over-represented of convenience sampling from colleges and universities. Of the 10 previously reviewed cross-sectional studies reviewed for this analysis, five of them (or half) were sampled from 4 year colleges. This study reflects a more general sampling from the US and almost equally from the four regional subdivisions as indicated by the US Census Bureau.

Second, this is one of the only studies to focus on the developmental sub-group of late adolescents (sometimes referred to as "young adults"). Most studies in the literature will sample youth and teens that are under the age of 18 or adults who are classified as above the age of 18. While a substantial history of developmental theory and child development have found specific sub-groups in adolescents and adults, studies have continued to negate the emerging adulthood population and recognize unique factors that contribute to their health.

The third recognized strength of this study is that no data have been previously published examining some of the potential influencing factors (such as childhood responsibilities, SES, internet use, social media use, and coping) and the relationship these factors may have with coping or emerging adulthood. Completely absent from the literature was any study evaluating childhood responsibilities or chores in relation to coping styles later in life. There were no studies with childhood responsibilities as a factor in the emerging adulthood population either. Chronic internet use has been labeled as a "condition for further study" in by the American Psychiatric Association (2015) in the DSM-V. This study contributed to some of the missing gaps in the literature in response to internet usage. The contemporary societal trends of social media use and video gaming have never been examined in the literature previously with markers of adulthood or dysfunctional coping in this population. The role of coping with markers of adulthood was also never published in the literature. Finally, no published studies have previously quantified the conceptual delayed transition variable as a means of studying the markers of adulthood in the late adolescent population.

A fourth strength of this study is the theory based methodology of stress and coping. A meta-analysis reviewing the literature concerning stress and coping in youth and adolescents found an overall lack of theory-driven research in stress and coping but also that few researchers

utilize the cognitive appraisal component of the stress and coping model and do not use scales that assess cognitive appraisals of stressors (Grant et al., 2003). While many people cite Lazarus and Folkman's definition of coping as the conceptual basis for research, many studies do not follow the theory through to completion. Furthermore, this study also demonstrated the utilization of a modified version of the stress and coping model to fill a conceptual theoretical gap of frameworks that incorporate stress and coping with health related outcomes.

Limitations

Several limitations are recognized in this study. First, many of the existing statistics for this age range are not reported, so some of the demographic reports such as marital status had to be compared to an age range of 18-29 years or 18 years and above.

A second limitation to this study is that the results cannot be generalized outside of the United States late adolescent population with access to the internet in which they were sampled. For example, if this study was replicated in another country or with late adolescents who were living in homeless shelters or who did not have access to any computer or internet connectivity, results may be substantially different. However external threats to validity are always at odds with design approaches as to capture a snap shot of a particular sample of people. For example, a more purposive sample of late adolescents with a specific disease would not have been able to be generalized to a larger sample of adolescents without that disease. It is also possible that this study did not reach those who are truly experiencing delayed transition.

A third limitation to this study is the cross-sectional research design. Cross-sectional designs are unable to support causal relationships amongst variables and can only speak to correlations or associations of the variables under investigation.

A fourth limitation to this study is the self-reported weights and heights. As previously discussed, trending in weight is sometimes under reported while height is over reported in self-report studies. Therefore, this study may have had under reported BMI scores, specifically with individuals who are actually obese.

Finally, the different approaches to coping theory in the literature has always limited the progression of stress and coping knowledge base and is often cited as a major limitation in coping studies across all age groups. This study looked at process coping approach to theory with the BRIEF Cope scale. While this measurement examined the multidimensional aspects of coping to stressful situations in terms of coping styles (problem-focused, emotion-focused, and dysfunctional coping), this study focused on self-reported coping styles of late adolescents. Other conceptual coping approaches may have found different results.

Implications for Nursing

Findings from this study can impact the nursing field. First, this study provided support for the growing perception that adulthood starts later than it did in the past. Nurses should recognize that the passage to adulthood is less predictable as in previous decades. The longer educational process may provide greater opportunities later in life but delays the initial launching into adulthood. Individuals who are still in their late adolescence should not be immediately labeled as dysfunctional or delayed. Nurses often work as advocates for patients who need health care services and support groups which are pertinent to adolescent transitioning into adulthood.

