

Pathways for Resilience Predictors of Life Satisfaction During Emerging Adulthood

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A dissertation

submitted in partial fulfillment of the
requirements for the degree of

Doctor of Philosophy

University of Washington

2018

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Program Authorized to Offer Degree:

School Psychology, College of Education

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Abstract

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Adolescence and emerging adulthood (EA) are developmental time periods often characterized by increased stress due to significant transitions and transformations across multiple domains of life (Arnett, 2000; Arnett, 2001; Steinberg, & Morris, 2001). Resilience, or the ability to adapt, preserve, and thrive in the face of stressors and challenges, requires individuals have skills that allow them to experience their key protective factors: healthy attachments and connections, positive emotions, and sense of purpose (Luthar, Cicchetti, & Becker, 2000; Masten, 2001; Masten, 2011; Rutten et al., 2013). In terms of mental health and wellness, resilience requires more than a reduction in symptoms of mental illness, but also high subjective wellbeing and life satisfaction (Greenspoon & Saklofske, 2001; Suldo & Shaffer, 2008). This study looked at the relationships between the three key factors for resilience on different aspects of life satisfaction during the EA years. Findings showed that a strong sense of purpose was particularly important for maintaining life satisfaction. Healthy attachments were also important, but only as a lone predictor.

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Acknowledgements

This dissertation has been a true labor of love and perseverance. There are more people to thank along this journey than I could here. I'm going to do my best to honor as many as possible.

To the Social Development Research Group, thank you for allowing me to share in work with the data collected through the Raising Healthy Children Study. In particular, thank you to Patricia Gomez for helping me with all the paperwork and scheduling meetings. An extra special thank you to Mary Grassley for helping me access the data and always answering every question I had.

Thank you to my fellow cohort members and other school psychology classmates for six years of endless inspiration, support, and encouragement. A special thank you to Cindy Ola for being the most validating and supportive friend and writing buddy. Thank you to Elizabeth Dietrich for being my "dissertation coach" and helping me with all my analyses and statistics anxiety. For Alexa Matlack, thank you for your crucial support in the final stages and all our writing dates. And to Polo DeCano, for your mentorship, trailblazing, and innovating; my career would not be where it is today without all the groundwork you set and your willingness to include me in your passion projects.

To all my teachers along the way, thank you for being the role models and mentors who helped me develop my beliefs and values around education. I have endless gratitude for Dr. David Shim and Dr. Michael Grant, who instilled in me a love of psychology and of research. To Dr. Janine Jones, Dr. Stephanie King, and the other school psychology faculty, thank you for instilling in me a deep love of our field and the work we do.

My passion for this work would not be possible without my high school. Thank you to all the staff, teachers, and students at Stevenson for showing me the power that a community built on common values for education can have. Without my time there, I would not know what resilience or mental wellness really are. I credit Byron Stevens in particular with helping me develop my values around education and the power of understanding your purpose through our many advising meetings and study hall conversations. Stevenson truly instilled in me the values of being able “to be brave in peril, constant in tribulation, temperate in wrath, and in all changes in fortune, and down to the gates of death, loyal and loving, one to another.”

To Dr. Denise Pope, who not only lead me to dream of having a career working with adolescents and emerging adults and helping to support their mental health. Your work and the mission of Challenge Success have been a beacon and inspiration to me and your mentorship a guiding light. And for Dr. Amy Gerstein and the staff at the John Gardner Center at Stanford for giving me my first start in educational research. The support the entire staff gave me over my summer internship cemented for me my direction and purpose in this work and has been an experience I have tired to emulate in everything I do.

Thank you to my students. The undergraduates I have taught during my graduate years have helped me to develop confidence and resolve in my work. Watching you all grow over each term has been the fire I needed to keep going with my degree even when it was far easier to give up. It is to continue working with students like each of you that will continue to drive me in my career for many years to come.

For my committee, thank you for your endless mentorship and belief in me. To Dr. Bob Abbott, thank you for teaching me the intricacies of statistics and measurement, without which I could not have completed this project. For Dr. Kevin Haggerty, for inspiring me, pushing me,

and supporting me all at the same time. Your class will forever be one of the most impactful educational experiences I have ever had. Dr. Clay Cook, thank you for all of your mentorship and every opportunity you have given me. I have been so blessed to work with you and to always have your faith in me. And, most importantly, to my chair, advisor, co-teacher, and mentor, Dr. Jim Mazza. Thank you for always helping me reconnect with my wisemind, for knowing when to push me, and when to support me, for listening to me and seeing me, for letting me cry in your office, and for making me laugh, for all the mentorship and opportunities. I truly cannot thank you enough, so I will try to thank you through continuing our work.

For my parents, whom instilled in me a love of education and a belief that curiosity is more important than achievements and grades. From growing up in my mother's first grade classroom to always making sure people called my dad by doctor instead of mister, I learned the value of being a life long learner and seeker. I chose to live these values through this work because of you.

Lastly, to my family. To my three dogs, West, Rainier, and Shore, who each supported me with loving kisses and snuggles while I sat and wrote or read for countless hours. Thank you for all the walks where I was able to get out of my head for long enough to be able to get back to work better than before. And most important of all, thank you to my husband, William, for being by my side every step of the way. From cooking dinner and doing laundry, to letting me bounce ideas off of you and helping me with formatting issues in presentations and documents, I truly could not have done this without you. This dissertation is half yours and I promise to make you proud with all the work I do with it and my whole career. You and our future together are why I was able to keep going with this even in the toughest stretches.

This is the end of one chapter and the beginning of a career full of purpose and resilience.

Introduction

Adolescence and emerging adulthood (EA) are developmental time periods often characterized by increased stress due to significant transitions and transformations across multiple domains of life: academically, professionally, personally, socially, interpersonally, intrapersonally, and environmentally (Arnett, 2000; Arnett, 2001; Steinberg, & Morris, 2001). Many of these changes result from increased independence emotionally and functionally, coupled with physiological, psychological, and practical-skill growth. Some of these changes are positive, while others can cause challenges resulting in a variety of intense negative emotions, which can lead to maladaptive behaviors and unhelpful conditions including anxiety, depression, self-harm, suicidal thinking, and dropping out of school (APA, 2013; CCMH, 2017; NAMI, 2012). Regardless of the manifestation of the changes, the stressors resulting from this rapid and intense period of growth, positive and negative alike, can and often do have a significant impact on adolescents' and emerging adults' mental health and well-being (Ross, Niebling, & Heckert, 1999) and can ultimately influence their life trajectory (Hawkins, Catalano, & Miller, 1992; Rutter, 1987).

Because the factors that influence these life trajectories are so important (Hawkins et al, 1992), the field of higher education is beginning to highlight the need for individuals to build resilience through developing a set of coping strategies to help weather inevitable challenges and avoid the potentially detrimental impact of the negative stressors (CCMH, 2017; Conley, Travers, & Bryant, 2013; NAMI, 2012). Simultaneously, the field of resilience research has made fundamental shifts to accommodate a much broader definition for the psychological construct than what was once considered a single trait characteristic (Luthar, Cicchetti, &

Becker, 2000; Masten, 2001; Masten, 2011). From a more traditional lens, the term resilience was used descriptively for only those individuals who showed the ability to return to normative developmental trajectory after an adverse experience (Luthar, Cicchetti, & Becker, 2000; Masten, 2001; Masten, 2011; Werner, 2005). Currently, however, the field of resilience has evolved to embrace a new definition encompassing the myriad of pathways people have taken in response to various life challenges (Luthar et al., 2000; Masten, 2001; Masten, 2011). Rather than reserving resilience for a small number of people who responded positively in the face of specific, highly adverse circumstances, it is now widely understood that resilience is a phenomenon anyone can exhibit in the face of inevitable life stressors when they have the right skills and tools (Masten, 2001; Masten, 2011). Specifically, resilience is now defined in the literature as “The capacity of a dynamic system to withstand or recover from significant challenges that threaten its stability, viability, or development” (Masten, 2011, p. 494).

Given the complexity of human lives, resilience and returning to equilibrium involves restoring or achieving normative ranges for multiple life domains (Luthar et al., 2000; Masten, 2001;2011; Richardson, 2002; Rutten et al., 2013). One critical metric for assessing recalibration after experiencing a given stressor is that of mental health. Most research in resilience has considered a return to or expression of mental health as simply the absence of psychopathology (Luthar et al., 2000; Masten, 2011; Rutten et al., 2013); however, advances in the field of psychology now focus on a definition of mental health which includes both the absence of psychopathology coinciding with the presence of subjective well-being (SWB), or happiness as it is colloquially known (Greenspoon & Saklofske, 2001; Suldo & Shaffer, 2008; Suldo, Thalji-Raitano, Kiefer, & Ferron, 2016; Suldo, 2016). More specifically, SWB is the scientific term used as a more quantifiable proxy for happiness and its three subcomponents: frequent positive

affect, less frequent negative affect, and high life satisfaction (Diener, 2000). More specifically, SWB is the combination of a higher ratio of positive to negative affect with a cognitive appraisal of life quality known as “life satisfaction” (Diener, 2000).

In order to have resilience in any life domain, individuals need to have three key components present in their lives generally: healthy attachments and connections, a sense of purpose, and positive emotions (Rutten et al., 2013). These three key components have been empirically derived and have been identified as robust dimensions which are related to various desirable outcomes in their own right (Rutten et al., 2013). While the research is clear on the importance of these three components to have resilience overall (Rutten et al., 2013), the inter-related relationships among the three components is less well-known and remains an area for future study. Furthermore, all prior inquiry on resilience has been restricted to psychopathology-only mental health variables (Luthar, Cicchetti, & Becker, 2000; Masten, 2011; Rutten et al., 2013); further research is needed in addressing resilience and its core components in relation to a more complete mental health model that includes measures of SWB.

The purpose of this study is to examine the trajectory relationships of the three key components of resilience (sense of purpose, healthy attachments and connections, positive emotions) individually and together in one model, in regard to influencing life satisfaction, overall and domain specific, during the EA years.

Literature Review

Psychological Development in Adolescence and Emerging Adulthood

Adolescence and EA are both defined by period of rapid growth and change, resulting in greater heterogeneity amongst individuals than at any other developmental stage (Arnett, 2000; Arnett, 2001; Steinberg & Morris, 2001). The period from late teens through early twenties is a time of profound and seismic changes for many individuals (Arnett, 2000; Arnett, 2001). While historically, people settled into careers, got married, and began their family by their mid-twenties, many industrialized and first world countries now see their populations delaying some or all of these events until their late-twenties and even early thirties. In these societies, many individuals now use their late teens and early-twenties to further their education, engage in several career options, travel, and make other, more incremental steps towards independence (Arnett, 2000). Similarly, this has changed the developmental trajectory of the adolescent period by changing the timeline and expectations for development between the ages of 13 and 18 years (Steinberg & Morris, 2001; Arnett, 2001). Both adolescence and EA are critical developmental periods where individuals develop skills for their mental health (Steinberg & Morris, 2001; Arnett, 2001), making it a crucial time for intervention and prevention efforts (Rudolph, Lambert, Clark & Kurlakowsky, 2001) such as drug and alcohol abuse (Murphy, Duchnick, Vuchinich, Davison, Karg, Olson, Smith, & Coffey, 2001) and suicide prevention (Keyes, 2012).

Adolescence. Adolescence is a period of increased change and remarkable growth across all developmental domains (Arnett, 2001; Steinberg & Morris, 2001). The human body and brain grow and mature more during adolescence than any other time in development, aside from infancy (Arnett, 2001; Steinberg & Morris, 2001). With these physical and psychological changes come important shifts in peer and parental relationships, identity development, and

foundational skills for navigating life personally and academically (Arnett, 2001; Steinberg & Morris, 2001).

A key area of development during adolescence is in building and maintaining different types of relationships (Arnett, 2001; Steinberg & Morris, 2001). It is developmentally appropriate and important for adolescents to begin distancing themselves from their parents as part of their self-exploration and to build independence (Arnett, 2001; Steinberg & Morris, 2001). Despite the increasing independence from parents and family, adolescents still greatly benefit socially, emotionally, and functionally from supportive family dynamics (Arnett, 2001; Steinberg & Morris, 2001). Similarly, peer relationships become more important in terms of social, emotional, and functional support (Arnett, 2001; Steinberg & Morris, 2001). These peer relationships, however, can be fraught with challenges as adolescents develop socially at different paces and learn increasingly complicated social rules (Arnett, 2001; Steinberg & Morris, 2001).

One hallmark area of growth for adolescents is identity development (Arnett, 2001; Steinberg & Morris, 2001). As adolescents develop independence, there is a necessary transition away from structures and values set entirely by their families and towards weighing their own individual beliefs and ideals. An important aspect of this independence is developing a sense of self that feels authentic to the adolescents even if it is not entirely reflective of their families' views of themselves, others, and the world around them. This involves making decisions about life trajectories based on both individual and family goals and values and recognizing and reconciling discrepancies between the two (Arnett, 2001; Steinberg & Morris, 2001).

Adolescence is also a time where many individuals first experience difficulties with mental illness (APA, 2013). This age range is a common time for onset of initial

psychopathology for many disorders, such as bipolar disorder, schizophrenia, and mood disorders like depression and anxiety (APA, 2013). Many externalizing and problem behaviors, such as maladaptive drug and alcohol use and conduct problems also begin during adolescence (Steinberg & Morris, 2001). Because of these developmental onsets, adolescence is a crucial time for mental health interventions and prevention work (Rudolph, Lambert, Clark & Kurlakowsky, 2001).

Emerging adulthood. A cultural shift towards delaying many of the classic rites of passage until later in adulthood in many developed countries has left a gap in empirical nomenclature for developmental stages (Arnett, 2000). Individuals in their late teens to early twenties have more independence than adolescents, but still not the independence, responsibilities, and stability of full adulthood. This newly defined developmental stage, known clinically and in the literature as emerging adulthood (EA), marks the period between adolescence and young adulthood and is typically considered to be between the ages of 18 and 25 (Arnett, 2000). Specifically, “emerging adulthood is distinguished by relative independence from social roles and from normative expectations. Having left the dependency of childhood and adolescence, but not yet entered the enduring responsibilities that are normative in adulthood, emerging adults often explore a variety of possible life directions in love, work, and world views.” (Arnett, 2000, p. 469). Furthermore, EA is distinctly contrasted with all other developmental period in that there is a far wider spread of life circumstances, less commonality, and more heterogeneity in experiences than in any other stage of life (Arnett, 2000).

Characteristics of EA. A key hallmark of EA is the volatility across all domains of life (Arnett, 2000). Specifically, in EA, individuals are laying the groundwork for their careers and romantic lives but have yet to firmly establish themselves in either realm. Similarly, and perhaps

even more notably, emerging adults are still deeply entrenched in their identity development (Arnett, 2000). While emerging adults have a more clear and stable sense of who they are, there is still significant evidence supporting that this time is crucial in development of the worldviews individuals subscribe to (Arnett, 2000). During the EA period, research shows that individuals are working to clarify and develop their beliefs on the world and values in life, religion, education, and many other life domains (Arnett, 2000). By the time people reach their late twenties, however, they have a more stable sense of their beliefs and values (Arnett, 2000).

As fulfilling and grounding as clarification of values may be, it can also create a great deal of stress and uncertainty for emerging adults. This stress and uncertainty can lead to a host of negative emotions and reduced life satisfaction (Arnett, 2000), each bringing their own range of unique complications. Likely related to their still-developing sense of purpose, many of the risk behaviors commonly associated with adolescence are actually more common in EA (Arnett, 2000). The high prevalence of risk behaviors in EA is thought to be related to their developing sense of purpose and identity, in that individuals may be seeking to have a variety of experiences before settling down into adult roles and responsibilities (Arnett, 2000). This is particularly evident in the opiate crisis in the United States in the 2000s and 2010s, as emerging adults experiment with drug use (Quinones, 2015).

In defining EA as a developmental stage, there are shifts in the definition of adolescence (Arnett, 2000). Adolescence is now commonly considered to be ages 10-18 with commonalities in living situations, physical changes, schooling, and socialization (Arnett, 2000). Many of these common factors disperse around age 18 when most individuals graduate high school and transition to the more variable EA years (Arnett, 2000).

Differences in development by socio-economic background. While the existence of an EA period is well established (Arnett, 2000; Arnett, 2001; Steinberg & Morris, 2001), much of the research on this group has been done using homogenous, generally white, middle class samples. Arnett in 2003 conducted a seminal study comparing different beliefs and attitudes on aspects of EA amongst emerging adults from four different racial backgrounds: white emerging adults, Latino emerging adults, black emerging adults, and Asian emerging adults.

When asked about milestones individuals must achieve before being considered an adult, across all four groups, seventy percent or more endorsed the importance of developing independence through establishing equal relationships with their parents, becoming financially independent from their parents, accepting responsibility for the consequences of their actions, and deciding on personal beliefs and values (Arnett, 2003). There was an equally high similarity between groups in rating becoming less self-oriented and developing greater consideration for others as an integral aspect in becoming an adult (Arnett, 2003).

Surprisingly, all four ethnic groups also agreed on the relative unimportance of achieving specific milestones such as finishing education, getting married, or having a child as being integral for being considered an adult (Arnett, 2003). This finding indicates a major shift in how developmental stages are reviewed empirically and practically, as these milestones were often traditionally considered the markers for transitioning from childhood to adulthood.

One of the most striking differences amongst the four racial groups in the study was their varying levels of education (Arnett, 2003). Only 54% of Latino participants had obtained at least some college education, compared to 74% of black participants, 87% of Asian participants, and 94% of white participants (Arnett, 2003). This likely played a role in differences found on beliefs for factors that indicate adulthood, given that race was not a significant predictor of differences

in beliefs of adulthood, but various characteristics related to socio-economic status (i.e. father's educational attainment) did significant predict beliefs what criteria make an adult. Similarly, individuals who were born in the United States also had statistically significantly different beliefs about transitions to adulthood than those who moved to the United States (Arnett, 2003).

Similarly, race was not a significant predictor for whether individuals felt they had reached adulthood, but socio-economic status and having a child was. Specifically, individuals from low socio-economic families and those who had already had a child were more likely to feel they had reached adulthood (Arnett, 2003).