Nurses are often tasked with health promotion and prevention efforts to reduce physical and mental health disorders through coping. Significant stress was found in this population which can often lead to psychopathology and mental illness. Nurses must be aware of stressors and triggers in different populations in order to better assess mental well-being and functioning. Participants in this study had higher emotion focused and dysfunctional coping styles than previously reported averages for this population. Therefore, there is a need for coping skills training in which nurses are often tasked with implementing. Nurses have the ability to teach coping skills in relation to a health care visit or assignment or in a formal coping skills training intervention. Nurses can also promote healthy adaption to medical diagnoses through promotion of adaptive coping techniques. Nurses should view coping with stress as a pertinent and important issue in society and not solely belonging to the field of psychology.

This study provided more evidence of obesity as a problem throughout society at large including in the late adolescent population. While this study did not find statistically significant findings for obesity with coping styles or markers of adulthood, over 30% of the study participants were overweight or obese when examining the sample demographics. Therefore, obesity is still an issue in this sub-group of the population. Obesity remains and should remain as a topic of discussion amongst health care professions as well as a variable of interest in nurse research. As diabetes and other obesity related diagnoses continue to increase in society, including the late adolescent cohort, nurses are tasked with leading support groups and educating patients on obesity prevention and management efforts. Continued exploration is needed on how to reduce overweight and obesity issues in our population.

As nurses serve as patient advocates, researchers, clinicians, and educators for the late adolescent and young adult cohort, they are in prime position to aide in management of both

physiological and psychosocial symptoms: ultimately promoting more holistic wellness for patients.

Recommendations for Future Research

The findings from this research study can be used in several ways to guide future research. First, delayed transition should be further studied in the health sciences and quantifying the variable as participants who "do not work, live at home, are not in the Armed Forces, and not in school" does not provide operationalization of that variable. Delayed transitioning is still being established and discussed in the literature as a contemporary trend and still needs to be better defined. Further basic descriptive studies that are quantitative in nature, versus anecdotal, are needed. Social scientists and the mass-media are relying too heavily on anecdotal reports and census data to tell a picture about the current trending in late adolescent transitioning. Nurse scientists should further examine the delayed transition phenomenon in terms of mental and physical health outcomes to the patient. The psychosocial factors of an individual's life can make a large impact on their health and well-being and the nurse is in a prime relationship to better understand these factors and better promote holistic wellness. We must first understand what behaviors and trends are occurring in a population before any prevention or intervention efforts can substantially address how to best help the said group under evaluation. The delayed transitioning trending needs to continue to be addressed, however, the markers of adulthood should be further assessed in this population before labeling "delayed."

Second, these finding were useful in demonstrating the use of a modified stress and coping model and a theory-driven coping based research study. There is currently no gold

standard for the measurement of coping. Coping research is dynamic in that there are several approaches to studying the variable. Coping researchers should stop arguing about the many approaches and methodologies available in which to study coping and continue to move the field of coping research forward by providing studies that are theory based and evidence driven. The importance and vitality of coping in health care and the psychology fields have long been established but major conceptual gaps, methodological limitations, and continued arguments about how to best operationalize the variable will continue to quash future research efforts. This study provides further evidence to the theoretical basis of studying the coping variable in conjunction with cognitive appraisals to stress.

Third, these findings provided useful information on the associations between different unique factors not previously studied in this population. Other markers of adulthood should be examined in the current context of the 21st century that includes factors unique to this population of emerging adults. Further recommendations include examining employment, being enrolled in school and living at home in a qualitative context where participants can explain their current living situation in context of why they are still living with their parents. When further evaluating the markers of adulthood, parenthood should be specifically addressed as opposed to assessing whether or not the individual is a "primary caregiver" as this can have many different connotations including caring for a parent, grandparents, sibling, as well as their own child. This information can also be useful in future correlational research with financial independence and perceived stress: both of which may be influenced by young parenthood.

Although childhood responsibilities did have a statistically significant association with stress styles, this variable was not examined in relation with markers of adulthood and should be considered for future correlations. Previous studies have not quantified this variable in terms of

numbers of chores and other levels of measurement such as a nominal (yes/no) response should be considered. This variable could also be collected in a different continuous approach by listing out a more substantial list of childhood chores such as listing a checklist of 15 or 20 items instead of a possible 10.

Social media trending is still a relatively newer variable among the literature and continues to be studied with a variety of focuses. As both the internet and social media are not likely to disappear anytime in the near future, a continued surveillance on these potential influencing factors to health, especially in youth and adolescents, is indicated. Because these variables are still relatively newer and have not been previously studied, further descriptive and correlational research studies are indicated. Specifically, the frequencies of social media and internet use in relation to obesity and BMI scores should be explored.