Prevention efforts during adolescence and EA. Because of the varied and important life changes and transitions that happen during adolescence and EA (Arnett, 2000; Arnett, 2001; Steinberg & Morris, 2001), it has been the focus of several prevention efforts (Rudolph et al., 2001). Prevention work is based on a public health or multi-tier support system model, which looks at providing targeted services based on populations' needs by taking a proactive, problem solving approach (Goodman & Bohanon, 2015; Hughes & Dexter, 2015; Cook, Burns, Browning-Wright, & Gresham, 2010; Sandomierski, Kincaid, & Algozzine, 2007). Prevention approaches often fall into the first tier of services. This first tier focuses on universal services, which include any service that is provided to an entire group in order to provide skills for general use or to help prevent a difficulty (Goodman & Bohanon, 2015; Hughes & Dexter, 2015; Cook et al., 2010; Sandomierski, et al., 2007). Universal services are considered anything that benefits the entire population, whether or not any particular individual is currently experiencing an associated difficulty. With robust distribution of universal services with fidelity, 90% of a population can have their needs met without needing further, more detailed, time consuming, and costly services or supports (Goodman & Bohanon, 2015; Hughes & Dexter, 2015; Cook et al.,

2010; Sandomierski, et al., 2007). For example, a universal prevention approach for heart disease is eating well, getting exercise, and getting regular checkups with your doctor; these services are recommended for and benefit everyone regardless of their individual factors related to heart disease.

Several areas of need have seen rigorous prevention efforts at the adolescent and EA level. Two of the most frequent areas of focus for adolescent and EA prevention are drug and alcohol use and suicide.

Drug and alcohol prevention for adolescents and emerging adults. Alcohol and drug use are often considered a rite of passage ritual for adolescents and emerging adults (NIAAA, 2015). According to a National Institute of Health (NIH) survey, almost 60% of college students between the ages of 18 and 22 drank alcohol during the past month and nearly two-thirds of that group engaged in binge drinking behaviors during that timeframe (NIAAA, 2015). Binge drinking, or patterns of drinking that bring blood alcohol concentration (BAC) levels to over the legal limit in a relatively short time period, has become a frequent hallmark of the college experience that can have many negative repercussions for the person's physical and emotional health (NIAAA, 2015).

BASICS is an intervention aimed to reduce alcohol consumption for college students identified as being at risk for over drinking (Murphy et al., 2001). The intervention is relatively brief, requiring one 60-90 minute meeting with a counselor who talks with the student about the consequences of alcohol, providing them with facts about BAC levels and other physiological and psychological effects of drinking. During the meeting, the counselor supports the student to think about his or her goals and how alcohol might impact them using the skill of motivational interviewing. A hallmark of this meeting is that the counselor takes a warm and

nonconfrontational tone with the student in aim of being more supportive of the student rather than punishing like many other interventions are (Murphy et al., 2001).

In one of the first randomized control trials of BASICS, students in both the BASICS and educational intervention reported statistically significantly greater reductions problem drinking and drinks per week than those in the control group at three months after intervention (Murphy et al, 2001). Specifically, results showed that for the students with the highest levels of drinking (25 or more drinks per week), that participants in the BASICS condition showed statistically significantly greater reduction in drinking than participants in the educational intervention at three months (Murphy et al, 2001). BASICS also resulted in a greater reduction in drinking for students who met the criteria for binge drinking on three or more nights a week than the educational intervention (Murphy et al, 2001). Participants in the educational intervention, however, reported greater reductions in drinking related problems than those in the BASICS condition (Murphy et al, 2001). Ultimately, though, the heavier drinker a participant was, the greater the effects of the BASICS intervention were overall at three months on all measures (Murphy et al, 2001).

The effects of BASICS became more pronounced over time as well (Murphy et al, 2001). When followed up with three months after the initial intervention, more than half of BASICS participants rated the intervention as having a significant impact on their drinking as opposed to only 20% of participants in the educational intervention (Murphy et al, 2001). Nine months after the initial intervention, both BASICS and education intervention participants showed improvements in number of drinks per week, days drinking per week, binge drinking days per week, and alcohol related problems (Murphy et al, 2001). Participants in the BASICS intervention showed similar reductions across all areas and participants in the educational

intervention and control condition also began to show improvement at this point (Murphy et al, 2001). Overall, while all participants showed reductions by the nine month follow up, the participants in BASICS who were the heaviest drinkers showed the greatest improvement of all the groups (Murphy et al, 2001).

Palatability of intervention is also important for effectiveness. BASICS participants gave significantly higher ratings on interest, personal relevance, effectiveness for reducing their drinking and other students drinking in general, and their overall rating of the experience in comparison to educational intervention participants (Murphy et al, 2001). In particular, heavier drinking participants rated the BASICS condition even more favorably than other participants for personal relevance and personal reductions in drinking (Murphy et al, 2001).

Furthermore, in a meta-analysis of 18 randomized control trials of BASICS in a university setting, students receiving the intervention had a significant reduction in alcohol use even 12 months after the intervention (Fachini et al., 2012). Several of the studies included in the meta-analysis compared BASICS to longer term and more traditional alcohol interventions used in university settings and found BASICS to be more efficacious in reducing alcohol consumption. The Fachini et al. meta-analysis (2012) also noted that in several of the reviewed studies, participants rated BASICS more favorably than other interventions. This in combination with data supporting BASICS shows greater immediate and long-term reductions in alcohol use than other treatment adds to the relatively more beneficial use of the program (Fachini et al., 2012).

Suicide prevention in adolescents and emerging adults. Suicide has long been in the top three leading causes of death for adolescents and emerging adults, according to the Centers for Disease Control and Prevention (CDC). As of 2015, the most recent CDC cause of death data

available, Suicide is the second leading cause of death for individuals 18-26, second only to accidental death which includes car accidents, accidental poisonings, drowning, and falls (CDC, 2015). Given its severity, suicide prevention has long been a critical area for mental health intervention and has been approached several ways (Keyes, 2012).

One type of suicide prevention at the collegiate level has focused on peer training. An example of this is the Student Support Network and Worcester Polytechnic Institute (WPI, 2017; Keyes, 2012). The Student Support Network specifically focuses on training students over six sessions to have knowledge about suicide in aim of destigmatizing perceptions and teaching skills for supporting friends (WPI, 2017). The ultimate goal is to increase students' ability to help friends and peers connect with an access campus resources (WPI, 2017). This increased knowledge and decreased stigma improves the likelihood that students experiencing distress, depression, and/or suicidal ideation will encounter someone who can recognize the signs and connect them with appropriate mental health supports on campus (WPI, 2017). The program focuses on teaching students how to have a sympathetic, nonjudgmental manner while listening to their peers' concerns and still firmly getting them to the help they need (WPI, 2017). While the program has been implemented in at least ten universities (WPI, 2017), there has been minimal research done on the model in college settings (Keyes, 2012).

A second type of suicide prevention used on college campuses is based off the Question, Persuade, Refer (QPR) model (Quinnett, 2013; Keyes, 2012). QPR programs focus on training individuals how to identify when someone is at risk of suicide, so they can engage in appropriate, helpful questioning and referral to mental health services when necessary (Quinnett, 2013). While this is a skill set mental health professionals are trained in, the idea with QPR is to provide these skills to other individuals that a suicidal person is more likely to come into contact with,

like professors, administrators, and other students (Quinnett, 2013). This research-based practice has been implemented in many programs, such as the Aggie C.A.R.E.S. program at North Carolina Agricultural and Technological Institute (Keyes, 2012).

Another area of suicide prevention used on college campuses focuses on providing educational web-based outreach. Keyes (2012) noted at the time of his publication that there were 130,000 unique web pages hosted by college mental health centers that provided facts regarding suicide, tips for how to support distressed students, and contact information for further material and support, making educational web-based programs the most common type of suicide prevention available on college campuses. These educational web-based programs are among the easiest, least expensive, both in terms of man power and actual monetary cost, and lowest upkeep to implement. There is an inherent flaw in this model, however, in that it requires the reader to take all the initiative (Keyes, 2012); even university programs that host awareness weeks to promote these suicide prevention materials still ultimately require the person to take the additional step of attending the event. This further effort on the part of the students required to access and this type of prevention program makes it ultimately less effective as a universal prevention program because it is less likely to be implemented at a full universal level.

One way to improve the online educational suicide prevention model is to have it be more interactive for the student, thus creating more buy-in and further outreach. The American Foundation for Suicide Prevention (AFSP) has created an interactive online resource in use on 25 campuses (Keyes, 2012). The site allows individuals to find information and connect with mental health professionals as a way to support them to seek further help if needed. Research on the AFSP noted a trend in the data that a significant number of college students who made a suicide attempt were not accessing mental health services on campus (Haas, Hendin, & Mann, 2003).

This resulted in a college specific screening system that can effectively support entire university campuses using previously validated assessment measures for depression, anxiety, and other mental health difficulties, past and present. Respondents are then sorted into three groups based on severity of need. Based on the tier of need, students are then presented with various intervention options available to them on campus. Students in the highest tier of need are followed up with a second time if they do not seek out one of the suggested services within a period of time.

In an evaluation of the AFSP's College Screening Project, all students at Emory University every year for three years were offered the opportunity to fill out an online survey (Garlow et al., 2008). Less than 10% of the available population responded to the survey and, while the sample was relatively representative of the population in terms of race and academic year, it was skewed in terms of gender (Garlow et al., 2008). The results of the three-year survey, however, showed relatively high levels of students experiencing suicidal ideation, many of whom were not receiving any type of psychiatric or psychological treatment at the time of the initial survey (Garlow et al., 2008).

Both adolescence and EA are critical periods of social-emotional development (Arnett, 2000; Arnett, 2001; Steinberg & Morris, 2001) making them crucial times to investigate empirically. While it is known that these years encapsulate fluctuating sense of self, emotions, relationships, and mental illness (Arnett, 2000; Arnett, 2001; Steinberg & Morris, 2001), little research has been done to map out what these fluctuations look like and their impact on mental health as a whole. Given the importance of intervention during these years (Rudolph et al., 2001), further research on the trajectories of these core areas would be beneficial to the field.

Defining Mental Health

One critical developmental domain is that of mental health (Bronfenbrenner, 1992). Most of the empirical literature defines mental health from a dichotomous prospective of meeting criteria for psychopathology or not, but there has been an increasing push to include a broader spectrum and further criteria when considering if an individual is mentally healthy (Greenspoon & Saklofske, 2001; Suldo & Shaffer, 2008). While many factors during adolescence and EA impact individuals' mental health and a considerable amount of research has focused on factors resulting in symptomatology, there has been less research looking at individuals who do not meet criteria for mental illness and factors that are important for helping them maintain their life satisfaction.

Stress and implications for mental health. Adolescence and EA are both characterized by an increased number of stressors caused by a myriad of significant changes across multiple life domains, resulting in stress-provoking situations (Arnett, 2000; Arnett, 2001; Steinberg & Morris, 2001). Exposure to a situations or stimulus, called a stressor, often results in increased stress, which is the common physiological response to any change in the status quo or equilibrium of life (Holmes & Rahe, 1967). In fact, even positive life changes, like an engagement, new job, or college transition, bring with them inherent stressors as the individual adjusts to a new life rhythm and balance.

While so many of the life changes during adolescence and EA are exciting and can elicit many positive emotions (i.e. going to college, moving out on your own, making new friends, picking areas to specialize in academically in preparation for a future career), many of these experiences, both positive and negative, are considered stressful (Holmes & Rahe, 1967; McEwen, 1998). The stressor can result from a range of situations including major life events,

trauma, an accumulation of responsibilities or task demands, and changes in the environment (McEwen, 1998). There is both acute stress, which is considered one time or short-term events that invoke the sense of “fight or flight”, and chronic stress, which is defined as the cumulative effect of day-to-day stressors. Acute stressors occur throughout life and people inevitably encounter changes to routines and life events that require their sympathetic nervous system to be more on alert than it was previously (McEwen, 1998).

The human body is made to adapt to acute stresses, but chronic stress has a myriad of detrimental physiological and psychological effects stemming from the increased levels of cortisol in the person’s system (McEwen, 1998). In particular, chronic stress is associated with higher blood pressure, heart disease, reduced bone density, anxiety, weight loss, depression, and a host of other physiological and psychological maladies as a result of the body being flooded with cortisol when the body no longer turns off its fight or flight system. Furthermore, because of the consistently elevated levels of cortisol, when a person experiencing chronic stress encounters an inevitable acute stressor, he or she often takes longer and has a harder time returning to a baseline level of alert because of the consistently higher levels of cortisol in their system (Ellis, Del Giudice, & Shirtcliff, 2017; McEwen, 1998). The physiological impacts of stress have been shown to be particularly common and detrimental in minority groups, particularly Latinos and African Americans in the United States (Ellis et al., 2017).

While stress initially served an evolutionary purpose of keeping humans safe by reminding them of life threatening objects and situations, people now perceive stress in numerous situations and environments that are not, in fact, life threatening (Ellis et al., 2017; McEwen, 1998). Furthermore, the nature of stress is quite subjective, in that individuals respond inconsistently to the same stressor (Cohen, Kamarck, & Mermelstein, 1983; Conger, Conger, &

Elder, 1997; Ellis et al., 2017). Specifically, a foundational definition for stress is perceiving stressors to be beyond what the individual has the ability to manage (Cohen, Kamarck, & Mermelstein, 1983; Ellis et al., 2017). This definition inherently implies a subjective appraisal of the situation, making it difficult to capture empirically. Subjective self-report measures of stress are also highly related to objective measures of stress, like measures of the stress hormone cortisol (Solomon, Mikulincer, & Hobfoll, 1987).

While many would categorize certain types of life events as traumatic (highly stressful – CDC, 2016), for others it can be the accumulation of many minor stressors that result in an adverse life event. Similarly, there are some events that feel stressful to some and not others due to a variety of factors (Conger, Conger, & Elder, 1997). For example, parent response to a traumatic circumstance mediates whether or not children respond to the situation as traumatic (Conger, Conger, & Elder, 1997). Furthermore, adolescents and emerging adults today report feeling extreme levels of stress due to perceived requirements academically, socially, and emotionally (Levine, 2006; Pope, 2001; Pope, Brown, & Miles, 2015; Ross, Niebling, & Heckert, 1999); while each of these stressors individually would not be considered harmful, the sheer accumulation results in many adolescents and emerging adults developing severe mental health challenges (CCMH, 2017; Levine, 2006; NAMI, 2012; Pope, 2001; Pope, Brown, & Miles, 2015). The subjectivity of stress is important to consider when reviewing research and considering categories and cut scores for measuring individual responses to stress, particularly in the context of meeting criteria for being able to demonstrate phenomena life resilience.

Unique stressors in adolescence and EA. What there is little doubt about, however, is that adolescents and emerging adults experience a great deal of stress and associated mental health challenges. The implications of these increased stressors during this critical developmental

span have been both severe and intensely impactful for the individuals experiencing them and the larger culture around them.

Sources of stress. Expectations for high school students have increased exponentially in recent years (Pope, Brown, & Miles, 2015). There has been a rapid upsurge in expectancies around homework, grades, and test scores in order, largely driven by increased requirements for college admission (Pope, 2001; Pope, Brown, & Miles, 2015). Many high schoolers now report feeling required to go to school just to get perfect grades, which they need to have to get accepted to the perfect college, so they can attain the perfect job and the perfect life (Levine, 2006; Pope, 2001; Pope, Brown, & Miles, 2015). These monumental and unrealistic expectations, whether actual or perceived, have contributed to a rise in cheating (Pope, 2001; Pope, Brown, & Miles, 2015), suicidality (Keyes, 2012), drug and alcohol use (NIAAA, 2015), and mental illness amongst adolescents and emerging adults (Levine, 2006; Pope, Brown, & Miles, 2015), as well as a general unhappiness (Levine, 2006; Pope, 2001; Pope, Brown, & Miles, 2015).

Despite many of the stressors being school specific, these sources of stress do not end once adolescents graduate high school. In an early study of major sources of stress for EAs enrolled in higher education institutions, participants were asked to check off which of 40 different experiences they had encountered (Ross et al., 1999). Stress-inducing scenarios were derived from four areas of student life: interpersonal, intrapersonal, academic, and environmental sources of stress. Examples are fights with friends, changes in sleep, difficult homework, and computer troubles respectively (Ross et al., 1999). From these four areas, about half the scenarios were considered daily stressors and the remaining scenarios were more major life event (Ross et al., 1999).

On average, participants marked 16.5 stressful situations from the list of 40, with a range of 0 to 31 items marked (Ross et al., 1999). Intrapersonal stressors were most frequently indicated, followed by environmental, then interpersonal, and finally academic (Ross et al., 1999). From the interpersonal sources of stress, all were daily stressors; in contrast 88% of the environmental stressors, 77% of the intrapersonal stressors, and 67% of the academic sources of stress were daily difficulties (Ross et al., 1999). More specifically, the five most commonly cited stressors in order were changes in sleep habits, vacations or breaks, changes in eating habits, new responsibilities, and increases in class workload (Ross et al., 1999).

Overall, 81% of the stressors cited by college students enrolled in the study were classified as daily stressors as opposed to major life events (Ross et al., 1999). This is likely due to the infrequency with which some of the major life events happen for individuals in the usual college age range, such as death of a friend or a marriage or engagement. Regardless of the subjective severity of the specific stressors, the quantity of stressors many of the participants noted were high enough to result in subjective appraisals of overall diminished quality of life. This is particularly notable since the most common cited stressors were not solely academic in nature and most were common life occurrences that effect mental health.

While the types of stressors adolescents and emerging adults experience has changed some due to the introduction of technology (Levine, 2006; Pope, 2001; Pope, Brown, & Miles, 2015), the effects of day-to-day stressors are no less impactful. Given the increased challenges and difficulties adolescents and emerging adults are facing (Keyes, 2012; Levine, 2006; NIAAA, 2015; Pope, 2001; Pope, Brown, & Miles, 2015), it could be argued that, in fact, increased technology and other environmental changes are actually making daily stressors even more common than impactful than ever before.

Mental health implications on college campuses. For many adolescents and emerging adults, the commonality of stressors, regardless of how they are categorized, can have deleterious effects on their overall mental health, resulting in clinically significant challenges. The Center for Collegiate Mental Health (CCMH) produces an annual report detailing the demands on and types of cases being seen at collegiate counseling centers across the country (CCMH, 2017). The 2016 annual report compiled results from the 2015-2016 academic school year and is the most recent report published. This report has data from 139 higher education institutions and describes 150,483 unique college students seeking mental health services from 3,419 clinicians for a total of more than one million appointments (CCMH). The reports specifically capture the needs of higher education students, most of whom are in their EA years, who are accessing their institutions mental health services; it is not a description of the general population in these colleges and universities.

The 2016 report highlights several key trends in the mental health of students in higher education that deserve notice. First, counseling centers reported they are providing 28% more “rapid-access” service hours per client and 7.6% fewer “routine” service hours per client over the last six years (CCMH, 2017). As the report notes, the shift towards “rapid-access” services suggests that collegiate counseling centers are needing to adjust their operations to respond to the growing immediate demands of students in crisis, characterized by higher risk problems. The increase in need for “rapid-access” services impacts the institutions ability to provide routine treatment due to tight funding and resources. Through both the “rapid-access” and “routine” services, collegiate counseling centers are having to support an increased number of students who are experiencing “threats-to-self” such as serious suicidal ideation and non-suicidal self-injury, a trend that has persisted for at least the last six years (CCMH, 2017).

Despite the often-dire need of EA clients for mental health services, the CCMH report shows a large prevalence of “client drop-out” as the reason for termination, rather than completed treatment (CCMH, 2017). Many of the collegiate counseling centers that contributed to the report cited funding and staffing issues regarding limits to the number of sessions a student can receive as a primary cause of treatment termination. Because of limited session availability, many clients continue to have the same concerns upon discharge as they did at intake (CCMH, 2017).

Similarly, according to a survey done by the National Alliance on Mental Illness (NAMI) in 2012, 64% of students who experienced mental health problems while in college and ultimately withdrew from school, did so because of their mental health challenges (NAMI, 2012). Even more alarming, of the group of college students who left their institution because of mental health challenges, 50% of them never accessed their institution’s mental health services. An overwhelming number of students from the survey also reported that they first approached a faculty or staff member for help finding services, highlighting the importance of having access to individuals within the institution to provide social support during those times of stress and challenges (NAMI, 2012).

These two reports indicate that while some adolescents and emerging adults may access counseling services for support during times mental health distress, they often do not receive the necessary support from the services they access to reduce their symptoms and, thereby, allow them to restore their mental health. When coupled with how many individuals do not seek services for stress and pathology (NAMI, 2012) because of institutional barriers, fear of stigma, or lack of means, it is clear that university campuses and institutions of higher learning are not keeping up with the stress and mental health demands of their students. Given this mismatch

between service and demand, students experiencing mental health difficulties are the unmistakably losers in this situation. Thus, there is a critical need for individuals to develop the foundational skills and strategies for resilience through other, prevention-focused means that would allow them to return to complete mental health without having to access the traditional, and currently overburdened counseling services routinely available.

College drop out. With the increased mental health needs on college campus going unmet by the institutions themselves, many students experience demoralizing and expensive hits to their academic progress and personal growth. Approximately 15.6 million students enter 4-year institutions of higher education yearly, yet over 6 million have not obtained their degrees after 6 years (U.S. Department of Education, 2016).

Several studies have documented that less than 62% of those who enroll in a 4-year college or university will have received their degree after 6 years (U.S. Department of Education, 2016; NSCRC, 2014). While these lower than desired graduation rates are disheartening in their own right, when combined with the financial, professional, and personal ramifications often associated with enrolling in but not completing a higher education program (Gerdes & Mallinckrodt, 1994), a potential crisis at the intersection of mental health and higher education starts to emerge.

Suicide and emerging adults. At its most severe, unmet mental health needs on college campuses have been highlighted by student deaths due to suicide (Keyes, 2012; National Mental Health Association and Jed Foundation, 2002; U.S. Census Bureau, 2015). Suicide has long been in the top three leading causes of death for adolescents, emerging adults, and young adults, according to the Centers for Disease Control and Prevention (CDC, 2016). As the most recent CDC report on leading causes of death by age group, suicide was the second leading cause of

death for both adolescents and emerging adults, second only to accidental death which includes car accidents, accidental poisonings, and falls (CDC, 2016). Amongst university populations, it is estimated that 7.5 college students for every 100,000 dies by suicide (National Mental Health Association and Jed Foundation, 2002; U.S. Census Bureau, 2015). Amongst college students, two groups are at especially high risk for suicidal ideation and suicide attempts: individuals with pre-existing mental illness and individuals whose symptoms begin during college (National Mental Health Association and Jed Foundation, 2002).

For every college student who dies by suicide, there are many more who make suicide attempts or struggle with suicidal ideation (Keyes, 2012; Kisch, Leino, & Silverman, 2005; National Mental Health Association and Jed Foundation, 2002). In a survey of several thousand college students across 28 campuses across the United States, more than half of students reported feeling hopeless at least once in the past year, with more than a third of students reporting feeling helpless (Kisch et al., 2005). Approximately 20% of students reported intense feelings of depression on three or more occasions to the point where it was difficult to function (Kisch et al., 2005). Of the sample, 9.5% reported “having seriously considered attempting suicide”, with 1.5% actually having made an attempt (Kisch et al., 2005).

While many adolescents and emerging adults do not experience suicidality or other severe symptoms of mental illness, all struggle from stress and challenges (Arnett, 2000; Arnett, 2001; Steinberg, & Morris, 2001). Most research on adolescents and emerging adults’ mental health focuses primarily on measuring a presence or absence of these symptoms. What remains unknown, is whether these individuals who do not meet the criteria for mental illness are truly mentally healthy and, if so, what mechanisms and resources are keeping them both symptom free and enjoying their lives.

Mental health in early career. The mental health challenges and implications of intense and chronic stress do not end with college graduation (Randler, Luffer, & Muller, 2015; Waugh & Judd, 2003). Burnout rates in many fields are within the first five to ten years, with most adults now holding twelve careers in their lifetime (U.S. Department of Labor Bureau of Labor Statistics, 2018). Employee burnout causes large staff turnovers, reduced productivity, and increased physical illness in need of sick leave (Bartholomew, Ntoumanis, Cuevas, & Lonsdale, 2014). In sum, the consequences of burnout and reduced employee mental health and wellness cost the United States an estimated \$300 billion annually on average (American Institute of Stress, 2018; Goldin, 2004).

Educators for example, are acutely susceptible to high rates of burnout, affecting teachers specifically more than in any other service profession (Randler et al., 2015; Waugh & Judd, 2003). Specifically, general education teachers tend to leave the field after about five years, with special education teachers burning out at closer to three years (Gray & Taie, 2015). This burnout frequently presents as pervasive emotional exhaustion, depersonalization of the work, and a diminished sense of personal accomplishment (Bartholomew et al., 2014; Fernet, Lavigne, Vallerand, & Austin, 2014; Waugh & Judd, 2003).

As is true with college-aged students, when burnout and increased stress are left untreated, it can result in catastrophic consequences (CDC, 2015; National Mental Health Association and Jed Foundation, 2002; U.S. Census Bureau, 2015; Silverman et al., 1997). In examining the impact of burnout and increased stress, the rate of death by suicide amongst adolescents and emerging adults represents a tragic indicator contributing to the second leading cause of death for both adolescent and emerging adults age 18-24 and for adults ages 25-35 after unintentional or accidental injury (CDC, 2015).

Research has shown that stressful life events in EA actually mediated earlier risk factors for suicidal ideation and attempts during the EA time period, meaning that even if individuals were at relatively lower risk for suicide, stressful life events during the critical EA period greatly increase their risk (Fergusson, Woodward, & Horwood, 2000). While college enrollment can be a protective factor for younger emerging adults, in that college students are half as likely to die by suicide as non-college students in the same age range, graduate students are one and a half times as likely to die by suicide as non-students in the same EA age range (Silverman et al., 1997). This would suggest that the latter half of the EA years, while filled with similar transitions and transition-related stressors as the beginning of the EA timeframe, can be even more fraught with challenges requiring greater skills, supports, and resilience.

Dual-factor model of mental health. Stress and its effects have a deleterious impact on individuals' mental health from the perspective of psychopathology. In fact, much of the field of psychology and mental health has been based on measuring the presence or absence of symptomatology specific to mental health disorders and mental illness in order to qualify for needing psychological services. Mental health, however, is more than just the absence of psychopathology, stress, and negative emotions. As early as 1964, the World Health Organization began offer a different model of thinking about mental health, stating, "health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (p. 1). This call to action encouraged a shift in the zeitgeist around mental health from merely whether or not someone is suffering from mental illness by presenting with symptoms at a clinically significant threshold, to also considering how that person feels about the quality of their life as a whole.

Since then, coupled with the rise of positive psychology as a field of research and practice, a new, empirically-driven paradigm has emerged that combines psychopathology and SWB into a dual-factor model (DFM) of mental health (Greenspoon & Saklofske, 2001; Suldo & Shaffer, 2008). In the inaugural study proposing this DFM, Greenspoon and Saklofske (2001) proposed that there are two continua that compose mental health: one measuring the severity of psychopathology and a second for the degree of SWB. Because these two continua can covary yet remain distinct constructs, when combined in one cohesive model, the two spectrums create four distinct quadrants. The first quadrant has high SWB with low psychopathology, the next has high SWB and high psychopathology, the third has low SWB and low psychopathology, and the final quadrant has low SWB and high psychopathology.

In their seminal work, the authors predicted that there would be a statistically significant portion of individuals represented in all four quadrants, supporting the theoretical model that the absence of psychopathology alone is not sufficient for mental health and wellness (Greenspoon & Saklofske, 2001). The findings supported that the majority of people fell in the quadrant with high SWB and low psychopathology, with less than half of the participants being split between the other three quadrants relatively equally. Again, the presence of individuals in the high SWB, low psychopathology quadrant and the low SWB, high psychopathology quadrant were not surprising as these are the two categories commonly considered in discussions of mental illness; however, the substantial presence of individuals in the high SWB, high psychopathology and low SWB, low psychopathology quadrants were unique and integral findings to establishing the DFM (Greenspoon & Saklofske, 2001).

Further validation was provided for the DFM of mental health by Suldo and Shaffer (2008), who expanded the DFM model by identifying each of the quadrants in an additional

youth population, naming each quadrant, and providing additional validation to the prevalence of youth in each quadrant. Individuals with high SWB and low psychopathology were said to be in the quadrant named “complete mental health.” Individuals with high SWB and high psychopathology were said to be in the quadrant named “symptomatic but content.” Individuals with low SWB and low psychopathology were identified in the quadrant named “vulnerable.” Finally, individuals with low SWB and high psychopathology identified in the quadrant named “troubled” (Suldo & Shaffer, 2008).

Individuals in the troubled quadrant represent the traditional thinking of what is/was considered mental illness. According to Suldo and Shaffer (2008), approximately 17% of the sample fell in this quadrant. Traditional mental health services are designed to support individuals in this quadrant, and research showed that with these supports, these individuals improved both their psychopathology and SWB (Suldo, Thalji, & Ferron 2011). Conversely, individuals in the complete mental health category are the other end of the traditional mono-factor mental health model; these individuals made up 57% of the sample (Suldo & Shaffer, 2008).

The two new categories created by the DFM and the finding that SWB and psychopathology are not always interrelated are the vulnerable and symptomatic but content quadrants (Suldo & Shaffer, 2008). These groups each had 13% of the sample respectively in Suldo and Shaffer’s initial inquiry (2008). Later studies have showed these two groups to consistently encompass 8% to 19% of samples respectively (Suldo et al., 2016). The consistent finding of the four groups in every tested sample further substantiates the validity and effectiveness of a DFM of mental health as both a legitimate and likely universal phenomenon (Suldo et al., 2016).

| | High Psychopathology | Low Psychopathology |
|----------|---|--|
| High SWB | Symptomatic but Content – individual meets clinical criteria for psychopathology and reports high quality of life 11%-13% | Complete Mental Health – individual has little to no symptoms of mental illness and reports high quality of life 57%-62% |
| Low SWB | Troubled – individual meets clinical criteria for psychopathology and reports low quality of life 15%-17% | Vulnerable – individual does not meet clinical criteria for psychopathology and also reports low quality of life 11%-13% |

Further analyses on these groups showed that individuals in the symptomatic but content group generally tend to get the supports that allow them to reduce their psychopathology and move into the complete mental health group over time (Suldo, Thalji, & Ferron, 2011). The vulnerable group, however, are unlikely to be detected on traditional mental health screeners due to their lack of clinically significant pathology. Due to difficulties identifying individuals in the vulnerable category via traditional methods, these individuals are unlikely to receive mental health supports until their psychopathology increases to a clinically significant threshold. Longitudinal analyses have shown that individuals in the vulnerable category over time are likely to develop increasingly significant psychopathology, ultimately causing them to be placed in the troubled group (Suldo et al., 2011); only at that time are these individuals likely to receive interventions, after having struggled with unhappiness and increasing symptoms of mental illness for months or even years.

Furthermore, having complete mental health confers many benefits. For example, students with complete mental health have better academic skills and school attendance (Suldo & Shaffer, 2008). Individuals with complete mental health also have more academic-oriented goals, better perceived physical health, and felt more capable academically. Finally, individuals with complete mental health also were found to have better relationships as evidence by feeling more social support from classmates and parents and having fewer social problems than their peers in other quadrants (Suldo & Shaffer, 2008). Further studies have shown these benefits of complete mental health to exist across different samples and age groups (Suldo et al., 2011; Suldo et al., 2016).

Subjective-wellbeing. To better understand the DFM, it is important to further unpack the psychological construct of SWB. The construct of SWB is synonymous with the term happiness but represents an amalgamation of the affective and cognitive components that make up how individuals evaluate the quality of their life (Diener, 2000). SWB focuses specifically on an individual's evaluation of their life quality rather than objective metrics commonly used such as money, number of social connections, or years at a job (Diener, 2000).

In terms of measurement, SWB is a composite of three separate subjective components: life satisfaction, positive affect, and negative affect (Diener, 2000). Positive affect refers to experiencing pleasant emotions and moods; conversely, negative affect refers to having unpleasant emotions and moods; life satisfaction is discussed in detailed below. For high SWB, the ratio of positive affect to negative affect should be skewed to more positive affect. It is also notable that positive life situations have been found to increase positive affect but have no effect of negative affect. Similarly, negative life situations increased negative affect but have no effect on positive affect (Diener, 2000). Therefore, reducing negative factors in life alone is not enough

to increase ones' life satisfaction; rather, it is important to focus efforts on increasing positive affect (Diener, 2000), since it is impossible to avoid all stressful life events as even positive changes can result in stress (Holmes & Rahe, 1967; McEwen, 1998).

Life Satisfaction. The final component of SWB is life satisfaction, or the cognitive appraisal of feeling generally satisfied with one's life, in specific domains as well as overall (Diener, 2000). Life satisfaction is regularly considered to be the cognitive component of SWB and indicates individual's cognitions about the general quality of their life either overall or in specific domains (Diener, 2000). Most studies based on the DFM of mental health focus more on the life satisfaction component of SWB as it is more stable over time and less volatile in response to acute, short-term stressors (Suldo & Shaffer, 2008).

Measures of life satisfaction fall in three categories or approaches: global, general, and multidimensional (Suldo, 2016). Global life satisfaction asks respondents to consider their appraisal of their life overall when answering the different items; questionnaires under this model contain domain-non-specific questions and ask individuals to think about how they feel about their life as a whole. Conversely, multidimensional approaches look at specific domains and ask questions to assess how respondents feel about specific aspects of their life. Somewhere between global and multidimensional approaches, the general approach takes respondents' appraisals of several different domains in their life and then sums all the scores from each domain together to obtain an assessment of satisfaction across the various aspects in their lives (Suldo, 2016).

From a measurement prospective, there are positives and challenges to each approach. Overall life satisfaction measures are short, but can miss some of the nuances around satisfaction in the different life domains (Suldo, 2016). Conversely, multidimensional measures have a

narrow focus useful in many studies, but resulting findings are less generalizable. While questionnaires using a general approach address both the positives and challenges of general and multidimensional approaches, these measures are often long and more complex in nature. Because the three types all take different measurement approaches, they are not necessarily interchangeable or highly correlated (Suldo, 2016).

SWB implications for mental health in research and practice. SWB alone is not sufficient for having or assessing mental health (World Health Organization, 1964); however, it is of high importance when considering how individuals feel satisfied or otherwise content in their lives (Diener, 2000). Furthermore, SWB, while influenced by inborn temperament, is very sensitive to measuring changes in specific circumstances, particularly with life satisfaction components (Diener, 2000).

Despite the importance of improving SWB for overall mental health, most research only focuses on the pathology side of services. Consequently, there has been very little inquiry into the nature of SWB or life satisfaction over adolescence and EA and there is little knowledge on and few interventions for improving SWB. This knowledge and any subsequent interventions are important particularly for adolescents and emerging adults, given the particular developmental challenges and vulnerabilities during these times (Arnett, 2000). Further research on the pathways around SWB and, thus, complete mental health would help to improve full mental health supports at these crucial developmental times.

Resilience

Even with establishing the importance of SWB for complete mental health, there are inevitable fluctuations in SWB and its individual components when individuals experience predictable, routine, and unavoidable stressors and challenges that knock them off their

homeostatic balance (Holmes & Rahe, 1967; McEwen, 1998), resulting in reduced SWB (Diener, 2000), temporarily or otherwise. In order to return to homeostasis after experiencing a stressor, individuals need to have resilience, or the ability to adapt in the face of, persevere through, and thrive because of the difficult situation. To understand the concept of resilience as a whole, and how individuals engage in this phenomenon, it is first important to unpack the history of resilience research and the evolution of how the concept's definition in the literature.

History of resilience research. Research on the construct of resilience has had three major waves starting in the 1970s and continuing into the present day (Richardson, 2002; Masten, 2001; Masten, 2011). Initial research aims focused on gaining initial descriptive data on the concept using person-focused methods (Masten, 2001; Richardson, 2002). Many of these studies were small in scale, looking at individuals who, despite catastrophic odds were able to maintain a normal developmental trajectory (Masten, 2001; Masten, 2011; Richardson, 2002). Notable studies looked at children who survived terrible abuses or war-torn countries without showing the expected psychopathology (Masten, 2001; Masten, 2011; Richardson, 2002). In these studies, the resilient individuals were analyzed for inborn traits made them special or unique in their ability to survive these traumas with little or no psychological impact.

One of the seminal studies of resilience in individuals was the Kauai Study, which followed individuals living on the Hawaiian Island of Kauai from birth through age 40 (Werner, 2005). Data was collected at six points during development and covered a variety of life and developmental domains. This study was one of the first that used a longitudinal, rather than a retrospective approach, allowing for resilience processes to be mapped.