Fourth, further studies that are being conducted outside of a 4 year college or university are needed to further add to the literature to include sampling of late adolescents who choose not to attend post-secondary school. For matters of convenience this sampling method is frequently utilized but we are only saturating the literature with late adolescent studies that cannot be generalized to the larger sample of this developmental period. Community health and the community health nurse concerns itself with a larger subset of patients beyond purposive sampling in a specific disease state or from a pinpointed institution. While information in the later is important, so is the information that is obtained from a larger and more general subgroup of the population.

Finally, obesity should continue to be approached from different methodologies, aims, hypotheses, and directions as continued reports of overweight and obesity in this population has again been demonstrated. This study did not demonstrate a correlation with obesity and coping

styles. It is recommended that future research studies should attempt to replicate current study correlational analyses but use alternative measures for height and weight for a possible more accurate BMI report. Future consideration on how to best measure body mass index or weight in general should be made as self-report weights may be limiting. Overall, as long as obesity and weight related diseases continue to ensue throughout the population, nursing research efforts should be made to help defeat this growing and continuing trend.

Summary

A cross-sectional, descriptive, correlational approach to delayed transitioning in the late adolescent population and the role coping and other unique factors to this population was conducted. This study collected data through several means including online social media recruitment and collected responses in REDCap data base. Exhaustive recruitment and sampling methods were utilized to obtain data from the late adolescent population while not solely focusing on the popular college and university convenience sample.

Descriptive and correlational data analysis presentation concluded that: 1) sampling efforts collected participants who were reflective of the late adolescent population as described in the literature 2) the delayed transition variable as conceptualized in the currently published literature was unable to be quantified as previously defined as not employed, not in the Armed Forces, not in school, and living at home 3) cognitive appraisals to stress are strongly correlated with coping styles in this sample 4) internet use, social media use and video gaming are associated with dysfunctional coping styles. These findings provided unique and important evidence not previously explored in the late adolescent population and published in the literature.

This study continued to support the works of Lazarus and Folkman in regards to the importance of cognitive appraisals to stress and coping. New information linking social media and internet use to dysfunctional coping styles was also presented.

A cluster analysis was conducted and provided further evidence on conceptual labeling of late adolescents as "delayed transitioning." Participants who had completed transition to adulthood were more likely to be financially independent, not live with their parents, graduated high school, and have income to support themselves. They were also more likely to have lower perceived stress, higher perceived competence and social support, and use the internet and social media less than their peers.

The BMI scores were not statistically significant amongst the three clusters or with coping styles. Continued research is recommended including consideration of alternate means than self-report for collecting height and weight for BMI calculation.

Nurses are in prime position to better advocate for the late adolescent population through research, education, and health promotion efforts. The nurse scientist should consider further research to include the late adolescent population at large as opposed to 4 year educational institutes, continue examining markers of adulthood in late adolescents, and recognize the importance of stress and coping in relation to psychosocial components of life that can impact physical and mental health.

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APPENDIX

Appendix 1: Introduction page/Online consent form

<Date>

Thank you for your interest in the study "Adolescent Transition to Adulthood: Coping and Influencing Factors" as being conducted by Vanderbilt University School of Nursing. The following information is provided to inform you about the research project and your participation in it. Please read this form carefully and feel free to email the principal investigator, Anna Tielsch Goddard, MSN, RN, if you have any questions related to the study at anna.h.tielsch.goddard@vanderbilt.edu .

Your participation in this research study is voluntary. You are free to withdraw from the study at any time.

Purpose of the study: We want to know more about adolescent coping and transitioning into an adult. We are interested in individual backgrounds and trends that might influence different health outcomes such as healthy coping or being an ideal weight.

Eligibility: We are specifically looking for people who:

- Are between the ages of 18-24 years of age
- Can speak and read English
- Have access to the internet

Study and time duration: If you decide to take part in this study by following the below link, you would be required to complete the attached survey which will take approximately 10-20 minutes to complete.

Benefits and Risks: Your answers will help health care providers and researchers learn more about your population (late adolescents 18-24 years of age) and potentially help nurses and doctors target interventions in helping adolescents transition into the adulthood role. There are no foreseeable risks to this study.

Costs and Compensation: There is no cost to participate in the study. As a thank you for taking part in this study, the first 250 participants may be eligible to receive a $5 gift card of your choice to Walmart, Target, or Amazon which you will receive electronically through your email account.