Findings from across the Kauai Study showed that various individual, family, and community factors were important for resilience (Werner, 2005). At an individual level,

individuals who had a sense of pride and belief in themselves and were relational with others, which supported them having more realistic education and vocational plans and higher expectations for their future than peers who ultimately showed less ability to cope with challenges (Werner, 2005). At a family level, individuals who showed higher levels of resilience developed early, close bonds with at least one emotionally-stable and competent caregiver or “surrogate parent”; their families were also more likely to be involved in a community, usually a religious one, which offered a broader community for social support and building a sense of purpose and beliefs about themselves, others, and the world (Werner, 2005).

For individuals who struggled as adolescents and emerging adults, many made eventual improvements, mostly post high school and without the supports of organized interventions or services (Werner, 2005). There were several ways individuals ultimately were able to have resilience in the various domains in their life, such as through continued educational or vocational training, marriage to a stable partner, by joining a community, often a religious one, or through encountering a life-threatening illness. Each of these venues ultimately increased individuals’ sense of purpose, provided them avenues to feel good about themselves and the world, and to build healthy relationships (Werner, 2005).

Over time and with the addition of findings from the Kauai Study, research on resilience transformed from measuring the concept as a unique inborn trait into a second wave of research focusing on understanding the underlying mechanisms and processes, and then testing evolving theories by searching for the phenomenon in different populations (Masten, 2001; Masten 2011; Richardson, 2002). In these studies, it was common to look across situations to individuals who displayed resilience and look for the common factors between them. While these studies helped to clarify what protective factors helped individuals be more likely to experience resilience or

risk factors put them at risk for not exhibiting the phenomenon, inquires in this wave still largely focused on traits that were static (Masten, 2011; Masten, 2001; Richardson, 2002).

Since resilience theory has been generally grounded in translational sciences aiming to reproduce the phenomena, the third wave of research has largely focused on how to produce resilience by manipulating and strengthening theorized catalysts (Masten, 2011); this has required focusing on variable-focused methods of inquiry that allows for empirical inquiry of protective factors in an ethical way (Masten, 2001; Luthar et al., 2000). By quantitatively measuring if bolstering specific protective factors increases the likelihood of displaying resilience, the various silos of resilience research can coalesce around a common unifying theory (Richardson, 2002; Luthar et al., 2000). This third wave of research has had important implications for resilience inquiry as a field by changing the definition of the concept, the theory behind its development, the mechanisms that result in its situationally specific expression, and the approach to subsequent interventions.

Definition of resilience. One of the most notable shifts over the three waves of resilience research has been to the definition of resilience as a concept and construct (Luthar et al., 2000; Masten, 2001; Masten, 2011). In the first wave, resilience was reserved for situations where a person did well or succeeded despite risk or adversity, therefore requiring the person to experience adversity and adapt appropriately in order to be resilient (Masten, 2001; Masten, 2011). Through the second wave of research, the definition became more dynamic, encompassing the capacity, process, or results of adapting successfully despite traumas or other significant challenges. The second wave version of the definition, however, still requires a person to experience a trauma in order to be resilient (Masten, 2011; Masten, 2001). In the third wave of research, however, the field has come to recognize resilience as a state that requires the

use of specific skills (Luthar et al., 2000; Masten, 2001; Masten, 2011), rather than a trait only some can have or possess and only in specific scenarios.

As previously stated, the concept of resilience is now commonly agreed upon in the literature as “The capacity of a dynamic system to withstand or recover from significant challenges that threaten its stability, viability, or development” (Masten, 2011, p. 494). Under this definition, resilience is an interactive process that requires individuals to intentionally implement skills to actively participate in the process to return to homeostasis and a life that fits the developmental norm across each functional domain. Even more importantly, resilience is no longer a construct reserved only to label those individuals who happen to show these developmental trajectories by chance, but rather a process anyone can achieve with the right supports and skills.

A key component of the shift in defining resilience as a state rather than a trait is in the clarity of the terminology used. Luthar et. al. (2000) call specifically for the use of resilience in all research, talking about individuals’ ability to adapt, persevere, and thrive in the face of life challenges. In contrast, considering resilience a trait would mean some individuals’ are born with it and others are not. Research on resilience interventions, specifically refute the idea of resilience as a trait, given that these interventions specifically teach skills that support people building increased resilience.

Some of the shift in definition has been due to that fact that it has been extremely challenging to quantify actual exposure to adversity because part of what makes a situation traumatic is how those around and close to the person react (Conger, Conger, & Elder, 1997). There have also been numerous other factors to consider such as proximity to and severity of the event and individual factors such as personal reaction to the event, awareness of the situation and

severity, previous traumatic experiences, cultural beliefs and norms, and other contextual factors (Masten & Osofy, 2010).

It is also important to note that this new definition is not bound to a timeline as some prior definitions were (Masten, 2001; Richardson, 2002). In the first and second waves of inquiry, there were different names for different trajectories following a traumatic experience, each with their own names and routes (Masten, 2001). Under the current definition of resilience, it is not necessary for an individual to even show that they have struggled after a difficult situation or stressor, as individuals who are highly skillful can implement a strategy to maintain their current developmental trajectory in a matter of seconds (Richardson, 2002). For example, if an individual has an unhelpful thought after being delivered challenging news, like the death of a loved one or a rejection from an important job, and that individual is skillful in recognizing the unhelpful thought and reframing it actively and quickly, outside observers might not be privy to this fast form or “re-righting”. With this new definition of resilience, however, just because the individual did not first flounder for a longer measure of time, does not mean that this person did not display resilience.

Different fields and theoretical groupings within the field of resilience research have adjusted to the shifting definition of the concept at various speeds (Richardson, 2002; Luthar et al., 2000). Regardless, there has been a strong call within the field to settle around a universal understanding to ensure standardized measurement and support coordinated work (Richardson, 2002; Luthar et al., 2000). Within the third wave of resilience research, there has been improved agreement and collaboration both within and across fields (Richardson, 2002; Luthar et al., 2000; Rutten et al., 2003). The result of these increased collaborations and common measurement have

allowed for improvements in the translational work of turning research findings into ready to implement interventions.

The role of risk and protective factors. Early research in resilience had a central focus on protective and risk factors (Masten, 2011). Risk factors are defined as the characteristics and situational elements that increase the likelihood for someone to struggle or experience challenges (Hawkins et al, 1992; Rutter, 1987). Similarly, protective factors are the circumstances and attributes that increase the likelihood someone will be able to have resilience in the face of a challenge or reduce the likelihood that the person will experience challenges at all (Hawkins et al., 1992; Rutter, 1987). In early waves of research, many of these risk and protective factors were more static and situational, such as personality characteristics, parental education, and socio-economic status (Hawkins et al., 1992; Rutter, 1987).

One of the earliest studies of risk and protective factors was Hawkins et al. (1992). In this review of the various factors that impact individuals' likelihood of struggling with substance abuse challenges in adolescence and EA, it was shown that there are factors on contextual environmental level and on an individual and interpersonal level that play important predictive or protective roles. Contextual factors included laws that make access to substances easier, availability of substances, extreme economic deprivation and poverty, and rapid changes and gentrification in a neighborhood (Hawkins et al., 1992). Individual factors include sensation seeking and risk-taking temperament characteristics and early presentation of problem behaviors. Interpersonal situations and interactions also showed to play a crucial protective role or increased risk given their functions; families with high conflict and inconsistent management practices, school experiences characterized by early academic failure and low degree of commitment to

school, and peer rejection, alienation, rebelliousness, or association with drug using peers all increased individuals' likelihood of substance abuse challenges.

This review was of particular importance to the field of resilience work because, once collecting the existing literature on all the risk and protective factors for one topic, it conjectured that some could be reduced or bolstered, respectively, and how various existing or potential interventions could be used to promote and/or reduce different risk and protective factors to enhance individuals' resilience (Hawkins et al., 1992). With this third wave of inquiry, ushered in by the Hawkins et al. study in 1992, research began investigating underlying protective processes, shifting from what causes someone *to be* resilient to *how* resilience is created and cultivated (Luthar et al., 2000). This shift in the zeitgeist is critical for the future of the field because it changes the conversation from looking for who can have traits allowing them to be resilient to what are the skills that allow anyone to build resilience (Luthar et al., 2000; Masten, 2001; Masten, 2011).

In fact, much of the criticism aimed at resilience research can be responded to and resolved simply by shifting to thinking of it as a collective of protective factors. Early critiques of resilience literature stated that a person's resilience could be the result of variations in the person's environment rather than the person actually being resilient themselves. By shifting from viewing protective factors to protective process that support having resilience, however, these environmental factors become the focus of the research itself rather than a mere limitation (Luthar et al., 2000). More specifically, rather than inquiries focused on who has resilience or protective factors, the studies can be built on the causes and their reproduction, furthering the primary goal of translational work for interventions. Since individuals may come naturally upon these protective processes, or the skills themselves can be cultivated through direct and

systematic interventions, it is less important to research why someone has them and more important to look at how to support people in building them. This again extends the field towards one of its primary goals of clarifying how to reproduce these positive outcomes in others (Conley, 2013; Luthar et al., 2000; Masten, 2011).

Stressor severity and post stressor functioning. Level of functioning has also been a key area of clarification. Early literature required a return to prior functioning in order for a person to be considered resilient (Luthar et al., 2000). With the third wave of research, however, the level of functioning at the outcome does not have a precise cut-point in order to be categorized as meeting criteria for resilience. Luthar and colleagues (2000) point out that that the severity of the stressors and adversities can dictate the level of functioning sought in order to consider it a resilient outcome. For example, if the person experienced a catastrophic stressor, a return to average functioning in a domain would be considered having resilience in that area of life; however, if the stressors are less severe¹, a return to average functioning might not have the same reflection of resilience (Luthar et al., 2000). In this vein, any functioning that is average or greater in response to stressors can be evidence of resilience ((Luthar et al., 2000).

Another critical area of clarification that has resulted as a result of the third wave of resilience research is the necessary conditions for exhibiting resilience. Initial inquiries defined resilience by the severity of trauma the person experienced, in that in order to display resilience, one had to have been exposed to extreme stressors (Luthar et al.; Masten, 2001; Masten, 2011). Many studies have used checklists of types of adversities, stressors, and traumas as a measure for

¹ Again, determining level of severity of a stressor on one's mental health is a slippery slope given what is known about the subjective nature of stress (Cohen, Kamarck, & Mermelstein, 1983).

this component; however, this ignores the subjective nature of psychological stress and adversity (Cohen, Kamarck, & Mermelstein, 1983; Luthar et al., 2000).

It is well documented that exposure to traumatic experiences, even universally agreed upon traumatic stressors such as physical abuse, sexual assaults, severe accidents, do not always result in trauma-related symptoms because of the differences in how individuals process the events (Conger, Conger, & Elder, 1997). Conversely, being born into poverty and other challenging life situations such as single-parent households, lower parental education levels, and community violence can result in poorer outcomes for some, but not all individuals (Werner, 2005). Similarly, institutional racism, while not always considered a traumatic event in research, has been shown to produce trauma responses in many individuals (Wade, Shea, Rubin, & Wood 2014). Rather, it should be considered that research can determine the odds of an event being considered more noxious or difficult to cope with, but that alone does not negate that other situations and challenges could produce similar trauma-related symptoms depending on the individual's appraisal of the situation(s) (Luthar et al., 2000) Similarly, other individuals may not view even more commonly-considered traumatic events as having had a traumatic impact on them (Conger, Conger, & Elder, 1997; Luthar et al., 2000).

Measurement changes. Changing the definition of resilience from a trait to a state also highlights changes in how the phenomenon is measured. When research reviews resilience as a trait that a small portion of the population exhibits in light of an adversity, stringent methodology using standard deviations have to be used (Luthar et al., 2000). By shifting towards a discussion of resilience as a state or collection of skills and protective processes anyone can have or acquire, the opportunity for anyone to develop resilience are considered. This shift in methodology and understanding necessitates, or at least heavily supports, a change in measurement to focusing on

variable-based approaches, which allow for the components to be assessed as part of a spectrum of behaviors rather than with dichotomous cut points (Luthar et al., 2000).

Overall, research on resilience across all the field variations has fallen into two methodological categories: person-focused and variable-focused. Person-focused models compare individuals within or across samples with specific criteria in order to identify which individuals have resilience and which do not (Masten, 2001; Luthar et al., 2000). In contrast, variable-focused models assess for statistical relationships between factors associated with resilience and related phenomena (Masten, 2001; Luthar et al., 2000). While both approaches have important merit and provide needed contributions to the field, as the definition of resilience has shifted towards a state-based definition, research using variable-focused approaches help to examine what and how of resilience rather than identifying the who, and thus provides important information regarding interventions and their implications (Masten, 2001).

Part of the shift to discussing resilience as a state rather than a trait comes from the variety of methods used to operationalize the construct throughout the field. Rather than the varying methods being problematic (i.e. believing these different studies are analyzing different constructs), the consistency in findings across a range of studies varying in methodology and measurement of the construct supports the idea that resilience is part of a broader spectrum of the behavior rather than a dichotomous category (Luthar et al., 2000). Specifically, one can have resilience at times and not at other times, or that perhaps the person has resilience in the face of minor or less stressors, but not so robustly as to adapt, persevere, and thrive in the face of more and/or severe stressors (Luthar et al., 2000).

Implications for intervention. As the literature base on factors and processes related to resilience continues to grow and shift in focus, intervention implications have also evolved. The

third wave of resilience research itself is situated as part of the growing trend away from deficits-based interventions to strengths-based or competence-focused ones (Diener, 2000; Suldo, 2016). Interventions and prevention efforts based on resilience have had to evolve parallel to research models on the concept (Masten, 2011). Specifically, shifting the conversation to building resilience leaves open the possibility for interventions that support key components necessary to experience this phenomenon, rather than assuming some have “it” and some “just don’t have what it takes” (Luthar et al., 2000; Masten, 2001; Masten, 2011).

An early example of interventions based on promoting resilience can be seen in the Raising Healthy Children project (Catalano et al., 2002). The Raising Healthy Children study grew out of a longitudinal study known as the Seattle Social Development Project, which focused on measuring individuals’ risk and protective factors for a number of challenges in adolescence and EA (Catalano et al., 2002). Both studies are based on the Social Development Model, a theory of development that posits the importance of interactions and inclusion within a community for appropriate and healthy growth (Catalano et al., 2002; Haggerty & McCowan, in press). More specifically, the Social Development Model posits that when individuals are provided meaningful opportunities to engage in prosocial activities and interactions, methods for development of relevant social and life skills, and recognition and praise for prosocial efforts, improvements, and achievements from their community, it results in stronger bonding between the individual and their caretakers and community members. When these stronger social bonds are also supportive of and, simultaneously, supported by clear, prosocial standards, individuals are far more likely to engage in healthy behaviors across a number of developmental domains (Catalano et al., 2002; Haggerty & McCowan, in press).

The Raising Healthy Children study aimed to implement interventions at key points of interest based on the Social Development Model (Catalano et al., 2002). More specifically, specific interventions were provided at the school, family, and individual levels. At the school level, teacher trainings in proactive classroom management and positive behavior supports were provided, along with regular booster trainings and staff coaching. Families were offered parent trainings on behavior management and interventions like family meetings, along with follow up coaching as needed and necessary; extra supports were given to families of students who presented with problem behaviors at school. Finally, extra individual interventions were provided for students who presented with academic or behavioral challenges (Catalano et al., 2002).

The Raising Healthy Children study has been shown to be effective at reducing an number of behavioral and mental health problems. Some of the initial findings showed that individuals who received the Raising Healthy Children intervention had a stronger commitment to school, higher academic performance, decreased antisocial behaviors, and increased social competence after a year and a half of the intervention than students who did not receive the intervention (Catalano et al., 2002). By adolescence, individuals who received the Raising Healthy Children intervention showed lower levels of depressive symptoms and substance use (Fleming et al., 2008).

As resilience frameworks continue to coalesce and converge, intervention efforts will need to be updated accordingly. Further research is needed measuring the effects of these intervention and prevention efforts in order to create synergy between the research and practice models. One key place future interventions aimed at building resilience can focus is on the necessary components needed to experience resilience.

Key factors for resilience. As previously stated, there has been a paradigm shift in how resilience is discussed and studied, moving away from a focus on factors that result in reduction of mental illness (deficit model) to one that looks at how individuals succeed and thrive in life even in the face of stressors and challenges (Rutten et al., 2013). In a seminal article by Masten (2001), the author outlines resilience as a set of skills anyone can attain and, theoretically, with enough of these skills, individuals can maintain normative developmental levels and trajectories regardless of the stressors present. This new model reflects on the individual, familial, and/or community-level strengths that allow a person to return to balance and homeostasis after circumstances of stress.

Through research, three key components have been shown as necessary for individuals to demonstrate resilience: healthy attachments and social connections, positive emotions, and sense of life purpose (Rutten et al., 2013; Luthar et al., 2000; Masten, 2001; Masten, 2011). All three of these components are also well documented psychological constructs in their own right and have important implications for both facets of mental health.

Secure Attachment. Building relationships with others that provide support during both good and bad times supports individuals in having resilience (Rutten et al., 2013). Much of what is known about the ability to rely on others for support comes from the attachment literature. Development of secure, strong, supportive attachment, especially during infancy and childhood (Ainsworth, Blehar, Waters, & Wall, 1978), can directly influence many facets of daily life (Ainsworth et al., 1978) and future functioning (Kamkar, Williams & Kennedy, 2012; Stacy, 2006).

Attachment theory. Attachment theory has been a well-documented and firmly established psychological theory since the late 1960s (Ainsworth et al., 1978). The theory posits

several types of attachment between children and their mothers, which then impact how those children continue to connect with others throughout their life. Children with secure attachments view their caregiver as a safe home base (Ainsworth et al., 1978). These children feel free to explore their environments and meet new people because they know their caregiver will always be there if they need that support. Secure attachment occurs when parents respond appropriately and reliably to their children's needs (Ainsworth et al., 1978). The consistency allows the child to feel secure that help will always be available when needed, which cultivates exploratory behaviors since there is little chance for an unwanted and unsupported situation. As these children develop into their adolescent years, the secure attachment results in the continued likelihood for viewing parents as a supportive presence (Rice, 1990).

Secure attachments have been associated with many positive outcomes (Ainsworth et al., 1978). Most importantly for the purposes of this paper, secure attachment has been associated with increased resilience (Rutten et al., 2013; Stacy, 2006). Specifically, children who experience secure attachment with their parents as infants develop an internal model of relationships based on trust, so they perceive others as being available and reliable even when the environment presents with stressors (Ainsworth et al., 1978). As they grow, this model of relationships results in the individuals having more effective self-regulation, defined as the ability to assess the emotional needs of themselves and others, to manage social relationships, and effectively cope with stressors either on their own or by advocating for the support from others (Rutten et al., 2013).

Adolescent relationships with parents and peers. Having a variety of healthy attachments and connections during adolescence and EA area vital aspect of a thriving life (Rutten et al., 2013). Social relationships with peers are an important part of life for adolescents and emerging

adults. Many peer relationships change for EA's during their transition to college, as they likely move away from high school friends and make new social connections with peers at their college (Oswald & Clark, 2003). The further into their first year of college students are, the less connected they become to their high school friends; simultaneously, students become less satisfied with and committed to their high school friendships (Oswald & Clark, 2003). Students report high school friendships as being less rewarding and something they invest less time in throughout their first year of college. These changes remained true regardless of if the high school friends still lived within the same city or even within the same university (Oswald & Clark, 2003).

While maintaining high school relationships appears to be both difficult and somewhat uncommon, there are important social benefits for the individuals who manage it (Oswald & Clark, 2003). For those students who were able to maintain their closeness with at least one best friend from high school, they were less likely to feel social loneliness during their first year of college (Oswald & Clark, 2003). Because all relationships take time to build the closeness often associated with a best friendship, established close relationships with a friend helps to buffer the negative feelings of loneliness. Being able to maintain at least one close social support can also help to buffer students from the negative effects of stress (Walsh, 2011) common during the first year of college (Ross et al., 1999).

Effects of parents' responses to stressors also have an effect on adolescents' responses (Conger, Conger, & Elder, 1997). In one specific study, parents' responses to an economic crisis were shown to mediate their children's responses to the events. Specifically, when parents respond to the event as traumatic, their children were more likely to show stress-related response. Conversely, if parents had more tempered responses to the events, their children were likewise

less effected, and the children displayed increased resilience in light of the event (Conger et al., 1997).

Positive Emotions. While all humans experience the full range of positive to negative emotions, being able to intentionally focus on positive emotions rather than dwell on negative ones is a key factor in being able to experience resilience (Rutten et al., 2013). While there is frequent variability in the levels of positive emotions individuals' experience, both between and within person, the tendency and ability to intentionally recognize positive experiences to improve one's overall positive emotions is a key factor in being able to have resilience. Diener and Seligman (2002) divided a group of emerging adults into categories of very happy, average happy, and very unhappy using discriminate function analyses. Results showed that very unhappy people actually had about equal amounts of negative to positive affect (Diener & Seligman, 2002). In contrast, very happy people reported many more positive to negative affects daily and even the averagely happy people indicated more positive affect to negative affect daily (Diener & Seligman, 2002). Given that it has been shown that even negative life situations do not reduce positive affect (Diener, 2000), this indicates individuals need to be able to maintain this higher ratio of positive to negative affect regardless of life situations.

One of the biggest differences between the very happy group and the other two groups was the amount of time they engaged with others socially; very happy people spent substantially more time and felt more satisfaction in their interpersonal relationships (Diener & Seligman, 2002). The quality and strength of these relationships, however, was not sufficient for happiness because several individuals in the very unhappy group rated satisfactory relationships in multiple domains. It does appear, though, that having strong quality relationships is necessary for

happiness since all the individuals in the very happy group reported good quality relationships in all domains (Diener & Seligman, 2002).

Personality factors were not significantly different between happiness groups (Diener & Seligman, 2002), indicated that inborn traits cannot fully account for differences in happiness. There were, however, psychopathology differences between the groups, with people in the very unhappy group being more likely to display psychopathology, where none of the members of the very happy group displayed these factors (Diener & Seligman, 2002).

Perhaps surprisingly, even the very happy group never endorsed having an “ecstatic” mood, the highest available rating (Diener & Seligman, 2002). Similarly, it’s not that they never endorsed unhappy moods either; every member of the very happy group endorsed an unhappy or neutral mood on occasion. The difference between the groups, rather, appears to be that the frequency at which members of the very happy group rated unhappy or neutral emotions was so low (only 7% of their ratings on average) that their average emotions fell between “mildly happy” (7) and “spirits high, feeling good” (8) (Diener & Seligman, 2002).

Furthermore, the ability to intentionally recognize positive emotions and thus intentionally cultivate a ratio of more positive emotions is a skill people can learn. Suldo (2016) offers a research-based curriculum directly aimed at teaching and supporting K-12 students in the use of interventions and strategies that have been shown to build individuals’ positive emotions. Specific skills taught are gratitude practices, building optimistic thoughts, and identifying personal strengths. Early research on the curriculum showed that the teaching of these skills both supported students increase use of these strategies and, thus, made marked improvements in their positive emotions, life satisfaction, and overall mental health (Suldo, Savage, and Mercer, 2014).

Sense of Purpose. Being able to find meaning and value in difficult times by connecting with a sense of purpose allows individuals to have resilience (Rutten et al., 2013). Sense of purpose comes both from finding meaning in a given situation and in engaging in activities that ground a person in their values (Rutten et al., 2013). Psychologist Victor Frankl (1959) laid the theoretical foundation for the concept of sense of purpose with his work after surviving the Holocaust by proposing that individuals can find meaning in any situation and failing to do so can result in increased psychopathology.

Individuals' sense of purpose has been operationalized several ways in the literature, typically categorized by the theoretical background of the related work. One succinct interpretation of sense of purpose comes from the Acceptance and Commitment Therapy (ACT) model, which is part of the third wave of behavioral therapies (Hayes et al., 2006). ACT emphasizes clarifying individual values and tying goals to these values as a method for increasing psychological flexibility. In turn, this increased psychological flexibility allows the person to build increasing awareness of the present moment and to use this to change or maintain behaviors that allow the person to continue living in line with these aligned clarified values and established goals (Hayes et al., 2006). At the core of this treatment is the clarification of values, which allows individuals to establish their beliefs, direction, and parameters within multiple domains of their life so that they can intentionally live and behave in ways they find meaningful and fulfilling.

ACT has been shown to be effective for reducing social anxiety (Block & Wulfert, 2000) and other internalizing disorders (Forman et al., 2007) in EAs when used as a therapeutic approach. To date however, most known outcomes of therapeutic approaches have been focused on reducing psychopathology (Block & Wulfert, 2000; Forman et al., 2007; Hayes et al., 2006).

Studies of ACT in a prevention, education, or non-therapeutic setting have focused on increasing metrics for success, such as GPA (Chase et al., 2013) or reduce stress and other psychopathology, similar to the outcomes in therapeutic clinical trials (Bond & Bunce, 2000). Given that a core component of ACT is to increase the clarification and commitment to values and goals, there is great potential for it to also support individuals' resilience by returning them to a state of complete mental health and happiness after stressful events, not just a reduction of their symptomatology and homeostatic balance.

Further research has shown that developing a firm sense of purpose during adolescence and EA is key for life satisfaction (Rutten et al., 2013). In a sample of adolescents, emerging adults, and adults, Bronk et al. (2009) found that having an identified a sense of purpose had a significant positive relationship on life satisfaction. A key developmental difference, however, is that even searching for life purpose resulted in benefits in terms of their life satisfaction for adolescents and emerging adults, whereas adults only benefited from having already identified their sense of purpose. This research highlights the importance of searching for and developing a sense of purpose during the adolescent and EA years, that even building it from these early young adult stages results in positive improvements to life satisfaction but having a sense of purpose established by adulthood is key. Being able to act upon that sense of purpose and feel agency in living in line with these values was also of vital importance to having improved sense of purpose (Bronk et al., 2009).

While individuals develop their values through a myriad of early life experiences, one's relationship with religiosity or spirituality often weighs heavily in value formation (Rutten et al., 2013). Spirituality as a construct represents an individuals' greater connection to others and the world around them on a higher level (Foy, Drescher, & Watson, 2011). Many people find this

connection through organized religion, however, the formal organization itself is not required to build spirituality itself. Having a sense of spirituality often helps individuals to build an understanding of the world around them and establish a deeper meaning behind life's circumstances and events (Foy et al., 2011).

In his meta-theory of resilience, Richardson (2002) highlights that a foundational aspect of having resilience is in finding the motivation and reason for continuing on after a stressor. The meta-theory of resilience highlights that for many people, this reasoning comes from a relationship with G-d (Richardson, 2002); however, a relationship with a divine creator is not necessary in order to help people develop a sense of purpose or meaning in life and life's challenges (Foy et al., 2011; Rutten et al., 2013).

The core reason for the connection between religion and spirituality and resilience comes from the function that religion and spirituality play in helping individuals explain why the world is as it is and why different situations have occurred (Foy et al., 2011). Being able to reconcile with the occurrence of an event is necessary in order to move on from it (Rutten et al., 2013; Richardson, 2002). Spirituality and organized religion can also help people build strong communities supportive of having healthy attachments and connections and be a source for experiencing positive emotions (Foy et al., 2011), both of which are also important for building resilience (Rutten et al., 2013; Luthar et al., 2000; Masten, 2011; Masten, 2001).

Purpose of proposed study

As previously stated, much of research on resilience has assumed that the absence of psychopathology is indicative enough of a return to mental health (Luthar et al., 2000; Masten, 2011; Masten, 2001). Now that the zeitgeist has shifted from a mono-factor model of mental health to the new dual-factor model (Greenspoon & Saklofske, 2001; Suldo et al., 2016; Suldo &

Shaffer, 2008), it is important to assess factors that influence resilience as opportunities to help individuals return to and develop complete mental health, according to the dual factor model, rather than simply the return to a state of reduced psychopathology. This is especially crucial during adolescence and EA where there are numerous life stressors (Arnett, 2000) requiring individuals to exhibit resilience.

The purpose of this study is to review the pathways of each key factor for resilience on life satisfaction, globally and uni-dimensionally, over the developmental spans of during EA. First, each factor's predictive influence on global life satisfaction will be reviewed. Then, each factor's influence on life satisfaction in one domain (job satisfaction) will be mapped out individual and, finally, combined as one model using a variable-focused approach through the following research questions:

Research Question #1. What variability in overall life satisfaction is predicted by all three keys for resilience – healthy attachments and connections, positive emotions, and sense of purpose.

Hypothesis #1. The literature strongly supports the constructs positive emotions, healthy attachments and connections, and sense of purpose as being important to having resilience individually (Rutten et al., 2013, Luthar et al., 2000, Masten 2001; Masten, 2011); however, no research was found that examined these three constructs in one conceptual, variable-based model. Since resilience ideally returns someone not just to a state of reduced psychopathology, but also to a state of complete mental health, then it is important to assess how the variables fundamental to having resilience account for the variance of overall life satisfaction.

Research Question #2. What is the nature and trajectory of the relationship between healthy attachments and connections on life satisfaction at work over EA?

Hypothesis #2. The connection between strong social supports and positive life outcomes is well documented (Rutten et al., 2013; Walsh, 2011). It is hypothesized that stronger social supports in the form of strong peer friendships and supportive parenting relationships will result in increased levels of life satisfaction for emerging adults. This would be consistent with much of the research on DFM that identifies the relationship between having higher quality social support to reporting high levels life satisfaction (Suldo & Shaffer, 2008).

Research Question #3. What is the nature of the relationship between positive emotions and life satisfaction at work and what is the trajectory of that relationship over EA?

Hypothesis #3. It is hypothesized that higher positive emotions will result in higher life satisfaction. Positive emotions alongside life satisfaction is part of overall SWB (Diener, 2000). The two phenomena are frequently related to each other (Diener, 2000). Through EA in particular, individuals are defining what they do to build positive emotions (Arnett, 2000), making it important to assess if this relationship remains true in this population.

Research Question #4. What is the nature and trajectory of the relationship between sense of purpose and life satisfaction at work over the course of EA?

Hypothesis #4. EA is a key developmental period where individuals develop and hone their sense of purpose by clarifying their values, developing stronger future orientation, and strengthening their belief system in the world (Arnett, 2000). Because of this, it is hypothesized that sense of purpose will have a positive influence on life satisfaction over EA as these concepts are clarified for the individuals.

Research Question #5. When all three key factors for resilience (positive emotions, healthy attachments and connections, and sense of purpose) are put into one model, what are the

relationships between each of the factors on job satisfaction and what is the trajectory of the model over the assessed EA years.

Hypothesis #5. As stated previously, while the literature strongly supports the constructs positive emotions, healthy attachments and connections, and sense of purpose as being important to having resilience individually (Rutten et al., 2013, Luthar et al., 2000, Masten 2001; Masten, 2011), no research has looked at the impact of these three constructs all in one model. Each of these three constructs should impact life satisfaction, overall and in specific domains, if they are allowing individuals to continually have resilience over the formative EA years.

Methods

Study Overview

The present study will employ a secondary data analysis using a portion of the data collect for an earlier longitudinal study conducted to assess the effectiveness of a specific intervention known as the Raising Healthy Children Study. The initial study included survey data from participating students, their teachers, and their parents. The following section describes the original study and participants, along with the sample, measures, and procedures used for this secondary analysis. Finally, this section will also include a description of the analyses.

Participants

The initial study included data collection at 10 schools from one school district in a suburban Pacific Northwest community and included 1040 individual participating students who were part of the Raising Healthy Children longitudinal study (Catalano et al. 2002). Schools were selected and paired based on socio-economic demographics and attendance patterns (Catalano et al., 2002). The schools were then randomized from these pairs into treatment and control conditions, with 5 schools in each condition. Upon the outset of the study, an active consent process was used for students currently enrolled in regular education first and second grade classrooms using both letters and home visits (Catalano et al., 2002). The first data were collected in 1992.

Social development model and the raising healthy children study. The data used here was originally collected as part of the Raising Healthy Children study, a long-term, community-based intervention that focused on providing services at individual, family, and school-based levels based on the theory of the Social Development Model.

Social Development Model. The Social Development Model is based on the theory that key factors related to socialization and important for normative development (Catalano et al., 2002; Haggerty & McCowan, in press). More specifically, the Social Development Model posits that when individuals are provided meaningful opportunities to engage in prosocial activities and interactions, methods for development of relevant social and life skills, and recognition and praise for prosocial efforts, improvements, and achievements from their community, it results in stronger bonding between the individual and their caretakers and community members. When these stronger social bonds are also supportive of and, simultaneously, supported by clear, prosocial standards, individuals are far more likely to engage in healthy behaviors across a number of developmental domains (Catalano et al., 2002; Haggerty & McCowan, in press). Each of these five key areas (opportunities, skills, recognition, bonding, and clear standards) are critical points for possible interventions.

The Social Development Model maps closely on with the three key factors related to resilience at the core of this study. Healthy attachments and connections is analogous with the bonding construct outlined in the model. Positive emotions are found through the recognition and praise given that is necessary to support bonding. Finally, sense of purpose can be found through the clear and prosocial standards and norms, because these both closely align with setting goals and values.

Raising Healthy Children. Raising healthy children as an intervention grew from a prior, related study, known as the Seattle Social Development Project (Catalano et al., 2002; Haggerty & McCowan, in press). From the findings of the Seattle Social Development Project, the Social Development Model was created. The Raising Healthy Children intervention sought to combine existing evidence-based practices into a larger, whole community intervention (Catalano et al.,

2002). Evidence-based interventions were implemented at each of the key points of interest based on the Social Development Model (Catalano et al., 2002). More specifically, specific interventions were provided at the school, family, and individual levels. At the school level, teacher trainings in proactive classroom management and positive behavior supports were provided, along with regular booster trainings and staff coaching. Families were offered parent trainings on behavior management and interventions like family meetings, along with follow up coaching as needed and necessary; extra supports were given to families of students who presented with problem behaviors at school. Finally, extra individual interventions were provided for students who presented with academic or behavioral challenges (Catalano et al., 2002).

The Raising Healthy Children study has been shown to be effective at reducing an number of behavioral and mental health problems. Some of the initial findings showed that individuals who received the Raising Healthy Children intervention had a stronger commitment to school, higher academic performance, decreased antisocial behaviors, and increased social competence after a year and a half of the intervention than students who did not receive the intervention (Catalano et al., 2002). By adolescence, individuals who received the Raising Healthy Children intervention showed lower levels of depressive symptoms and substance use (Fleming et al., 2008).

Raising healthy children and the present study. For the purposes of this secondary data analysis, however, the sample only included the 441 students originally recruited from the five schools in the control portion of the study. Data collection for the original study spanned 18 years, from when the participating students were in first or second grade through when they were 24 or 25 years old. Analyses for the present study focused on the three data collection waves

between when participants were approximately 20 to 21 years old through when participants were approximately 24 or 25 years of age between the years of 2007 and 2010; this period encompassed when many of the participants would have completed their education and transitioned into their early careers. These ages were selected based on theoretical interest, given the volatility of the constructs of interest during EA years (Arnett, 2000) and availability of the data related to constructs of interest, which were only collected during specific data collection waves.

After removing cases where all items of interest were missing, the final sample data set included $N = 405$ participants (51.60% female, 48.40% male) who met the above criteria. Of the 405 participants, 77.5% reported their race as white and 15.8% reported their race as black, Native American, Asian, pacific islander, or other category; data for participant race was not available for 6.7% of the sample. Additionally, 42.7% of the participants were recorded as qualifying for free and reduced priced lunch, a common metric for familial socio-economic status, at some point during their K-12 education.

The measures used for this study represented a small portion of the total surveys completed by participants, their parents, and their teachers at each data collection wave and in the Raising Healthy Children study. The following section will review in further detail the procedures for the original data collection and the process by which survey items were selected for inclusion in this study.

Procedures

Student data collection for the original study was done by group-administered individual surveys (Catalano et al., 2002). The study as a whole also included data collected via parent and teacher survey measures (Catalano et al., 2002). For the time points used for the present study,

data was collected via web or in person. For the purposes of the present analyses, only student self-report measures were used. Data was collected yearly in the spring until after students graduated high school, at which time data was then collected twice year in the fall and spring. The present analyses used three spring data collections from a four-year time span.

The following process was used in selecting items for use in the present study. All inquiry items were required to be administered at each time point of interest in the study (spring data collections from 2007, 2008, and 2010). From this subset, individual questions were then selected based on their similarity to items in original, gold-standard survey measures for each of the constructs of interest, where available, or were known to measure proxy constructs to the construct of interest. Further detail on item selection for these surveys for each construct of interest is included in the measures section.

Measures

Because of the secondary data analysis approach to this study, all measures were designed posteriori by analyzing individual questions and items collected and matching them to established survey measures for each construct. When items were not available for specific constructs, proxy items were used to build measures.