Confidentiality: No personal information is kept or affiliated to your name with this study. No personal information connecting you to your survey answers will be sought. If you choose to give your email address to Ms. Goddard, the principal investigator of the study, in order to obtain a $5.00 gift card for participation, she will know that a user from your email address completed the study. The survey records will be stored indefinitely on a database called REDCap (Research Electronic Data Capture) that was created by Vanderbilt University and funded by the National Institute of Health.

Consent: By clicking on the following link, you certify that you have read and understood the purpose of this online research study survey and give your informed consent to participate in this study.

Thank you for your time.

Sincerely,

Anna Hazel Tielsch-Goddard PhD(c), MSN, CPNP-PC, RN
Research Doctoral Candidate
Pediatric Nurse Practitioner
Vanderbilt University School of Nursing
anna.h.tielsch.goddard@vanderbilt.edu

Appendix 2: Instruments for Data Collection

Eligibility Criteria:

Are you between the ages of 18-24 years of age?
Yes
No

Can you read and understand English?
Yes
No

Do you have access to the internet?
Yes
No

Do you live in the United States?
Yes
No

What zip code do you currently live in? (To be used to track demographics)
Enter #

Eligibility Requirements:
Yes, 18-24 yo
Yes, read/understand English
Yes, access to internet
Yes, live in US

Individual Factors:

What is your gender?
Male
Female

How old are you?
18
19
20
21
22
23
24

Race

What race do you most identify with?

American Indian or Alaskan Native
Asian
Black or African American
Native Hawaiian
Pacific Islander
Other
Unknown/Prefer not to answer

What ethnicity do you most identify with?

Hispanic or Latino
Not Hispanic or Latino

Primary Appraisal

Perceived Stress Scale

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, please indicate with a check how often you felt or thought a certain way.
1. In the last month, how often have you been upset because of something that happened unexpectedly?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often
2. In the last month, how often have you felt that you were unable to control the important things in your life?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often
3. In the last month, how often have you felt nervous and "stressed"?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often
4. In the last month, how often have you felt confident about your ability to handle your personal problems?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often
5. In the last month, how often have you felt that things were going your way?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often
6. In the last month, how often have you found that you could not cope with all the things that you had to do?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often
7. In the last month, how often have you been able to control irritations in your life?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often
8. In the last month, how often have you felt that you were on top of things?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often
9. In the last month, how often have you been angered because of things that were outside of your control?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

Secondary Appraisals

Perceived Competence Scale

Instructions: Each item in this scale is a belief statement with which you may agree or disagree. Under each statement is a scale which ranges from strongly disagree (1) to strongly agree (5). Please try to respond to each item separately in your mind from each other item. Choose your answers thoughtfully and make your answers as true for YOU as you can. Please answer every item. There are no "right" or "wrong" answers, so choose the most accurate answer for YOU – not what you think most people would say or do.

1. I handle myself well in whatever situation I am in.
2. No matter how hard I try, things just don't turn out the way I would like. ®
3. It is difficult for me to find effective solutions to the problems that come my way ®
4. I succeed in the projects I undertake.
5. I'm generally able to accomplish my goals.
6. I find my efforts to change situations I don't like are ineffective ®
7. Typically, my plans don't work out well ®.
8. I am able to do things as well as most other people.

*Items with an ® need to be reverse scored.

Secondary Appraisals

MSPSS

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the "1" if you **Very Strongly Disagree**
Circle the "2" if you **Strongly Disagree**
Circle the "3" if you **Mildly Disagree**
Circle the "4" if you are **Neutral**
Circle the "5" if you **Mildly Agree**
Circle the "6" if you **Strongly Agree**
Circle the "7" if you **Very Strongly Agree**

1. There is a special person who is around when I am in need.
2. There is a special person with whom I can share my joys and sorrows.
3. My family really tries to help me.
4. I get the emotional help and support I need from my family.
5. I have a special person who is a real source of comfort to me.
6. My friends really try to help me.
7. I can count on my friends when things go wrong.
8. I can talk about my problems with my family.
9. I have friends with whom I can share my joys and sorrows.
10. There is a special person in my life who cares about my feelings.
11. My family is willing to help me make decisions.
12. I can talk about my problems with my friends.

Influencing Factors & Psychosocial History

Environmental factors:

Childhood Responsibilities (Chores & Pet Ownership)

As a child, were you responsible for any of the following? (check all that apply)

- Feeding a pet
- Bathing or grooming a pet
- Daily walks for a dog
- Vacuuming
- Cooking meals
- Doing dishes
- Lawn maintenance
- Laundry
- Babysitting a younger sibling or child

Currently, are you responsible for any of the following? (check all that apply)

- Feeding a pet
- Bathing or grooming a pet
- Daily walks for a dog
- Vacuuming
- Cooking meals
- Doing dishes
- Lawn maintenance
- Laundry
- Babysitting a younger sibling or child

Individual SES

How much money did you earn in the last 12 months?