Life satisfaction. Questions for life satisfaction were selected based on their similarity to questions from the Student Life Satisfaction Survey (Huebner, 1991). While satisfaction in multiple domains of life can be related to overall life satisfaction, the relationship is not additive (Huebner, 1991; Diener, 2000; Suldo & Shaffer, 2008). Rather, overall life satisfaction can only be measured by asking about appraisals of life overall (Huebner, 1991; Diener, 2000; Suldo & Shaffer, 2008).

To confirm this relationship in the current dataset, a total of three questions from the Raising Healthy Children dataset that included the word “satisfaction” in relation to an area of the individual’s life were pulled: job, leisure activities, and life overall. However, the internal consistency of these three questions was below the threshold considered appropriate for a measure. Therefore, for the purpose of this study, global life satisfaction was measured by a single question to participants stating, “overall how satisfied are you with your life right now.” This question was measured on a five-point likert scale from very satisfied to very unsatisfied. The item was reversed coded to make high numbers representative of higher life satisfaction.

Subsequent analyses also used the individual item measuring life satisfaction in the domain of job or vocation. The item stated, “overall, how satisfied are you with your job.” This item was measured on a five-point likert scale from very satisfied to very unsatisfied. The item was reversed coded to make high numbers representative of higher job satisfaction. Issues using a single item indicator/scale will be addressed in detail in the discussion section.

Healthy attachments and connections. Healthy and supportive relationships was operationalized via measures of friendships and relationships with both parents. The original Raising Healthy Children study collected data on relationships with mothers and fathers and with friends. Parent relationships were measured using a series of eight questions that asked about how close the respondents feel to each parent or the person who serves that role, how well they get along with each parent, and if can talk to that parent. Each question is answered on a four-point likert scale (YES!, yes, no, and NO!). Items were reverse coded as necessary so that all scores were higher when the respondent felt more positively about the relationship.

An additional eight questions asking about respondents’ friendships were also used to measure relationships for the purposes of this study. Two friendships were assessed through

these items, with four questions per relationship. Questions included information about if the respondents felt they could count on the person to help them feel better or when they need help, if they share their thoughts and feelings with this friend, and if they enjoy spending time with the friend. Two of the items were measured on a four-point likert scale (YES!, yes, no, and NO!) and two were measured using a five-point likert scale (strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree). Again, items were reverse coded as necessary so that all scores were higher when the respondent felt more positively about the relationship.

The 16-question measure for positive emotions used for these analyses had an internal reliability of .89, .85, and .83 respectively for each of the three time points reviewed in the study.

Positive emotions. In the initial Raising Healthy Children dataset, no questions were asked that directly measure individual's positive emotions. Therefore, proxy measures for positive emotions were used for the purposes of this study. Four questions from the World Health Organization Composite International Diagnostic Interview (CIDI) were used that asked questions relating to expressions of depression and anxiety. An example item is "have you ever in your life had a period lasting several days or longer when most of the day felt sad, empty, or depressed?" All four of these questions were all answered with a binary, yes or no, response. Items were reverse coded so higher numbers indicated less negative emotions.

Four additional questions from the Dispositional and Situational Assessment of Children's Coping (Ayers, Sandler, West, & Roosa, 1996) were also used as proxies for positive emotions as the questions related to behavioral expressions of positive emotion management. An example item is "When I have a problem, I try to make things better by changing my behavior." Each of these questions were measured on a four-point likert scale (YES!, yes, no, and NO!).

Items were reverse coded so higher numbers indicated more behaviors that indicated positive emotion management.

The 8-question measure for positive emotions used for these analyses had an internal reliability of .71, .80, and .75 respectively for each of the three time points reviewed in the study.

Sense of purpose. Sense of purpose was operationalized for this study as a composite of goal orientation and engagement in religion. Goal orientation was selected as a proxy for values and goals, which are key components of sense of purpose according to ACT (Hayes et al., 2006). As stated previously, religion can be an integral part in the development of sense of purpose (Foy et al., 2011). One question measuring how important the respondents felt religion was in their life was included in the composite for measuring sense of purpose. This item was measured with a 5-point likert scale (strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree).

Five additional items measuring goal orientation were also used to measure sense of purpose. All five questions assessed participants feelings around their ability to pursue goals and feel successful in chasing them. An example item is “at the present time, I am energetically pursuing my goals.” Two of the items were measured with a 5-point likert scale (strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree) and three were measured with an 8-point likert scale (definitely true, mostly true, somewhat true, slightly true, slightly false, somewhat false, mostly false, and definitely false). Items were reverse coded as needed so that higher numbers represented feeling more sense of purpose.

The 6-question measure for positive emotions used for these analyses had an internal reliability of .69, .77, and .74 respectively for each of the three time points reviewed in the study.

Statistical analyses

Once the data was selected from the original dataset, findings were analyzed using correlation and a multiple linear regression analysis with sequential predictor entry in SPSS statistical software (SPSS Inc., n.d.) and latent growth curves in MPlus (Muthén & Muthén, 1998-2011). For the first research question, correlations were run first between all the predictors and the outcome variable. A regression model was then made using sequential entry method where the first block included control variables: effect coded school membership and participant race. The second block included a standard score of healthy attachments and connections, the third block included a standard score of positive emotions, and the fourth and final block included a standard score of sense of purpose. Sequential predictor entry specifically allows for testing incremental variance accounted for as predictor(s) are added to the model. School of origin and race were included to account for any dependence issues. Normality, linearity, and homoscedasticity of residuals were examined for each model to ensure that linear regression model assumptions were tenable. For ease of results interpretation, all predictors were standardized. The final model was as follows.

$$\begin{aligned} \text{Overall Life Satisfaction} = & b_0 + b_1 * \text{School Codes} * \text{Race} * \text{Gender} \\ & + b_2 * \text{Healthy Attachments} \\ & + b_3 * \text{Positive Emotions} \\ & + b_4 * \text{Sense of Purpose} \end{aligned}$$

In the model above, overall life satisfaction is equal to conditional mean (b_0), plus the unique effects of school codes and race (b_1), healthy attachments (b_2), positive emotions (b_3), and sense of purpose (b_4).

For the remaining questions, due to the nested structures (non-independence of data) present at several levels of this research design and the latent nature of the constructs of interest, latent growth analyses were used to test the research questions and map the trajectories of growth for each variable for research questions two through five. Latent growth models are a type of structural equation model where repeated measures data are indicators of latent variables, also known as growth factors, that describe group mean trajectories of change while allowing for between-individual difference in the trajectories (Duncan et al., 1999).

For research questions two, three, and four, separate growth models for healthy attachments and connections, positive emotions, and sense of purpose on life satisfaction at work for the three time points between 20/21 years of age and 23/24 years old will be used. The final research question includes all three independent variables at the three time points. The results of these growth models describe the mean trajectory for each variable. In these models, the data are described by latent growth factors that have a mean and variance parameter.

Results

Hypotheses were tested with multiple linear regressions using sequential predictor entry and latent growth curve models that assessed the associations between resilience predictors and global life satisfaction or single-domain life satisfaction in the area of job or vocation.

Descriptive statistics including means, standard deviations, and zero-order correlations for observed variables used in each of the regression analyses are reported in Tables 1 and 2, respectively.

Results for Question #1: Regression Analyses

A multiple linear regression with sequential predictor entry was used to predict overall life satisfaction at time point one. As displayed in Table 3, results showed that school membership, race, and gender, which comprised the first block, did not account for significant variation in the outcome, $R^2 = 0.03$ (Adjusted $R^2 = -0.02$), $F(6, 126) = 0.57$, $p = 0.758$. Controlling for school membership, race, and gender, the main effects of healthy attachments in Block 2 accounted for significant variance in overall life satisfaction, $R^2_{\text{change}} = 0.04$, $F_{\text{change}}(1, 125) = 5.46$, $p = 0.021$ ($R^2_{\text{total}} = 0.07$ and $R^2_{\text{adjusted}} = 0.02$). In the third block, the main effect of positive emotions was added, but did not account for significant variance in overall life satisfaction, $R^2_{\text{change}} = 0.02$, $F_{\text{change}}(1, 124) = 2.60$, $p = 0.110$ ($R^2_{\text{total}} = 0.09$ and $R^2_{\text{adjusted}} = 0.03$). Lastly, in the fourth block, the main effect of sense of purpose was added and accounted for significant variance in overall life satisfaction $R^2_{\text{change}} = 0.23$, $F_{\text{change}}(1, 123) = 42.29$, $p < 0.001$ ($R^2_{\text{total}} = 0.32$ and $R^2_{\text{adjusted}} = 0.27$).

Results from the final block, with all predictors entered in the model, showed that the average respondents' life satisfaction was a 3.44 ($SE = 0.14$), which falls between somewhat satisfied and satisfied, holding all other variables constant, $t(123) = 24.39$, $p < 0.001$. Consistent

with the lack of significance of Block 1, none of the school membership nor the race variable or gender variable uniquely predicted overall life satisfaction (slope coefficient t -test p -values = 0.575, 0.779, 0.182, 0.896, 0.280 and 0.154, respectively). Similarly, positive emotions did not uniquely predict overall life satisfaction (slope coefficient t -test p -values = 0.670). However, in contrast with given the significance of Block 2 and the initial addition of healthy attachments, healthy attachments no longer accounted for significant variance of overall life satisfaction when all other predictors were added into the model (slope coefficient t -test p -values = 0.884). Sense of purpose, as added in Block 4, however, did uniquely predict overall life satisfaction, with individuals who reported higher sense of purpose having an estimated average of 0.67 points higher life satisfaction, holding all else constant ($b = 0.67$, $SE = 0.10$, $t(123) = 6.50$, $p < 0.001$, $sr^2 = 0.26$).

An equivalent multiple linear regression with sequential predictor entry was used to predict overall life satisfaction at time point two. Because of planned missingness on the outcome variable of overall life satisfaction, this regression analysis was on a different subsample of the overall sample than those assessed in the analysis done on time point one. As displayed in table 4, results showed that school membership, race, and gender, which comprised the first block, did not account for significant variation in the outcome, $R^2 = 0.08$ (Adjusted $R^2 = 0.03$), $F(6, 119) = 1.74$, $p = 0.118$. Controlling for school membership, race, and gender, the main effects of healthy attachments in Block 2 accounted for significant variance in overall life satisfaction, $R^2_{\text{change}} = 0.04$, $F_{\text{change}}(1, 118) = 5.81$, $p = 0.017$ ($R^2_{\text{total}} = 0.12$ and $R^2_{\text{adjusted}} = 0.07$). In the third block, the main effect of positive emotions was added and also significant variance in overall life satisfaction, $R^2_{\text{change}} = 0.07$, $F_{\text{change}}(1, 117) = 10.23$, $p = 0.002$ ($R^2_{\text{total}} = 0.19$ and $R^2_{\text{adjusted}} = 0.14$). Lastly, in the fourth block, the main effect of sense of purpose was added and

accounted for significant variance in overall life satisfaction $R^2_{\text{change}} = 0.13$, $F_{\text{change}}(1, 116) = 22.00$, $p < 0.001$ ($R^2_{\text{total}} = 0.32$ and $R^2_{\text{adjusted}} = 0.27$).

Results from the final block, with all predictors entered in the model, showed that the average respondents' life satisfaction at time point two was a 3.51 ($SE = 0.11$), which falls between somewhat satisfied and satisfied, holding all other variables constant, $t(116) = 31.9$, $p < 0.001$. Consistent with the lack of significance of Block 1, three of the four school membership variables, as well as the variables for race and gender did not uniquely predicted overall life satisfaction (slope coefficient t -test p -values = 0.347, 0.738, 0.314, 0.330, and 0.916, respectively). One of the schools was significant for predicting overall life satisfaction, holding all else constant ($b = 0.30$, $SE = 0.11$, $t(116) = 2.6$, $p = 0.011$, $sr^2 = 0.06$).

In contrast with given the significance of Blocks 2 and 3 and the initial addition of healthy attachments and positive emotions respectively, neither healthy attachments (slope coefficient t -test p -values = 0.087) nor positive emotions accounted for significant variance of overall life satisfaction when all other predictors were added into the model (slope coefficient t -test p -values = 0.230). Sense of purpose, as added in Block 4, however, did uniquely predict overall life satisfaction, with individuals who reported higher sense of purpose having an estimated average of 0.67 points higher life satisfaction, holding all else constant ($b = 0.38$, $SE = 0.08$, $t(116) = 4.69$, $p < 0.001$, $sr^2 = 0.16$).

Due to the planned missingness employed in the original dataset (Catalano et al. 2002), there were no participants at time point three who had complete data for all the dependent and independent variables. Therefore, regression analyses could not be computed for this time point for the outcome of overall life satisfaction.

Results for Question #2: LGC for Healthy Attachments on Job Satisfaction

A latent growth curve (LGC) model was employed to assess the association between healthy attachments on job satisfaction over three time points. Estimates and fit for the model representing trajectories of growth are shown in Table 5. All model fit parameters indicate good model fit (MLR $\chi^2_{[2]} = 1.05$, CFI = 1.00, TLI = 1.08, RMSEA = 0.00, SRMR = 0.02).

Results showed that while healthy attachments were a significant predictor of initial job satisfaction (I1 on *Healthy Attachments* 0.14, $SE = 0.06$), it did not predict the rate of change (S1 on *Healthy Attachments* 0.01, $SE = 0.03$). This suggests that job satisfaction was lower at Time 1 (by 0.14 units) for individuals with lower healthy attachments and connections. The nonsignificant findings related to the slope suggest that any differences in the rate of change in job satisfaction across the observed EA period between those with low or high ratings for healthy connections were due to chance.

Results for Question #3: LGC for Positive Emotions on Job Satisfaction

An LGC model was employed to assess the association between positive emotions on job satisfaction over three time points. Estimates and fit for the model representing trajectories of growth are shown in Table 6. All model fit parameters indicate good model fit (MLR $\chi^2_{[2]} = 1.23$, CFI = 1.00, TLI = 1.08, RMSEA = 0.00, SRMR = 0.02).

Results show that positive emotions was not a significant predictor of job satisfaction initially (I1 on *Positive Emotions* 0.03, $SE = 0.06$), nor was it significant for the rate of change (S1 on *Positive Emotions* <0.00, $SE = 0.03$). This finding suggests that job satisfaction was not different for individuals with higher or lower positive emotions at the outset and that any differences in the rate of change in job satisfaction across the observed EA period between those with low or high ratings for positive emotions were due to chance.

Results for Question #4: LGC for Sense of Purpose on Job Satisfaction

An LGC model was employed to assess the association between sense of purpose on job satisfaction over three time points. Estimates and fit for the model representing trajectories of growth are shown in Table 7. All model fit parameters indicate good model fit (MLR $\chi^2_{[2]} = 1.54$, CFI = 1.00, TLI = 1.02, RMSEA = 0.00, SRMR = 0.02).

Results show that while sense of purpose was a significant predictor of initial job satisfaction (I1 on *Sense of Purpose* 0.28, $SE = 0.07$), it was not predictive for the rate of change (S1 on *Sense of Purpose* < 0.00, $SE = 0.03$). This suggests that job satisfaction was lower at Time 1 (by 0.28 units) for individuals with lower sense of purpose. The nonsignificant findings related to the slope suggests that any differences in the rate of change in job satisfaction across the observed EA period between those with higher or lower sense of purpose were due to chance.

Results for Question #5: LGC for All Three Predictors on Job Satisfaction

An LGC model was employed to assess the association between healthy attachments, positive emotions, and sense of purpose on job satisfaction over three time points. Estimates and fit for the model representing trajectories of growth are shown in Table 8. All model fit parameters indicate good model fit (MLR $\chi^2_{[4]} = 1.67$, CFI = 1.00, TLI = 1.12, RMSEA = 0.00, SRMR = 0.02).

Results show that when all three predictors are included in the model, only sense of purpose was a significant predictor of initial job satisfaction (I1 on *Sense of Purpose* 0.26, $SE = 0.07$), with healthy attachments (I1 on *Healthy Attachments* 0.06, $SE = 0.06$) and positive emotions (I1 on *Positive Emotions* < 0.00, $SE = 0.06$) accounting for a negligible amount of variance. None of the three predictors were significant for the rate of change (S1 on *Healthy*

Attachments 0.01, $SE = 0.03$; S1 on *Positive Emotions* < 0.00 , $SE = 0.03$; S1 on *Sense of Purpose* < 0.00 , $SE = 0.03$).

These findings suggest that, when all predictors are entered in the model, job satisfaction was lower at Time 1 (by 0.26 units) for individuals with lower sense of purpose, but was not statistically significantly lower for those with less healthy attachments and connections nor for those with lower positive emotions. The nonsignificant findings related to the slope suggest that any differences in the rate of change in job satisfaction across the observed EA period between those with low or high ratings for healthy connections, positive emotions, or sense of purpose were due to chance.

Discussion

The purpose of the present study was to gain further clarity on the potential relationships between life satisfaction, measured globally and in one domain, and three key skill areas necessary for resilience: healthy attachments and connections, positive emotions, and sense of purpose. For overall life satisfaction, sense of purpose is the most salient predictor. Similarly, sense of purpose was the most salient predictor for job satisfaction. In both cases, healthy attachments also showed promise as a predictor, but was only significant as a lone predictor. Positive emotions was only a significant predictor as a lone covariate in one regression model. The implications of these findings are discussed in further detail below.

Adolescence and EA are developmental periods of change and growth as individuals move from more protected social, educational, personal, and professional structures of childhood to increasing freedoms of moving out and building an independent life and career (Arnett, 2000; Arnett, 2001; Steinberg, & Morris, 2001). This period of rapid change brings with it inherent stressors that can cause a host of mental health challenges when people have insufficient environmental, inter, and intrapersonal skills and supports (Arnett, 2000; Arnett, 2001; Steinberg, & Morris, 2001; Ross et al., 1999; Rutter, 1987). Research has increasingly shown that having specific skills and supports allow individuals to develop resilience as they encounter these unavoidable stressors, and thereby not only avoid mental illness and symptomology (Luthar et al., 2000; Rutter, 1987; Rutten et. al. 2013), but to also maintain their overall happiness and life satisfaction, and thus complete mental health. Because the factors that support individuals to maintain this preferred life trajectory are so important, the field of higher education is beginning to highlight the need for individuals to build resilience through developing a set of coping strategies and decision-making skills to help weather inevitable

challenges and avoid the potentially detrimental impact of the negative stressors (CCMH, 2017; Conley et al., 2013; NAMI, 2012).

The present study examined the nature of three key components for resilience as they each, individually and together, and their relationships to two different measures of life satisfaction during EA. By examining these relationships and trajectories, additional support was gained for resilience relating to not only the reduction of psychopathology, as previous literature has shown (Rutten et al., 2013), but also the increase of life satisfaction as aspects of mental health and wellness.

Healthy Attachments and Connections

The construct of healthy attachments and connections was significant as a lone predictor in analyses for both job satisfaction and global life satisfaction. This finding suggests that having supportive and positive relationships during EA is important for life satisfaction and happiness, both overall and in specific domains. This finding is consistent with a long history of research supporting the importance of secure attachments and positive relationships on a host of outcomes, including those for mental health and wellness (Ainsworth et al., 1978; Oswald & Clark, 2003; Rice, 1990; Rutten et al., 2013; Stacy, 2006; Walsh, 2011).

Maintaining healthy relationships has long been shown to support reduced psychopathology (Oswald & Clark, 2004). Under the interpersonal theory of suicide, building healthy attachments and connections is an important construct for reducing suicidality (Van Orden et al., 2010). Specifically, individuals are more prone to suicidal ideation and attempts when they feel high levels of thwarted belongingness and perceived burdensomeness. This is because social isolation, loneliness, and lack of healthy attachments and connections is one of the biggest predictors of suicidality (Joiner, Lewinsohn, & Seeley, 2002). Therefore, interventions

that support building meaningful connections can help to reduce both thwarted belongingness and perceived burdensomeness, and in turn reduce suicidality, according to the Interpersonal Theory of Suicide (Van Orden et al., 2010).

The findings from this study help to show that creating meaningful and healthy connections and relationships not only allows EAs to maintain relatively reduced psychopathology during difficult transitions (Oswald & Clark, 2003), but also that these relationships can support EAs in maintaining life satisfaction during these times, globally and domain specifically. Given the previously established importance of supportive relationships for maintaining mental health by traditional metrics of reduced psychopathology (Oswald & Clark, 2003; Walsh, 2011), this new finding regarding healthy attachments in relation to life satisfaction, suggests that intervention programs that focus on developing health attachment skills may provide a proactive approach in helping EA develop resilience, which in turn may reduce EAs from job burnout and/or dropping out of school.

Positive Emotions

Positive emotions as a construct was a significant predictor in one regression equation for overall life satisfaction but was not significant in either LGC model for job satisfaction. This finding was surprising given the extensive literature base for positive emotions being important for both resilience (Rutten et al., 2013) and life satisfaction (Diener and Seligman, 2002; Suldo & Shaffer, 2008). There are several possible explanations for the general lack of significance. Regarding life satisfaction, one possible explanation may be how the construct was measured. Due to the posteriori nature of how the measures were constructed, positive emotions was measured for the purposes of this study through a combination of two proxy measures: reverse coded items looking at negative emotions around depression and anxiety and items measuring

behavioral expressions of positive emotion management. While this proxy was sufficient in measuring constructs surrounding positive emotions, it is not the same as measuring the positive emotions directly. Furthermore, there is a wealth of research establishing that positive emotions are not the same as the opposite of negative emotions (Diener, 2000; Watson, Clark, & Tellegen, 1988); rather, positive emotions and negative emotions are two separate constructs and thus this constructed proxy measure may have resulted in a less than adequate representation of positive emotions (Diener, 2000; Watson et al., 1988).

While the posteriori nature of measure construct necessitated the use of reverse coded negative emotions items as part of the positive emotions measure, there is significant evidence that the opposite of or reduction in negative emotions is not the same, nor sufficient for the increase in positive emotions. The mere existence of the troubled quadrant in the dual-factor model (low symptomatology, low SWB) and that 11-13% of the population falls in this category across studies proves that individuals can and frequently do experience low negative emotions without experiencing increased positive emotions (Suldo & Shaffer, 2008). Since the reduction of negative emotions is not necessarily related to or sufficient for the increase in positive emotions (Diener, 2000; Suldo & Shaffer, 2008; Watson et al., 1988), there has been some research showing that it is actually not the number of positive emotions necessary for resilience or life satisfaction, but rather the ratio of positive emotions to negative emotions being experienced (Diener, 2000; Fredrickson, 2004). Specifically, Fredrickson showed that a ratio of three positive emotions for every one negative emotions is required in order to influence life satisfaction and subjective wellbeing (2004) and overcome the human tendency to focus on negative emotions (Nickerson, 1998).

One final potential reason for the lack of significance regarding positive emotions is the difficulty with which humans have focusing on positive emotions (Nickerson, 1998). Negative confirmation bias is a well-documented social psychological phenomenon stating that humans are more likely to focus on negative emotions, situations, and reasons (Nickerson, 1998). This focus on negative emotions was evolutionarily prudent, because negative emotions like fear and anger served as a protective function to keep us away from situations and stimuli that could threaten our lives (Nickerson, 1998). In modern society however, people still experience these negative emotions in non-life-threatening situations and are still evolutionarily conditioned to focus more on these emotions (Nickerson, 1998). The three-to-one ratio of positive to negative emotions, previously mentioned, was researched as a specific method that showed effectiveness in overcoming the negative confirmation bias (Fredrickson, 2004); however, it is not necessarily widely known or used. Relating to this study, it is possible that the participants were not proactively taught the 3:1 positive-to-negative strategy, which may have implications in reducing life satisfaction in the study population.

Sense of Purpose

Of all the investigated predictors, sense of purpose was the only construct that remained significant when all three independent variables were present in the model. This was true for both sets of analyses and with both outcome variables. These findings are consistent with previous research that shows searching for, building, and establishing a clear sense of purpose has a significant positive relationship on life satisfaction (Bronk et al., 2009). In addition, the findings from this study also extend previous research by showing that sense of purpose has a unique relationship to both life satisfaction and job satisfaction when healthy attachments and positive emotions are included in the model.

The significant relationship between sense of purpose and life satisfaction makes sense given the functional utility in having direction and purpose. When individuals have a clear goal they are working towards that is grounded in the bigger framework of how they want to live their lives, they are less likely to deviate from their goals despite inevitable obstacles and challenges that confront them along their journey (Chase et al., 2013; Hayes et al. 2006; Rutten et al., 2013). In addition, accomplishing goals can be a key source of positive emotions (Linehan, 1993; Linehan, 2015), however it may be that having a defined sense of purpose is necessary first to accomplish set goals that leads to positive emotions if done successfully. Furthermore, when the goals accomplished align with the individual's values, it may move the individual closer towards living in a way that feels authentic and fulfilling (Hayes et al., 2006).

The significance of sense of purpose as a predictor for both global life satisfaction and domain-specific life satisfaction for job or vocation not only make sense in the context of previous literature, but matches clinical practice as well (Hayes et al., 2006; Linehan, 1993; Linehan, 2015). Most therapy modalities rely on helping clients clarify and establish why they are working towards improved mental health and wellness as a base for treatment and to establish treatment goals. For example, ACT begins by helping clients clarify their values and then set specific goals at the outset of therapy (Hayes et al., 2006). Once these values and goals are established, therapists support clients in identifying obstacles that might prevent them from reaching their goal as a way to ensure that no matter how challenging the situation becomes and regardless the stressors they encounter, the clients will continue moving forward and working towards their goals because of the connection to their larger, overall values (Hayes et al., 2006).

Similarly, Dialectic Behavioral Therapy builds its treatment around helping the clients establish a clear picture of their life worth living (Linehan, 1993; Linehan, 2015). DBT, a

treatment modality used primarily with individuals who present with severe and persistent emotional dysregulation and diagnoses that have proven difficult to treat with other modalities, is grounded in the principle that by establishing a thorough picture of their life worth living, patients build a sense of purpose in why they are engaging in the often difficult therapeutic work by clarifying what their good life looks like and why they should keep moving towards it (Linehan, 1993; Linehan, 2015).

Both ACT and DBT, as well as other behavior-based therapies, seek to provide clients with skills to help them bounce back from the situations – either external or internal – that are exacerbating their psychopathology and maintain resilience regardless of any future challenges. In both therapies, developing a sense of purpose is part of the foundational skill set that supports the treatments' effectiveness. While ACT (Hayes et al., 2006) and DBT (Linehan, 1993; Linehan, 2015) each have a robust literature base supporting their effectiveness at reducing psychopathology, there have been no studies to date that directly measure their effectiveness in increasing overall life satisfaction, or in specific domains. However, given each therapies' foundation in developing an element of purpose, along with the general goal of behavioral-based therapies to help clients build their own skillset for maintaining complete mental health, the clinical utility of these therapies with the long-term goal of helping individuals improve or maintain their life satisfaction is important.

Relationship between Healthy Attachments and Connections and Sense of Purpose

One of the more surprising findings from this study was that healthy attachments and connections as a significant lone predictor of both study outcomes, did not uniquely predict when sense of purpose was added in each model. There are several possible reasons for this finding.

One potential reason comes from the nature of how people build their sense of purpose. As discussed earlier, sense of purpose as a construct has its roots in religion (Foy et al., 2011). Since many individuals build their sense of purpose through engaging in organized religion, they are also inherently embedding themselves in a community where they are likely to build healthy attachments and connections. Conversely, many individuals report finding purpose in their relationships (Hayes et al., 2006). No research to date has examined the causal nature of healthy attachments and connections with sense of purpose or vice versa, but it is certainly fair to say, both empirically and clinically, that relationships and sense of purpose are closely related constructs.

Building relationships and sense of purpose both have theoretical similarities in terms of their effectiveness in reducing suicidality. Under the interpersonal theory of suicide, healthy attachments and connections could help to reduce both perceived burdensomeness and thwarted belongingness (Van Orden et al., 2010). A clear sense of purpose can help to reduce perceived burdensomeness by helping individuals understand their direction through knowing their personal values and goals. Building healthy relationships can reduce the feelings around thwarted belongingness by reducing social isolation through improving social connectedness. More specifically, the core concept of healthy attachments and connections is not just the size of individuals' social networks, but the degree to which they feel they can rely on and have supportive and meaningful relationships with others. Through building these deep and meaningful relationships, individuals also improve their feelings of belongingness, thus decreasing their risk for suicidality. Any interventions that aim to both increase sense of purpose and healthy attachments and relationships, under the interpersonal theory of suicide framework, would likely be protective in reducing high risk suicidal behavior.

Since there are many existing interventions for EAs that focus on building relationships and community, particularly during college (Vasquez & Rohrer, 2006), one potential implication for intervention would be to embed interventions for clarifying sense of purpose into these existing interventions. This strategy could enhance the benefits of these interventions, by focusing on creating healthy connections, which in turn support and improve or maintain happiness and life satisfaction.

Implications for Research and Practice

Findings from the present study suggest that having a clear sense of purpose can help EAs in having life satisfaction and job satisfaction at a critical transition in their lives. Clinically, this speaks to the importance and relevance of helping individuals clarify and establish their sense of purpose through exploration of values, goals, and other related constructs. Yet while there are clinical services that support individuals at various ages in building their sense of purpose (Hayes et al., 2006; Linehan, 1993; Linehan, 2015), there are no interventions to date that help EAs with the important process of self-exploration needed to clarify and establish their sense of purpose outside the therapy office.

There has been some progress in the use of preventive level social-emotional interventions for EAs (Conley et al., 2013). For example, there has been at least one small scale assessment of a class aiming to teach psychosocial concepts for wellness to first-year college students (Conley et al., 2013). The class, which spanned an entire academic year, taught skills related to emotional awareness, mindfulness, effective communication, stress management, relaxation skills, problem solving, and cognitive restructuring (Conley et al., 2013). These concepts closely mirror those related to promoting resilience skills, but do not directly tap into building sense of purpose through clarifying values and goals. Regardless, a small-scale study of

the class showed promising findings with significant reductions to perceived psychosocial adjustment and stress management over the year (Conley et al., 2013), but did not examine if the skills simultaneously supported improvements in life satisfaction as would be required for establishing complete mental health. Conversely, several universities have also created classes to teach skills for happiness (Roethel, 2011; Shimer, 2018; Smith, 2006), none of which have been empirically assessed for their validity.

Much of the intervention effort for mental health and wellness for EAs take the position of focusing on creating relationships with peers and school faculty and staff (Vasquez & Rohrer, 2006). As the results from this study show, this approach can be important, but may not be as effective in supporting improvements in life satisfaction as previously anticipated, given that sense of purpose maybe a mediating factor in the development of important and/or meaningful relationships. Therefore, it may be important to draw connections within these interventions to how building these new relationships also helps with long term values and goals.

Existing social emotional learning interventions should try and teach or highlight how skills can be used to both increase healthy attachments and connections and clarifying individual sense of purpose. While the results of this study show the importance of both healthy attachments and connections and clear sense of purpose, most social emotional learning interventions do not focus on building either of these areas. By leveraging these existing interventions to increase both health relationships and sense of purpose, individuals will likely reduce their symptomatology and increase their life satisfaction. Through building these skills, individuals will also become more able to independently manage their psychopathology and build their life satisfaction, thus allowing them to have resilience in the face of any future challenges.

While many of the mental health and wellness preventive approaches are employed at universities, largely for reasons of practicality, the benefits of supporting EAs in building complete mental health does not end once they have graduated. Given that stress and burnout in the workforce costs the U.S. \$300 billion annually on average (American Institute of Stress, 2018; Goldin, 2004), interventions that help EAs maintain complete mental health and avoid burnout can be beneficial for the employee mental wellness as well as cost effective for employers through reducing number of absences due to burnout and other lost days of work due to mental health needs, as well as increase productivity (American Institute of Stress, 2018; Goldin, 2004). When individuals are healthier and happier, they are more productive because they are more able to focus on their work and have increased energy to complete tasks (American Institute of Stress, 2018; Goldin, 2004).

Limitations

There were several areas of limitations in the present study. Several limitations arose from the secondary data analysis approach and posteriori nature of the measures used. There were also some fundamental assumptions taken in the theoretical basis of the study.

Methodological limitations. Several constraining limitations of this study came from the secondary data analysis approach. The methodological limitations to the study fell into two larger categories: difficulties with measures and planned missingness.

Measurement difficulties. There were no measures in the original data collection surveys that focused on the resilience constructs mentioned above. For some constructs, the resulting constraints were minimal. For example, while there was no data collected on healthy attachments and connections explicitly, there were several items assessing the presence and supportive nature of parental and friendship relationships, which were pooled as a proxy for healthy attachments

and connections. Similarly, several items assessing different aspects of goal setting were collected that allowed for creating a sense of purpose construct. Conversely, the measure for positive emotions had to be constructed using proxy measures of reverse coded items asking about negative emotions and items for behavioral approaches to emotions; this composite may not have approximated the construct of interest as well as expected.

There were similar measurement issues with both outcome variables. Each outcome variable was comprised of only a single item because there was no data collected using explicit measures of life satisfaction. Because each outcome variable was made of a single item, these constructs were particularly susceptible to missing data and made it difficult to use missing data procedures, such as imputation. This meant only cases where the single outcome variable was assessed at the specified time points could be used, resulting in numerous cases removed from each analysis. Because of the large sample size from the original study, however, even with cases removed for missing data, there was still sufficient power for the analyses.

Planned missingness. The original study also employed a planned missingness model where not every participant answered every survey item at every time point. This caused challenges for some of the independent variable composites, where some of the necessary items were missing at specific time points. Challenges with individual item measures was discussed above.

This planned missingness also resulted in challenges with both types of analyses employed in this study. For the regression analyses, the planned missingness required the analyses to be done at two time points on two different subsets of the sample. The first analysis, done on time point one, did not have any cases that overlapped with the subsample used for the analyses conducted at the second time point. So while some findings were consistent across both

time points, some differences were also apparent. This could be because of inherent differences that came from the planned missingness that were not captured in the data collection.

For the analyses using LGC models, the planned missingness resulted in the need to use a LGC model that created the independent variable deposits by averaging the items from all three time points assessed in the study. While this model still returned significant findings, it was less sensitive to the changes in the independent variables over time and could have suppressed significant findings for other independent variables.

Theoretical assumptions. There were two central theoretical assumptions at the core of this study. The first is the assumption around the conditions in which one would need and therefore show resilience. The second assumption focuses on the nature of each of the three key areas for resilience being skills that can be taught, grown, and cultivated.

Conditions for resilience. Core to the theoretical base of this study is the assumption that participants in this study had a need for resilience during the observed period. While there is significant research and evidence supporting that most adolescents and emerging adults experience some levels of stress from encountering challenges and transitions during this time period (Arnett, 2000; Arnett, 2001; Steinberg & Morris, 2001), there were no variables included in the present study's analyses that asked about stressors specifically. Much of the field of resilience research has embraced the idea that specific stressors do not need to be addressed in order to assume individuals need to have resilience (Luthar et al., 2000; Masten, 2001; Masten, 2011). However, other research in the field refutes this idea (Cohen, Kamarck, & Mermelstein, 1983; Luthar et al., 2000). Most notably, research on Adverse Childhood Experiences (ACES), focuses closely on resilience under specific criteria, which require exposure to specific traumatic or intensely challenging settings (CDC, 2016). While there has been some discussion in the field

that perhaps these are two different phenomena in need of different terminology (Luthar et al., 2000; Masten, 2001; Masten, 2011), at this time, both bodies of work still use the term resilience to describe these trajectories.

Skills for resilience. Another core assumption is in each of the keys being skill areas that individuals can learn and practice. In some developmental theories, areas such as positive emotions and sense of purpose are considered more of traits than skills that can be explicitly taught. However, much of the theory around psychotherapy and social emotional learning respectively are built on being able to teach these noncognitive skills. For example, DBT teaches a range of skills for building and maintaining healthy relationships, such as the “GIVE” skill for building and maintaining a meaningful relationship (Linehan, 1993; Linehan, 2015). Further, there is growing research in how to intentionally cultivate and focus on positive emotions (Roethel, 2011; Shimer, 2018; Smith, 2006; Suldo, 2016). And, as addressed previously, several therapy modalities are explicitly built upon helping to cultivate a deeper sense of purpose (Hayes et al., 2006; Linehan, 1993; Linehan, 2015).

Future Directions

The findings of this study have significant implications for both practice and research.

Future research. This study was conducted using secondary data analyses and measures created posteriori, resulting in several methodological limitations. Despite the methodological limitations of the measures, the results from this study suggest there is more to be investigated regarding the relationship between the three keys for resilience (healthy attachments and connections, positive emotions, and sense of purpose) and life satisfaction. There is limited research examining trajectories of life satisfaction over time and given the intervention implications, it may be beneficial to understand the underlying relationships of predictors that

allow individuals to maintain and/or return to life satisfaction, even during stressful times and situations. In order to do this, future studies need to focus on collecting data using measures specifically designed a priori for life satisfaction, healthy attachments and connections, positive emotions, and sense of purpose.