- ENTER NUMBER

Technological Advances

Internet, Social Media & Cell Phone Use

Which best describes your use of the internet? (check all that apply)

- News and current events
- Gaming
- Job search
- School
- Work
- Social media (Facebook, Twitter, etc)

In the last 24 hours, how many of those hours were you on the internet?

0
Less than 1 hour
1-2 hours
2-3 hours
3-4 hours
4-5 hours
More than 5 hours

Do you participate in any of the following? (check all that apply)

Facebook
Twitter
Linked In
Pinterest
Instagram
Google +

How many hours a day do you engage in social media (Facebook, Twitter, etc), including through your cell phone?

Less than 1 hour
1-2 hours
2-3 hours
3-4 hours
4-5 hours
More than 5 hours

Do you own a cell phone?

Yes/No

How many text messages do you send and receive in one day?

Less than 10
11-30
31-50
51-70
71-90
More than 90

Video gaming

Do you play video games at least once a week?

Yes/No

How many hours in the last week have you played video games?

Less than 1 hour
1-3 hours
3-5 hours

5-7 hours
7-9 hours
More than 9 hours

Personal Factors

Weight

What was your weight at age 17? Enter #

What is your current weight? Enter #

What was your height at age 17? Enter #

What is your current height? Enter #

Coping

Brief COPE Scale

These items deal with ways you've been coping with the stress in your life since you found out you were going to have to have this operation. There are many ways to try to deal with problems. These items ask what you've been doing to cope with this one. Obviously, different people deal with things in different ways, but I'm interested in how you've tried to deal with it. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says. Don't answer on the basis of whether it seems to be working or not—just whether or not you're doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

1 = I haven't been doing this at all
2 = I've been doing this a little bit
3 = I've been doing this a medium amount
4 = I've been doing this a lot

1. I've been turning to work or other activities to take my mind off things.
2. I've been concentrating my efforts on doing something about the situation I'm in.
3. I've been saying to myself "this isn't real.".
4. I've been using alcohol or other drugs to make myself feel better.
5. I've been getting emotional support from others.
6. I've been giving up trying to deal with it.
7. I've been taking action to try to make the situation better.
8. I've been refusing to believe that it has happened.
9. I've been saying things to let my unpleasant feelings escape.
10. I've been getting help and advice from other people.
11. I've been using alcohol or other drugs to help me get through it.
12. I've been trying to see it in a different light, to make it seem more positive.
13. I've been criticizing myself.
14. I've been trying to come up with a strategy about what to do.
15. I've been getting comfort and understanding from someone.
16. I've been giving up the attempt to cope.
17. I've been looking for something good in what is happening.
18. I've been making jokes about it.
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.
20. I've been accepting the reality of the fact that it has happened.
21. I've been expressing my negative feelings.
22. I've been trying to find comfort in my religion or spiritual beliefs.
23. I've been trying to get advice or help from other people about what to do.
24. I've been learning to live with it.
25. I've been thinking hard about what steps to take.
26. I've been blaming myself for things that happened.
27. I've been praying or meditating.
28. I've been making fun of the situation.

Delayed Transition

Leaving home

I am currently living in my parents' or another family member's home.
Yes/No

If you currently live at home with your parents, which statement best describes you:
I am not thinking about moving out.
I am thinking about moving out.
I plan to move out within the next few months.
I am living with my parents because I am enrolled part time or full time in school.

I am currently financially dependent on my parents.
Yes/No

I have an income but it is not enough to fully support me (for example, you cannot afford rent and insurance).
Yes/No

I am capable of supporting myself financially without assistance from others
Yes/No

Employment

I am currently employed.
Yes/No

How many hours do you work a week, if employed?
Less than 10
10-20
21-30
31-40
More than 40

Are you currently enrolled in any of the following: (check all that apply)
Army
Navy
Marine Corps
Air force
Coast guard
Reserves
National Guard
Active duty
Veteran

None of the above

Educational attainment

I have graduated high school or completed a GED.
Yes/No

I am currently enrolled in:
Technical school
Associate's degree program
4 year college or university
Graduate school
None of the above

I am finished with my education.
Yes/No

Do you feel you have reached adulthood?
Yes
No
In some ways yes, in some ways no