Furthermore, future studies would benefit at looking at the trajectories of the keys for resilience on life satisfaction and psychopathology simultaneously. Findings from such a study that examined both dual-factor continua constructs simultaneously at the outcome would allow for more evidence defining resilience within a dual-factor model framework. More specifically, evidence over time showing that individuals who practice skills from the three key skill areas for resilience tend to stay in or return more quickly to complete mental health after encountering stressors would help link these two bodies of literature empirically rather than just theoretically and clinically.

In tandem, research on the nature of the relationship and trajectories of these constructs, future directions should also include investigations on the effects of interventions that support emerging adults and adolescents in clarifying their sense of purpose. Given the significance of sense of purpose on life satisfaction found in this study, and the importance of life satisfaction for complete mental health (Greenspoon & Saklofske, 2001; Suldo & Shaffer, 2008; Suldo et al., 2016; Suldo, 2016), interventions, particularly at the universal level that, focus on supporting sense of purpose, either directly or indirectly, would be an important area to further study.

Furthermore, future studies looking at any mediating or moderating effects of sense of purpose and its effects of the relationship between healthy attachments and connections and positive emotions on life satisfaction would be beneficial. This study repeatedly found that healthy attachments and connections was a significant predictor for both overall and domain

specific life satisfaction as a lone predictor, but these relationships did not hold when sense of purpose was added into the model. Given this finding, it is possible the sense of purpose mediates the relationship between healthy attachments and connections and life satisfaction. If so, this would have important implications for interventions, as previously discussed.

Future practice. At this time, there are few interventions provided at the EA level. There need to be more interventions at this level to support implementation of resilience skills. Colleges and other higher education institutions are easy avenues for providing these resources; however, community resources should also be able to access and implement interventions for building resilience skills proactively and preventively for emerging adults.

For implementation at the college level, school psychologists are uniquely poised for this work because of their knowledge of school systems, development, and mental health. This is a combination that few fields have, making them ideal candidates for this work.

Conclusions

With the inevitable transitions to many domains of life inherent to adolescence and EA, there are predictable and unavoidable stressors (Arnett, 2000; Arnett, 2001; Steinberg & Morris, 2001). These stressors necessitate the need for adolescents and emerging adults to have resilience skills that allow them to adapt, preserve, and thrive in the face of any challenges, affording them the ability to maintain complete mental health and wellness. Complete mental health requires the intersection of little to no psychopathology and high subjective wellbeing and life satisfaction (Greenspoon & Saklofske, 2001; Suldo & Shaffer, 2008; Suldo et al., 2016; Suldo, 2016).

The results of this study suggest that having increased sense of purpose, a key skill for resilience made up of clarity of values and goals (Hayes et al., 2006; Rutten et al., 2013), allows individuals to experience higher global life satisfaction and domain specific life satisfaction in

career and vocation. In combination with prior evidence supporting how sense of purpose helps to reduce psychopathology (Block & Wulfert, 2000; Forman et al., 2007), these findings indicate that sense of purpose could be a key for resilience and allowing individuals to maintain complete mental health. While many interventions support either reducing psychopathology through the use of clarifying values and goals as part of developing a clear sense of purpose (Hayes et al., 2006; Linehan, 1993; Linehan, 2015), and other interventions emphasize promoting other skills for mental health during EA (Conley et al., 2013), there are no known preventive interventions for emerging adults that include clarifying sense of purpose as a core component.

Stress and challenges are an inevitable and unavoidable part of life, particularly during the necessary transitions of adolescence and EA (Arnett, 2000; Arnett, 2001; Steinberg, & Morris, 2001). However, stress should not prevent individuals from continuing to have complete mental health when there are so many available interventions and resources to help them maintain both their happiness and mental wellness. Most mental health supports for adolescents and emerging adults focus on reducing psychopathology and require individuals to already show a clinically significant level of need, resulting in potentially years of unnecessary suffering (Suldo & Shaffer, 2008; Suldo et al., 2011).

Research has shown that skills in three key areas (healthy attachments and connections, positive emotions, and sense of purpose) support individuals in maintaining resilience through these inevitably stressful times (Rutten et al., 2013). Providing adolescents and emerging adults with these skills preventively, particularly by focusing on clarifying a sense of purpose, could help them adapt, persevere, and thrive during these unavoidable life challenges. By supporting adolescents and emerging adults in building skills around healthy attachments and connections, positive emotions, and sense of purpose, they are more able to independently maintain complete

mental health by not developing clinically significant psychopathology and maintaining happiness and life satisfaction. For those instances where psychopathology does become a concern, focusing on clarifying and living in line with personal values and goals can help individuals stay committed to their treatment even when it requires difficult and even painful work (Hayes et al., 2006).

As universally challenging as growing up can be, most adolescents and emerging adults do not need to suffer in unhappiness and mental illness when the skills to build complete mental health can be readily available even before the development of clinically significant psychopathology. Young adults should not have to wait until they are sick to learn how to live happy, purpose-filled lives. Building skills for resilience, particularly focusing on building a sense of purpose through clarifying values and goals, allows adolescents and emerging adults to proactively prepare for how to maintain complete mental health through the challenging and stressful transitions inherent to growing up.

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Appendix A: Correlation Tables

Table 1.

Correlation Table for Linear Regression using Sequential Predictor Entry for Overall Life Satisfaction at Time Point 1

| Measure | <i>M</i> | <i>(SD)</i> | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---------------------------|----------|-------------|---------|---------|---------|---------|--------|------|--------|-------|------|
| <i>Outcomes</i> | | | | | | | | | | | |
| 1. LS | 3.85 | (1.00) | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| <i>Block 1 Predictors</i> | | | | | | | | | | | |
| 2. Sch1 | -- | | .17 | -- | -- | -- | -- | -- | -- | -- | -- |
| 3. Sch2 | -- | | .08 | .56 *** | -- | -- | -- | -- | -- | -- | -- |
| 4. Sch3 | -- | | .15 | .48 *** | .51 *** | -- | -- | -- | -- | -- | -- |
| 5. Sch4 | -- | | .11 | .51 *** | .54 *** | .44 *** | -- | -- | -- | -- | -- |
| 6. Race | -- | | -.04 | .14 ** | .01 | .12 * | .02 | -- | -- | -- | -- |
| 7. Gender | -- | | .02 | .04 | .05 | .00 | -.07 | .04 | -- | -- | -- |
| <i>Block 2 Predictors</i> | | | | | | | | | | | |
| 8. ATT | 3.51 | (0.52) | .22 ** | .00 | -.10 | -.07 | -.03 | .01 | -.11 * | -- | -- |
| <i>Block 3 Predictors</i> | | | | | | | | | | | |
| 9. PE | 2.18 | (1.05) | .20 * | .10 | .09 | .08 | .15 ** | -.04 | -.07 | .13 * | -- |
| <i>Block 4 Predictors</i> | | | | | | | | | | | |
| 10. SOP | 4.43 | (1.49) | .52 *** | .05 | -.01 | .01 | .01 | .02 | .04 | .10 * | -.04 |

Note. $N=133$. LS = Life Satisfaction; Sch = School Effect Code; ATT = Healthy Attachments and Connections; PE = Positive Emotions; SOP = Sense of Purpose

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 2.
Correlation Table for Linear Regression using Sequential Predictor Entry for Overall Life Satisfaction at Time Point 2

| Measure | <i>M</i> | <i>(SD)</i> | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---------------------------|----------|-------------|---------|---------|---------|---------|------|------|------|-------|------|
| <i>Outcomes</i> | | | | | | | | | | | |
| 1. LS | 3.83 | (0.81) | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| <i>Block 1 Predictors</i> | | | | | | | | | | | |
| 2. Sch1 | -- | | .06 | -- | -- | -- | -- | -- | -- | -- | -- |
| 3. Sch2 | -- | | .10 | .56 *** | -- | -- | -- | -- | -- | -- | -- |
| 4. Sch3 | -- | | .22 * | .48 *** | .51 *** | -- | -- | -- | -- | -- | -- |
| 5. Sch4 | -- | | .01 | .51 *** | .54 *** | .44 *** | -- | -- | -- | -- | -- |
| 6. Race | -- | | .16 | .14 ** | .01 | .12 * | .02 | -- | -- | -- | -- |
| 7. Gender | -- | | .12 | .04 | .05 | .00 | -.07 | .04 | -- | -- | -- |
| <i>Block 2 Predictors</i> | | | | | | | | | | | |
| 8. ATT | 3.50 | (0.51) | .22 * | .02 | -.05 | -.02 | .02 | .07 | -.08 | -- | -- |
| <i>Block 3 Predictors</i> | | | | | | | | | | | |
| 9. PE | 1.47 | (0.70) | .27 ** | .03 | -.05 | .01 | -.02 | -.01 | .05 | .16 * | -- |
| <i>Block 4 Predictors</i> | | | | | | | | | | | |
| 10. SOP | 3.79 | (1.41) | .49 *** | .08 | -.01 | .03 | .09 | .02 | -.09 | .12 * | -.01 |

Note. *N*=126. LS = Life Satisfaction; Sch = School Effect Code; ATT = Healthy Attachments and Connections; PE = Positive Emotions; SOP = Sense of Purpose

* $p < .05$, ** $p < .01$, *** $p < .001$.

Appendix B: Regression Tables

Table 3.
Multiple Linear Regression with Sequential Predictor Entry for Life Satisfaction at Time Point 1

| | Block 1 | | | | | Block 2 | | | | | Block 3 | | | | | Block 4 | | | | |
|---------------------|--------------|-------------|-----------|-----------|--------|--------------|-------------|-----------|-----------|--------|--------------|-------------|-----------|-----------|--------|--------------|-------------|-----------|-----------|--------|
| | R^2 change | R^2 total | R^2 adj | <i>b</i> | sr^2 | R^2 change | R^2 total | R^2 adj | <i>b</i> | sr^2 | R^2 change | R^2 total | R^2 adj | <i>b</i> | sr^2 | R^2 change | R^2 total | R^2 adj | <i>b</i> | sr^2 |
| <i>Model Fit</i> | 0.03 | 0.03 | -0.02 | | | 0.04 * | 0.07 * | 0.02 | | | 0.02 | 0.09 | 0.03 | | | 0.23 *** | 0.32 *** | 0.27 | | |
| <i>Coefficients</i> | | | | | | | | | | | | | | | | | | | | |
| Intercept | | | | 42.16 *** | | | | | 42.75 *** | | | | | 32.42 *** | | | | | 24.39 *** | |
| Sch1 | | | | 0.15 | 0.01 | | | | 0.11 | <0.01 | | | | 0.10 | <0.01 | | | | 0.06 | <0.01 |
| Sch2 | | | | -0.05 | <0.01 | | | | <0.01 | <0.01 | | | | -0.02 | <0.01 | | | | -0.03 | <0.01 |
| Sch3 | | | | 0.08 | <0.01 | | | | 0.09 | <0.01 | | | | 0.11 | <0.01 | | | | 0.13 | 0.01 |
| Sch4 | | | | -0.02 | <0.01 | | | | -0.01 | <0.01 | | | | -0.02 | <0.01 | | | | 0.01 | <0.01 |
| RACE | | | | -0.06 | <0.01 | | | | -0.05 | <0.01 | | | | -0.06 | <0.01 | | | | -0.09 | 0.01 |
| GNDR | | | | 0.02 | <0.01 | | | | 0.06 | <0.01 | | | | 0.06 | <0.01 | | | | 0.11 | 0.02 |
| ATT | | | | | | | | | 0.21 * | 0.04 | | | | 0.20 * | 0.04 | | | | 0.01 | <0.01 |
| PE | | | | | | | | | | | | | | 0.14 | 0.02 | | | | -0.04 | <0.01 |
| SOP | | | | | | | | | | | | | | | | | | | 0.56 *** | 0.26 |

Note. *N*=133. Block 1 *F*-change test *df* = 6, 126; Block 2 *df* = 1, 125; Block 3 *df* = 1, 124; Block 4 *df* = 1, 123. LS = Life Satisfaction; Sch = School Effect Code; ATT = Healthy Attachments and Connections; PE = Positive Emotions; SOP = Sense of Purpose

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

Table 4.
Multiple Linear Regression with Sequential Predictor Entry for Life Satisfaction at Time Point 2

| | Block 1 | | | Block 2 | | | Block 3 | | | Block 4 | | | | | | | | | |
|--------------|----------------|---------------|-------------|-----------|--------|----------------|---------------|-------------|-----------|---------|----------------|---------------|-------------|-----|--------|----------|----------|-----------|-------|
| | R^2_{change} | R^2_{total} | R^2_{adj} | b | sr^2 | R^2_{change} | R^2_{total} | R^2_{adj} | b | sr^2 | R^2_{change} | R^2_{total} | R^2_{adj} | b | sr^2 | | | | |
| Model Fit | 0.08 | 0.08 | 0.03 | | | 0.04 * | 0.12 * | 0.07 | | | 0.07 ** | 0.19 ** | 0.14 | | | 0.13 *** | 0.32 *** | 0.27 | |
| Coefficients | | | | | | | | | | | | | | | | | | | |
| Intercept | | | | 48.08 *** | | | | | 48.90 *** | | | | | | | | | 31.90 *** | |
| Sch1 | | | | -0.05 | <0.01 | | | | -0.06 | <0.01 | | | | | | | | -0.09 | 0.01 |
| Sch2 | | | | 0.01 | <0.01 | | | | <0.01 | <0.01 | | | | | | | | 0.04 | <0.01 |
| Sch3 | | | | 0.23 | 0.04 * | | | | 0.26 * | 0.05 | | | | | | | | 0.23 * | 0.06 |
| Sch4 | | | | -0.06 | <0.01 | | | | -0.01 | <0.01 | | | | | | | | -0.09 | 0.01 |
| RACE | | | | 0.13 | 0.02 | | | | -0.05 | 0.02 | | | | | | | | 0.08 | 0.01 |
| GNDR | | | | 0.10 | 0.01 | | | | 0.06 | <0.01 | | | | | | | | 0.01 | <0.01 |
| ATT | | | | | | | | | 0.21 * | 0.05 | | | | | | | | 0.14 | 0.02 |
| PE | | | | | | | | | | | | | | | | | | 0.10 | 0.01 |
| SOP | | | | | | | | | | | | | | | | | | 0.41 *** | 0.16 |

Note. $N=126$. Block 1 F -change test $df = 6, 119$; Block 2 $df = 1, 118$; Block 3 $df = 1, 117$; Block 4 $df = 1, 116$. LS = Life Satisfaction; Sch = School Effect Code; ATT = Healthy Attachments and Connections; PE = Positive Emotions; SOP = Sense of Purpose

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Appendix C: LGC Tables

Table 5.

Model Results for LGC with Healthy Attachments as a Predictor of Job Satisfaction

| Parameter | Estimate | Standard Error (SE) | Estimate/SE | p-Value |
|---------------------|----------|---------------------|-------------|---------|
| Intercept of ATT | 0.14 * | 0.06 | 2.30 | 0.022 |
| Change in JS on ATT | 0.01 | 0.03 | 0.06 | 0.703 |
| S1 with I1 | 0.03 | 0.06 | 0.49 | 0.624 |
| <i>Fit</i> | | | | |
| Model chi-square | 1.05 | | | |
| df | 2 | | | |
| CFI | 1.00 | | | |
| TLI | 1.08 | | | |
| RMSEA | 0.00 | | | |
| SRMR | 0.02 | | | |

Note. N=362. JS = Job Satisfaction; ATT = Healthy Attachments and Connections

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 6.

Model Results for LGC with Positive Emotions as a Predictor of Job Satisfaction

| Parameter | <i>Estimate</i> | <i>Standard Error (SE)</i> | <i>Estimate/SE</i> | <i>p-Value</i> |
|--------------------|-----------------|----------------------------|--------------------|----------------|
| Intercept of PE | 0.03 | 0.06 | 0.53 | 0.060 |
| Change in JS on PE | <0.01 | 0.03 | -0.07 | 0.942 |
| S1 with I1 | 0.04 | 0.06 | 0.64 | 0.525 |

Fit

| | |
|------------------|------|
| Model chi-square | 1.23 |
| df | 2 |
| CFI | 1.00 |
| TLI | 1.08 |
| RMSEA | 0.00 |
| SRMR | 0.02 |

Note. $N=362$. JS = Job Satisfaction; PE = Positive Emotions

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 7.

Model Results for LGC with Sense of Purpose as a Predictor of Job Satisfaction

| Parameter | Estimate | Standard Error (SE) | Estimate/SE | p-Value |
|---------------------|----------|---------------------|-------------|---------|
| Intercept of SOP | 0.28 *** | 0.07 | 4.39 | <0.001 |
| Change in JS on SOP | <0.01 | 0.03 | 0.08 | 0.939 |
| S1 with I1 | 0.04 | 0.06 | 0.64 | 0.524 |

Fit

| | |
|------------------|------|
| Model chi-square | 1.54 |
| df | 2 |
| CFI | 1.00 |
| TLI | 1.02 |
| RMSEA | 0.00 |
| SRMR | 0.02 |

Note. $N=362$. JS = Job Satisfaction; SOP = Sense of Purpose

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 8.

Model Results for LGC with Healthy Attachments, Positive Emotions, and Sense of Purpose as Predictors of Job Satisfaction

| Parameter | Estimate | Standard Error (SE) | Estimate/SE | p-Value |
|---------------------|----------|---------------------|-------------|---------|
| Intercept of ATT | 0.06 | 0.06 | 1.06 | 0.292 |
| Intercept of PE | <0.01 | 0.06 | 0.04 | 0.966 |
| Intercept of SOP | 0.26 *** | 0.07 | 3.87 | <0.001 |
| Change in JS on ATT | 0.01 | 0.03 | 0.48 | 0.629 |
| Change in JS on PE | <0.01 | 0.03 | 0.04 | 0.966 |
| Change in JS on SOP | <0.01 | 0.03 | -0.01 | 0.993 |
| S1 with I1 | 0.04 | 0.06 | 0.59 | 0.552 |
| <i>Fit</i> | | | | |
| Model chi-square | 1.67 | | | |
| df | 4 | | | |
| CFI | 1.00 | | | |
| TLI | 1.12 | | | |
| RMSEA | 0.00 | | | |
| SRMR | 0.02 | | | |

Note. $N=362$. JS = Job Satisfaction; ATT = Healthy Attachments and Connections; PE = Positive Emotions; SOP = Sense of Purpose

* $p < .05$, ** $p < .01$, *** $p < .001$.